

Catawba Unit 2 Cycle 7  
Core Operating Limits Report  
May 1994

Duke Power Company

		DATE
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QA CONDITION 1

NOTE

This document does not contain information that affects the results and conclusions presented in the C2C7 Reload Report, Safety Analysis.

INSERTION SHEET

Remove

pages 1-302, rev. 1

Insert

pages 1-19, rev. 2

## REVISION LOG

<u>Revision</u>	<u>Effective Date</u>	<u>Comment</u>
Original Issue	15 February 1993	C2C6 COLR
Revision 1	14 April 1994	C2C6 COLR rev.
Revision 2	19 May 1994	C2C7 COLR

## 1.0 Core Operating Limits Report

This Core Operating Limits Report (COLR) for Catawba Unit 2, Cycle 7 has been prepared in accordance with the requirements of Technical Specification 6.9.1.9.

The Technical Specifications affected by this report are listed below:

2.2.1	Reactor Trip System Instrumentation Setpoints
3/4.1.1.3	Moderator Temperature Coefficient
3/4.1.2.5	Borated Water Source - Shutdown
3/4.1.2.6	Borated Water Source - Operating
3/4.1.3.5	Shutdown Rod Insertion Limit
3/4.1.3.6	Control Rod Insertion Limit
3/4.2.1	Axial Flux Difference
3/4.2.2	Heat Flux Hot Channel Factor
3/4.2.3	Nuclear Enthalpy Rise Hot Channel Factor
3/4.3.3.11	Boron Dilution Mitigation System
3/4.5.1	Accumulators
3/4.5.4	Refueling Water Storage Tank
3/4.9.2	Instrumentation

## 1.1 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 NRC-approved methodologies specified in Technical Specification 6.9.1.9.

## 2.0 Reactor Trip System Instrumentation Setpoints (Specification 2.2.1)

### 2.1 Overtemperature $\Delta T$ Setpoint Parameter Values

<u>Parameter</u>	<u>Value</u>
Overtemperature $\Delta T$ reactor trip setpoint	$K_1 = 1.1953$
Overtemperature $\Delta T$ reactor trip heatup setpoint penalty coefficient	$K_2 = 0.03163/^\circ\text{F}$
Overtemperature $\Delta T$ reactor trip depressurization setpoint penalty coefficient	$K_3 = 0.001414/\text{psi}$
Measured reactor vessel $\Delta T$ lead/lag time constants	$\tau_1 = 12 \text{ sec.},$ $\tau_2 = 3 \text{ sec.}$
Measured $\Delta T$ lag time constant	$\tau_3 = 0 \text{ sec.}$
Measured reactor vessel average temperature lead/lag time constants	$\tau_4 = 22 \text{ sec.},$ $\tau_5 = 4 \text{ sec.}$
Measured reactor vessel average temperature lag time constant	$\tau_6 = 0 \text{ sec.}$
$f_1(\Delta I)$ "positive" breakpoint	$= 3.0\% \Delta I$
$f_1(\Delta I)$ "negative" breakpoint	$= -39.9\% \Delta I$
$f_1(\Delta I)$ "positive" slope	$= 1.525\% \Delta T_o / \% \Delta I$
$f_1(\Delta I)$ "negative" slope	$= 3.910\% \Delta T_o / \% \Delta I$

2.2 Overpower  $\Delta T$  Setpoint Parameter Values

<u>Parameter</u>	<u>Value</u>
Overpower $\Delta T$ reactor trip setpoint	$K_4 = 1.0819$
Overpower $\Delta T$ reactor trip heatup setpoint penalty coefficient (for $T > 590.8$ °F)	$K_6 = 0.001291/^\circ\text{F}$
Overpower $\Delta T$ reactor trip heatup setpoint penalty coefficient (for $T \leq 590.8$ °F)	$K_6 = 0.0/^\circ\text{F}$
Measured reactor vessel $\Delta T$ lead/lag time constants	$\tau_1 = 12$ sec., $\tau_2 = 3$ sec.
Measured $\Delta T$ lag time constant	$\tau_3 = 0$ sec.
Measured reactor vessel average temperature lag time constant	$\tau_6 = 0$ sec.
Measured reactor vessel average temperature rate-lag time constant	$\tau_7 = 10$ sec.
$f_2(\Delta I)$ "positive" breakpoint	$= 35.0\% \Delta I$
$f_2(\Delta I)$ "negative" breakpoint	$= -35.0\% \Delta I$
$f_2(\Delta I)$ "positive" slope	$= 7.0\% \Delta T_0 / \% \Delta I$
$f_2(\Delta I)$ "negative" slope	$= 7.0\% \Delta T_0 / \% \Delta I$

### 3.0 Moderator Temperature Coefficient (Specification 3/4.1.1.3)

#### 3.0.1 The Moderator Temperature Coefficient (MTC) Limits are:

The MTC shall be less positive than the limits shown in Figure 1. The BOC, ARO, HZP MTC shall be less positive than  $0.7 * 10^{-4} \Delta K/K/^{\circ}F$ .

The EOC, ARO, RTP MTC shall be less negative than  $-4.1 * 10^{-4} \Delta K/K/^{\circ}F$ .

#### 3.0.2 For the MTC Surveillance Limit:

The 300 PPM/ARO/RTP MTC should be less negative than or equal to  $-3.2 * 10^{-4} \Delta K/K/^{\circ}F$ .

Where:   BOC stands for Beginning of Cycle  
          EOC stands for End of Cycle  
          ARO stands for All Rods Out  
          HZP stands for Hot Zero (Thermal) Power  
          RTP stands for Rated Thermal Power

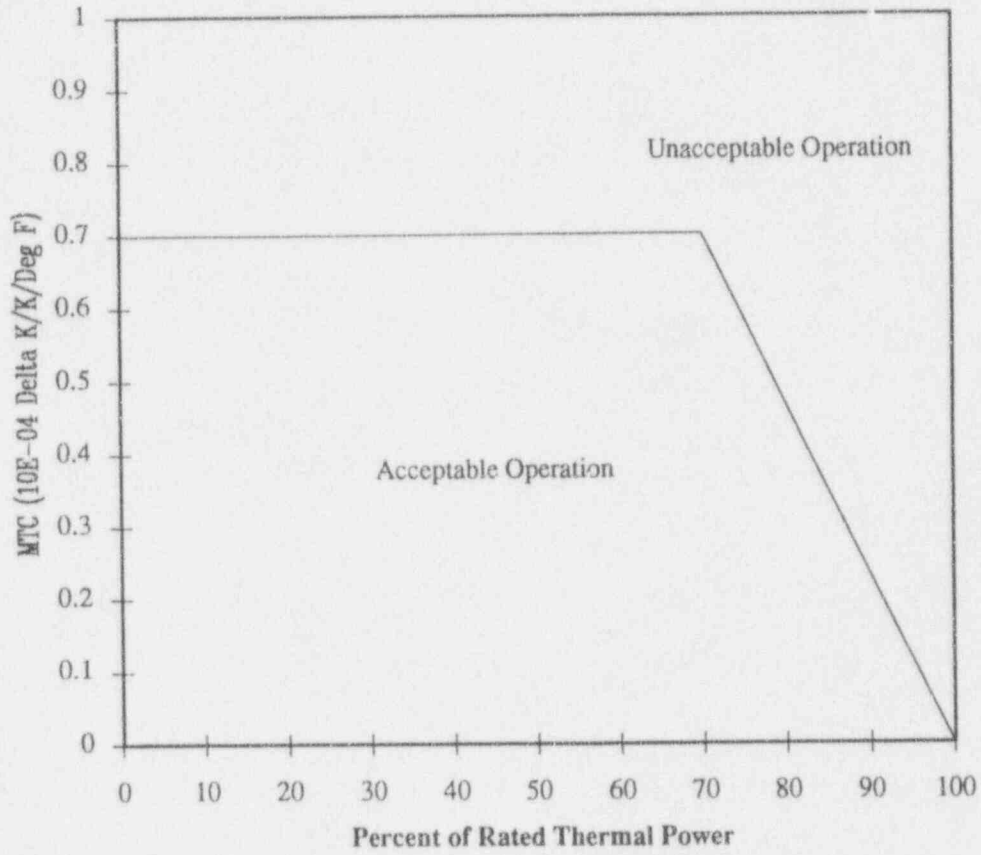


Figure 1

Moderator Temperature Coefficient Versus Percent of Rated Thermal Power



### 3.1 Borated Water Source - Shutdown (Specification 3/4.1.2.5)

#### 3.1.1 Volume and boron concentrations for the Boric Acid Storage System and the Refueling Water Storage Tank (RWST) during modes 5 & 6:

<u>Parameter</u>	<u>Limit</u>
Boric Acid Storage System minimum boron concentration for LCO 3.1.2.5a	7,000 ppm
Boric Acid Storage System minimum contained water volume for LCO 3.1.2.5a	12,000 gallons
Boric Acid Storage System minimum water volume required to maintain SDM at 7,000 ppm	585 gallons
Refueling Water Storage Tank minimum boron concentration for LCO 3.1.2.5b	2,175 ppm
Refueling Water Storage Tank minimum contained water volume for LCO 3.1.2.5b	45,000 gallons
Refueling Water Storage Tank minimum water volume required to maintain SDM at 2,175 ppm	3,500 gallons

### 3.2 Borated Water Source - Operating (Specification 3/4.1.2.6)

3.2.1 Volume and boron concentrations for the Boric Acid Storage System and the Refueling Water Storage Tank (RWST) during modes 1, 2, 3, & 4:

<u>Parameter</u>	<u>Limit</u>
Boric Acid Storage System minimum boron concentration for LCO 3.1.2.6a	7,000 ppm
Boric Acid Storage System minimum contained water volume for LCO 3.1.2.6a	22,000 gallons
Boric Acid Storage System minimum water volume required to maintain SDM at 7,000 ppm	9,851 gallons
Refueling Water Storage Tank minimum boron concentration for LCO 3.1.2.6b	2,175 ppm
Refueling Water Storage Tank minimum contained water volume for LCO 3.1.2.6b	363,513 gallons
Refueling Water Storage Tank minimum water volume required to maintain SDM at 2,175 ppm	57,107 gallons

### 3.3 Shutdown Rod Insertion Limit (Specification 3/4.1.3.5)

3.3.1 The shutdown rods shall be withdrawn to at least 222 steps.

### 3.4 Control Rod Insertion Limits (Specification 3/4.1.3.6)

3.4.1 The control rod banks shall be limited to physical insertion as shown in Figure 2.

### 3.5 Axial Flux Difference (Specification 3/4.2.1)

3.5.1 The Axial Flux Difference (AFD) Limits are provided in Figure 3.

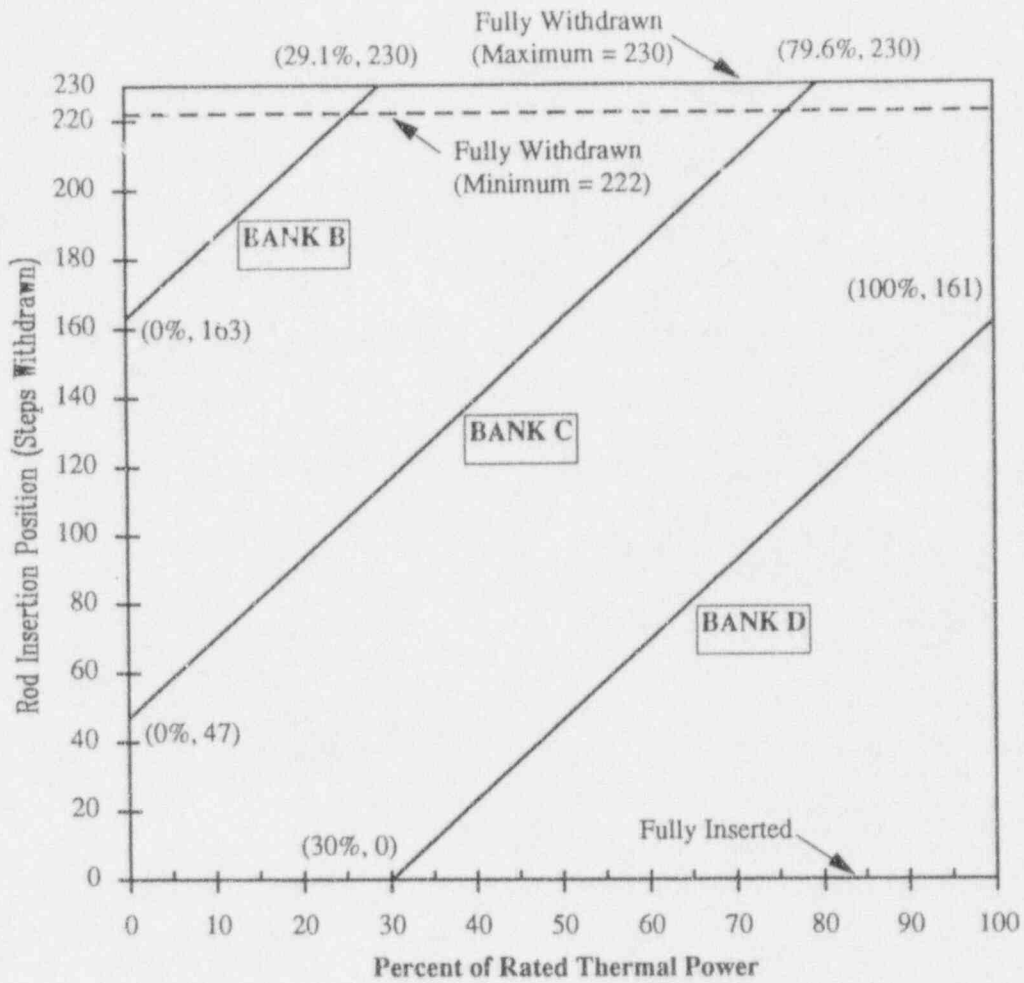


Figure 2

Control Rod Bank Insertion Limits Versus Percent of Rated Thermal Power

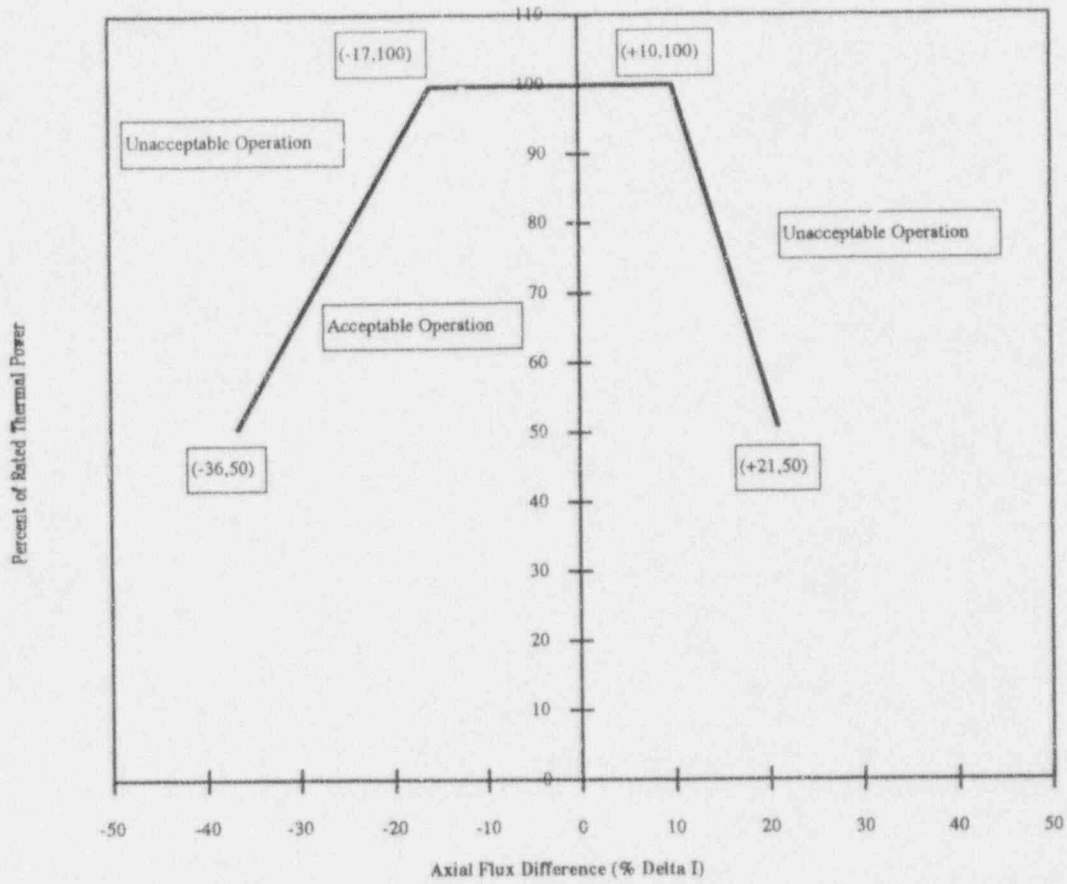


Figure 3

Percent of Rated Thermal Power Versus Axial Flux Difference Limits

### 3.6 Heat Flux Hot Channel Factor, $F_Q(X,Y,Z)$ (Specification 3/4.2.2)

3.6.1  $F_Q^{RTP} = 2.32$

3.6.2  $K(Z)$  is provided in Figure 4 for Mark-BW fuel.

3.6.3  $K(Z)$  is provided in Figure 5 for OFA fuel.

The following parameters are required for the Surveillance Requirements of T.S. 3/4.2.2:

3.6.4  $[F_Q^L(X,Y,Z)]^{OP} = \frac{F_Q^D(X,Y,Z) * M_Q(X,Y,Z)}{UMT * MT * TILT}$

where:  $[F_Q^L(X,Y,Z)]^{OP}$  = cycle dependent maximum allowable design peaking factor which ensures that the  $F_Q(X,Y,Z)$  limit will be preserved for operation within the LCO limits.  $[F_Q^L(X,Y,Z)]^{OP}$  includes allowances for calculational and measurement uncertainties.

$F_Q^D(X,Y,Z)$  = the design power distribution for  $F_Q$ .  $F_Q^D(X,Y,Z)$  is provided in Table 1, Appendix A for normal operation and Table 2, Appendix A for power escalation testing during initial startup.

$M_Q(X,Y,Z)$  = the margin remaining in core location X,Y,Z to the LOCA limit in the transient power distribution.  $M_Q(X,Y,Z)$  is provided in Table 1, Appendix A for normal operation and Table 2, Appendix A for power escalation testing during initial startup.

UMT = Measurement Uncertainty, = 1.05.

MT = Engineering Hot Channel Factor, = 1.03.

TILT = Peaking penalty that accounts for allowable quadrant power tilt ratio of 1.02, = 1.035.

NOTE:  $[F_Q^L(X,Y,Z)]^{OP}$  is the parameter identified as  $F_Q^{MAX}(X,Y,Z)$  in DPC-NE-2011PA.

$$3.6.5 \quad [F_Q^L(X,Y,Z)]^{RPS} = \frac{F_Q^D(X,Y,Z) * M_C(X,Y,Z)}{UMT * MT * TILT}$$

where:  $[F_Q^L(X,Y,Z)]^{RPS}$  = cycle dependent maximum allowable design peaking factor which ensures that the centerline fuel melt limit will be preserved for all operation.  $[F_Q^L(X,Y,Z)]^{RPS}$  includes allowances for calculational and measurement uncertainties.

$F_Q^D(X,Y,Z)$  = the design power distributions for  $F_Q$ .  $F_Q^D(X,Y,Z)$  is provided in Table 1, Appendix A for normal operation and Table 2, Appendix A for power escalation testing during initial startup.

$M_C(X,Y,Z)$  = the margin remaining to the CFM limit in core location X,Y,Z from the transient power distribution.  $M_C(X,Y,Z)$  calculations parallel the  $M_Q(X,Y,Z)$  calculations described in DPC-NE-2011PA, except that the LOCA limit is replaced with the CFM limit.  $M_C(X,Y,Z)$  is provided in Table 3, Appendix A for normal operation and Table 4, Appendix A for power escalation testing during initial startup.

UMT = Measurement Uncertainty, = 1.05.

MT = Engineering Hot Channel Factor, = 1.03.

TILT = Peaking penalty that accounts for allowable quadrant power tilt ratio of 1.02, = 1.035.

NOTE:  $[F_Q^L(X,Y,Z)]^{RPS}$  is similar to the parameter identified as  $F_Q^{MAX}(X,Y,Z)$  in DPC-NE-2011PA except that  $M_C(X,Y,Z)$  replaces  $M_Q(X,Y,Z)$ .

3.6.6 KSLOPE = adjustment to the  $K_1$  value from OTΔT required to compensate for each 1% that  $[F_Q^L(X,Y,Z)]^{RPS}$  exceeds its limit, = 0.0725

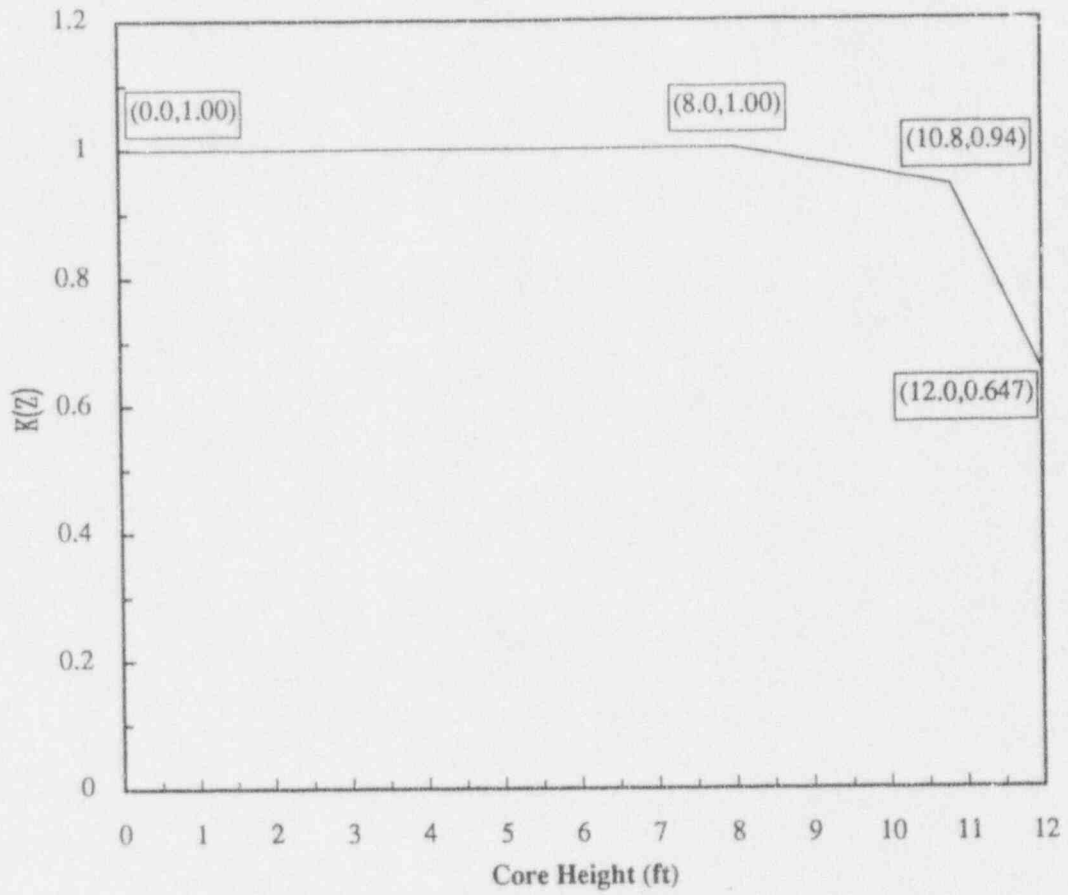


Figure 4

$K(Z)$ , Normalized  $F_Q(X,Y,Z)$  as a Function of Core Height for MkBW Fuel

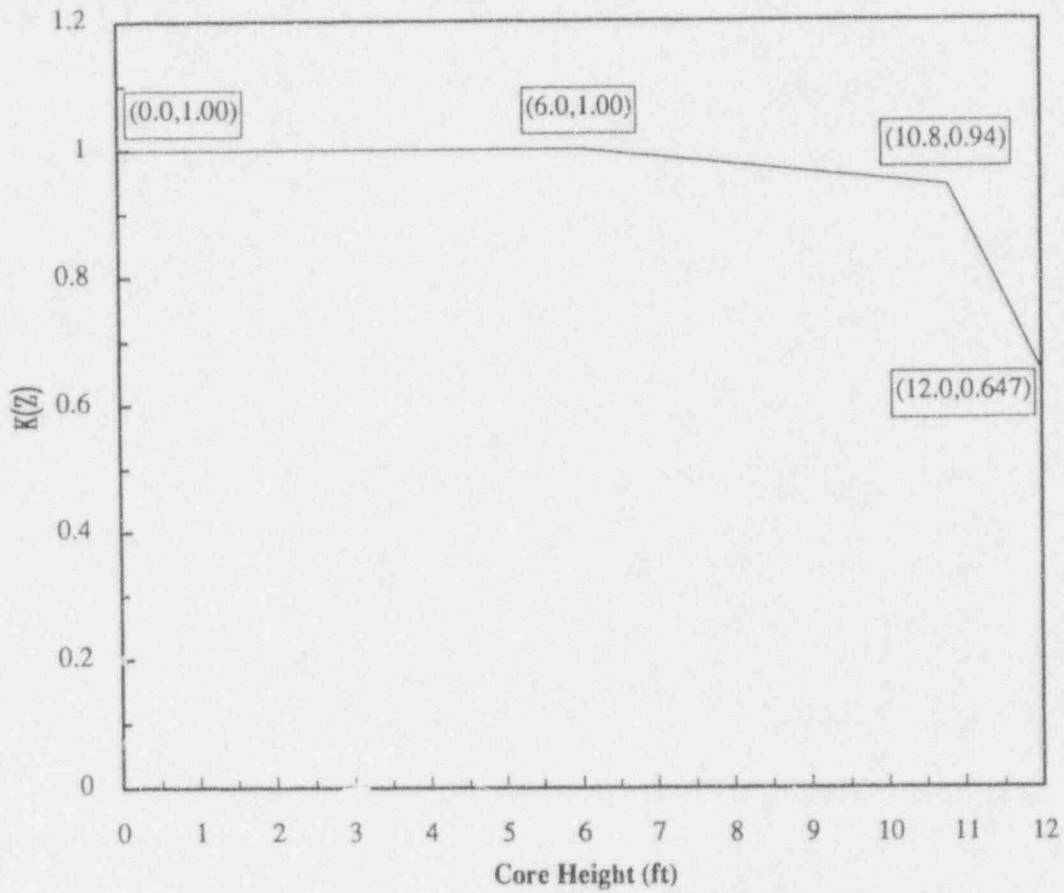


Figure 5

$K(Z)$ , Normalized  $F_Q(X,Y,Z)$  as a Function of Core Height for OFA Fuel



### 3.7 Nuclear Enthalpy Rise Hot Channel Factor, $F_{\Delta H}(X,Y,Z)$ (Specification 3/4.2.3)

The following parameters are required for the LCO Requirements of T.S. 3/4.2.3:

$$3.7.1 \quad [F_{\Delta H}^L(X,Y)]^{LCO} = \text{MARP}(X,Y) * \left[ 1.0 + \frac{1}{\text{RRH}} * (1.0 - P) \right]$$

where:  $\text{MARP}(X,Y)$  = Catawba 2 Cycle 7 Operating Limit Maximum Allowable Radial Peaks. ( $\text{MARP}(X,Y)$ ) is provided in Table 7, Appendix A for non-axial blanket fuel and in Table 8, Appendix A for axial blanket fuel.

$$P = \frac{\text{Thermal Power}}{\text{Rated Thermal Power}}$$

RRH is defined in section 3.7.3

The following parameters are required for the Surveillance Requirements of T.S. 3/4.2.3:

$$3.7.2 \quad [F_{\Delta H}^L(X,Y)]^{SURV} = \frac{F_{\Delta H}^D(X,Y) \times M_{\Delta H}(X,Y)}{\text{UMR} \times \text{TILT}}$$

where:  $[F_{\Delta H}^L(X,Y)]^{SURV}$  = cycle dependent maximum allowable design peaking factor which ensures that the  $F_{\Delta H}(X,Y)$  limit will be preserved for operation within the LCO limits.  $[F_{\Delta H}^L(X,Y)]^{SURV}$  includes allowances for calculational and measurement uncertainties.

$F_{\Delta H}^D(X,Y)$  = the design power distribution for  $F_{\Delta H}$ .  $F_{\Delta H}^D(X,Y)$  is provided in Table 5, Appendix A for normal operation and Table 6, Appendix A for power escalation testing during initial startup.

$M_{\Delta H}(X,Y)$  = the margin remaining in core location X,Y to the Operational DNB limit in the transient power distribution.  $M_{\Delta H}(X,Y)$  is provided in Table 5, Appendix A for normal operation and Table 6, Appendix A for power escalation testing during initial startup.

UMR = Uncertainty value for measured radial peaks, = 1.04.

TILT = Peaking penalty that accounts for allowable quadrant power tilt ratio of 1.02, = 1.035.

NOTE:  $[F_{\Delta H}^L(X, Y)]^{SURV}$  is the parameter identified as  $F_{\Delta H}^{MAX}(X, Y)$  in DPC-NE-2011PA.

3.7.3 RRH = Thermal Power reduction required to compensate for each 1% that  $F_{\Delta H}(X, Y)$  exceeds its limit, = 3.34.

3.7.4 TRH = Reduction in  $\Delta T K_1$  setpoint required to compensate for each 1% that  $F_{\Delta H}(X, Y)$  exceeds its limit, = 0.04

### 3.8 Boron Dilution Mitigation System (Specification 3/4.3.3.11)

3.8.1 Reactor Water Makeup Pump flowrate limits:

<u>Applicable Mode</u>	<u>Limit</u>
Mode 3 or 4	$\leq 150$ gpm
Mode 5	$\leq 70$ gpm

### 3.9 Accumulators (Specification 3/4.5.1)

3.9.1 Boron concentration limits during modes 1, 2 and 3:

<u>Parameter</u>	<u>Limits</u>
Cold Leg Accumulator minimum boron concentration for LCO 3.5.1c	2,000 ppm
Cold Leg Accumulator maximum boron concentration for LCO 3.5.1c	2,275 ppm
Minimum Cold Leg Accumulator boron concentration required to ensure post-LOCA subcriticality	1,900 ppm

### 3.10 Refueling Water Storage Tank (Specification 3/4.5.4)

3.10.1 Boron concentration limits during modes 1, 2, 3 and 4:

<u>Parameter</u>	<u>Limits</u>
Refueling Water Storage Tank minimum boron concentration for LCO 3.5.4b	2,175 ppm

Refueling Water Storage Tank maximum boron concentration for LCO 3.5.4b      2,275 ppm

### 3.11 Instrumentation (Specification 3/4.9.2)

#### 3.11.1 Reactor Makeup Water Pump Flowrate Limit:

<u>Applicable Mode</u>	<u>Limits</u>
Mode 6	$\leq 70$ gpm

\* - Values provided as Tables in the Appendix to this document were generated in the C2C07 Maneuvering Analysis calculational file (CNC-1553.05-00-0177). The CNS Reactor Engineering Group will control this information via computer file(s) and should be contacted if there is a need to access this information.

Catawba 2 Cycle 7  
Core Operating Limits Report  
Appendix A

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 4 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.4038	.3010	.5698	.3534	.5741	.6587	.6190	.4819
	* 2.7133	* 3.8753	* 2.1069	* 3.3818	* 2.0799	* 1.7983	* 1.9195	* 2.4357
9	.3010	.5162	.3438	.6051	.3866	.6330	.6340	.4263
	* 3.8753	* 2.3085	* 3.4776	* 1.9691	* 3.0699	* 1.8809	* 1.8613	* 2.7608
10	.5698	.3438	.5912	.3620	.6126	.6426	.5858	.2431
	* 2.1069	* 3.4700	* 2.0088	* 3.2775	* 1.9336	* 1.8292	* 2.0165	* 4.8121
11	.3534	.6083	.3631	.5751	.3695	.5944	.5580	.4016
	* 3.3818	* 1.9621	* 3.2650	* 1.9864	* 3.0690	* 1.9215	* 2.0741	* 2.9059
12	.5741	.3888	.6148	.3706	.5708	.5494	.4948	
	* 2.0799	* 3.0521	* 1.9265	* 3.0631	* 1.8742	* 1.9472	* 2.2984	
13	.6587	.6351	.6437	.5965	.5516	.5034	.3395	
	* 1.7983	* 1.8742	* 1.8250	* 1.9168	* 1.9424	* 2.1069	* 3.2970	
14	.6190	.6340	.5869	.5591	.4969	.3459		
	* 1.9195	* 1.8610	* 2.0118	* 2.0686	* 2.2884	* 3.2305		
15	.4819	.4252	.2442	.4027	F-SUB-Q			
	* 2.4357	* 2.7615	* 4.8099	* 2.8961	M-SUB-Q			

AT 100% POWER, 4 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.6019	.8439	.8429	.9350	.8172	.9018	.9221	.7818
	* 2.4061	* 1.7691	* 1.7902	* 1.6049	* 1.8292	* 1.6455	* 1.6102	* 1.8301
9	.8439	.7518	.9168	.8750	.9735	.9414	.9168	.6372
	* 1.7691	* 1.9911	* 1.6397	* 1.7179	* 1.5293	* 1.5788	* 1.6143	* 2.3127
10	.8429	.9178	.8857	.9457	.9114	.8996	.8836	.7090
	* 1.7902	* 1.6371	* 1.6957	* 1.5624	* 1.6344	* 1.6538	* 1.6751	* 2.0691
11	.9350	.8782	.9478	.8172	.9553	.8889	.8643	.6094
	* 1.6049	* 1.7120	* 1.5601	* 1.7971	* 1.5377	* 1.6523	* 1.6868	* 2.4066
12	.8172	.9778	.9157	.9585	.8750	.8718	.7840	
	* 1.8292	* 1.5223	* 1.6277	* 1.5330	* 1.6100	* 1.6316	* 1.8429	
13	.9018	.9446	.9029	.8911	.8739	.8397	.5205	
	* 1.6455	* 1.5751	* 1.6469	* 1.6469	* 1.6263	* 1.6794	* 2.7492	
14	.9221	.9178	.8857	.8664	.7883	.5323		
	* 1.6102	* 1.6127	* 1.6709	* 1.6821	* 1.8356	* 2.6885		
15	.7818	.6362	.7101	.6105	F-SUB-Q			
	* 1.8801	* 2.3131	* 2.0650	* 2.3980	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 4 RFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7872	* 1.1096	* 1.0967	* 1.2038	* 1.0207	* 1.1138	* 1.1203	* .9789
	* 2.0796	* 1.4847	* 1.5108	* 1.3679	* 1.6036	* 1.4724	* 1.4571	* 1.6497
9	* 1.1096	* .9660	* 1.1984	* 1.1278	* 1.2209	* 1.1599	* 1.1310	* .7679
	* 1.4847	* 1.6979	* 1.3778	* 1.4643	* 1.3414	* 1.4127	* 1.4389	* 2.0991
10	* 1.0967	* 1.1995	* 1.1513	* 1.2252	* 1.1449	* 1.1331	* 1.0892	* .9039
	* 1.5108	* 1.3767	* 1.4349	* 1.3328	* 1.4302	* 1.4400	* 1.4969	* 1.7854
11	* 1.2038	* 1.1320	* 1.2274	* 1.0389	* 1.2252	* 1.1149	* 1.0935	* .7658
	* 1.3679	* 1.4602	* 1.3311	* 1.5648	* 1.3302	* 1.4602	* 1.4754	* 2.1080
12	* 1.0207	* 1.2263	* 1.1503	* 1.2274	* 1.1460	* 1.1299	* .9853	*
	* 1.6036	* 1.3354	* 1.4252	* 1.3302	* 1.4107	* 1.4221	* 1.6331	*
13	* 1.1138	* 1.1652	* 1.1374	* 1.1181	* 1.1331	* 1.0817	* .6362	*
	* 1.4724	* 1.4078	* 1.4399	* 1.4552	* 1.4174	* 1.4807	* 2.5051	*
14	* 1.1203	* 1.1331	* 1.0913	* 1.0967	* .9896	* .6512	*	*
	* 1.4571	* 1.4369	* 1.4936	* 1.4703	* 1.6255	* 2.4458	*	*
15	* .9789	* .7668	* .9061	* .7679	* F-SUB-Q			
	* 1.6497	* 2.1012	* 1.7810	* 2.1015	* M-SUB-Q			

AT 100% POWER, 4 RFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9136	* 1.3045	* 1.2809	* 1.4019	* 1.1717	* 1.2809	* 1.2745	* 1.1224
	* 1.8873	* 1.3336	* 1.3614	* 1.2377	* 1.4635	* 1.3476	* 1.3486	* 1.5159
9	* 1.3045	* 1.1224	* 1.4052	* 1.3120	* 1.4126	* 1.3302	* 1.2981	* .8686
	* 1.3336	* 1.5329	* 1.2377	* 1.3275	* 1.2228	* 1.2997	* 1.3216	* 1.9441
10	* 1.2809	* 1.4062	* 1.3420	* 1.4319	* 1.3238	* 1.3088	* 1.2456	* 1.0421
	* 1.3614	* 1.2363	* 1.2980	* 1.2061	* 1.3069	* 1.3191	* 1.3794	* 1.6328
11	* 1.4019	* 1.3152	* 1.4341	* 1.2027	* 1.4309	* 1.2863	* 1.2659	* .8782
	* 1.2377	* 1.3232	* 1.2040	* 1.4228	* 1.2067	* 1.3784	* 1.3476	* 1.9425
12	* 1.1717	* 1.4191	* 1.3291	* 1.4341	* 1.3280	* 1.3163	* 1.1363	*
	* 1.4635	* 1.2172	* 1.3020	* 1.2040	* 1.2941	* 1.2980	* 1.5019	*
13	* 1.2809	* 1.3355	* 1.3152	* 1.2906	* 1.3205	* 1.2541	* .7229	*
	* 1.3476	* 1.2949	* 1.3134	* 1.3341	* 1.2933	* 1.3581	* 2.3295	*
14	* 1.2745	* 1.3002	* 1.2488	* 1.2702	* 1.1417	* .7411	*	*
	* 1.3486	* 1.3198	* 1.3759	* 1.3426	* 1.4945	* 2.2714	*	*
15	* 1.1224	* .8675	* 1.0442	* .8614	* F-SUB-Q			
	* 1.5159	* 1.9474	* 1.6290	* 1.9353	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 4 EFPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9757 *	* 1.4062 *	* 1.3762 *	* 1.5069 *	* 1.2477 *	* 1.3720 *	* 1.3559 *	* 1.1963 *
	* 1.8672 *	* 1.3114 *	* 1.3445 *	* 1.2205 *	* 1.4493 *	* 1.3356 *	* 1.3448 *	* 1.5105 *
9	* 1.4062 *	* 1.2006 *	* 1.5155 *	* 1.4052 *	* 1.5219 *	* 1.4180 *	* 1.3880 *	* .9178 *
	* 1.3114 *	* 1.5112 *	* 1.2170 *	* 1.3143 *	* 1.2089 *	* 1.2937 *	* 1.3119 *	* 1.9420 *
10	* 1.3762 *	* 1.5176 *	* 1.4373 *	* 1.5422 *	* 1.4180 *	* 1.4052 *	* 1.3270 *	* 1.1117 *
	* 1.3445 *	* 1.2156 *	* 1.2844 *	* 1.1894 *	* 1.2970 *	* 1.3038 *	* 1.3758 *	* 1.6260 *
11	* 1.5069 *	* 1.4084 *	* 1.5455 *	* 1.2852 *	* 1.5412 *	* 1.3752 *	* 1.3559 *	* .9318 *
	* 1.2205 *	* 1.3104 *	* 1.1874 *	* 1.4059 *	* 1.1901 *	* 1.3300 *	* 1.3371 *	* 1.9451 *
12	* 1.2477 *	* 1.5283 *	* 1.4244 *	* 1.5444 *	* 1.4212 *	* 1.4137 *	* 1.2124 *	
	* 1.4493 *	* 1.2028 *	* 1.2914 *	* 1.1874 *	* 1.2875 *	* 1.2860 *	* 1.4989 *	
13	* 1.3720 *	* 1.4234 *	* 1.4116 *	* 1.3805 *	* 1.4180 *	* 1.3430 *	* .7658 *	
	* 1.3356 *	* 1.2883 *	* 1.2983 *	* 1.3250 *	* 1.2814 *	* 1.3532 *	* 2.3307 *	
14	* 1.3559 *	* 1.3902 *	* 1.3302 *	* 1.3612 *	* 1.2188 *	* .7850 *		
	* 1.3448 *	* 1.3101 *	* 1.3715 *	* 1.3321 *	* 1.4906 *	* 2.2726 *		
15	* 1.1963 *	* .9168 *	* 1.1138 *	* 9361 *	* F-SUB-Q			
	* 1.5105 *	* 1.9438 *	* 1.6224 *	* 1.9365 *	* M-SUB-Q			

AT 100% POWER, 4 EFPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0560 *	* 1.5315 *	* 1.5005 *	* 1.6408 *	* 1.3559 *	* 1.4908 *	* 1.4737 *	* 1.3023 *
	* 1.8255 *	* 1.2817 *	* 1.3122 *	* 1.1935 *	* 1.4114 *	* 1.3090 *	* 1.3170 *	* 1.4772 *
9	* 1.5315 *	* 1.3066 *	* 1.6526 *	* 1.5315 *	* 1.6579 *	* 1.5422 *	* 1.5101 *	* .9950 *
	* 1.2817 *	* 1.4706 *	* 1.1883 *	* 1.2848 *	* 1.1817 *	* 1.2674 *	* 1.2840 *	* 1.8980 *
10	* 1.5005 *	* 1.6536 *	* 1.5658 *	* 1.6804 *	* 1.5444 *	* 1.5294 *	* 1.4416 *	* 1.2081 *
	* 1.3122 *	* 1.1869 *	* 1.2570 *	* 1.1651 *	* 1.2711 *	* 1.2772 *	* 1.3493 *	* 1.5943 *
11	* 1.6408 *	* 1.5337 *	* 1.6847 *	* 1.3987 *	* 1.6793 *	* 1.4983 *	* 1.4791 *	* 1.0100 *
	* 1.1935 *	* 1.2817 *	* 1.1626 *	* 1.3718 *	* 1.1657 *	* 1.3059 *	* 1.3114 *	* 1.9152 *
12	* 1.3559 *	* 1.6654 *	* 1.5519 *	* 1.6836 *	* 1.5476 *	* 1.5422 *	* 1.3195 *	
	* 1.4114 *	* 1.1766 *	* 1.2651 *	* 1.1632 *	* 1.2649 *	* 1.2612 *	* 1.4731 *	
13	* 1.4908 *	* 1.5487 *	* 1.5369 *	* 1.5037 *	* 1.5476 *	* 1.4641 *	* .8290 *	
	* 1.3090 *	* 1.2622 *	* 1.2711 *	* 1.3003 *	* 1.2568 *	* 1.3282 *	* 2.2905 *	
14	* 1.4737 *	* 1.5133 *	* 1.4459 *	* 1.4844 *	* 1.3270 *	* .8504 *		
	* 1.3170 *	* 1.2817 *	* 1.3459 *	* 1.3059 *	* 1.4651 *	* 2.2325 *		
15	* 1.3023 *	* .9939 *	* 1.2113 *	* 1.0142 *	* F-SUB-Q			
	* 1.4772 *	* 1.8997 *	* 1.5908 *	* 1.9084 *	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 4 BFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0903	* 1.5947	* 1.5604	* 1.7104	* 1.4084	* 1.5530	* 1.5337	* 1.3559 *
	* 1.8820	* 1.3065	* 1.3396	* 1.2156	* 1.4478	* 1.3355	* 1.3455	* 1.5085 *
9	* 1.5947	* 1.3559	* 1.7243	* 1.5926	* 1.7307	* 1.6044	* 1.5744	* 1.0303 *
	* 1.3065	* 1.5075	* 1.2088	* 1.3121	* 1.2021	* 1.2948	* 1.3089	* 1.9513 *
10	* 1.5604	* 1.7254	* 1.6279	* 1.7543	* 1.6076	* 1.5958	* 1.4994	* 1.2552 *
	* 1.3396	* 1.2075	* 1.2833	* 1.1850	* 1.2963	* 1.3002	* 1.3789	* 1.6312 *
11	* 1.7104	* 1.5958	* 1.7596	* 1.4555	* 1.7522	* 1.5594	* 1.5412	* 1.0442 *
	* 1.2156	* 1.3081	* 1.1824	* 1.4028	* 1.1857	* 1.3314	* 1.3355	* 1.9675 *
12	* 1.4084	* 1.7393	* 1.6151	* 1.7575	* 1.6097	* 1.6097	* 1.3720	*
	* 1.4478	* 1.1968	* 1.2909	* 1.1831	* 1.2909	* 1.2833	* 1.5053	*
13	* 1.5530	* 1.6108	* 1.6033	* 1.5658	* 1.6161	* 1.5251	* .8579	*
	* 1.3355	* 1.2894	* 1.2940	* 1.3265	* 1.2787	* 1.3547	* 2.3567	*
14	* 1.5337	* 1.5776	* 1.5037	* 1.5487	* 1.3805	* .8804	*	*
	* 1.3455	* 1.3065	* 1.3745	* 1.3298	* 1.4970	* 2.2955	*	*
15	* 1.3559	* 1.0292	* 1.2584	* 1.0496	* F-SUB-Q			
	* 1.5085	* 1.9531	* 1.6275	* 1.9586	* M-SUB-Q			

AT 100% POWER, 4 BFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1010	* 1.6268	* 1.5894	* 1.7489	* 1.4330	* 1.5872	* 1.5658	* 1.3837 *
	* 1.9734	* 1.3497	* 1.3877	* 1.2558	* 1.5160	* 1.3797	* 1.3913	* 1.5584 *
9	* 1.6268	* 1.3773	* 1.7629	* 1.6226	* 1.7714	* 1.6354	* 1.6108	* 1.0464 *
	* 1.3497	* 1.5799	* 1.2485	* 1.3598	* 1.2414	* 1.3421	* 1.3513	* 2.0392 *
10	* 1.5894	* 1.7650	* 1.6590	* 1.7950	* 1.6397	* 1.6333	* 1.5283	* 1.2777 *
	* 1.3877	* 1.2471	* 1.3314	* 1.2252	* 1.3446	* 1.3438	* 1.4298	* 1.6884 *
11	* 1.7489	* 1.6268	* 1.8004	* 1.4844	* 1.7939	* 1.5904	* 1.5754	* 1.0581 *
	* 1.2558	* 1.3564	* 1.2225	* 1.4692	* 1.2259	* 1.3833	* 1.3824	* 2.0474 *
12	* 1.4330	* 1.7800	* 1.6483	* 1.7993	* 1.6418	* 1.6472	* 1.3965	*
	* 1.5160	* 1.2357	* 1.3380	* 1.2231	* 1.3421	* 1.3306	* 1.5663	*
13	* 1.5872	* 1.6429	* 1.6418	* 1.5969	* 1.6547	* 1.5572	* .8686	*
	* 1.3797	* 1.3363	* 1.3372	* 1.3771	* 1.3249	* 1.4085	* 2.4816	*
14	* 1.5658	* 1.6140	* 1.5326	* 1.5829	* 1.4062	* .8921	*	*
	* 1.3913	* 1.3488	* 1.4251	* 1.3762	* 1.5562	* 2.4171	*	*
15	* 1.3837	* 1.0453	* 1.2809	* 1.0635	* F-SUB-Q			
	* 1.5584	* 2.0411	* 1.6844	* 2.0378	* M-SUB-Q			



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TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 4 EFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1299	* 1.6804	* 1.6451	* 1.8132	* 1.4812	* 1.6451	* 1.6268	* 1.4362
	* 1.9882	* 1.3430	* 1.3789	* 1.2492	* 1.5213	* 1.3771	* 1.3957	* 1.5618
9	* 1.6804	* 1.4201	* 1.8282	* 1.6815	* 1.8378	* 1.6965	* 1.5729	* 1.0817
	* 1.3430	* 1.5827	* 1.2414	* 1.3530	* 1.2364	* 1.3421	* 1.3566	* 2.0702
10	* 1.6451	* 1.8303	* 1.7179	* 1.8635	* 1.7007	* 1.6965	* 1.5840	* 1.3316
	* 1.3789	* 1.2400	* 1.3249	* 1.2211	* 1.3405	* 1.3430	* 1.4393	* 1.7014
11	* 1.8132	* 1.6847	* 1.8689	* 1.5390	* 1.8625	* 1.6504	* 1.6376	* 1.0913
	* 1.2492	* 1.3505	* 1.2190	* 1.4755	* 1.2231	* 1.3886	* 1.3957	* 2.0709
12	* 1.4812	* 1.8475	* 1.7093	* 1.8689	* 1.7029	* 1.7136	* 1.4469	
	* 1.5213	* 1.2301	* 1.3339	* 1.2197	* 1.3480	* 1.3388	* 1.5835	
13	* 1.6451	* 1.7050	* 1.7040	* 1.6579	* 1.7200	* 1.6172	* .8954	
	* 1.3771	* 1.3363	* 1.3355	* 1.3824	* 1.3330	* 1.4205	* 2.5438	
14	* 1.6268	* 1.6761	* 1.5894	* 1.6451	* 1.4576	* .9200		
	* 1.3957	* 1.3530	* 1.4346	* 1.3695	* 1.5731	* 2.4767		
15	* 1.4362	* 1.0806	* 1.3259	* 1.0967	* F-SUB-Q			
	* 1.5618	* 2.0722	* 1.6976	* 2.0630	* M-SUB-Q			

AT 100% POWER, 4 EFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1074	* 1.6611	* 1.6236	* 1.7993	* 1.4587	* 1.6322	* 1.6140	* 1.4234
	* 1.9873	* 1.3249	* 1.3632	* 1.2280	* 1.5117	* 1.3539	* 1.3719	* 1.5462
9	* 1.6611	* 1.3955	* 1.8153	* 1.6622	* 1.8282	* 1.6815	* 1.6633	* 1.0667
	* 1.3249	* 1.5777	* 1.2197	* 1.3363	* 1.2136	* 1.3225	* 1.3306	* 2.0630
10	* 1.6236	* 1.8175	* 1.6975	* 1.8539	* 1.6825	* 1.6879	* 1.5679	* 1.3066
	* 1.3632	* 1.2183	* 1.3089	* 1.1994	* 1.3225	* 1.3176	* 1.4177	* 1.6910
11	* 1.7993	* 1.6665	* 1.8593	* 1.5208	* 1.8518	* 1.6343	* 1.6258	* 1.0742
	* 1.2280	* 1.3330	* 1.1961	* 1.4617	* 1.2008	* 1.3684	* 1.3710	* 2.0650
12	* 1.4587	* 1.3378	* 1.6922	* 1.8582	* 1.5868	* 1.7050	* 1.4309	
	* 1.5117	* 1.2075	* 1.3152	* 1.1968	* 1.3290	* 1.3144	* 1.5618	
13	* 1.6322	* 1.6900	* 1.6954	* 1.6418	* 1.7125	* 1.6033	* .8814	
	* 1.3539	* 1.3160	* 1.3105	* 1.3615	* 1.3089	* 1.3994	* 2.5455	
14	* 1.6140	* 1.6675	* 1.5733	* 1.6333	* 1.4405	* .9050		
	* 1.3719	* 1.3281	* 1.4130	* 1.3641	* 1.5517	* 2.4785		
15	* 1.4234	* 1.0656	* 1.3109	* 1.0796	* F-SUB-Q			
	* 1.5462	* 2.0650	* 1.6858	* 2.0552	* M-SUB-Q			

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Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 4 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1203	* 1.6911	* 1.6558	* 1.8368	* 1.4876	* 1.6665	* 1.6536	* 1.4587
	* 1.9204	* 1.2750	* 1.3081	* 1.1773	* 1.4519	* 1.2979	* 1.3105	* 1.4732
9	* 1.6911	* 1.4191	* 1.8539	* 1.6965	* 1.8678	* 1.7200	* 1.7040	* 1.0892
	* 1.2750	* 1.5191	* 1.1684	* 1.2795	* 1.1609	* 1.2631	* 1.2698	* 1.9722
10	* 1.6558	* 1.8560	* 1.7318	* 1.8946	* 1.7222	* 1.7275	* 1.6044	* 1.3366
	* 1.3081	* 1.1671	* 1.2536	* 1.1449	* 1.2638	* 1.2587	* 1.3547	* 1.6166
11	* 1.8368	* 1.7018	* 1.9010	* 1.5540	* 1.8935	* 1.6729	* 1.6665	* 1.0956
	* 1.1773	* 1.2765	* 1.1419	* 1.3975	* 1.1461	* 1.3042	* 1.3049	* 1.9783
12	* 1.4876	* 1.8785	* 1.7307	* 1.9010	* 1.7254	* 1.7489	* 1.4641	*
	* 1.4519	* 1.1547	* 1.2572	* 1.1425	* 1.2660	* 1.2471	* 1.4878	*
13	* 1.6665	* 1.7286	* 1.7350	* 1.6804	* 1.7564	* 1.6440	* .8986	*
	* 1.2979	* 1.2565	* 1.2514	* 1.2979	* 1.2414	* 1.3281	* 2.4339	*
14	* 1.6536	* 1.7082	* 1.6108	* 1.6750	* 1.4748	* .9232	*	*
	* 1.3105	* 1.2675	* 1.3497	* 1.2987	* 1.4776	* 2.3674	*	*
15	* 1.4587	* 1.0892	* 1.3409	* 1.1010	* F-SUB-Q			
	* 1.4732	* 1.9740	* 1.6118	* 1.9693	* M-SUB-Q			

AT 100% POWER, 4 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0956	* 1.6665	* 1.6322	* 1.8164	* 1.4651	* 1.6483	* 1.6386	* 1.4459
	* 1.9037	* 1.2479	* 1.2818	* 1.1494	* 1.4212	* 1.2640	* 1.2702	* 1.4219
9	* 1.6665	* 1.3944	* 1.8336	* 1.6740	* 1.8507	* 1.7007	* 1.6900	* 1.0753
	* 1.2479	* 1.4914	* 1.1443	* 1.2563	* 1.1365	* 1.2355	* 1.2325	* 1.9112
10	* 1.6322	* 1.8357	* 1.7082	* 1.8775	* 1.7029	* 1.7125	* 1.5872	* 1.3216
	* 1.2818	* 1.1431	* 1.2345	* 1.1273	* 1.2429	* 1.2305	* 1.3221	* 1.5649
11	* 1.8164	* 1.6793	* 1.8839	* 1.5337	* 1.8764	* 1.6558	* 1.6515	* 1.0796
	* 1.1494	* 1.2533	* 1.1247	* 1.3826	* 1.1298	* 1.2902	* 1.2808	* 1.9288
12	* 1.4651	* 1.8603	* 1.7125	* 1.8828	* 1.7061	* 1.7350	* 1.4480	*
	* 1.4212	* 1.1306	* 1.2360	* 1.1258	* 1.2550	* 1.2322	* 1.4713	*
13	* 1.6483	* 1.7104	* 1.7211	* 1.6633	* 1.7425	* 1.6279	* .8846	*
	* 1.2640	* 1.2292	* 1.2235	* 1.2841	* 1.2266	* 1.3144	* 2.4124	*
14	* 1.6386	* 1.6943	* 1.5936	* 1.6611	* 1.4587	* .9093	*	*
	* 1.2702	* 1.2304	* 1.3174	* 1.7746	* 1.4606	* 2.3470	*	*
15	* 1.4459	* 1.0742	* 1.3259	* 1.0849	* F-SUB-Q			
	* 1.4219	* 1.9128	* 1.5604	* 1.9199	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 4 EFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0378	* 1.5926	* 1.5572	* 1.7425	* 1.3977	* 1.5840	* 1.5722	* 1.3880
	* 1.9134	* 1.2491	* 1.2865	* 1.1464	* 1.4258	* 1.2574	* 1.2662	* 1.4165
9	* 1.5926	* 1.3259	* 1.7586	* 1.5990	* 1.7768	* 1.6290	* 1.6258	* 1.0260
	* 1.2491	* 1.5015	* 1.1419	* 1.2582	* 1.1313	* 1.2327	* 1.2259	* 1.9161
10	* 1.5572	* 1.7607	* 1.6322	* 1.8036	* 1.6311	* 1.6472	* 1.5208	* 1.2659
	* 1.2865	* 1.1401	* 1.2358	* 1.1198	* 1.2408	* 1.2234	* 1.3186	* 1.5613
11	* 1.7425	* 1.6044	* 1.8100	* 1.4662	* 1.8025	* 1.5862	* 1.5862	* 1.0292
	* 1.1464	* 1.2544	* 1.1164	* 1.3790	* 1.1214	* 1.2826	* 1.2703	* 1.9308
12	* 1.3977	* 1.7875	* 1.6408	* 1.8100	* 1.6343	* 1.6675	* 1.3848	
	* 1.4258	* 1.1248	* 1.2337	* 1.1174	* 1.2552	* 1.2256	* 1.4619	
13	* 1.5840	* 1.6386	* 1.6558	* 1.5947	* 1.6761	* 1.5604	* .8429	
	* 1.2574	* 1.2265	* 1.2160	* 1.2758	* 1.2200	* 1.3105	* 2.4063	
14	* 1.5722	* 1.6290	* 1.5262	* 1.5958	* 1.3955	* .8664		
	* 1.2662	* 1.2233	* 1.3138	* 1.2636	* 1.4512	* 2.3392		
15	* 1.3880	* 1.0260	* 1.2702	* 1.0346	* F-SUB-Q			
	* 1.4165	* 1.9165	* 1.5568	* 1.9222	* M-SUB-Q			

AT 100% POWER, 4 EFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0025	* 1.5465	* 1.5165	* 1.6997	* 1.3623	* 1.5530	* 1.5433	* 1.3634
	* 1.8906	* 1.2317	* 1.2647	* 1.1246	* 1.3989	* 1.2267	* 1.2334	* 1.3797
9	* 1.5465	* 1.2863	* 1.7147	* 1.5594	* 1.7372	* 1.5958	* 1.5947	* 1.0046
	* 1.2317	* 1.4799	* 1.1208	* 1.2348	* 1.1051	* 1.2015	* 1.1942	* 1.8726
10	* 1.5165	* 1.7168	* 1.5904	* 1.7629	* 1.5947	* 1.6119	* 1.4898	* 1.2402
	* 1.2647	* 1.1191	* 1.2120	* 1.0939	* 1.2116	* 1.1949	* 1.2854	* 1.5242
11	* 1.6997	* 1.5658	* 1.7693	* 1.4319	* 1.7618	* 1.5530	* 1.5551	* 1.0046
	* 1.1246	* 1.2299	* 1.0903	* 1.3465	* 1.0945	* 1.2487	* 1.2352	* 1.8916
12	* 1.3623	* 1.7489	* 1.6054	* 1.7693	* 1.6001	* 1.6354	* 1.3559	
	* 1.3989	* 1.0980	* 1.2042	* 1.0906	* 1.2178	* 1.1874	* 1.4220	
13	* 1.5530	* 1.6044	* 1.6204	* 1.5615	* 1.6440	* 1.5305	* .8225	
	* 1.2267	* 1.1968	* 1.1877	* 1.2422	* 1.1816	* 1.2689	* 2.3465	
14	* 1.5433	* 1.5979	* 1.4962	* 1.5647	* 1.3666	* .8461		
	* 1.2334	* 1.1919	* 1.2809	* 1.2289	* 1.4113	* 2.2808		
15	* 1.3634	* 1.0046	* 1.2434	* 1.0100	* F-SUB-Q			
	* 1.3797	* 1.8736	* 1.5199	* 1.8817	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 4 EFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORR, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9050	* 1.4073	* 1.3773	* 1.5583	* 1.2445	* 1.4341	* 1.4234	* 1.2574 *
	* 2.0153	* 1.3009	* 1.3388	* 1.1792	* 1.4713	* 1.2747	* 1.2835	* 1.4365 *
9	* 1.4073	* 1.1674	* 1.5669	* 1.4223	* 1.5990	* 1.4673	* 1.4716	* .9221 *
	* 1.3009	* 1.5690	* 1.1779	* 1.3001	* 1.1518	* 1.2533	* 1.2414	* 1.9585 *
10	* 1.3773	* 1.5690	* 1.4491	* 1.6172	* 1.4608	* 1.4833	* 1.3687	* 1.1374 *
	* 1.3388	* 1.1763	* 1.2774	* 1.1424	* 1.2677	* 1.2450	* 1.3416	* 1.5939 *
11	* 1.5583	* 1.4287	* 1.6236	* 1.3088	* 1.6172	* 1.4244	* 1.4298	* .9178 *
	* 1.1792	* 1.2946	* 1.1384	* 1.4117	* 1.1424	* 1.3032	* 1.2854	* 1.9865 *
12	* 1.2445	* 1.607	* 1.4705	* 1.6247	* 1.4673	* 1.5048	* 1.2434	* *
	* 1.4713	* 1.1442	* 1.2602	* 1.1382	* 1.2680	* 1.2312	* 1.4829	* *
13	* 1.4341	* 1.4737	* 1.4908	* 1.4319	* 1.5123	* 1.4062	* .7518	* *
	* 1.2747	* 1.2486	* 1.2372	* 1.2970	* 1.2253	* 1.3179	* 2.4519	* *
14	* 1.4234	* 1.4748	* 1.3741	* 1.4384	* 1.2531	* .7743	* *	* *
	* 1.2835	* 1.2393	* 1.3366	* 1.2782	* 1.4718	* 2.3830	* *	* *
15	* 1.2574	* .9221	* 1.1417	* .9221	* F-SUB-Q			
	* 1.4365	* 1.9603	* 1.5892	* 1.9766	* M-SUB-Q			

AT 100% POWER, 4 EFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8107	* 1.2574	* 1.2349	* 1.4084	* 1.1353	* 1.3216	* 1.3173	* 1.1535 *
	* 2.1782	* 1.4083	* 1.4445	* 1.2600	* 1.5596	* 1.3359	* 1.3401	* 1.5116 *
9	* 1.2574	* 1.0485	* 1.4062	* 1.2831	* 1.4608	* 1.3516	* 1.3548	* .8504 *
	* 1.4083	* 1.6889	* 1.2685	* 1.3923	* 1.2181	* 1.3136	* 1.3025	* 2.0529 *
10	* 1.2349	* 1.4084	* 1.3034	* 1.4641	* 1.3313	* 1.3527	* 1.2574	* 1.0335 *
	* 1.4445	* 1.2670	* 1.3724	* 1.2181	* 1.3425	* 1.3160	* 1.4105	* 1.6942 *
11	* 1.4084	* 1.2895	* 1.4705	* 1.1920	* 1.4662	* 1.2991	* 1.3045	* .8322 *
	* 1.2600	* 1.3865	* 1.2136	* 1.4949	* 1.2174	* 1.3768	* 1.3582	* 2.1144 *
12	* 1.1353	* 1.4705	* 1.3398	* 1.4716	* 1.3777	* 1.3720	* 1.1353 *	
	* 1.5596	* 1.2099	* 1.3351	* 1.2126	* 1.3401	* 1.3002	* 1.5648 *	
13	* 1.3216	* 1.3570	* 1.3612	* 1.3066	* 1.3784	* 1.2852	* .6897 *	
	* 1.3359	* 1.3088	* 1.3080	* 1.3698	* 1.2940	* 1.3874	* 2.5787 *	
14	* 1.3173	* 1.3580	* 1.2627	* 1.3120	* 1.1449	* .7101	* *	
	* 1.3401	* 1.2997	* 1.4054	* 1.3506	* 1.5529	* 2.5037	* *	
15	* 1.1535	* .8493	* 1.0378	* .8365	* F-SUB-Q			
	* 1.5116	* 2.0540	* 1.6889	* 2.1042	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 4 BFPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.6501	.9800	.9703	1.1192	.9339	1.1117	1.1203	.9436
	2.6545	1.7631	1.7931	1.5455	1.8442	1.5433	1.5317	1.7982
9	.9800	.8354	1.0988	1.0185	1.1995	1.1385	1.1395	.7229
	1.7631	2.0686	1.5817	1.7100	1.4428	1.5157	1.5051	2.3523
10	.9703	1.1010	1.0260	1.1642	1.0903	1.1138	1.0539	.8247
	1.7931	1.5794	1.6993	1.4900	1.5951	1.5477	1.6362	2.0666
11	1.1192	1.0239	1.1685	.9725	1.1931	1.0710	1.0667	.6737
	1.5455	1.7019	1.4849	1.7855	1.4535	1.6220	1.6124	2.5449
12	.9339	1.2070	1.0967	1.1995	1.0903	1.1224	.9361	
	1.8442	1.4327	1.5857	1.4467	1.5974	1.5400	1.8451	
13	1.1117	1.1428	1.1192	1.0764	1.1288	1.0549	.5805	
	1.5433	1.5104	1.5400	1.6136	1.5313	1.6412	2.9760	
14	1.1203	1.1417	1.0581	1.0731	.9425	.5976		
	1.5317	1.5020	1.6300	1.6040	1.8310	2.8925		
15	.9436	.7219	.8279	.6769	F-SUB-Q			
	1.7982	2.3533	2.0596	2.5313	M-SUB-Q			

AT 100% POWER, 4 BFPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.4155	.3181	.5858	.3791	.6030	.7561	.7036	.5430
	4.0651	5.3146	2.9058	4.4635	2.7986	2.2181	2.3938	3.0644
9	.3181	.5216	.3684	.6319	.4295	.7015	.7336	.4541
	5.3146	3.2538	4.6115	2.6937	3.9312	2.4098	2.2825	3.6776
10	.5858	.3684	.6126	.3963	.6640	.7422	.6480	.2613
	2.9058	4.6115	2.7786	4.2869	2.5522	2.2682	2.5999	6.3923
11	.3791	.6351	.3973	.6308	.4284	.6640	.6437	.4134
	4.4635	2.6803	4.2700	2.6922	3.9496	2.5613	2.6156	4.0651
12	.6030	.4327	.6683	.4305	.6508	.6876	.5569	
	2.7986	3.9029	2.5373	3.9353	2.5734	2.4579	3.0368	
13	.7561	.7047	.7454	.6672	.6908	.6201	.3599	
	2.2181	2.4018	2.2587	2.5492	2.4468	2.7315	4.7074	
14	.7036	.7347	.6512	.6469	.5612	.3695		
	2.3938	2.2801	2.5906	2.6030	3.0132	4.5822		
15	.5430	.4541	.2624	.4155	F-SUB-Q			
	3.0644	3.6776	6.3735	4.0455	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 150 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .4991 *	* .4038 *	* .6640 *	* .4552 *	* .6501 *	* .7497 *	* .6972 *	* .5516 *
	* 2.2805 *	* 3.0136 *	* 1.8859 *	* 2.7338 *	* 1.9015 *	* 1.6341 *	* 1.7479 *	* 2.1855 *
9	* .4038 *	* .6094 *	* .4477 *	* .6854 *	* .4830 *	* .7101 *	* .7186 *	* .4766 *
	* 3.0136 *	* 2.0413 *	* 2.7853 *	* 1.8174 *	* 2.5790 *	* 1.7345 *	* 1.7046 *	* 2.5362 *
10	* .6640 *	* .4477 *	* .6758 *	* .4605 *	* .6865 *	* .7358 *	* .6576 *	* .2967 *
	* 1.8859 *	* 2.7853 *	* 1.8330 *	* 2.6942 *	* 1.7979 *	* 1.6816 *	* 1.8805 *	* 4.1286 *
11	* .4552 *	* .6865 *	* .4616 *	* .6458 *	* .4584 *	* .6597 *	* .6340 *	* .4477 *
	* 2.7338 *	* 1.8132 *	* 2.6850 *	* 1.8611 *	* 2.6045 *	* 1.8074 *	* 1.9147 *	* 2.7250 *
12	* .6501 *	* .4852 *	* .6887 *	* .4595 *	* .6362 *	* .6276 *	* .5537 *	
	* 1.9015 *	* 2.5664 *	* 1.7951 *	* 2.6003 *	* 1.7510 *	* 1.7814 *	* 2.1432 *	
13	* .7497 *	* .7111 *	* .7379 *	* .6608 *	* .6287 *	* .5644 *	* .3856 *	
	* 1.6341 *	* 1.7326 *	* 1.6781 *	* 1.8033 *	* 1.7774 *	* 1.9521 *	* 3.0092 *	
14	* .6972 *	* .7197 *	* .6587 *	* .6362 *	* .5558 *	* .3909 *		
	* 1.7479 *	* 1.7046 *	* 1.8774 *	* 1.9110 *	* 2.1363 *	* 2.9653 *		
15	* .5516 *	* .4766 *	* .2967 *	* .4477 *	F-SUB-Q			
	* 2.1855 *	* 2.5362 *	* 4.1244 *	* 2.7203 *	M-SUB-Q			

AT 100% POWER, 150 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7358 *	* 1.0174 *	* .9800 *	* 1.0871 *	* .9328 *	* 1.0249 *	* 1.0025 *	* .8504 *
	* 2.0434 *	* 1.5345 *	* 1.6037 *	* 1.4321 *	* 1.6567 *	* 1.5010 *	* 1.5139 *	* 1.7639 *
9	* 1.0174 *	* .8889 *	* 1.0721 *	* .9971 *	* 1.1010 *	* 1.0367 *	* 1.0185 *	* .6779 *
	* 1.5345 *	* 1.7589 *	* 1.4643 *	* 1.5734 *	* 1.4071 *	* 1.4976 *	* 1.5092 *	* 2.2145 *
10	* .9800 *	* 1.0731 *	* 1.0121 *	* 1.0860 *	* 1.0164 *	* 1.0228 *	* .9618 *	* .7786 *
	* 1.6037 *	* 1.4632 *	* 1.5468 *	* 1.4275 *	* 1.5311 *	* 1.5238 *	* 1.6107 *	* 1.9747 *
11	* 1.0871 *	* .9992 *	* 1.0860 *	* .9253 *	* 1.0828 *	* .9735 *	* .9436 *	* .6490 *
	* 1.4321 *	* 1.5696 *	* 1.4254 *	* 1.6671 *	* 1.4254 *	* 1.5732 *	* 1.6215 *	* 2.3556 *
12	* .9328 *	* 1.1042 *	* 1.0196 *	* 1.0839 *	* .9564 *	* .9607 *	* .8332 *	
	* 1.6567 *	* 1.3989 *	* 1.5270 *	* 1.4240 *	* 1.5392 *	* 1.5433 *	* 1.8100 *	
13	* 1.0249 *	* 1.0399 *	* 1.0260 *	* .9757 *	* .9639 *	* .8943 *	* .5644 *	
	* 1.5010 *	* 1.4964 *	* 1.5198 *	* 1.5694 *	* 1.5404 *	* 1.6441 *	* 2.6249 *	
14	* 1.0025 *	* 1.0185 *	* .9628 *	* .9457 *	* .8365 *	* .5741 *		
	* 1.5139 *	* 1.5080 *	* 1.6088 *	* 1.6174 *	* 1.8043 *	* 2.5815 *		
15	* .8504 *	* .6779 *	* .7797 *	* .6501 *	F-SUB-Q			
	* 1.7639 *	* 2.2170 *	* 1.9727 *	* 2.3528 *	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 150 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9243 *	* 1.2852 *	* 1.2269 *	* 1.3484 *	* 1.1224 *	* 1.2445 *	* 1.1749 *	* 1.0185 *
	* 1.8409 *	* 1.3379 *	* 1.4110 *	* 1.2522 *	* 1.4859 *	* 1.3410 *	* 1.3992 *	* 1.5927 *
9	* 1.2852 *	* 1.0935 *	* 1.3462 *	* 1.2359 *	* 1.3452 *	* 1.2370 *	* 1.2167 *	* .7818 *
	* 1.3379 *	* 1.5651 *	* 1.2783 *	* 1.3823 *	* 1.2583 *	* 1.3713 *	* 1.3685 *	* 2.0726 *
10	* 1.2209 *	* 1.3473 *	* 1.2584 *	* 1.3602 *	* 1.2349 *	* 1.2488 *	* 1.1417 *	* .9478 *
	* 1.4110 *	* 1.2772 *	* 1.3643 *	* 1.2599 *	* 1.3858 *	* 1.3681 *	* 1.4866 *	* 1.7630 *
11	* 1.3484 *	* 1.2381 *	* 1.3602 *	* 1.1267 *	* 1.3484 *	* 1.1749 *	* 1.1428 *	* .7765 *
	* 1.2522 *	* 1.3786 *	* 1.2607 *	* 1.5046 *	* 1.2635 *	* 1.4386 *	* 1.4724 *	* 2.1586 *
12	* 1.1224 *	* 1.3495 *	* 1.2391 *	* 1.3505 *	* 1.2017 *	* 1.1942 *	* .9960 *	
	* 1.4859 *	* 1.2522 *	* 1.3811 *	* 1.2614 *	* 1.3980 *	* 1.3996 *	* 1.6770 *	
13	* 1.2445 *	* 1.2413 *	* 1.2531 *	* 1.1770 *	* 1.1963 *	* 1.0935 *	* .6587 *	
	* 1.3410 *	* 1.3667 *	* 1.3636 *	* 1.4356 *	* 1.3964 *	* 1.5197 *	* 2.4015 *	
14	* 1.1749 *	* 1.2177 *	* 1.1428 *	* 1.1460 *	* 1.0003 *	* .6704 *		
	* 1.3992 *	* 1.3667 *	* 1.4838 *	* 1.4692 *	* 1.6715 *	* 2.4486 *		
15	* 1.0185 *	* .7818 *	* .9489 *	* .7775 *	F-SUB-Q			
	* 1.5927 *	* 2.0747 *	* 1.7615 *	* 2.1563 *	M-SUB-Q			

AT 100% POWER, 150 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0367 *	* 1.4576 *	* 1.3741 *	* 1.5155 *	* 1.2445 *	* 1.3848 *	* 1.2852 *	* 1.1181 *
	* 1.7210 *	* 1.2335 *	* 1.2954 *	* 1.1514 *	* 1.3791 *	* 1.2460 *	* 1.3215 *	* 1.5017 *
9	* 1.4576 *	* 1.2242 *	* 1.5230 *	* 1.3869 *	* 1.5144 *	* 1.3666 *	* 1.3441 *	* .8472 *
	* 1.2335 *	* 1.4509 *	* 1.1701 *	* 1.2741 *	* 1.1577 *	* 1.2819 *	* 1.2787 *	* 1.9676 *
10	* 1.3741 *	* 1.5240 *	* 1.4137 *	* 1.5347 *	* 1.3794 *	* 1.3944 *	* 1.2541 *	* 1.0442 *
	* 1.2954 *	* 1.1694 *	* 1.2641 *	* 1.1685 *	* 1.2961 *	* 1.2725 *	* 1.4003 *	* 1.6498 *
11	* 1.5155 *	* 1.3891 *	* 1.5347 *	* 1.2552 *	* 1.5165 *	* 1.3034 *	* 1.2659 *	* .8493 *
	* 1.1514 *	* 1.2710 *	* 1.1690 *	* 1.4128 *	* 1.1807 *	* 1.3643 *	* 1.3956 *	* 2.0621 *
12	* 1.2445 *	* 1.5197 *	* 1.3837 *	* 1.5187 *	* 1.3366 *	* 1.3334 *	* 1.0956 *	
	* 1.3791 *	* 1.1514 *	* 1.2923 *	* 1.1787 *	* 1.3274 *	* 1.3239 *	* 1.6063 *	
13	* 1.3848 *	* 1.3709 *	* 1.3987 *	* 1.3066 *	* 1.3366 *	* 1.2092 *	* .7165 *	
	* 1.2460 *	* 1.2780 *	* 1.2679 *	* 1.3613 *	* 1.3206 *	* 1.4542 *	* 2.4074 *	
14	* 1.2852 *	* 1.3462 *	* 1.2563 *	* 1.2691 *	* 1.0999 *	* .7294 *		
	* 1.3215 *	* 1.2772 *	* 1.3984 *	* 1.3929 *	* 1.6010 *	* 2.3650 *		
15	* 1.1181 *	* .8461 *	* 1.0453 *	* .8514 *	F-SUB-Q			
	* 1.5017 *	* 1.9695 *	* 1.6485 *	* 2.0580 *	M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 150 EFPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0764	* 1.5251	* 1.4309	* 1.5808	* 1.2841	* 1.4351	* 1.3195	* 1.1438
	* 1.7221	* 1.2243	* 1.2859	* 1.1469	* 1.3792	* 1.2488	* 1.3385	* 1.5261
9	* 1.5251	* 1.2702	* 1.5915	* 1.4405	* 1.5787	* 1.4084	* 1.3859	* .8611
	* 1.2243	* 1.4401	* 1.1575	* 1.2712	* 1.1531	* 1.2874	* 1.2866	* 1.9999
10	* 1.4309	* 1.5926	* 1.4673	* 1.6011	* 1.4298	* 1.4469	* 1.2873	* 1.0699
	* 1.2859	* 1.1569	* 1.2577	* 1.1588	* 1.2948	* 1.2667	* 1.4096	* 1.6675
11	* 1.5808	* 1.4416	* 1.6001	* 1.2981	* 1.5776	* 1.3441	* 1.3034	* .8654
	* 1.1469	* 1.2690	* 1.1582	* 1.4142	* 1.1863	* 1.3848	* 1.4167	* 2.0959
12	* 1.2841	* 1.5829	* 1.4341	* 1.5808	* 1.3784	* 1.3773	* 1.1224	*
	* 1.3792	* 1.1475	* 1.2906	* 1.1843	* 1.3536	* 1.3489	* 1.6462	*
13	* 1.4351	* 1.4126	* 1.4512	* 1.3473	* 1.3805	* 1.2413	* .7293	*
	* 1.2488	* 1.2627	* 1.2621	* 1.3912	* 1.3455	* 1.4948	* 2.4788	*
14	* 1.3195	* 1.3880	* 1.2895	* 1.3066	* 1.1267	* .7411	*	*
	* 1.3385	* 1.2850	* 1.4068	* 1.4138	* 1.6399	* 2.4361	*	*
15	* 1.1438	* .8611	* 1.0710	* .8675	* F-SUB-Q			
	* 1.5261	* 1.9999	* 1.6662	* 2.0938	* M-SUB-Q			

AT 100% POWER, 150 EFPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1353	* 1.6172	* 1.5155	* 1.6761	* 1.3537	* 1.5144	* 1.3848	* 1.2006
	* 1.6830	* 1.2013	* 1.2617	* 1.1311	* 1.3595	* 1.2363	* 1.3335	* 1.5219
9	* 1.6172	* 1.3430	* 1.6858	* 1.5230	* 1.6708	* 1.4833	* 1.4598	* .8996
	* 1.2013	* 1.4077	* 1.1347	* 1.2514	* 1.1377	* 1.2714	* 1.2743	* 1.9903
10	* 1.5155	* 1.6879	* 1.5508	* 1.6943	* 1.5101	* 1.5283	* 1.3516	* 1.1213
	* 1.2617	* 1.1335	* 1.2349	* 1.1353	* 1.2699	* 1.2435	* 1.3930	* 1.6539
11	* 1.6761	* 1.5251	* 1.6933	* 1.3687	* 1.6675	* 1.4148	* 1.3720	* .9039
	* 1.1311	* 1.2500	* 1.1347	* 1.3851	* 1.1634	* 1.3667	* 1.3959	* 2.0826
12	* 1.3537	* 1.6761	* 1.5144	* 1.6708	* 1.4501	* 1.4512	* 1.1760	*
	* 1.3595	* 1.1317	* 1.2654	* 1.1609	* 1.3447	* 1.3388	* 1.6361	*
13	* 1.5144	* 1.4876	* 1.5337	* 1.4180	* 1.4555	* 1.3023	* .7604	*
	* 1.2363	* 1.2676	* 1.2392	* 1.3638	* 1.3355	* 1.4937	* 2.4743	*
14	* 1.3848	* 1.4619	* 1.3537	* 1.3752	* 1.1802	* .7743	*	*
	* 1.3335	* 1.2728	* 1.3903	* 1.3923	* 1.6322	* 2.4303	*	*
15	* 1.2006	* .8996	* 1.1224	* .9050	* F-SUB-Q			
	* 1.5219	* 1.9921	* 1.6527	* 2.0786	* M-SUB-Q			



Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 150 EFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1513	* 1.6504	* 1.5422	* 1.7104	* 1.3730	* 1.5401	* 1.4019	* 1.2134
	* 1.7376	* 1.2190	* 1.2932	* 1.1628	* 1.4072	* 1.2749	* 1.3813	* 1.5805
9	* 1.6504	* 1.3645	* 1.7200	* 1.5487	* 1.7029	* 1.5037	* 1.4823	* .9061
	* 1.2190	* 1.4406	* 1.1598	* 1.2856	* 1.1679	* 1.3088	* 1.3135	* 2.0756
10	* 1.5422	* 1.7222	* 1.5765	* 1.7265	* 1.5337	* 1.5551	* 1.3666	* 1.1310
	* 1.2932	* 1.1591	* 1.2668	* 1.1604	* 1.2994	* 1.2727	* 1.4324	* 1.7008
11	* 1.7104	* 1.5497	* 1.7265	* 1.3891	* 1.6975	* 1.4330	* 1.3912	* .9082
	* 1.1628	* 1.2848	* 1.1598	* 1.4166	* 1.1864	* 1.4046	* 1.4258	* 2.1469
12	* 1.3730	* 1.7002	* 1.5390	* 1.7018	* 1.4683	* 1.4716	* 1.1867	*
	* 1.4072	* 1.1629	* 1.2948	* 1.1838	* 1.3766	* 1.3662	* 1.6863	*
13	* 1.5401	* 1.5080	* 1.5604	* 1.4373	* 1.4758	* 1.3163	* .7647	*
	* 1.2749	* 1.3049	* 1.2675	* 1.4009	* 1.3622	* 1.5261	* 2.5464	*
14	* 1.4019	* 1.4844	* 1.3698	* 1.3944	* 1.1910	* .7786	*	*
	* 1.3813	* 1.3120	* 1.4305	* 1.4230	* 1.6792	* 2.5032	*	*
15	* 1.2134	* .9061	* 1.1331	* .9104	* F-SUB-Q			
	* 1.5805	* 2.0776	* 1.7074	* 2.1427	* M-SUB-Q			

AT 100% POWER, 150 EFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1481	* 1.6590	* 1.5465	* 1.7211	* 1.3730	* 1.5455	* 1.4019	* 1.2102
	* 1.8235	* 1.2701	* 1.3567	* 1.2173	* 1.4992	* 1.3391	* 1.4560	* 1.6676
9	* 1.6590	* 1.3655	* 1.7307	* 1.5519	* 1.7115	* 1.5037	* 1.4855	* .9007
	* 1.2701	* 1.5249	* 1.2119	* 1.3500	* 1.2201	* 1.3748	* 1.3783	* 2.2184
10	* 1.5465	* 1.7318	* 1.5787	* 1.7350	* 1.5358	* 1.5604	* 1.3645	* 1.1267
	* 1.3567	* 1.2106	* 1.3285	* 1.2092	* 1.3593	* 1.3293	* 1.5045	* 1.7960
11	* 1.7211	* 1.5530	* 1.7350	* 1.3902	* 1.7050	* 1.4319	* 1.3912	* .9007
	* 1.2173	* 1.3483	* 1.2099	* 1.4930	* 1.2297	* 1.4560	* 1.4839	* 2.2558
12	* 1.3730	* 1.7168	* 1.5412	* 1.7082	* 1.4662	* 1.4737	* 1.1813	*
	* 1.4992	* 1.2160	* 1.3551	* 1.2270	* 1.4329	* 1.4188	* 1.7553	*
13	* 1.5455	* 1.5090	* 1.5669	* 1.4362	* 1.4769	* 1.3130	* .7583	*
	* 1.3391	* 1.3704	* 1.3204	* 1.4521	* 1.4142	* 1.5929	* 2.6926	*
14	* 1.4019	* 1.4865	* 1.3666	* 1.3944	* 1.1856	* .7722	*	*
	* 1.4560	* 1.3765	* 1.5024	* 1.4808	* 1.7497	* 1.6460	*	*
15	* 1.2102	* .9007	* 1.1278	* .9029	* F-SUB-Q			
	* 1.6676	* 2.2184	* 1.7945	* 2.2511	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MP-IN) - NORMAL OPERATION

AT 100% POWER, 150 RFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1695	* 1.7007	* 1.5840	* 1.7661	* 1.4019	* 1.5819	* 1.4330	* 1.2359 *
	* 1.9199	* 1.3214	* 1.4155	* 1.2666	* 1.5822	* 1.3964	* 1.5169	* 1.7330 *
9	* 1.7007	* 1.3944	* 1.7757	* 1.5883	* 1.7554	* 1.5380	* 1.5208	* .9168 *
	* 1.3214	* 1.6069	* 1.2593	* 1.4082	* 1.2674	* 1.4324	* 1.4333	* 2.3321 *
10	* 1.5840	* 1.7768	* 1.6161	* 1.7789	* 1.5713	* 1.6001	* 1.3934	* 1.1481 *
	* 1.4155	* 1.2585	* 1.3857	* 1.2556	* 1.4155	* 1.3804	* 1.5647	* 1.8665 *
11	* 1.7661	* 1.5904	* 1.7789	* 1.4212	* 1.7479	* 1.4630	* 1.4223	* .9146 *
	* 1.2666	* 1.4064	* 1.2556	* 1.5684	* 1.2733	* 1.5081	* 1.5348	* 2.3427 *
12	* 1.019	* 1.7618	* 1.5765	* 1.7511	* 1.4973	* 1.5080	* 1.2038	*
	* 1.5322	* 1.2629	* 1.4109	* 1.2703	* 1.4793	* 1.4554	* 1.8104	*
13	* 1.5819	* 1.5433	* 1.6065	* 1.4673	* 1.5123	* 1.3398	* .7700	*
	* 1.3964	* 1.4276	* 1.3751	* 1.5039	* 1.4515	* 1.6343	* 2.7916	*
14	* 1.4330	* 1.5230	* 1.3955	* 1.4255	* 1.2081	* .7840	*	*
	* 1.5169	* 1.4314	* 1.5624	* 1.5315	* 1.8029	* 2.7420	*	*
15	* 1.2359	* .9168	* 1.1492	* .9168	* F-SUB-Q			
	* 1.7330	* 2.3321	* 1.8649	* 2.3402	* M-SUB-Q			

AT 100% POWER, 150 RFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1460	* 1.6804	* 1.5626	* 1.7500	* 1.3784	* 1.5637	* 1.4126	* 1.2167 *
	* 1.9272	* 1.3217	* 1.4251	* 1.2735	* 1.6082	* 1.4205	* 1.5674	* 1.8112 *
9	* 1.6804	* 1.3709	* 1.7597	* 1.5669	* 1.7393	* 1.5165	* 1.5026	* .8996 *
	* 1.3217	* 1.6178	* 1.2683	* 1.4223	* 1.2825	* 1.4666	* 1.4766	* 2.4477 *
10	* 1.5626	* 1.7607	* 1.5926	* 1.7618	* 1.5497	* 1.5829	* 1.3709	* 1.1288 *
	* 1.4251	* 1.2675	* 1.3994	* 1.2668	* 1.4393	* 1.4075	* 1.6190	* 1.9551 *
11	* 1.7500	* 1.5679	* 1.7618	* 1.3987	* 1.7297	* 1.4394	* 1.4030	* .8964 *
	* 1.2735	* 1.4214	* 1.2668	* 1.5916	* 1.2909	* 1.5495	* 1.5858	* 2.4644 *
12	* 1.3784	* 1.7457	* 1.5551	* 1.7339	* 1.4726	* 1.4876	* 1.1824 *	*
	* 1.6082	* 1.2787	* 1.4346	* 1.2879	* 1.5180	* 1.5033	* 1.8820 *	*
13	* 1.5637	* 1.5219	* 1.5894	* 1.4448	* 1.4930	* 1.3184	* .7529 *	*
	* 1.4705	* 1.4627	* 1.4021	* 1.5451	* 1.4991	* 1.6937	* 2.9512 *	*
14	* 1.4126	* 1.5048	* 1.3730	* 1.4062	* 1.1877	* .7668 *		
	* 1.5674	* 1.4756	* 1.6166	* 1.5823	* 1.8755	* 2.8960 *		
15	* 1.2167	* .8996	* 1.1299	* .8986	* F-SUB-Q			
	* 1.8112	* 2.4477	* 1.9533	* 2.4588	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 150 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1663	* 1.7190	* 1.5979	* 1.7929	* 1.4073	* 1.6001	* 1.4469	* 1.2466
	* 1.8436	* 1.2565	* 1.3547	* 1.2081	* 1.5330	* 1.3497	* 1.4898	* 1.7107
9	* 1.7190	* 1.3987	* 1.8025	* 1.6022	* 1.7832	* 1.5519	* 1.5412	* .9189
	* 1.2565	* 1.5429	* 1.2021	* 1.3513	* 1.2156	* 1.3931	* 1.4003	* 2.3174
10	* 1.5979	* 1.8046	* 1.6279	* 1.8046	* 1.5851	* 1.6236	* 1.4019	* 1.1545
	* 1.3547	* 1.2014	* 1.3306	* 1.2008	* 1.3667	* 1.3330	* 1.5385	* 1.8503
11	* 1.7929	* 1.6033	* 1.8046	* 1.4287	* 1.7714	* 1.4726	* 1.4373	* .9146
	* 1.2081	* 1.3505	* 1.2008	* 1.5138	* 1.2225	* 1.4696	* 1.5022	* 2.3412
12	* 1.4073	* 1.7896	* 1.5915	* 1.7757	* 1.5048	* 1.5251	* 1.2092	*
	* 1.5330	* 1.2115	* 1.3615	* 1.2197	* 1.4393	* 1.4195	* 1.7843	*
13	* 1.6001	* 1.5572	* 1.6301	* 1.4769	* 1.5305	* 1.3505	* .7679	*
	* 1.3497	* 1.3886	* 1.3281	* 1.4656	* 1.4158	* 1.6022	* 2.7987	*
14	* 1.4469	* 1.5422	* 1.4052	* 1.4405	* 1.2145	* .7829	*	*
	* 1.4898	* 1.3984	* 1.5352	* 1.4991	* 1.7770	* 2.7490	*	*
15	* 1.2466	* .9189	* 1.1556	* .9157	* F-SUB-Q			
	* 1.7107	* 2.3174	* 1.8483	* 2.3380	* M-SUB-Q			

AT 100% POWER, 150 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1556	* 1.7157	* 1.5936	* 1.7939	* 1.4019	* 1.6001	* 1.4459	* 1.2477
	* 1.8112	* 1.2200	* 1.3150	* 1.1692	* 1.4832	* 1.2977	* 1.4249	* 1.6342
9	* 1.7157	* 1.3902	* 1.8036	* 1.5979	* 1.7843	* 1.5508	* 1.5433	* .9168
	* 1.2200	* 1.5017	* 1.1643	* 1.3112	* 1.1749	* 1.3423	* 1.3394	* 2.2200
10	* 1.5936	* 1.8046	* 1.6236	* 1.8057	* 1.5819	* 1.6247	* 1.4009	* 1.1535
	* 1.3150	* 1.1637	* 1.2932	* 1.1637	* 1.3243	* 1.2852	* 1.4761	* 1.7672
11	* 1.7939	* 1.6001	* 1.8046	* 1.4244	* 1.7725	* 1.4705	* 1.4384	* .9104
	* 1.1692	* 1.3104	* 1.1638	* 1.4723	* 1.1856	* 1.4251	* 1.4441	* 2.2418
12	* 1.4019	* 1.7907	* 1.5883	* 1.7779	* 1.5015	* 1.5272	* 1.2081	*
	* 1.4832	* 1.1706	* 1.3194	* 1.1826	* 1.4066	* 1.3800	* 1.7223	*
13	* 1.6001	* 1.5562	* 1.6322	* 1.4758	* 1.5315	* 1.3505	* .7647	*
	* 1.2977	* 1.3382	* 1.2799	* 1.4211	* 1.3762	* 1.5578	* 2.7026	*
14	* 1.4459	* 1.5455	* 1.4041	* 1.4416	* 1.2134	* .7786	*	*
	* 1.4249	* 1.3384	* 1.4741	* 1.4412	* 1.7154	* 2.6554	*	*
15	* 1.2477	* .9168	* 1.1556	* .9125	* F-SUB-Q			
	* 1.6342	* 2.2200	* 1.7658	* 2.2389	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 150 RFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1181	* 1.6729	* 1.5519	* 1.7532	* 1.3645	* 1.5647	* 1.4148	* 1.2220
	* 1.7817	* 1.1967	* 1.2919	* 1.1447	* 1.4584	* 1.2704	* 1.3943	* 1.5977
9	* 1.6729	* 1.3505	* 1.7629	* 1.5572	* 1.7457	* 1.5144	* 1.5123	* .8943
	* 1.1967	* 1.4798	* 1.1393	* 1.2878	* 1.1484	* 1.3142	* 1.3080	* 2.1797
10	* 1.5519	* 1.7650	* 1.5819	* 1.7661	* 1.5444	* 1.5915	* 1.3687	* 1.1278
	* 1.2919	* 1.1387	* 1.2697	* 1.1371	* 1.2973	* 1.2552	* 1.4443	* 1.7305
11	* 1.7532	* 1.5583	* 1.7661	* 1.3880	* 1.7350	* 1.4362	* 1.4084	* .8879
	* 1.1447	* 1.2871	* 1.1375	* 1.4434	* 1.1565	* 1.3914	* 1.4079	* 2.2002
12	* 1.3645	* 1.7532	* 1.5497	* 1.7404	* 1.4662	* 1.4951	* 1.1802	*
	* 1.4584	* 1.1441	* 1.2926	* 1.1536	* 1.3718	* 1.3400	* 1.6798	*
13	* 1.5647	* 1.5197	* 1.5979	* 1.4416	* 1.5005	* 1.3216	* .7433	*
	* 1.2704	* 1.3100	* 1.2501	* 1.3876	* 1.3359	* 1.5121	* 2.6481	*
14	* 1.4148	* 1.5144	* 1.3720	* 1.4126	* 1.1856	* .7572	*	*
	* 1.3943	* 1.3070	* 1.4424	* 1.4052	* 1.6720	* 2.5996	*	*
15	* 1.2220	* .8943	* 1.1299	* .8900	* F-SUB-Q			
	* 1.5977	* 2.1797	* 1.7277	* 2.1957	* M-SUB-Q			

AT 100% POWER, 150 RFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1096	* 1.6686	* 1.5497	* 1.7532	* 1.3645	* 1.5690	* 1.4244	* 1.2327
	* 1.7100	* 1.1450	* 1.2345	* 1.0925	* 1.3919	* 1.2092	* 1.3219	* 1.5134
9	* 1.6686	* 1.3452	* 1.7639	* 1.5562	* 1.7500	* 1.5208	* 1.5230	* .8996
	* 1.1450	* 1.4165	* 1.0865	* 1.2291	* 1.0929	* 1.2489	* 1.2398	* 2.0704
10	* 1.5497	* 1.7661	* 1.5797	* 1.7682	* 1.5465	* 1.5979	* 1.3773	* 1.1353
	* 1.2345	* 1.0856	* 1.2121	* 1.0829	* 1.2357	* 1.1921	* 1.3705	* 1.6422
11	* 1.7532	* 1.5583	* 1.7682	* 1.3880	* 1.7404	* 1.4426	* 1.4180	* .8911
	* 1.0925	* 1.2282	* 1.0832	* 1.3748	* 1.0990	* 1.3211	* 1.3347	* 2.0938
12	* 1.3645	* 1.7564	* 1.5530	* 1.7457	* 1.4716	* 1.5058	* 1.1877	*
	* 1.3919	* 1.0891	* 1.2308	* 1.0962	* 1.2999	* 1.2667	* 1.5910	*
13	* 1.5690	* 1.5262	* 1.6054	* 1.4469	* 1.5112	* 1.3313	* .7454	*
	* 1.2092	* 1.2443	* 1.1874	* 1.3165	* 1.2625	* 1.4285	* 2.5191	*
14	* 1.4244	* 1.5251	* 1.3794	* 1.4223	* 1.1931	* .7604	*	*
	* 1.3219	* 1.2384	* 1.3682	* 1.3314	* 1.5844	* 2.4711	*	*
15	* 1.2327	* .8996	* 1.1374	* .8932	* F-SUB-Q			
	* 1.5134	* 2.0704	* 1.6401	* 2.0898	* M-SUB-C			

Catawba 2 Cycle 7 Core Operating Limits Report  
 Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 150 RFPD, THIS IS LEVEL 4 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0367	* 1.5701	* 1.4587	* 1.6558	* 1.2884	* 1.4898	* 1.3602	* 1.1781
	* 1.7505	* 1.1633	* 1.2554	* 1.1065	* 1.4102	* 1.2186	* 1.3255	* 1.5158
9	* 1.5701	* 1.2638	* 1.6675	* 1.4683	* 1.6590	* 1.4448	* 1.4533	* .8579
	* 1.1633	* 1.4428	* 1.0992	* 1.2470	* 1.1026	* 1.2569	* 1.2432	* 2.0810
10	* 1.4587	* 1.6697	* 1.4898	* 1.6740	* 1.4619	* 1.5187	* 1.3109	* 1.0806
	* 1.2554	* 1.0983	* 1.2297	* 1.0933	* 1.2491	* 1.1993	* 1.3764	* 1.6509
11	* 1.6558	* 1.4694	* 1.6740	* 1.3120	* 1.6515	* 1.3698	* 1.3505	* .8461
	* 1.1065	* 1.2455	* 1.0933	* 1.3899	* 1.1064	* 1.3280	* 1.3378	* 2.1102
12	* 1.2884	* 1.6654	* 1.4683	* 1.6558	* 1.3966	* 1.4351	* 1.1320	*
	* 1.4102	* 1.0987	* 1.2436	* 1.1031	* 1.3045	* 1.2660	* 1.5933	*
13	* 1.4898	* 1.4501	* 1.5251	* 1.3741	* 1.4394	* 1.2702	* .7079	*
	* 1.2186	* 1.2520	* 1.1940	* 1.3234	* 1.2616	* 1.4252	* 2.5310	*
14	* 1.3602	* 1.4544	* 1.3141	* 1.3548	* 1.1374	* .7219	*	*
	* 1.3255	* 1.2418	* 1.3738	* 1.3345	* 1.5855	* 2.4817	*	*
15	* 1.1781	* .8579	* 1.0828	* .8482	* F-SUB-Q			
	* 1.5158	* 2.0804	* 1.6484	* 2.1061	* M-SUB-Q			

AT 100% POWER, 150 RFPD, THIS IS LEVEL 3 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9618	* 1.4576	* 1.3570	* 1.5433	* 1.2145	* 1.4084	* 1.3013	* 1.1245
	* 1.8179	* 1.2091	* 1.2997	* 1.1403	* 1.4419	* 1.2431	* 1.3350	* 1.5316
9	* 1.4576	* 1.1792	* 1.5540	* 1.3709	* 1.5530	* 1.3709	* 1.3827	* .8225
	* 1.2091	* 1.4906	* 1.1372	* 1.2868	* 1.1344	* 1.2757	* 1.2586	* 2.0954
10	* 1.3570	* 1.5551	* 1.3902	* 1.5647	* 1.3730	* 1.4330	* 1.2477	* 1.0239
	* 1.2997	* 1.1362	* 1.2689	* 1.1275	* 1.2807	* 1.2239	* 1.3933	* 1.6813
11	* 1.5433	* 1.3720	* 1.5637	* 1.2349	* 1.5497	* 1.2959	* 1.2809	* .8011
	* 1.1403	* 1.2853	* 1.1275	* 1.4214	* 1.1350	* 1.3506	* 1.3577	* 2.1504
12	* 1.2145	* 1.5594	* 1.3794	* 1.5540	* 1.3195	* 1.3580	* 1.0785	*
	* 1.4419	* 1.1298	* 1.2757	* 1.1316	* 1.3271	* 1.2858	* 1.6099	*
13	* 1.4084	* 1.3762	* 1.4405	* 1.3002	* 1.3634	* 1.2113	* .6747	*
	* 1.2431	* 1.2712	* 1.2184	* 1.3464	* 1.2812	* 1.4375	* 2.5545	*
14	* 1.3013	* 1.3848	* 1.2509	* 1.2852	* 1.0839	* .6887	*	*
	* 1.3350	* 1.2574	* 1.3906	* 1.3537	* 1.6028	* 2.5031	*	*
15	* 1.1245	* .8215	* 1.0260	* .8032	* F-SUB-Q			
	* 1.5316	* 2.0954	* 1.6787	* 2.1446	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 150 RFPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.8054	1.1835	1.1160	1.2723	1.0324	1.1920	1.1428	.9596
	2.1142	1.4459	1.5364	1.3429	1.6494	1.4253	1.4779	1.7468
9	1.1835	.9832	1.2659	1.1310	1.3002	1.1813	1.1931	.7272
	1.4459	1.7392	1.3552	1.5145	1.3100	1.4392	1.4169	2.3036
10	1.1160	1.2670	1.1449	1.2831	1.1578	1.2113	1.0806	.568
	1.5364	1.3535	1.4970	1.3313	1.4712	1.4043	1.5635	.9560
11	1.2723	1.1342	1.2863	1.0453	1.2809	1.1063	1.0903	.6812
	1.3429	1.5103	1.3281	1.6311	1.3330	1.5342	1.5501	2.4621
12	1.0324	1.3066	1.1642	1.2852	1.1138	1.1578	.9286	
	1.6494	1.3040	1.4642	1.3291	1.5277	1.4646	1.8158	
13	1.1920	1.1856	1.2145	1.1106	1.1620	1.0399	.5923	
	1.4253	1.4335	1.3997	1.5299	1.4590	1.6255	2.8332	
14	1.1428	1.1952	1.0828	1.0935	.9339	.6040		
	1.4779	1.4159	1.5604	1.5449	1.8067	2.7751		
15	.9596	.7272	.8579	.6822	F-SUB-Q			
	1.7468	2.3060	1.9543	2.4573	M-SUB-Q			

AT 100% POWER, 150 RFPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.5205	.4327	.6822	.4862	.6619	.8215	.7476	.5826
	3.1915	3.8442	2.4506	3.4312	2.5094	2.0193	2.2161	2.8232
9	.4327	.6190	.4798	.7015	.5226	.7551	.7872	.4798
	3.8442	2.6996	3.4792	2.3787	3.1788	2.1965	2.1024	3.4242
10	.6822	.4798	.6908	.4969	.7122	.8097	.6919	.3031
	2.4506	3.4792	2.4186	3.3567	2.3366	2.0518	2.3918	5.3925
11	.4862	.7036	.4980	.6737	.5087	.6994	.6865	.4370
	3.4312	2.3698	3.3464	2.4693	3.2622	2.3735	2.4087	3.7556
12	.6619	.5259	.7154	.5098	.6983	.7315	.5837	
	2.5094	3.1602	2.3266	3.2524	2.3795	2.2640	2.8306	
13	.8215	.7572	.8129	.7015	.7336	.6469	.3834	
	2.0193	2.1921	2.0441	2.3665	2.2570	2.5550	4.2874	
14	.7476	.7872	.6940	.6887	.5869	.3920		
	2.2161	2.1024	2.3866	2.4017	2.8159	4.1984		
15	.5826	.4798	.3042	.4380	F-SUB-Q			
	2.8232	3.4280	5.3886	3.7491	M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-C OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 415 RFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7219 *	* .6415 *	* .8954 *	* .6812 *	* .8675 *	* .9746 *	* .9061 *	* .7411 *
	* 1.6430 *	* 2.0452 *	* 1.5113 *	* 1.9525 *	* 1.5240 *	* 1.3514 *	* 1.4438 *	* 1.7484 *
9	* .6415 *	* .8450 *	* .6779 *	* .9029 *	* .6919 *	* .9339 *	* .9318 *	* .6297 *
	* 2.0452 *	* 1.5852 *	* 1.9986 *	* 1.4776 *	* 1.9233 *	* 1.4223 *	* 1.4112 *	* 2.0582 *
10	* .8954 *	* .6779 *	* .9082 *	* .6790 *	* .9082 *	* .9650 *	* .8611 *	* .4477 *
	* 1.5113 *	* 1.9986 *	* 1.4888 *	* 1.9850 *	* 1.4065 *	* 1.4016 *	* 1.5683 *	* 2.9653 *
11	* .6812 *	* .9029 *	* .6801 *	* .8514 *	* .6587 *	* .8675 *	* .8407 *	* .5998 *
	* 1.9525 *	* 1.4739 *	* 1.9825 *	* 1.5469 *	* 1.9706 *	* 1.5035 *	* 1.5804 *	* 2.2330 *
12	* .8675 *	* .6940 *	* .9104 *	* .6587 *	* .8322 *	* .8343 *	* .7358 *	
	* 1.5240 *	* 1.9139 *	* 1.4846 *	* 1.9706 *	* 1.4272 *	* 1.4477 *	* 1.7594 *	
13	* .9746 *	* .9350 *	* .9660 *	* .8686 *	* .8354 *	* .7486 *	* .5409 *	
	* 1.3514 *	* 1.4197 *	* 1.4004 *	* 1.5021 *	* 1.4464 *	* 1.5893 *	* 2.3398 *	
14	* .9061 *	* .9318 *	* .8622 *	* .8418 *	* .7368 *	* .5462 *		
	* 1.4438 *	* 1.4117 *	* 1.5683 *	* 1.5789 *	* 1.7574 *	* 2.3177 *		
15	* .7411 *	* .6297 *	* .4477 *	* .6008 *	* F-SUB-Q			
	* 1.7484 *	* 2.0591 *	* 2.9617 *	* 2.2330 *	* M-SUB-Q			

AT 100% POWER, 415 RFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9960 *	* 1.3195 *	* 1.2274 *	* 1.3409 *	* 1.1438 *	* 1.2531 *	* 1.1663 *	* 1.0078 *
	* 1.6042 *	* 1.2651 *	* 1.3746 *	* 1.2324 *	* 1.4372 *	* 1.3051 *	* 1.3887 *	* 1.5914 *
9	* 1.3195 *	* 1.1385 *	* 1.3377 *	* 1.2263 *	* 1.3366 *	* 1.2177 *	* 1.1984 *	* .8032 *
	* 1.2651 *	* 1.4713 *	* 1.2575 *	* 1.3615 *	* 1.2366 *	* 1.3560 *	* 1.3605 *	* 2.0013 *
10	* 1.2274 *	* 1.3377 *	* 1.2456 *	* 1.3409 *	* 1.2156 *	* 1.2359 *	* 1.1256 *	* .9628 *
	* 1.3746 *	* 1.2575 *	* 1.3530 *	* 1.2515 *	* 1.3833 *	* 1.3610 *	* 1.4887 *	* 1.7018 *
11	* 1.3409 *	* 1.2263 *	* 1.3409 *	* 1.1331 *	* 1.3216 *	* 1.1481 *	* 1.1224 *	* .7818 *
	* 1.2324 *	* 1.3595 *	* 1.2510 *	* 1.4729 *	* 1.2579 *	* 1.4365 *	* 1.4792 *	* 2.1303 *
12	* 1.1438 *	* 1.3409 *	* 1.2177 *	* 1.3227 *	* 1.1355 *	* 1.1578 *	* .9789 *	
	* 1.4372 *	* 1.2332 *	* 1.3813 *	* 1.2570 *	* 1.3851 *	* 1.3797 *	* 1.6672 *	
13	* 1.2531 *	* 1.2199 *	* 1.2370 *	* 1.1492 *	* 1.1588 *	* 1.0464 *	* .7090 *	
	* 1.3051 *	* 1.3535 *	* 1.3601 *	* 1.4354 *	* 1.3787 *	* 1.5126 *	* 2.2670 *	
14	* 1.1663 *	* 1.1984 *	* 1.1267 *	* 1.1224 *	* .9810 *	* .7144 *		
	* 1.3887 *	* 1.3659 *	* 1.4876 *	* 1.4781 *	* 1.6643 *	* 2.2486 *		
15	* 1.0078 *	* .8022 *	* .9628 *	* .7818 *	* F-SUB-Q			
	* 1.5914 *	* 2.0034 *	* 1.7018 *	* 2.1303 *	* M-SUB-Q			

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Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 415 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1449	* 1.5037	* 1.3859	* 1.5133	* 1.2584	* 1.3928	* 1.2627	* 1.1096
	* 1.5674	* 1.2078	* 1.3093	* 1.1729	* 1.3961	* 1.2543	* 1.3776	* 1.5519
9	* 1.5037	* 1.2702	* 1.5197	* 1.3827	* 1.5048	* 1.3377	* 1.3184	* .8579
	* 1.2078	* 1.4233	* 1.1933	* 1.2991	* 1.1798	* 1.3272	* 1.3317	* 2.0032
10	* 1.3859	* 1.5167	* 1.4052	* 1.5165	* 1.3591	* 1.3837	* 1.2284	* 1.0667
	* 1.3093	* 1.1930	* 1.2940	* 1.1970	* 1.3373	* 1.3136	* 1.4663	* 1.6485
11	* 1.5133	* 1.3827	* 1.5165	* 1.2563	* 1.4908	* 1.2745	* 1.2466	* .8579
	* 1.1729	* 1.2983	* 1.1970	* 1.4361	* 1.2141	* 1.4125	* 1.4481	* 2.1012
12	* 1.2584	* 1.5090	* 1.3612	* 1.4919	* 1.3066	* 1.3088	* 1.0753	
	* 1.3961	* 1.1771	* 1.3356	* 1.2134	* 1.3683	* 1.3599	* 1.6613	
13	* 1.3998	* 1.3398	* 1.3848	* 1.2756	* 1.3098	* 1.1717	* .7636	
	* 1.2543	* 1.3240	* 1.3124	* 1.4115	* 1.3581	* 1.5131	* 2.3044	
14	* 1.2627	* 1.3184	* 1.2284	* 1.2477	* 1.0764	* .7700		
	* 1.3776	* 1.3317	* 1.4656	* 1.4471	* 1.6594	* 2.2838		
15	* 1.1096	* .8579	* 1.0667	* .8579	* F-SUB-Q			
	* 1.5519	* 2.0032	* 1.6485	* 2.1012	* M-SUB-Q			

AT 100% POWER, 415 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1845	* 1.5615	* 1.4319	* 1.5722	* 1.2852	* 1.4394	* 1.2841	* 1.1331
	* 1.5638	* 1.1991	* 1.2959	* 1.1595	* 1.3913	* 1.2475	* 1.3849	* 1.5540
9	* 1.5615	* 1.3045	* 1.5787	* 1.4255	* 1.5530	* 1.3666	* 1.3495	* .8675
	* 1.1991	* 1.4177	* 1.1764	* 1.2890	* 1.1698	* 1.3290	* 1.3301	* 2.0121
10	* 1.4319	* 1.5787	* 1.4469	* 1.5701	* 1.3977	* 1.4266	* 1.2509	* 1.0924
	* 1.2959	* 1.1757	* 1.2840	* 1.1833	* 1.3390	* 1.3048	* 1.4694	* 1.6438
11	* 1.5722	* 1.4255	* 1.5701	* 1.2873	* 1.5390	* 1.3066	* 1.2798	* .8739
	* 1.1595	* 1.2882	* 1.1833	* 1.4399	* 1.2165	* 1.4277	* 1.4574	* 2.1188
12	* 1.2852	* 1.5562	* 1.3987	* 1.5390	* 1.3420	* 1.3495	* 1.0978	
	* 1.3913	* 1.1672	* 1.3374	* 1.2158	* 1.3864	* 1.3752	* 1.6883	
13	* 1.4394	* 1.3687	* 1.4276	* 1.3077	* 1.3505	* 1.2017	* .7743	
	* 1.2475	* 1.3265	* 1.3029	* 1.4267	* 1.3734	* 1.5396	* 2.3535	
14	* 1.2841	* 1.3495	* 1.2509	* 1.2798	* 1.0999	* .7808		
	* 1.3849	* 1.3301	* 1.4694	* 1.4574	* 1.6856	* 2.3338		
15	* 1.1331	* .8675	* 1.0924	* .8739	* F-SUB-Q			
	* 1.5540	* 2.0121	* 1.6446	* 2.1190	* M-SUB-Q			



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Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 100% POWER, 415 EFPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1503	* 1.5219	* 1.3902	* 1.5347	* 1.2424	* 1.3966	* 1.2413	* 1.0978 *
	* 1.6403	* 1.2553	* 1.3600	* 1.2158	* 1.4657	* 1.3175	* 1.4675	* 1.6441 *
9	* 1.5219	* 1.2649	* 1.5390	* 1.3827	* 1.5090	* 1.3227	* 1.3088	* .8365 *
	* 1.2553	* 1.4785	* 1.2292	* 1.3576	* 1.2320	* 1.4061	* 1.4042	* 2.1261 *
10	* 1.3902	* 1.5390	* 1.4019	* 1.5305	* 1.3548	* 1.3859	* 1.2092	* 1.0581 *
	* 1.3600	* 1.2292	* 1.3507	* 1.2387	* 1.4013	* 1.3664	* 1.5495	* 1.7339 *
11	* 1.5347	* 1.3827	* 1.5315	* 1.2456	* 1.4962	* 1.2659	* 1.2424	* .8450 *
	* 1.2158	* 1.3576	* 1.2380	* 1.5106	* 1.2845	* 1.5145	* 1.5347	* 2.2215 *
12	* 1.2424	* 1.5123	* 1.3559	* 1.4962	* 1.3002	* 1.3098	* 1.0635	* *
	* 1.4657	* 1.2289	* 1.3994	* 1.2837	* 1.4789	* 1.4649	* 1.7983	* *
13	* 1.3966	* 1.3238	* 1.3869	* 1.2670	* 1.3120	* 1.1652	* .7454	* *
	* 1.3175	* 1.4036	* 1.3655	* 1.5134	* 1.4629	* 1.6474	* 2.5146	* *
14	* 1.2413	* 1.3088	* 1.2092	* 1.2424	* 1.0646	* .7518	* *	* *
	* 1.4675	* 1.4048	* 1.5495	* 1.5347	* 1.7953	* 2.4935	* *	* *
15	* 1.0978	* .8365	* 1.0581	* .8439	* F-SUB-Q			
	* 1.6441	* 2.1275	* 1.7348	* 2.2238	* M-SUB-Q			

AT 100% POWER, 415 EFPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1503	* 1.5208	* 1.3891	* 1.5422	* 1.2402	* 1.3977	* 1.2413	* 1.0999 *
	* 1.6636	* 1.2781	* 1.3903	* 1.2426	* 1.5006	* 1.3553	* 1.5110	* 1.6871 *
9	* 1.5208	* 1.2627	* 1.5455	* 1.3816	* 1.5112	* 1.3205	* 1.3109	* .8375 *
	* 1.2781	* 1.5032	* 1.2498	* 1.3921	* 1.2662	* 1.4461	* 1.4407	* 2.1739 *
10	* 1.3891	* 1.5455	* 1.3987	* 1.5380	* 1.3537	* 1.3891	* 1.2081	* 1.0603 *
	* 1.3903	* 1.2498	* 1.3825	* 1.2588	* 1.4330	* 1.3914	* 1.5815	* 1.7730 *
11	* 1.5422	* 1.3816	* 1.5380	* 1.2424	* 1.4962	* 1.2659	* 1.2456	* .8450 *
	* 1.2426	* 1.3921	* 1.2583	* 1.5321	* 1.3052	* 1.5429	* 1.5547	* 2.2629 *
12	* 1.2402	* 1.5133	* 1.3548	* 1.4973	* 1.2981	* 1.3130	* 1.0646	* *
	* 1.5006	* 1.2627	* 1.4317	* 1.3047	* 1.5175	* 1.4978	* 1.8327	* *
13	* 1.3977	* 1.3216	* 1.3902	* 1.2659	* 1.3152	* 1.1674	* .7454	* *
	* 1.3553	* 1.4445	* 1.3908	* 1.5417	* 1.4964	* 1.6878	* 2.5643	* *
14	* 1.2413	* 1.3109	* 1.2081	* 1.2456	* 1.0667	* .7518	* *	* *
	* 1.5110	* 1.4407	* 1.5823	* 1.5547	* 1.8312	* 2.5416	* *	* *
15	* 1.0999	* .8365	* 1.0603	* .8450	* F-SUB-Q			
	* 1.6871	* 2.1747	* 1.7735	* 2.2653	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 415 EFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1235	* 1.4919	* 1.3591	* 1.5155	* 1.2124	* 1.3698	* 1.2156	* 1.0796
	* 1.7486	* 1.3385	* 1.4552	* 1.3001	* 1.5848	* 1.4249	* 1.5879	* 1.7718
9	* 1.4919	* 1.2338	* 1.5187	* 1.3516	* 1.4844	* 1.2927	* 1.2863	* .8193
	* 1.3385	* 1.5809	* 1.3022	* 1.4601	* 1.3263	* 1.5154	* 1.5074	* 2.2915
10	* 1.3591	* 1.5187	* 1.3677	* 1.5101	* 1.3248	* 1.3645	* 1.1835	* 1.0389
	* 1.4552	* 1.3027	* 1.4478	* 1.3106	* 1.4953	* 1.4458	* 1.6506	* 1.8550
11	* 1.5155	* 1.3516	* 1.5112	* 1.2145	* 1.4683	* 1.2391	* 1.2231	* .8268
	* 1.3001	* 1.4601	* 1.3103	* 1.6100	* 1.3626	* 1.6079	* 1.6186	* 2.3520
12	* 1.2124	* 1.4876	* 1.3259	* 1.4694	* 1.2702	* 1.2895	* 1.0432	*
	* 1.5848	* 1.3217	* 1.4932	* 1.3617	* 1.5740	* 1.5456	* 1.9013	*
13	* 1.3698	* 1.2938	* 1.3645	* 1.2402	* 1.2906	* 1.1460	* .7283	*
	* 1.4249	* 1.5144	* 1.4449	* 1.6067	* 1.5441	* 1.7404	* 2.6584	*
14	* 1.2156	* 1.2863	* 1.1835	* 1.2231	* 1.0453	* .7358	*	*
	* 1.5879	* 1.5084	* 1.6518	* 1.6194	* 1.8996	* 2.6342	*	*
15	* 1.0796	* .8182	* 1.0389	* .8257	* F-SUB-Q			
	* 1.7718	* 2.2923	* 1.8555	* 2.3546	* M-SUB-Q			

AT 100% POWER, 415 EFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0967	* 1.4630	* 1.3291	* 1.4876	* 1.1845	* 1.3430	* 1.1910	* 1.0581
	* 1.8639	* 1.4033	* 1.5373	* 1.3692	* 1.6958	* 1.5029	* 1.6775	* 1.8682
9	* 1.4630	* 1.2059	* 1.4898	* 1.3216	* 1.4566	* 1.2649	* 1.2627	* .8000
	* 1.4033	* 1.6825	* 1.3698	* 1.5442	* 1.3947	* 1.5992	* 1.5864	* 2.4438
10	* 1.3291	* 1.4898	* 1.3366	* 1.4823	* 1.2959	* 1.3388	* 1.1588	* 1.0174
	* 1.5373	* 1.3698	* 1.5290	* 1.3767	* 1.5733	* 1.5138	* 1.7357	* 1.9493
11	* 1.4876	* 1.3205	* 1.4823	* 1.1877	* 1.4405	* 1.2124	* 1.1995	* .8075
	* 1.3692	* 1.5442	* 1.3759	* 1.7062	* 1.4242	* 1.6845	* 1.6858	* 2.4635
12	* 1.1845	* 1.4598	* 1.2970	* 1.4416	* 1.2424	* 1.2659	* 1.0217	*
	* 1.6958	* 1.3920	* 1.5722	* 1.4236	* 1.6566	* 1.6168	* 1.9886	*
13	* 1.3430	* 1.2659	* 1.3388	* 1.2134	* 1.2670	* 1.1224	* .7111	*
	* 1.5029	* 1.5980	* 1.5134	* 1.6831	* 1.6156	* 1.8216	* 2.8120	*
14	* 1.1910	* 1.2627	* 1.1578	* 1.1995	* 1.0228	* .7176	*	*
	* 1.6775	* 1.5872	* 1.7362	* 1.6858	* 1.9867	* 2.7852	*	*
15	* 1.0581	* .8000	* 1.0174	* .8065	* F-SUB-Q			
	* 1.8682	* 2.4438	* 1.9511	* 2.4673	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 415 RFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1031	* 1.4758	* 1.3377	* 1.5037	* 1.1899	* 1.3548	* 1.1995	* 1.0667
	* 1.9557	* 1.4584	* 1.6057	* 1.4225	* 1.7870	* 1.5626	* 1.7445	* 1.9350
9	* 1.4758	* 1.2113	* 1.5058	* 1.3291	* 1.4726	* 1.2723	* 1.2745	* .8065
	* 1.4584	* 1.7722	* 1.4222	* 1.6129	* 1.4459	* 1.6641	* 1.6452	* 2.5558
10	* 1.3377	* 1.5058	* 1.3441	* 1.4983	* 1.3034	* 1.3516	* 1.1652	* 1.0260
	* 1.6057	* 1.4222	* 1.5967	* 1.4272	* 1.6377	* 1.5664	* 1.7976	* 2.0148
11	* 1.5037	* 1.3291	* 1.4983	* 1.1931	* 1.4523	* 1.2199	* 1.2102	* .8129
	* 1.4225	* 1.6133	* 1.4268	* 1.7899	* 1.4700	* 1.7380	* 1.7348	* 2.5385
12	* 1.1899	* 1.4758	* 1.3045	* 1.4533	* 1.2499	* 1.2777	* 1.0292	*
	* 1.7870	* 1.4433	* 1.6365	* 1.4700	* 1.7029	* 1.6540	* 2.0349	*
13	* 1.3548	* 1.2734	* 1.3516	* 1.2209	* 1.2788	* 1.1320	* .7154	*
	* 1.5626	* 1.6633	* 1.5656	* 1.7371	* 1.6528	* 1.8614	* 2.8952	*
14	* 1.1995	* 1.2734	* 1.1652	* 1.2102	* 1.0303	* .7229	*	*
	* 1.7445	* 1.6457	* 1.7986	* 1.7362	* 2.0330	* 2.8682	*	*
15	* 1.0667	* .8054	* 1.0249	* .8118	* F-SUB-Q			
	* 1.9350	* 2.5569	* 2.0160	* 2.5425	* M-SUB-Q			

AT 100% POWER, 415 RFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0806	* 1.4533	* 1.3120	* 1.4812	* 1.1652	* 1.3323	* 1.1770	* 1.0485
	* 2.0729	* 1.5495	* 1.7165	* 1.5212	* 1.9221	* 1.6676	* 1.8626	* 2.0611
9	* 1.4533	* 1.1867	* 1.4833	* 1.3034	* 1.4501	* 1.2477	* 1.2531	* .7893
	* 1.5495	* 1.8919	* 1.5212	* 1.7288	* 1.5451	* 1.7799	* 1.7526	* 2.7386
10	* 1.3120	* 1.4833	* 1.3173	* 1.4748	* 1.2777	* 1.3291	* 1.1428	* 1.0067
	* 1.7165	* 1.5212	* 1.7097	* 1.5266	* 1.7540	* 1.6714	* 1.9187	* 2.1447
11	* 1.4812	* 1.3034	* 1.4758	* 1.1695	* 1.4298	* 1.1963	* 1.1888	* .7958
	* 1.5212	* 1.7288	* 1.5255	* 1.9204	* 1.5652	* 1.8546	* 1.8467	* 2.7077
12	* 1.1652	* 1.4523	* 1.2788	* 1.4309	* 1.2252	* 1.2563	* 1.0100	*
	* 1.9221	* 1.5418	* 1.7526	* 1.5640	* 1.8158	* 1.7554	* 2.1640	*
13	* 1.3323	* 1.2488	* 1.3302	* 1.1963	* 1.2574	* 1.1117	* .7004	*
	* 1.6676	* 1.7785	* 1.6714	* 1.8546	* 1.7540	* 1.9747	* 3.0946	*
14	* 1.1770	* 1.2520	* 1.1428	* 1.1888	* 1.0110	* .7069	*	*
	* 1.8626	* 1.7540	* 1.9204	* 1.8483	* 2.1619	* 3.0639	*	*
15	* 1.0485	* .7893	* 1.0067	* .7947	* F-SUB-Q			
	* 2.0611	* 2.7420	* 2.1447	* 2.7111	* M-SUB-Q			

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Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 100% POWER, 415 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.1053	1.4940	1.3409	1.5208	1.1899	1.3645	1.2038	1.0742
	1.9480	1.4499	1.6142	1.4270	1.8112	1.5789	1.7740	1.9632
9	1.4940	1.2124	1.5240	1.3323	1.4887	1.2745	1.2831	.8075
	1.4499	1.7799	1.4251	1.6251	1.4558	1.6897	1.6689	2.6089
10	1.3409	1.5240	1.3452	1.5144	1.3045	1.3612	1.1685	1.0314
	1.6142	1.4251	1.6106	1.4336	1.6561	1.5846	1.8296	2.0447
11	1.5208	1.3313	1.5144	1.1942	1.4630	1.2220	1.2177	.8140
	1.4270	1.6263	1.4336	1.8082	1.4756	1.7626	1.7611	2.5905
12	1.1899	1.4908	1.3055	1.4641	1.2509	1.2863	1.0335	
	1.8112	1.4528	1.6548	1.4756	1.7233	1.6740	2.0709	
13	1.3645	1.2745	1.3623	1.2231	1.3873	1.1385	.7165	
	1.5789	1.6897	1.584	1.7626	1.6727	1.8853	2.9715	
14	1.2038	1.2820	1.1674	1.2177	1.0346	.7229		
	1.7740	1.6689	1.8311	1.7611	2.0690	2.9432		
15	1.0742	.8075	1.0303	.8129	F-SUB-Q			
	1.9632	2.6089	2.0448	2.5936	M-SUB-Q			

AT 100% POWER, 415 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.1160	1.5165	1.3559	1.5433	1.2006	1.3816	1.2156	1.0871
	1.8610	1.3764	1.5353	1.3505	1.7176	1.4894	1.6771	1.8550
9	1.5165	1.2252	1.5465	1.3462	1.5090	1.2863	1.2981	.8150
	1.3764	1.6952	1.3497	1.5451	1.3760	1.5995	1.5747	2.4718
10	1.3559	1.5455	1.3580	1.5347	1.3184	1.3784	1.1802	1.0421
	1.5353	1.3497	1.5320	1.3572	1.5719	1.4967	1.7296	1.9312
11	1.5433	1.3452	1.5358	1.2049	1.4823	1.2338	1.2327	.8215
	1.3505	1.5451	1.3572	1.7207	1.4003	1.6714	1.6594	2.4523
12	1.2006	1.5112	1.3184	1.4837	1.2627	1.3023	1.0442	
	1.7176	1.3735	1.5708	1.3994	1.6442	1.5860	1.9532	
13	1.3816	1.2873	1.3784	1.2349	1.3034	1.1524	.7219	
	1.4894	1.5983	1.4967	1.6714	1.5848	1.7861	2.8064	
14	1.2156	1.2970	1.1792	1.2316	1.0464	.7294		
	1.6771	1.5748	1.7309	1.6607	1.9514	2.7777		
15	1.0871	.8150	1.0421	.8204	F-SUB-Q			
	1.8550	2.4719	1.9328	2.4551	M-SUB-Q			

Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 100% POWER, 415 RFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1192	* 1.5272	* 1.3623	* 1.5530	* 1.2038	* 1.3880	* 1.2199	* 1.0903
	* 1.7783	* 1.3090	* 1.4648	* 1.2862	* 1.6438	* 1.4220	* 1.6032	* 1.7738
9	* 1.5272	* 1.2295	* 1.5572	* 1.3516	* 1.5176	* 1.2906	* 1.3045	.8150
	* 1.3090	* 1.6184	* 1.2840	* 1.4748	* 1.3111	* 1.5286	* 1.5018	* 2.3715
10	* 1.3623	* 1.5562	* 1.3634	* 1.5444	* 1.3227	* 1.3859	* 1.1824	* 1.0442
	* 1.4648	* 1.2847	* 1.4619	* 1.2926	* 1.5013	* 1.4269	* 1.6547	* 1.8481
11	* 1.5530	* 1.3516	* 1.5455	* 1.2081	* 1.4908	* 1.2370	* 1.2370	.8204
	* .962	* 1.4758	* 1.2924	* 1.6428	* 1.3313	* 1.5954	* 1.5822	* 2.3509
12	* 1.2038	* 1.5197	* 1.3238	* 1.4908	* 1.2659	* 1.3088	* 1.0464	*
	* 1.6438	* 1.3087	* 1.5002	* 1.3305	* 1.5646	* 1.5076	* 1.8648	*
13	* 1.3880	* 1.2906	* 1.3859	* 1.2381	* 1.3098	* 1.1556	* .7208	*
	* 1.4220	* 1.5276	* 1.4269	* 1.5943	* 1.5056	* 1.6995	* 2.6878	*
14	* 1.2199	* 1.3034	* 1.1813	* 1.2370	* 1.0474	* .7283	*	*
	* 1.6032	* 1.5029	* 1.6548	* 1.5834	* 1.9632	* 2.6614	*	*
15	* 1.0903	* .8140	* 1.0442	* .8193	* F-SUB-Q			
	* 1.7738	* 2.3739	* 1.8497	* 2.3534	* M-SUB-Q			

AT 100% POWER, 415 RFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1674	* 1.6001	* 1.4212	* 1.6258	* 1.2541	* 1.4501	* 1.2713	* 1.1374
	* 1.6341	* 1.2009	* 1.3482	* 1.1801	* 1.5107	* 1.3036	* 1.4709	* 1.6222
9	* 1.6001	* 1.2831	* 1.6301	* 1.4105	* 1.5883	* 1.3452	* 1.3612	.8493
	* 1.2009	* 1.4893	* 1.1787	* 1.3577	* 1.2027	* 1.4051	* 1.3765	* 2.1719
10	* 1.4212	* 1.6301	* 1.4223	* 1.6172	* 1.3784	* 1.4469	* 1.2327	* 1.0892
	* 1.3482	* 1.1793	* 1.3466	* 1.1866	* 1.3815	* 1.3092	* 1.5187	* 1.6924
11	* 1.6258	* 1.4105	* 1.6172	* 1.2595	* 1.5583	* 1.2895	* 1.2916	.8536
	* 1.1801	* 1.3577	* 1.1866	* 1.5116	* 1.2231	* 1.4685	* 1.4518	* 2.1567
12	* 1.2541	* 1.5904	* 1.3794	* 1.5594	* 1.3184	* 1.3655	* 1.0913	*
	* 1.5107	* 1.2013	* 1.3006	* 1.2224	* 1.6407	* 1.3851	* 1.7137	*
13	* 1.4501	* 1.3452	* 1.4469	* 1.2895	* 1.3666	* 1.2059	* .7497	*
	* 1.3036	* 1.4043	* 1.3100	* 1.4676	* 1.3842	* 1.5615	* 2.4715	*
14	* 1.2713	* 1.3602	* 1.2316	* 1.2906	* 1.0924	* .7583	*	*
	* 1.4709	* 1.3774	* 1.5198	* 1.4528	* 1.7123	* 2.4464	*	*
15	* 1.1374	* .8482	* 1.0881	* .8525	* F-SUB-Q			
	* 1.6222	* 2.1741	* 1.6937	* 2.1630	* M-SUB-Q			

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Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 100% POWER, 415 EFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1738	* 1.6140	* 1.4351	* 1.6418	* 1.2649	* 1.4651	* 1.2841	* 1.1481 *
	* 1.5385	* 1.1272	* 1.2668	* 1.1088	* 1.4216	* 1.2245	* 1.3819	* 1.5289 *
9	* 1.6140	* 1.2948	* 1.6461	* 1.4234	* 1.6022	* 1.3580	* 1.3773	* .8536 *
	* 1.1272	* 1.3999	* 1.1076	* 1.2759	* 1.1306	* 1.3203	* 1.2918	* 2.0535 *
10	* 1.4351	* 1.6451	* 1.4362	* 1.6322	* 1.3902	* 1.4641	* 1.2434	* 1.0967 *
	* 1.2668	* 1.1076	* 1.2653	* 1.1146	* 1.2985	* 1.2281	* 1.4288	* 1.5984 *
11	* 1.6418	* 1.4234	* 1.6322	* 1.2702	* 1.5744	* 1.3002	* 1.3045	* .8557 *
	* 1.1088	* 1.2766	* 1.1141	* 1.4197	* 1.1444	* 1.3789	* 1.3633	* 2.0456 *
12	* 1.2649	* 1.6054	* 1.3913	* 1.5754	* 1.3302	* 1.3816	* 1.0999	*
	* 1.4216	* 1.1288	* 1.2977	* 1.1438	* 1.3501	* 1.2948	* 1.6103	*
13	* 1.4651	* 1.3591	* 1.4641	* 1.3002	* 1.3827	* 1.2177	* .7529	*
	* 1.2245	* 1.3195	* 1.2281	* 1.3780	* 1.2932	* 1.4618	* 2.3329	*
14	* 1.2841	* 1.3762	* 1.2424	* 1.3034	* 1.1010	* .7604	*	*
	* 1.3819	* 1.2926	* 1.4298	* 1.3642	* 1.6091	* 2.3078	*	*
15	* 1.1481	* .8536	* 1.0956	* .8557	* F-SUB-Q			
	* 1.5289	* 2.0555	* 1.5996	* 2.0477	* M-SUB-Q			

AT 100% POWER, 415 EFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1856	* 1.6376	* 1.4533	* 1.6665	* 1.2873	* 1.4919	* 1.3173	* 1.1727 *
	* 1.4577	* 1.0645	* 1.1983	* 1.0480	* 1.3404	* 1.1528	* 1.2939	* 1.4366 *
9	* 1.6376	* 1.3141	* 1.6708	* 1.4426	* 1.6258	* 1.3869	* 1.4094	* .8739 *
	* 1.0645	* 1.3219	* 1.0474	* 1.2071	* 1.0691	* 1.2397	* 1.2118	* 1.9287 *
10	* 1.4533	* 1.6697	* 1.4566	* 1.6536	* 1.4116	* 1.4919	* 1.2773	* 1.1160 *
	* 1.1983	* 1.0479	* 1.1956	* 1.0553	* 1.2254	* 1.1541	* 1.3409	* .5083 *
11	* 1.6665	* 1.4426	* 1.6536	* 1.2927	* 1.6022	* 1.3259	* 1.3313	* .86.7 *
	* 1.0480	* 1.2071	* 1.0548	* 1.3371	* 1.0777	* 1.2953	* 1.2808	* 1.9340 *
12	* 1.2873	* 1.6279	* 1.4126	* 1.6033	* 1.3548	* 1.4105	* 1.1245	*
	* 1.3404	* 1.0670	* 1.2246	* 1.0766	* 1.2683	* 1.2131	* 1.5105	*
13	* 1.4919	* 1.3880	* 1.4930	* 1.3259	* 1.4116	* 1.2456	* .7700	*
	* 1.1528	* 1.2389	* 1.1541	* 1.2945	* 1.2124	* 1.3683	* 2.1849	*
14	* 1.3173	* 1.4084	* 1.2702	* 1.3313	* 1.1256	* .7785	*	*
	* 1.2939	* 1.2125	* 1.3418	* 1.2815	* 1.5084	* 2.1626	*	*
15	* 1.1727	* .8729	* 1.1149	* .8686	* F-SUB-Q			
	* 1.4366	* 1.9287	* 1.5095	* 1.9357	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORM... OPERATION

AT 100% POWER, 415 RPPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0903	* 1.4898	* 1.3334	* 1.5187	* 1.1995	* 1.3944	* 1.2520	* 1.0924
	* 1.5382	* 1.1322	* 1.2667	* 1.1084	* 1.3934	* 1.1943	* 1.3199	* 1.4977
9	* 1.4898	* 1.2134	* 1.5208	* 1.3216	* 1.4887	* 1.3034	* 1.3227	* .8332
	* 1.1322	* 1.3857	* 1.1094	* 1.2759	* 1.1243	* 1.2771	* 1.2511	* 1.9624
10	* 1.3334	* 1.5197	* 1.3355	* 1.5090	* 1.3055	* 1.3923	* 1.1995	* 1.0303
	* 1.2667	* 1.1100	* 1.2630	* 1.1131	* 1.2845	* 1.1983	* 1.3778	* 1.5867
11	* 1.5187	* 1.3216	* 1.5101	* 1.2027	* 1.4726	* 1.2370	* 1.2359	* .8075
	* 1.1084	* 1.2766	* 1.1125	* 1.3923	* 1.1345	* 1.3439	* 1.3340	* 2.0221
12	* 1.1995	* 1.4940	* 1.3066	* 1.4737	* 1.2584	* 1.3141	* 1.0571	*
	* 1.3934	* 1.1202	* 1.2830	* 1.1338	* 1.3229	* 1.2607	* 1.5566	*
13	* 1.3944	* 1.3045	* 1.3934	* 1.2370	* 1.3163	* 1.1685	* .7315	*
	* 1.1943	* 1.2770	* 1.1977	* 1.3438	* 1.2592	* 1.4125	* 2.2310	*
14	* 1.2520	* 1.3216	* 1.1984	* 1.2359	* 1.0581	* .7401	*	*
	* 1.3199	* 1.2518	* 1.3778	* 1.3340	* 1.5544	* 2.2058	*	*
15	* 1.0924	* .8332	* 1.0292	* .8065	* F-SUB-Q			
	* 1.4977	* 1.9626	* 1.5878	* 2.0240	* M-SUB-Q			

AT 100% POWER, 415 RPPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7700	* .6951	* .9050	* .7208	* .8504	* 1.0089	* .9189	* .7518
	* 2.1172	* 2.3506	* 1.8090	* 2.2686	* 1.9081	* 1.6047	* 1.7579	* 2.1299
9	* .6951	* .8450	* .7197	* .9018	* .7294	* .9371	* .9682	* .6148
	* 2.3506	* 1.9332	* 2.2734	* 1.8137	* 2.2267	* 1.7307	* 1.6687	* 2.6022
10	* .9050	* .7197	* .9061	* .7186	* .9125	* 1.0067	* .8643	* .4487
	* 1.8090	* 2.2734	* 1.8060	* 2.2710	* 1.7811	* 1.6118	* 1.8656	* 3.5426
11	* .7208	* .9018	* .7186	* .8493	* .7101	* .8814	* .8729	* .5773
	* 2.2686	* 1.8137	* 2.2686	* 1.9113	* 2.2791	* 1.8365	* 1.8432	* 2.7607
12	* .8504	* .7304	* .9136	* .7111	* .8771	* .9286	* .7508	*
	* 1.9081	* 2.2219	* 1.7781	* 2.2789	* 1.8443	* 1.7394	* 2.1406	*
13	* 1.0089	* .9382	* 1.0078	* .8825	* .9296	* .8257	* .5280	*
	* 1.6047	* 1.7292	* 1.6106	* 1.8349	* 1.7367	* 1.9527	* 3.0264	*
14	* .9189	* .9671	* .8643	* .8729	* .7529	* .5344	*	*
	* 1.7579	* 1.6688	* 1.8656	* 1.8432	* 2.1364	* 2.9884	*	*
15	* .7518	* .6148	* .4487	* .5773	* F-SUB-Q			
	* 2.1299	* 2.6022	* 3.5432	* 2.7642	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.3288	.2710	.5473	.3438	.5633	.6662	.6276	.4884
	3.3340	4.7064	2.5286	4.0457	2.4692	2.0892	2.2262	2.8429
9	.2710	.4852	.3277	.5783	.3748	.6287	.6394	.4263
	4.7064	2.7865	4.1659	2.3427	3.6272	2.2098	2.1577	3.2516
10	.5473	.3277	.5591	.3406	.5923	.6276	.5773	.2356
	2.5286	4.1577	2.4016	3.9031	2.2744	2.1229	2.3453	5.7013
11	.3438	.5826	.3416	.5216	.3245	.5366	.5184	.3781
	4.0457	2.3349	3.8887	2.3532	3.6147	2.2573	2.4071	3.4432
12	.5633	.3770	.5944	.3256	.4487	.4520	.4273	
	2.4692	3.6085	2.2646	3.6024	2.2168	2.2597	2.6800	
13	.6662	.6297	.6297	.5387	.4541	.3823	.2731	
	2.0892	2.2052	2.1165	2.2500	2.2524	2.4491	3.9031	
14	.6276	.6405	.5783	.5205	.4295	.2785		
	2.2262	2.1577	2.3401	2.3988	2.6698	3.8250		
15	.4884	.4263	.2367	.3791	F-SUB-Q			
	2.8429	3.2516	5.6859	3.4319	M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.4616	.7958	.8311	.9371	.8236	.9232	.9468	.8011
	2.8986	2.0909	2.0960	1.8719	2.1360	1.8996	1.8571	2.1831
9	.7958	.7176	.9039	.8675	.9682	.9543	.9318	.6447
	2.0909	2.3549	1.9123	1.9984	1.7678	1.8190	1.8598	2.7094
10	.8311	.9050	.8664	.9221	.8889	.8900	.8771	.7015
	2.0960	1.9094	1.3754	1.8152	1.8884	1.9109	1.9324	2.4168
11	.9371	.8707	.9253	.7593	.8771	.8129	.8043	.5826
	1.8719	1.9907	1.8126	2.0892	1.7751	1.9052	1.9440	2.8316
12	.8236	.9768	.8932	.8804	.6201	.7069	.6822	
	2.1360	1.7605	1.8815	1.7690	1.8544	1.8747	2.1360	
13	.9232	.9564	.8932	.8161	.7101	.6126	.4188	
	1.8996	1.8139	1.9024	1.8982	1.8692	1.9382	3.2417	
14	.9468	.9339	.8793	.8065	.6865	.4295		
	1.8571	1.8571	1.9280	1.9367	2.1254	3.1659		
15	.8011	.6447	.7026	.5848	F-SUB-Q			
	2.1831	2.7122	2.4123	2.8192	M-SUB-Q			



Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .5955 *	* 1.0624 *	* 1.0978 *	* 1.2231 *	* 1.0357 *	* 1.1395 *	* 1.1556 *	* 1.0078 *
	* 2.5062 *	* 1.7521 *	* 1.7668 *	* 1.5953 *	* 1.8775 *	* 1.7096 *	* 1.6396 *	* 1.9269 *
9	* 1.0624 *	* .9361 *	* 1.2006 *	* 1.1353 *	* 1.2220 *	* 1.1706 *	* 1.1578 *	* .7808 *
	* 1.7521 *	* 2.0057 *	* 1.6037 *	* 1.7021 *	* 1.5537 *	* 1.6371 *	* 1.6660 *	* 2.4767 *
10	* 1.0978 *	* 1.2017 *	* 1.1449 *	* 1.2081 *	* 1.1299 *	* 1.1310 *	* 1.0881 *	* .9018 *
	* 1.7668 *	* 1.6018 *	* 1.6690 *	* 1.5476 *	* 1.6559 *	* 1.6751 *	* 1.7366 *	* 2.0961 *
11	* 1.2231 *	* 1.1406 *	* 1.2134 *	* .9810 *	* 1.1417 *	* 1.0282 *	* 1.0282 *	* .7411 *
	* 1.5953 *	* 1.6958 *	* 1.5450 *	* 1.8212 *	* 1.5406 *	* 1.6885 *	* 1.7074 *	* 2.4921 *
12	* 1.0357 *	* 1.2284 *	* 1.1363 *	* 1.1449 *	* .6032 *	* .9125 *	* .8664 *	
	* 1.8775 *	* 1.5467 *	* 1.6489 *	* 1.5398 *	* 1.6294 *	* 1.6401 *	* 1.9041 *	
13	* 1.1395 *	* 1.1760 *	* 1.1363 *	* 1.0324 *	* .9168 *	* .7893 *	* .5184 *	
	* 1.7096 *	* 1.6303 *	* 1.6670 *	* 1.6833 *	* 1.6342 *	* 1.7160 *	* 2.9726 *	
14	* 1.1556 *	* 1.1588 *	* 1.0913 *	* 1.0324 *	* .8707 *	* .5312 *		
	* 1.6896 *	* 1.6629 *	* 1.7322 *	* 1.7011 *	* 1.8936 *	* 2.8969 *		
15	* 1.0078 *	* .7808 *	* .9039 *	* .7433 *	F-SUB-Q			
	* 1.9269 *	* 2.4790 *	* 2.0913 *	* 2.4831 *	M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7144 *	* 1.2723 *	* 1.2991 *	* 1.4394 *	* 1.1995 *	* 1.3184 *	* 1.3238 *	* 1.1610 *
	* 2.2947 *	* 1.5852 *	* 1.6034 *	* 1.4344 *	* 1.7289 *	* 1.5852 *	* 1.5798 *	* 1.7922 *
9	* 1.2723 *	* 1.1053 *	* 1.4276 *	* 1.3355 *	* 1.4319 *	* 1.3559 *	* 1.3388 *	* .8879 *
	* 1.5852 *	* 1.8251 *	* 1.4506 *	* 1.5551 *	* 1.4297 *	* 1.5203 *	* 1.5456 *	* 2.3198 *
10	* 1.2991 *	* 1.4287 *	* 1.3537 *	* 1.4298 *	* 1.3270 *	* 1.3238 *	* 1.2595 *	* 1.0485 *
	* 1.6034 *	* 1.4491 *	* 1.5211 *	* 1.4116 *	* 1.5269 *	* 1.5396 *	* 1.6174 *	* 1.9408 *
11	* 1.4394 *	* 1.3409 *	* 1.4373 *	* 1.1599 *	* 1.3655 *	* 1.2156 *	* 1.2156 *	* .8611 *
	* 1.4544 *	* 1.5499 *	* 1.4088 *	* 1.6723 *	* 1.4116 *	* 1.5620 *	* 1.5762 *	* 2.3229 *
12	* 1.1995 *	* 1.4394 *	* 1.3345 *	* 1.3698 *	* .9746 *	* 1.1053 *	* 1.0303 *	
	* 1.7289 *	* 1.4224 *	* 1.5203 *	* 1.4080 *	* 1.5087 *	* 1.5112 *	* 1.7706 *	
13	* 1.3184 *	* 1.3623 *	* 1.3313 *	* 1.2209 *	* 1.1106 *	* .9693 *	* .6148 *	
	* 1.5852 *	* 1.5137 *	* 1.5337 *	* 1.5568 *	* 1.5055 *	* 1.5906 *	* 2.7922 *	
14	* 1.3238 *	* 1.3409 *	* 1.2627 *	* 1.2209 *	* 1.0367 *	* .6308 *		
	* 1.5798 *	* 1.5430 *	* 1.6127 *	* 1.5700 *	* 1.7605 *	* 2.7205 *		
15	* 1.1610 *	* .8879 *	* 1.0517 *	* .8643 *	F-SUB-Q			
	* 1.7922 *	* 2.3217 *	* 1.9355 *	* 2.3132 *	M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 75% POWER, 4 RFPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8472	* 1.4084	* 1.4159	* 1.5637	* 1.2895	* 1.4234	* 1.4169	* 1.2424
	* 2.3032	* 1.5825	* 1.6059	* 1.4546	* 1.7396	* 1.5959	* 1.6004	* 1.8176
9	* 1.4084	* 1.2081	* 1.5626	* 1.4501	* 1.5658	* 1.4641	* 1.4437	* .9446
	* 1.5825	* 1.8277	* 1.4457	* 1.5624	* 1.4340	* 1.5361	* 1.5590	* 2.3559
10	* 1.4159	* 1.5647	* 1.4737	* 1.5647	* 1.4480	* 1.4426	* 1.3591	* 1.1299
	* 1.6059	* 1.4442	* 1.5270	* 1.4125	* 1.5378	* 1.5453	* 1.6394	* 1.9669
11	* 1.5637	* 1.4544	* 1.5722	* 1.2745	* 1.5230	* 1.3495	* 1.3420	* .9286
	* 1.4546	* 1.5564	* 1.4090	* 1.6777	* 1.4132	* 1.5772	* 1.5896	* 2.3652
12	* 1.2895	* 1.5733	* 1.4555	* 1.5283	* 1.1770	* 1.2756	* 1.1524	*
	* 1.7396	* 1.4260	* 1.5311	* 1.4090	* 1.5237	* 1.5204	* 1.7968	*
13	* 1.4234	* 1.4705	* 1.4501	* 1.3548	* 1.2831	* 1.1727	* .6940	*
	* 1.5959	* 1.5286	* 1.5386	* 1.5702	* 1.5147	* 1.6105	* 2.8396	*
14	* 1.4169	* 1.4459	* 1.3634	* 1.3484	* 1.1599	* .7122	*	*
	* 1.6004	* 1.5555	* 1.6337	* 1.5825	* 1.7855	* 2.7634	*	*
15	* 1.2424	* .9436	* 1.1331	* .9328	* F-SUB-Q			
	* 1.8176	* 2.3579	* 1.9614	* 2.3534	* M-SUB-Q			

AT 75% POWER, 4 RFPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0335	* 1.5712	* 1.5637	* 1.7179	* 1.4116	* 1.5594	* 1.5487	* 1.3570
	* 2.3021	* 1.5826	* 1.6056	* 1.4564	* 1.7362	* 1.6020	* 1.6074	* 1.8242
9	* 1.5712	* 1.3388	* 1.7265	* 1.6001	* 1.7307	* 1.6108	* 1.5829	* 1.0282
	* 1.5826	* 1.8208	* 1.4454	* 1.5636	* 1.4338	* 1.5417	* 1.5636	* 2.3583
10	* 1.5637	* 1.7286	* 1.6279	* 1.7382	* 1.6044	* 1.5936	* 1.4962	* 1.2402
	* 1.6056	* 1.4432	* 1.5286	* 1.4140	* 1.5409	* 1.5476	* 1.6471	* 1.9750
11	* 1.7179	* 1.6033	* 1.7393	* 1.4244	* 1.7168	* 1.5230	* 1.5058	* 1.0228
	* 1.4564	* 1.5577	* 1.4099	* 1.6730	* 1.4140	* 1.5817	* 1.5931	* 2.3818
12	* 1.4116	* 1.7393	* 1.6129	* 1.7222	* 1.5208	* 1.5208	* 1.3130	*
	* 1.7362	* 1.4267	* 1.5335	* 1.4099	* 1.5294	* 1.5221	* 1.8047	*
13	* 1.5594	* 1.6183	* 1.6022	* 1.5294	* 1.5272	* 1.4223	* .7990	*
	* 1.6020	* 1.5335	* 1.5409	* 1.5748	* 1.5165	* 1.6147	* 2.8467	*
14	* 1.5487	* 1.5862	* 1.5015	* 1.5133	* 1.3216	* .8215	*	*
	* 1.6074	* 1.5602	* 1.6415	* 1.5861	* 1.7934	* 2.7708	*	*
15	* 1.3570	* 1.0271	* 1.2434	* 1.0282	* F-SUB-Q			
	* 1.8242	* 2.3603	* 1.9709	* 2.3719	* M-SUB-Q			

Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1042	* 1.6547	* 1.6376	* 1.7993	* 1.4705	* 1.6290	* 1.6151	* 1.4137
	* 2.4234	* 1.6542	* 1.6812	* 1.5233	* 1.8269	* 1.6782	* 1.6861	* 1.9064
9	* 1.6547	* 1.4030	* 1.8143	* 1.6761	* 1.8218	* 1.6858	* 1.6568	* 1.0667
	* 1.6542	* 1.9135	* 1.5106	* 1.6392	* 1.4996	* 1.6190	* 1.6373	* 2.4808
10	* 1.6376	* 1.8164	* 1.7093	* 1.8357	* 1.6879	* 1.6761	* 1.5658	* 1.2948
	* 1.6812	* 1.5092	* 1.6037	* 1.4804	* 1.6181	* 1.6217	* 1.7305	* 2.0734
11	* 1.7993	* 1.6804	* 1.8357	* 1.5080	* 1.8261	* 1.6183	* 1.5969	* 1.0689
	* 1.5233	* 1.6346	* 1.4759	* 1.7610	* 1.4812	* 1.6628	* 1.6724	* 2.5094
12	* 1.4705	* 1.8314	* 1.6965	* 1.8325	* 1.6590	* 1.6579	* 1.4009	*
	* 1.8269	* 1.4919	* 1.6100	* 1.4766	* 1.6100	* 1.5984	* 1.9002	*
13	* 1.6290	* 1.6943	* 1.6858	* 1.6358	* 1.6643	* 1.5540	* .8579	*
	* 1.6782	* 1.6109	* 1.6145	* 1.6552	* 1.5913	* 1.6990	* 3.0118	*
14	* 1.6151	* 1.6600	* 1.5712	* 1.6054	* 1.4105	* .8814	*	*
	* 1.6861	* 1.6346	* 1.7254	* 1.6647	* 1.8878	* 2.9307	*	*
15	* 1.4137	* 1.0667	* 1.2991	* 1.0742	* F-SUB-Q			
	* 1.9064	* 2.4830	* 2.0675	* 2.4985	* M-SUB-C			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1256	* 1.6922	* 1.6675	* 1.8368	* 1.4940	* 1.6611	* 1.6440	* 1.4384
	* 2.5882	* 1.7420	* 1.7774	* 1.6055	* 1.9495	* 1.7676	* 1.7763	* 2.0030
9	* 1.6922	* 1.4276	* 1.8560	* 1.7072	* 1.8646	* 1.7179	* 1.6911	* 1.0817
	* 1.7420	* 2.0431	* 1.5922	* 1.7357	* 1.5817	* 1.7141	* 1.7264	* 2.6384
10	* 1.6675	* 1.8582	* 1.7436	* 1.8828	* 1.7232	* 1.7157	* 1.5958	* 1.3195
	* 1.7774	* 1.5905	* 1.6990	* 1.5629	* 1.7151	* 1.7131	* 1.8327	* 2.1897
11	* 1.8368	* 1.7115	* 1.8871	* 1.5465	* 1.8796	* 1.6622	* 1.6418	* 1.0881
	* 1.6055	* 1.7305	* 1.5587	* 1.8839	* 1.5638	* 1.7644	* 1.7698	* 2.6644
12	* 1.4940	* 1.8742	* 1.7329	* 1.8860	* 1.7136	* 1.7190	* 1.4416	*
	* 1.9495	* 1.5731	* 1.7060	* 1.5587	* 1.7111	* 1.6930	* 2.0184	*
13	* 1.6611	* 1.7275	* 1.7254	* 1.6708	* 1.7265	* 1.6108	* .8836	*
	* 1.7676	* 1.7050	* 1.7040	* 1.7569	* 1.6861	* 1.8052	* 3.2337	*
14	* 1.6440	* 1.6943	* 1.6022	* 1.6504	* 1.4523	* .9082	*	*
	* 1.7763	* 1.7223	* 1.8269	* 1.7611	* 2.0043	* 3.1481	*	*
15	* 1.4384	* 1.0806	* 1.3238	* 1.0935	* F-SUB-Q			
	* 2.0030	* 2.6409	* 2.1831	* 2.6522	* M-SUB-Q			

Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.1545	1.7425	1.7168	1.8935	1.5369	1.7125	1.6965	1.4855
	2.6315	1.7483	1.7818	1.6109	1.9741	1.7807	1.8007	2.0369
9	1.7425	1.4683	1.9149	1.7597	1.9257	1.7725	1.7468	1.1138
	1.7483	2.0663	1.5957	1.7410	1.5878	1.7295	1.7483	2.7186
10	1.7168	1.9171	1.7971	1.9471	1.7789	1.7725	1.6483	1.3612
	1.7818	1.5940	1.7050	1.5714	1.7233	1.7264	1.8634	2.2477
11	1.8935	1.7639	1.9535	1.5990	1.9449	1.7211	1.7018	1.1213
	1.6109	1.7368	1.5672	1.9073	1.5740	1.7884	1.8052	2.7455
12	1.5369	1.9364	1.7886	1.9524	1.7768	1.7875	1.4951	
	1.9741	1.5791	1.7141	1.5680	1.7347	1.7213	2.0616	
13	1.7125	1.7821	1.7832	1.7297	1.7961	1.6761	.9157	
	1.7807	1.7202	1.7161	1.7796	1.7131	1.8408	3.3640	
14	1.6965	1.7500	1.6536	1.7104	1.5058	.9403		
	1.8007	1.7441	1.8562	1.7951	2.0470	3.2759		
15	1.4855	1.1128	1.3655	1.1267	F-SUB-Q			
	2.0369	2.7211	2.2407	2.7299	M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.1256	1.7125	1.6825	1.8646	1.5048	1.6868	1.6686	1.4619
	2.6669	1.7526	1.7906	1.6073	1.9892	1.7741	1.7851	2.0141
9	1.7125	1.4351	1.8871	1.7254	1.9000	1.7414	1.7222	1.0913
	1.7526	2.0914	1.5866	1.7494	1.5870	1.7347	1.7410	2.7044
10	1.6825	1.8892	1.7618	1.9224	1.7468	1.7500	1.6194	1.3388
	1.7906	1.5948	1.7141	1.5706	1.7305	1.7254	1.8682	2.2494
11	1.8646	1.7307	1.9289	1.5712	1.9203	1.6933	1.6793	1.0978
	1.6073	1.7452	1.5655	1.9229	1.5723	1.7940	1.8052	2.7612
12	1.5048	1.9107	1.7575	1.9278	1.7479	1.7671	1.4716	
	1.9892	1.5783	1.7207	1.5663	1.7410	1.7202	2.0690	
13	1.6868	1.7511	1.7597	1.7018	1.7757	1.6536	.8986	
	1.7741	1.7243	1.7141	1.7851	1.7121	1.8432	3.4100	
14	1.6686	1.7254	1.6258	1.6879	1.4823	.9232		
	1.7851	1.7368	1.8610	1.7951	2.0528	3.3160		
15	1.4619	1.0903	1.3430	1.1031	F-SUB-Q			
	2.0141	2.7069	2.2424	2.7455	M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1320	* 1.7297	* 1.7018	* 1.8871	* 1.5208	* 1.7082	* 1.6943	* 1.4865
	* 2.5811	* 1.6890	* 1.7233	* 1.5355	* 1.8977	* 1.6851	* 1.6890	* 1.8939
9	* 1.7297	* 1.4480	* 1.9107	* 1.7457	* 1.9257	* 1.7671	* 1.7469	* 1.1053
	* 1.6890	* 2.0155	* 1.5355	* 1.6831	* 1.5258	* 1.6609	* 1.6523	* 2.5492
10	* 1.7018	* 1.9128	* 1.7832	* 1.9492	* 1.7704	* 1.7768	* 1.6440	* 1.3591
	* 1.7233	* 1.5339	* 1.6514	* 1.5122	* 1.6647	* 1.6561	* 1.7917	* 2.1300
11	* 1.8871	* 1.7511	* 1.9567	* 1.5915	* 1.9481	* 1.7190	* 1.7072	* 1.1117
	* 1.5355	* 1.6782	* 1.5074	* 1.8538	* 1.5146	* 1.7295	* 1.7347	* 2.6474
12	* 1.5208	* 1.9364	* 1.7811	* 1.9556	* 1.7736	* 1.7982	* 1.4951	*
	* 1.8977	* 1.5169	* 1.6552	* 1.5090	* 1.6841	* 1.6609	* 1.9947	*
13	* 1.7082	* 1.7768	* 1.7864	* 1.7275	* 1.8068	* 1.6836	* .9104	*
	* 1.6851	* 1.6523	* 1.6457	* 1.7202	* 1.6523	* 1.7818	* 3.3046	*
14	* 1.6943	* 1.7532	* 1.6504	* 1.7168	* 1.5069	* .9361	*	*
	* 1.6890	* 1.6486	* 1.7851	* 1.7254	* 1.9796	* 3.2128	*	*
15	* 1.4865	* 1.1053	* 1.3634	* 1.1181	* F-SUB-Q			
	* 1.8939	* 2.5515	* 2.1237	* 2.6353	* M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0978	* 1.6890	* 1.6611	* 1.8496	* 1.4844	* 1.6740	* 1.6622	* 1.4598
	* 2.5028	* 1.6064	* 1.6299	* 1.4521	* 1.7995	* 1.5905	* 1.5966	* 1.7906
9	* 1.6890	* 1.4094	* 1.8710	* 1.7061	* 1.8882	* 1.7307	* 1.7179	* 1.0817
	* 1.6064	* 1.9178	* 1.4550	* 1.5966	* 1.4453	* 1.5680	* 1.5553	* 2.4190
10	* 1.6611	* 1.8742	* 1.7414	* 1.9128	* 1.7339	* 1.7457	* 1.6108	* 1.3323
	* 1.6299	* 1.4528	* 1.5766	* 1.4470	* 1.5905	* 1.5672	* 1.6881	* 2.0030
11	* 1.8496	* 1.7125	* 1.9203	* 1.5572	* 1.9117	* 1.6847	* 1.6772	* 1.0860
	* 1.4521	* 1.5922	* 1.4391	* 1.7962	* 1.4632	* 1.6782	* 1.6776	* 2.5028
12	* 1.4844	* 1.9000	* 1.7447	* 1.9192	* 1.7372	* 1.7671	* 1.4851	*
	* 1.7995	* 1.4384	* 1.5809	* 1.4572	* 1.6676	* 1.6281	* 1.9332	*
13	* 1.6740	* 1.7404	* 1.7543	* 1.6933	* 1.7757	* 1.6526	* .8889	*
	* 1.5905	* 1.5595	* 1.5579	* 1.6686	* 1.6208	* 1.7505	* 3.2092	*
14	* 1.6622	* 1.7222	* 1.6172	* 1.6868	* 1.4769	* .9146	*	*
	* 1.5966	* 1.5520	* 1.6822	* 1.6590	* 1.9191	* 3.1224	*	*
15	* 1.4598	* 1.0806	* 1.3366	* 1.0924	* F-SUB-Q			
	* 1.7906	* 2.4210	* 1.9974	* 2.4899	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATING

AT 75% POWER, 4 EFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0314	* 1.5990	* 1.5690	* 1.7564	* 1.4019	* 1.5915	* 1.5787	* 1.3869
	* 2.4251	* 1.5604	* 1.5966	* 1.4193	* 1.7687	* 1.5528	* 1.5629	* 1.7526
9	* 1.5990	* 1.3280	* 1.7768	* 1.6129	* 1.7950	* 1.6397	* 1.6343	* 1.0228
	* 1.5604	* 1.8755	* 1.4172	* 1.5621	* 1.4048	* 1.5290	* 1.5161	* 2.3791
10	* 1.5690	* 1.7789	* 1.6461	* 1.8186	* 1.6440	* 1.6611	* 1.5272	* 1.2638
	* 1.5966	* 1.4151	* 1.5379	* 1.4000	* 1.5454	* 1.5201	* 1.6429	* 1.9528
11	* 1.7564	* 1.6194	* 1.8261	* 1.4726	* 1.8175	* 1.5979	* 1.5936	* 1.0260
	* 1.4193	* 1.5562	* 1.3966	* 1.7347	* 1.4068	* 1.6181	* 1.6019	* 2.4353
12	* 1.4019	* 1.8057	* 1.6536	* 1.8261	* 1.6461	* 1.6815	* 1.3880	*
	* 1.7687	* 1.3960	* 1.5363	* 1.4014	* 1.6019	* 1.5655	* 1.8658	*
13	* 1.5915	* 1.6493	* 1.6697	* 1.6054	* 1.6900	* 1.5679	* .8397	*
	* 1.5528	* 1.5209	* 1.5106	* 1.6091	* 1.5579	* 1.6871	* 3.1191	*
14	* 1.5787	* 1.6386	* 1.5337	* 1.6033	* 1.3998	* .8632	*	*
	* 1.5629	* 1.5130	* 1.6364	* 1.5931	* 1.8515	* 3.0307	*	*
15	* 1.3869	* 1.0217	* 1.2681	* 1.0314	* F-SUB-Q			
	* 1.7526	* 2.3811	* 1.9463	* 2.4230	* M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9875	* 1.5380	* 1.5123	* 1.6965	* 1.3537	* 1.5444	* 1.5337	* 1.3495
	* 2.3425	* 1.5130	* 1.5495	* 1.3747	* 1.7131	* 1.4973	* 1.5067	* 1.6890
9	* 1.5380	* 1.2766	* 1.7136	* 1.5572	* 1.7350	* 1.5894	* 1.5872	* .9917
	* 1.5130	* 1.8200	* 1.3708	* 1.5106	* 1.3528	* 1.4706	* 1.4595	* 2.2977
10	* 1.5123	* 1.7168	* 1.5883	* 1.7597	* 1.5915	* 1.6086	* 1.4801	* 1.2252
	* 1.5495	* 1.3695	* 1.4850	* 1.3440	* 1.4873	* 1.4624	* 1.5774	* 1.8792
11	* 1.6965	* 1.5637	* 1.7661	* 1.4244	* 1.7586	* 1.5476	* 1.5465	* .9917
	* 1.3747	* 1.5043	* 1.3396	* 1.6590	* 1.3453	* 1.5396	* 1.5241	* 2.3406
12	* 1.3537	* 1.7457	* 1.6011	* 1.7661	* 1.5947	* 1.6311	* 1.3452	*
	* 1.7131	* 1.3434	* 1.4781	* 1.3403	* 1.5067	* 1.4699	* 1.7654	*
13	* 1.5444	* 1.5990	* 1.6172	* 1.5562	* 1.6397	* 1.5219	* .8118	*
	* 1.4973	* 1.4646	* 1.4528	* 1.5314	* 1.4624	* 1.5791	* 2.9412	*
14	* 1.5337	* 1.5904	* 1.4865	* 1.5562	* 1.3570	* .8354	*	*
	* 1.5067	* 1.4558	* 1.5714	* 1.5154	* 1.7515	* 2.8568	*	*
15	* 1.3495	* .9907	* 1.2295	* .9971	* F-SUB-Q			
	* 1.6890	* 2.2996	* 1.8731	* 2.3292	* M-SUB-Q			

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Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 75% POWER, 4 RFPD, THIS IS LEVEL 4 OF 18  
(LVL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8836	* 1.3859	* 1.3602	* 1.5380	* 1.2242	* 1.4126	* 1.3998	* 1.2310
	* 2.4707	* 1.5861	* 1.6281	* 1.4320	* 1.7906	* 1.5470	* 1.5587	* 1.7483
9	* 1.3859	* 1.1460	* 1.5508	* 1.4052	* 1.5797	* 1.4448	* 1.4491	* .9018
	* 1.5861	* 1.9140	* 1.4305	* 1.5800	* 1.3994	* 1.5233	* 1.5082	* 2.3890
10	* 1.3602	* 1.5530	* 1.4319	* 1.5979	* 1.4416	* 1.4651	* 1.3462	* 1.1128
	* 1.6281	* 1.4291	* 1.5537	* 1.3906	* 1.5437	* 1.5130	* 1.6346	* 1.9489
11	* 1.5380	* 1.4116	* 1.6044	* 1.2884	* 1.5979	* 1.4041	* 1.4073	* .8975
	* 1.4320	* 1.5731	* 1.3859	* 1.7223	* 1.3913	* 1.5905	* 1.5697	* 2.4353
12	* 1.2242	* 1.5904	* 1.4512	* 1.6044	* 1.4469	* 1.4844	* 1.2209	*
	* 1.7906	* 1.3899	* 1.5339	* 1.3859	* 1.5503	* 1.5043	* 1.8177	*
13	* 1.4126	* 1.4533	* 1.4726	* 1.4126	* 1.4930	* 1.3837	* .7358	*
	* 1.5470	* 1.5177	* 1.5027	* 1.5817	* 1.4973	* 1.6154	* 3.0244	*
14	* 1.3998	* 1.4533	* 1.3527	* 1.4159	* 1.2316	* .7572	*	*
	* 1.5587	* 1.5043	* 1.6281	* 1.5604	* 1.8040	* 2.9382	*	*
15	* 1.2316	* .9007	* 1.1171	* .9029	* F-SUB-Q			
	* 1.7483	* 2.3909	* 1.9423	* 2.4230	* M-SUB-Q			

AT 75% POWER, 4 RFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7840	* 1.2263	* 1.2070	* 1.3773	* 1.1053	* 1.2884	* 1.2820	* 1.1192
	* 2.6644	* 1.7141	* 1.7537	* 1.5282	* 1.8939	* 1.6190	* 1.6244	* 1.8373
9	* 1.2263	* 1.0207	* 1.3773	* 1.2563	* 1.4276	* 1.3173	* 1.3205	* .8236
	* 1.7141	* 2.0557	* 1.5388	* 1.6890	* 1.4759	* 1.5931	* 1.5783	* 2.4985
10	* 1.2070	* 1.3794	* 1.2756	* 1.4319	* 1.3002	* 1.3216	* 1.2242	* 1.0025
	* 1.7537	* 1.5363	* 1.6657	* 1.4781	* 1.6299	* 1.5948	* 1.7131	* 2.0660
11	* 1.3773	* 1.2616	* 1.4373	* 1.1620	* 1.4330	* 1.2681	* 1.2702	* .8065
	* 1.5282	* 1.6822	* 1.4729	* 1.8177	* 1.6774	* 1.6744	* 1.6523	* 2.5834
12	* 1.1053	* 1.4373	* 1.3088	* 1.4384	* 1.3055	* 1.3398	* 1.1042	*
	* 1.8939	* 1.4661	* 1.6199	* 1.4721	* 1.6299	* 1.5809	* 1.9090	*
13	* 1.2884	* 1.3227	* 1.3302	* 1.2756	* 1.3462	* 1.2520	* .6683	*
	* 1.6190	* 1.5870	* 1.5843	* 1.6647	* 1.5731	* 1.6920	* 3.1600	*
14	* 1.2820	* 1.3238	* 1.2295	* 1.2788	* 1.1138	* .6876	*	*
	* 1.6244	* 1.5748	* 1.7070	* 1.6429	* 1.8939	* 3.0694	*	*
15	* 1.1192	* .8225	* 1.0057	* .8118	* F-SUB-Q			
	* 1.8373	* 2.5007	* 2.0586	* 2.5696	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .6223 *	* .9457 *	* .9382 *	* 1.0817 *	* .8996 *	* 1.0742 *	* 1.0817 *	* .9082 *
	* 3.2489 *	* 2.1490 *	* 2.1831 *	* 1.8792 *	* 2.2442 *	* 1.8743 *	* 1.8598 *	* 2.1897 *
9	* .9457 *	* .8043 *	* 1.0646 *	* .9864 *	* 1.1599 *	* 1.0999 *	* 1.1010 *	* .6940 *
	* 2.1490 *	* 2.5247 *	* 1.9229 *	* 2.0779 *	* 1.7526 *	* 1.8420 *	* 1.8280 *	* 2.8653 *
10	* .9382 *	* 1.0656 *	* .9928 *	* 1.1256 *	* 1.0539 *	* 1.0774 *	* 1.0174 *	* .7925 *
	* 2.1831 *	* 1.9204 *	* 2.0675 *	* 1.8120 *	* 1.9397 *	* 1.8792 *	* 1.9905 *	* 2.5225 *
11	* 1.0817 *	* .9907 *	* 1.1310 *	* .9382 *	* 1.1545 *	* 1.0346 *	* 1.0303 *	* .6480 *
	* 1.8792 *	* 2.0690 *	* 1.8063 *	* 2.1749 *	* 1.7665 *	* 1.9742 *	* 1.9635 *	* 3.1090 *
12	* .8996 *	* 1.1685 *	* 1.0603 *	* 1.1610 *	* 1.0539 *	* 1.0860 *	* .9029 *	
	* 2.2442 *	* 1.7410 *	* 1.9281 *	* 1.7579 *	* 1.9450 *	* 1.8755 *	* 2.2512 *	
13	* 1.0742 *	* 1.1042 *	* 1.0828 *	* 1.0410 *	* 1.0913 *	* 1.0185 *	* .5580 *	
	* 1.8743 *	* 1.8350 *	* 1.8706 *	* 1.9621 *	* 1.8646 *	* 2.0016 *	* 3.6468 *	
14	* 1.0817 *	* 1.1031 *	* 1.0217 *	* 1.0367 *	* .9093 *	* .5741 *		
	* 1.8598 *	* 1.8234 *	* 1.9823 *	* 1.9528 *	* 2.2338 *	* 3.5439 *		
15	* .9082 *	* .6940 *	* .7958 *	* .6512 *	* F-SUB-Q			
	* 2.1897 *	* 2.8682 *	* 2.5137 *	* 3.0924 *	* M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .3931 *	* .3010 *	* .5580 *	* .3599 *	* .5751 *	* .7240 *	* .6726 *	* .5184 *
	* 5.0057 *	* 6.5345 *	* 3.5614 *	* 5.4702 *	* 3.4221 *	* 2.7044 *	* 2.9204 *	* 3.7461 *
9	* .3010 *	* .4959 *	* .3491 *	* .6019 *	* .4091 *	* .6715 *	* .7015 *	* .4327 *
	* 6.5345 *	* 3.9893 *	* 5.6522 *	* 3.2971 *	* 4.8058 *	* 2.9412 *	* 2.7852 *	* 4.4989 *
10	* .5580 *	* .3502 *	* .5837 *	* .3759 *	* .6340 *	* .7111 *	* .6201 *	* .2485 *
	* 3.5614 *	* 5.6411 *	* 3.4020 *	* 5.2514 *	* 3.1191 *	* 2.7665 *	* 3.1739 *	* 7.8485 *
11	* .3599 *	* .6051 *	* .3781 *	* .6008 *	* .4081 *	* .6330 *	* .6158 *	* .3941 *
	* 5.4702 *	* 3.2784 *	* 5.2324 *	* 3.2971 *	* 4.8380 *	* 3.1360 *	* 3.1965 *	* 4.9684 *
12	* .5751 *	* .4123 *	* .6383 *	* .4091 *	* .6287 *	* .6587 *	* .5323 *	
	* 3.4221 *	* 4.7740 *	* 3.0990 *	* 4.8218 *	* 3.1497 *	* 3.0055 *	* 3.7172 *	
13	* .7240 *	* .6737 *	* .7144 *	* .6362 *	* .6619 *	* .5933 *	* .3438 *	
	* 2.7044 *	* 2.9322 *	* 2.7560 *	* 3.1191 *	* 2.9930 *	* 3.3429 *	* 5.7765 *	
14	* .6726 *	* .7026 *	* .6233 *	* .6190 *	* .5366 *	* .3524 *		
	* 2.9204 *	* 2.7825 *	* 3.1635 *	* 3.1809 *	* 3.6887 *	* 5.6301 *		
15	* .5184 *	* .4327 *	* .2485 *	* .3963 *	* F-SUB-Q			
	* 3.7461 *	* 4.4989 *	* 7.8273 *	* 4.9627 *	* M-SUB-Q			



Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 150 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.4188	.3748	.6555	.4562	.6565	.7754	.7229	.5687
	2.6975	3.5273	2.1489	3.0623	2.1229	1.7920	1.9178	2.4126
9	.3748	.5901	.4391	.6812	.4830	.7304	.7422	.4873
	3.5273	2.3813	3.1972	2.0545	2.8819	1.9073	1.8700	2.8153
10	.6555	.4402	.6640	.4477	.6769	.7315	.6587	.2935
	2.1489	3.1972	2.1221	3.1105	2.0727	1.9086	2.1207	4.6647
11	.4562	.6854	.4487	.6148	.4145	.6105	.6019	.4284
	3.0623	2.0425	3.1014	2.1459	2.9856	2.0700	2.1762	3.1699
12	.6565	.4862	.6790	.4155	.5173	.5226	.4873	
	2.1229	2.8623	2.0645	2.9800	2.0178	2.0216	2.4515	
13	.7754	.7315	.7336	.6126	.5248	.4380	.3138	
	1.7920	1.9039	1.9034	2.0652	2.0178	2.2230	3.4982	
14	.7229	.7422	.6597	.6030	.4894	.3192		
	1.8178	1.8700	2.1186	2.1710	2.4421	3.4448		
15	.5687	.4873	.2935	.4295	F-SUB-Q			
	2.4126	2.8163	4.6544	3.1620	M-SUB-Q			

AT 75% POWER, 150 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.5687	.9810	.9805	1.1171	.9296	1.0624	1.0507	.8857
	2.3781	1.7582	1.7582	1.5859	1.8372	1.6553	1.6574	1.9440
9	.9810	.8675	.8675	1.0153	1.1331	1.0656	1.0560	.7004
	1.7582	2.0170	1.7582	1.7486	1.5524	1.6436	1.6553	2.4607
10	.9885	1.0839	1.0174	1.0892	1.0142	1.0346	.9725	.7861
	1.8050	1.6478	1.7518	1.6159	1.7276	1.7114	1.8063	2.2037
11	1.1171	1.0196	1.0935	.8868	1.0196	.9082	.9082	.6308
	1.5859	1.7415	1.6136	1.8930	1.6136	1.7731	1.8302	2.7206
12	.9596	1.1406	1.0185	1.0217	.7015	.7861	.7336	
	1.8372	1.5422	1.7210	1.6112	1.7369	1.7388	2.0589	
13	1.0624	1.0667	1.0389	.9114	.7893	.6597	.4573	
	1.6553	1.6415	1.7057	1.7691	1.7342	1.8598	3.0418	
14	1.0507	1.0571	.9735	.3104	.7368	.4659		
	1.6574	1.6542	1.8037	1.8259	2.0518	2.9877		
15	.8857	.7004	.7861	.6319	F-SUB-Q			
	1.9440	2.4631	2.2018	2.7177	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 150 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .6983	* 1.2477	* 1.2424	* 1.3977	* 1.1620	* 1.2948	* 1.2327	* 1.0624
	* 2.1507	* 1.5342	* 1.5842	* 1.3985	* 1.6647	* 1.4961	* 1.5528	* 1.7817
9	* 1.2477	* 1.0753	* 1.3730	* 1.2691	* 1.3891	* 1.2702	* 1.2649	.8075
	* 1.5342	* 1.7980	* 1.4358	* 1.5450	* 1.4064	* 1.5295	* 1.5210	* 2.3369
10	* 1.2424	* 1.3741	* 1.2788	* 1.3720	* 1.2424	* 1.2691	* 1.1556	.9543
	* 1.5842	* 1.4351	* 1.5424	* 1.4304	* 1.5696	* 1.5380	* 1.6731	* 1.9984
11	* 1.3977	* 1.2723	* 1.3730	* 1.0903	* 1.2756	* 1.0956	* 1.1021	.7561
	* 1.3985	* 1.5406	* 1.4306	* 1.7132	* 1.4333	* 1.6308	* 1.6716	* 2.5150
12	* 1.1620	* 1.3977	* 1.2466	* 1.2788	.8611	.9585	.8750	
	* 1.6647	* 1.3985	* 1.5640	* 1.4309	* 1.5850	* 1.5866	* 1.9240	
13	* 1.2948	* 1.2745	* 1.2734	* 1.0988	.9618	.7904	.5323	
	* 1.4961	* 1.5244	* 1.5329	* 1.6266	* 1.5826	* 1.7331	* 2.9119	
14	* 1.2327	* 1.2659	* 1.1578	* 1.1042	.8793	.5419		
	* 1.5528	* 1.5193	* 1.6700	* 1.6712	* 1.9174	* 2.8602		
15	* 1.0624	.8075	.9553	.7583	F-SUB-Q			
	* 1.7817	* 2.3389	* 1.9970	* 2.5096	M-SUB-Q			

AT 75% POWER, 150 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7936	* 1.4287	* 1.4094	* 1.5797	* 1.2927	* 1.4459	* 1.3516	* 1.1652
	* 2.0340	* 1.4280	* 1.4819	* 1.3119	* 1.5766	* 1.4188	* 1.4990	* 1.7192
9	* 1.4287	* 1.2145	* 1.5658	* 1.4309	* 1.5701	* 1.4094	* 1.4019	.8750
	* 1.4280	* 1.6838	* 1.3349	* 1.4536	* 1.3193	* 1.4628	* 1.4536	* 2.2701
10	* 1.4094	* 1.5669	* 1.4469	* 1.5637	* 1.3977	* 1.4255	* 1.2766	* 1.0549
	* 1.4819	* 1.3337	* 1.4437	* 1.3356	* 1.4846	* 1.4533	* 1.6099	* 1.9181
11	* 1.5797	* 1.4341	* 1.5658	* 1.2274	* 1.4512	* 1.2263	* 1.2316	.8322
	* 1.3119	* 1.4498	* 1.3349	* 1.6277	* 1.3549	* 1.5669	* 1.6116	* 2.4366
12	* 1.2927	* 1.5787	* 1.4030	* 1.4544	.9735	* 1.0828	.9746	
	* 1.5766	* 1.3119	* 1.4793	* 1.3522	* 1.5237	* 1.5207	* 1.8716	
13	* 1.4459	* 1.4137	* 1.4309	* 1.2295	* 1.0860	.8911	.5890	
	* 1.4188	* 1.4574	* 1.4480	* 1.5625	* 1.5166	* 1.6829	* 2.8543	
14	* 1.3516	* 1.4041	* 1.2788	* 1.2349	.9789	.6008		
	* 1.4990	* 1.4513	* 1.6062	* 1.6069	* 1.8637	* 2.8021		
15	* 1.1652	.8750	* 1.0560	.8343	F-SUB-Q			
	* 1.7192	* 2.2701	* 1.9155	* 2.4324	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 150 EFPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8643	* 1.5230	* 1.4833	* 1.6558	* 1.3420	* 1.5058	* 1.3902	* 1.1931
	* 2.0721	* 1.4393	* 1.4971	* 1.3353	* 1.6173	* 1.4593	* 1.5615	* 1.7968
9	* 1.5230	* 1.2798	* 1.6526	* 1.4994	* 1.6451	* 1.4630	* 1.4512	* .8921
	* 1.4393	* 1.6997	* 1.3435	* 1.4784	* 1.3441	* 1.5001	* 1.5024	* 2.3699
10	* 1.4833	* 1.6536	* 1.5187	* 1.6504	* 1.4651	* 1.4930	* 1.3205	* 1.0860
	* 1.4971	* 1.3423	* 1.4610	* 1.3448	* 1.5074	* 1.4744	* 1.6555	* 1.9959
11	* 1.6558	* 1.5015	* 1.6526	* 1.2927	* 1.5455	* 1.2959	* 1.2916	* .8579
	* 1.3353	* 1.4761	* 1.3435	* 1.6587	* 1.3858	* 1.6220	* 1.6685	* 2.5245
12	* 1.3420	* 1.6547	* 1.4716	* 1.5497	* 1.0656	* 1.1695	* 1.0324	*
	* 1.6173	* 1.3359	* 1.5010	* 1.3826	* 1.5846	* 1.5808	* 1.9589	*
13	* 1.5058	* 1.4683	* 1.4983	* 1.2991	* 1.1738	* .9821	* .6287	*
	* 1.4593	* 1.4946	* 1.4684	* 1.6167	* 1.5758	* 1.7668	* 3.0004	*
14	* 1.3902	* 1.4533	* 1.3227	* 1.2948	* 1.0367	* .6405	*	*
	* 1.5615	* 1.5000	* 1.6517	* 1.6643	* 1.9503	* 2.9452	*	*
15	* 1.1531	* .8921	* 1.0871	* .8600	* F-SUB-Q			
	* 1.7968	* 2.3720	* 1.9932	* 2.5200	* M-SUB-Q			

AT 75% POWER, 150 EFPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0249	* 1.6579	* 1.5904	* 1.7671	* 1.4234	* 1.5979	* 1.4641	* 1.2531
	* 2.0679	* 1.4466	* 1.5054	* 1.3490	* 1.6351	* 1.4821	* 1.6014	* 1.8501
9	* 1.6579	* 1.3805	* 1.7736	* 1.6033	* 1.7543	* 1.5551	* 1.5380	* .9350
	* 1.4466	* 1.7003	* 1.3484	* 1.4907	* 1.3578	* 1.5204	* 1.5267	* 2.4362
10	* 1.5904	* 1.7746	* 1.6268	* 1.7714	* 1.5712	* 1.5969	* 1.3998	* 1.1460
	* 1.5054	* 1.3471	* 1.4702	* 1.3490	* 1.5149	* 1.4836	* 1.6787	* 2.0311
11	* 1.7671	* 1.6044	* 1.7725	* 1.3966	* 1.6890	* 1.4126	* 1.3891	* .9082
	* 1.3490	* 1.4891	* 1.3484	* 1.6642	* 1.3905	* 1.6403	* 1.6851	* 2.5691
12	* 1.4234	* 1.7639	* 1.5776	* 1.6922	* 1.2691	* 1.3495	* 1.1342	*
	* 1.6351	* 1.3496	* 1.5085	* 1.3871	* 1.6148	* 1.6091	* 1.9979	*
13	* 1.5979	* 1.5604	* 1.6033	* 1.4169	* 1.3537	* 1.1760	* .7015	*
	* 1.4821	* 1.5148	* 1.4775	* 1.6357	* 1.6046	* 1.8122	* 3.0654	*
14	* 1.4641	* 1.5401	* 1.4030	* 1.3934	* 1.1385	* .7154	*	*
	* 1.6014	* 1.5251	* 1.6758	* 1.6808	* 1.9891	* 3.0083	*	*
15	* 1.2531	* .9339	* 1.1481	* .9104	* F-SUB-Q			
	* 1.8501	* 2.4362	* 2.0282	* 2.5645	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 75% POWER, 150 RFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1610	* 1.7243	* 1.6333	* 1.8175	* 1.4469	* 1.6290	* 1.4823	* 1.2659
	* 2.1936	* 1.5093	* 1.5897	* 1.4263	* 1.7439	* 1.5740	* 1.7104	* 1.9729
9	* 1.7243	* 1.4223	* 1.8250	* 1.6418	* 1.8025	* 1.5862	* 1.5647	* .9425
	* 1.5093	* 1.7912	* 1.4200	* 1.5776	* 1.4312	* 1.6134	* 1.6232	* 2.6089
10	* 1.6333	* 1.8271	* 1.6686	* 1.8239	* 1.6151	* 1.6397	* 1.4266	* 1.1642
	* 1.5897	* 1.4186	* 1.5540	* 1.4207	* 1.5967	* 1.5647	* 1.7807	* 2.1565
11	* 1.8175	* 1.6440	* 1.8250	* 1.4437	* 1.7639	* 1.4705	* 1.4330	* .9243
	* 1.4263	* 1.5759	* 1.4193	* 1.7536	* 1.4614	* 1.7378	* 1.7752	* 2.7213
12	* 1.4469	* 1.8089	* 1.6204	* 1.7682	* 1.4758	* 1.4758	* 1.1888	*
	* 1.7439	* 1.4262	* 1.5906	* 1.4577	* 1.7023	* 1.6907	* 2.1141	*
13	* 1.6290	* 1.5926	* 1.6461	* 1.4748	* 1.4791	* 1.2970	* .7454	*
	* 1.5740	* 1.6072	* 1.5580	* 1.7326	* 1.6857	* 1.9045	* 3.2371	*
14	* 1.4823	* 1.5669	* 1.4298	* 1.4362	* 1.1942	* .7593	*	*
	* 1.7104	* 1.6206	* 1.7764	* 1.7698	* 2.1043	* 3.1777	*	*
15	* 1.2659	* .9414	* 1.1663	* .9264	* F-SUB-Q			
	* 1.9729	* 2.6089	* 2.1533	* 2.7162	* M-SUB-Q			

AT 75% POWER, 150 RFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1835	* 1.7447	* 1.6397	* 1.8303	* 1.4448	* 1.6311	* 1.4758	* 1.2606
	* 2.3708	* 1.6251	* 1.7249	* 1.5430	* 1.9193	* 1.7105	* 1.8598	* 2.1363
9	* 1.7447	* 1.4298	* 1.8389	* 1.6472	* 1.8153	* 1.5872	* 1.5647	* .9350
	* 1.6251	* 1.9573	* 1.5348	* 1.7137	* 1.5470	* 1.7529	* 1.7624	* 2.8579
10	* 1.6397	* 1.8410	* 1.6750	* 1.8378	* 1.6226	* 1.6483	* 1.4255	* 1.1620
	* 1.7249	* 1.5332	* 1.6858	* 1.5356	* 1.7290	* 1.6915	* 1.9317	* 2.3384
11	* 1.8303	* 1.6483	* 1.8389	* 1.4555	* 1.7896	* 1.4908	* 1.4448	* .9243
	* 1.5430	* 1.7117	* 1.5340	* 1.9091	* 1.5654	* 1.8633	* 1.9074	* 2.9478
12	* 1.4448	* 1.8228	* 1.6290	* 1.7950	* 1.5176	* 1.5187	* 1.2081	*
	* 1.9193	* 1.5413	* 1.7218	* 1.5620	* 1.8349	* 1.8188	* 2.2743	*
13	* 1.6311	* 1.5926	* 1.6558	* 1.4962	* 1.5230	* 1.3398	* .7615	*
	* 1.7105	* 1.7466	* 1.6847	* 1.8574	* 1.8130	* 2.0577	* 3.5376	*
14	* 1.4758	* 1.5669	* 1.4287	* 1.4491	* 1.2134	* .7754	*	*
	* 1.8598	* 1.7603	* 1.9278	* 1.9024	* 2.2654	* 3.4730	*	*
15	* 1.2606	* .9350	* 1.1642	* .9253	* F-SUB-Q			
	* 2.1363	* 2.8607	* 2.3365	* 2.9418	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 150 EFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.2081	1.7832	1.6708	1.8689	1.4683	1.6611	1.4994	1.2809
	2.5230	1.7213	1.8385	1.6448	2.0812	1.8420	1.9864	2.2760
9	1.7832	1.4566	1.8785	1.6772	1.8550	1.6151	1.5936	.9478
	1.7213	2.0964	1.6364	1.8327	1.6580	1.8902	1.8939	3.0795
10	1.6708	1.8807	1.7061	1.8775	1.6536	1.6836	1.4512	1.1835
	1.8385	1.6355	1.8018	1.6373	1.8586	1.8185	2.0794	2.5072
11	1.8689	1.6793	1.8785	1.4855	1.8336	1.5251	1.4780	.9393
	1.6448	1.8303	1.6364	2.0574	1.6763	1.9967	2.0417	3.1658
12	1.4683	1.8614	1.6611	1.8389	1.5583	1.5658	1.2391	
	2.0812	1.6523	1.8515	1.6714	1.9588	1.9312	2.4231	
13	1.6611	1.6215	1.6900	1.5305	1.5701	1.3816	.7929	
	1.8420	1.8841	1.8116	1.9912	1.9248	2.1817	3.7823	
14	1.4994	1.5958	1.4544	1.4823	1.2445	.7979		
	1.9864	1.8915	2.0764	2.0373	2.4130	3.7139		
15	1.2809	.9478	1.1856	.9414	F-SUB-Q			
	2.2760	3.0795	2.5050	3.1591	M-SUB-Q			

AT 75% POWER, 150 EFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.1781	1.7500	1.6333	1.8336	1.4319	1.6268	1.4662	1.2520
	2.5742	1.7378	1.8634	1.6609	2.1190	1.8670	2.0572	2.3890
9	1.7500	1.4223	1.8443	1.6386	1.8207	1.5787	1.5615	.9243
	1.7378	2.1363	1.6523	1.8574	1.6744	1.9281	1.9476	3.2416
10	1.6333	1.8453	1.6665	1.8421	1.6183	1.6515	1.4191	1.1567
	1.8634	1.6514	1.8280	1.6542	1.8841	1.8444	2.1458	2.6281
11	1.8336	1.6408	1.8443	1.4533	1.8025	1.4951	1.4501	.9168
	1.6609	1.8562	1.6523	2.0960	1.6930	2.0441	2.1036	3.3237
12	1.4319	1.8371	1.6247	1.8068	1.5272	1.5401	1.2156	
	2.1190	1.6676	1.8767	1.6881	2.0016	1.9878	2.5159	
13	1.6268	1.5851	1.6590	1.4994	1.5455	1.3580	.7668	
	1.8670	1.9204	1.8373	2.0369	1.9810	2.2547	3.9948	
14	1.4662	1.5626	1.4223	1.4544	1.2209	.7808		
	2.0572	1.9450	2.1410	2.0975	2.5050	3.9189		
15	1.2520	.9232	1.1588	.9189	F-SUB-Q			
	2.3890	3.2416	2.6257	3.3160	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 150 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	E	G	F	E	D	C	B	A
8	* 1.1888	* 1.7725	* 1.6536	* 1.8603	* 1.4480	* 1.6493	* 1.4865	* 1.2713
	* 2.4985	* 1.6734	* 1.7917	* 1.5940	* 2.0085	* 1.7590	* 1.9255	* 2.2149
9	* 1.7725	* 1.4373	* 1.8710	* 1.6590	* 1.8475	* 1.6001	* 1.5862	* .9361
	* 1.6734	* 2.0572	* 1.5896	* 1.7862	* 1.6064	* 1.8385	* 1.8246	* 3.0117
10	* 1.6536	* 1.8721	* 1.6868	* 1.8689	* 1.6386	* 1.6772	* 1.4394	* 1.1749
	* 1.7917	* 1.5887	* 1.7633	* 1.5913	* 1.8142	* 1.7644	* 2.0369	* 2.4415
11	* 1.8603	* 1.6611	* 1.8700	* 1.4716	* 1.8303	* 1.5165	* 1.4748	* .9286
	* 1.5940	* 1.7851	* 1.5905	* 2.0269	* 1.6364	* 1.9796	* 2.0113	* 3.1326
12	* 1.4480	* 1.8550	* 1.6461	* 1.8346	* 1.5487	* 1.5679	* 1.2349	*
	* 2.0085	* 1.5966	* 1.8074	* 1.6318	* 1.9450	* 1.9255	* 2.4312	*
13	* 1.6493	* 1.6065	* 1.6847	* 1.5208	* 1.5733	* 1.3816	* .7775	*
	* 1.7590	* 1.8315	* 1.7569	* 1.9729	* 1.9204	* 2.1881	* 3.8613	*
14	* 1.4865	* 1.5872	* 1.4426	* 1.4791	* 1.2402	* .7925	*	*
	* 1.9255	* 1.8234	* 2.0340	* 2.0071	* 2.4210	* 3.7954	*	*
15	* 1.2713	* .9361	* 1.1760	* .9307	* F-SUB-Q			
	* 2.2149	* 3.0117	* 2.4394	* 3.1292	* M-SUB-Q			

AT 75% POWER, 150 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1663	* 1.7500	* 1.6301	* 1.8389	* 1.4255	* 1.6311	* 1.4705	* 1.2595
	* 2.3655	* 1.5570	* 1.8580	* 1.4699	* 1.8622	* 1.6263	* 1.7829	* 2.0513
9	* 1.7500	* 1.4137	* 1.8496	* 1.6365	* 1.8282	* 1.5819	* 1.5712	* .9232
	* 1.5570	* 1.9140	* 1.4676	* 1.6504	* 1.4827	* 1.6930	* 1.6822	* 2.7960
10	* 1.6301	* 1.8518	* 1.6622	* 1.8485	* 1.6183	* 1.6611	* 1.4234	* 1.1620
	* 1.6580	* 1.4669	* 1.6336	* 1.4699	* 1.6812	* 1.6254	* 1.8755	* 2.2512
11	* 1.8389	* 1.6376	* 1.8496	* 1.4512	* 1.8111	* 1.4983	* 1.4608	* .9168
	* 1.4699	* 1.6486	* 1.4684	* 1.8890	* 1.5274	* 1.8491	* 1.8646	* 2.8941
12	* 1.4255	* 1.8357	* 1.6247	* 1.8164	* 1.5305	* 1.5540	* 1.2220	*
	* 1.8622	* 1.4744	* 1.6744	* 1.5233	* 1.8503	* 1.8108	* 2.2618	*
13	* 1.6311	* 1.5872	* 1.6686	* 1.5037	* 1.5594	* 1.3687	* .7679	*
	* 1.6263	* 1.6871	* 1.6181	* 1.8444	* 1.8052	* 2.0557	* 3.6013	*
14	* 1.4705	* 1.5722	* 1.4266	* 1.4651	* 1.2274	* .7829	*	*
	* 1.7829	* 1.6802	* 1.8718	* 1.8598	* 2.2529	* 3.5309	*	*
15	* 1.2595	* .9243	* 1.1642	* .9189	* F-SUB-Q			
	* 2.0513	* 2.7960	* 2.2494	* 2.8883	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 150 HPPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1160	* 1.6868	* 1.5690	* 1.7757	* 1.3720	* 1.5765	* 1.4212	* 1.2199
	* 2.2166	* 1.4676	* 1.5757	* 1.3939	* 1.7774	* 1.5462	* 1.6970	* 1.9515
9	* 1.6868	* 1.3570	* 1.7864	* 1.5754	* 1.7682	* 1.5272	* 1.5208	* .8921
	* 1.4676	* 1.8154	* 1.3893	* 1.5706	* 1.4014	* 1.6046	* 1.5948	* 2.6694
10	* 1.5690	* 1.7886	* 1.6001	* 1.7864	* 1.5604	* 1.6076	* 1.3752	* 1.1245
	* 1.5757	* 1.3886	* 1.5503	* 1.3906	* 1.5887	* 1.5339	* 1.7730	* 2.1347
11	* 1.7757	* 1.5765	* 1.7864	* 1.3966	* 1.7522	* 1.4469	* 1.4148	* .8846
	* 1.3939	* 1.5689	* 1.3899	* 1.7774	* 1.4263	* 1.7285	* 1.7441	* 2.7351
12	* 1.3720	* 1.7746	* 1.5669	* 1.7575	* 1.4769	* 1.5048	* 1.1813	*
	* 1.7774	* 1.3960	* 1.5826	* 1.4228	* 1.223	* 1.6881	* 2.1113	*
13	* 1.5765	* 1.5326	* 1.6140	* 1.4523	* 1.5101	* 1.3259	* .7390	*
	* 1.5462	* 1.5993	* 1.5274	* 1.7233	* 1.6822	* 1.9191	* 3.3820	*
14	* 1.4212	* 1.5230	* 1.3784	* 1.4191	* 1.1877	* .7540	*	*
	* 1.6970	* 1.5931	* 1.7698	* 1.7389	* 2.1021	* 3.3160	*	*
15	* 1.2199	* .8921	* 1.1256	* .8868	* F-SUB-Q			
	* 1.9515	* 2.6694	* 2.1316	* 2.7273	* M-SUB-Q			

AT 75% POWER, 150 HPPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0956	* 1.6633	* 1.5476	* 1.7554	* 1.3559	* 1.5626	* 1.4148	* 1.2167
	* 2.0690	* 1.3747	* 1.4781	* 1.3069	* 1.6695	* 1.4478	* 1.5843	* 1.8200
9	* 1.6633	* 1.3366	* 1.7661	* 1.5562	* 1.7511	* 1.5144	* 1.5144	* .8879
	* 1.3747	* 1.7030	* 1.3004	* 1.4721	* 1.3093	* 1.4973	* 1.4865	* 2.4942
10	* 1.5476	* 1.7682	* 1.5797	* 1.7671	* 1.5444	* 1.5947	* 1.3677	* 1.1192
	* 1.4781	* 1.2993	* 1.4521	* 1.2993	* 1.4819	* 1.4291	* 1.6495	* 1.9851
11	* 1.7554	* 1.5572	* 1.7671	* 1.3816	* 1.7372	* 1.4362	* 1.4084	* .8782
	* 1.3069	* 1.4706	* 1.2998	* 1.6552	* 1.3225	* 1.5948	* 1.6118	* 2.5402
12	* 1.3559	* 1.7575	* 1.5508	* 1.7414	* 1.4651	* 1.4983	* 1.1760	*
	* 1.6695	* 1.3040	* 1.4759	* 1.3188	* 1.5740	* 1.5371	* 1.9358	*
13	* 1.5626	* 1.5208	* 1.6022	* 1.4416	* 1.5037	* 1.3205	* .7336	*
	* 1.4478	* 1.4919	* 1.4228	* 1.5896	* 1.5322	* 1.7410	* 3.0891	*
14	* 1.4148	* 1.5165	* 1.3698	* 1.4126	* 1.1824	* .7486	*	*
	* 1.5843	* 1.4850	* 1.6457	* 1.6073	* 1.9268	* 3.0307	*	*
15	* 1.2167	* .8879	* 1.1213	* .8804	* F-SUB-Q			
	* 1.8200	* 2.4920	* 1.9837	* 2.5358	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 150 EFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	R	D	C	B	A
8	1.0121	1.5476	1.4405	1.6386	1.2659	1.4673	1.3355	1.1513
	2.0960	1.3859	1.4919	1.3140	1.6782	1.4485	1.5774	1.8097
9	1.5476	1.2424	1.6504	1.4501	1.6397	1.4234	1.4287	.8365
	1.3859	1.7202	1.3057	1.4819	1.3105	1.4950	1.4796	2.4877
10	1.4405	1.6515	1.4716	1.6536	1.4437	1.4983	1.2873	1.0549
	1.4919	1.3045	1.4617	1.3004	1.4857	1.4256	1.6420	1.9783
11	1.6386	1.4523	1.6536	1.2906	1.6290	1.3484	1.3270	.8257
	1.3140	1.4804	1.3004	1.6571	1.3176	1.5852	1.5993	2.5336
12	1.2659	1.6672	1.4501	1.6343	1.3752	1.4116	1.1096	
	1.6782	1.3051	1.4789	1.3140	1.5595	1.5161	1.9128	
13	1.4673	1.4287	1.5058	1.3527	1.4169	1.2477	.6897	
	1.4485	1.4896	1.4193	1.5800	1.5106	1.7111	3.0564	
14	1.3355	1.4309	1.2906	1.3313	1.1149	.7036		
	1.5774	1.4774	1.6383	1.5948	1.9027	2.9961		
15	1.1513	.8375	1.0571	.8279	F-SUB-Q			
	1.8097	2.4877	1.9756	2.5291	M-SUB-Q			

AT 75% POWER, 150 EFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.9307	1.4201	1.3259	1.5080	1.1813	1.3709	1.2649	1.0881
	2.1684	1.4355	1.5412	1.3516	1.7121	1.4744	1.5852	1.8246
9	1.4201	1.1470	1.5208	1.3398	1.5187	1.3355	1.3452	.7947
	1.4355	1.7719	1.3471	1.5250	1.3440	1.5138	1.4942	2.4963
10	1.3259	1.5219	1.3591	1.5283	1.3409	1.3987	1.2124	.9896
	1.5412	1.3459	1.5043	1.3365	1.5185	1.4507	1.6571	2.0071
11	1.5080	1.3409	1.5283	1.2017	1.5123	1.2616	1.2456	.7743
	1.3516	1.5233	1.3372	1.6890	1.3471	1.6055	1.6172	2.5696
12	1.2813	1.5251	1.3473	1.5165	1.2863	1.3227	1.0464	
	1.7121	1.3390	1.5122	1.3434	1.5791	1.5314	1.9229	
13	1.3709	1.3409	1.4062	1.2670	1.3270	1.1770	.6522	
	1.4744	1.5082	1.4449	1.6001	1.5258	1.7161	3.0628	
14	1.2649	1.3473	1.2156	1.2488	1.0517	.6662		
	1.5852	1.4919	1.6533	1.6127	1.9128	3.0024		
15	1.0881	.7947	.9917	.7765	F-SUB-Q			
	1.8246	2.4985	2.0043	2.5651	M-SUB-Q			



Catawba 2 Cycle 7 Core Operating Limits Report  
 Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 150 BPPD, THIS IS LEVEL 2 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7711 *	* 1.1406 *	* 1.0785 *	* 1.2284 *	* .9939 *	* 1.1492 *	* 1.1010 *	* .9211 *
	* 2.5247 *	* 1.7202 *	* 1.8246 *	* 1.5948 *	* 1.9608 *	* 1.6920 *	* 1.7569 *	* 2.0809 *
9	* 1.1406 *	* .9457 *	* 1.2252 *	* 1.0924 *	* 1.2563 *	* 1.1395 *	* 1.1503 *	* .6983 *
	* 1.7202 *	* 2.0704 *	* 1.6091 *	* 1.7984 *	* 1.5562 *	* 1.7090 *	* 1.6841 *	* 2.7481 *
10	* 1.0785 *	* 1.2263 *	* 1.1063 *	* 1.2381 *	* 1.1181 *	* 1.1695 *	* 1.0410 *	* .8215 *
	* 1.8246 *	* 1.6073 *	* 1.7774 *	* 1.5826 *	* 1.7483 *	* 1.6686 *	* 1.8610 *	* 2.3349 *
11	* 1.2284 *	* 1.0956 *	* 1.2424 *	* 1.0057 *	* 1.2370 *	* 1.0678 *	* 1.0496 *	* .6533 *
	* 1.5948 *	* 1.7940 *	* 1.5783 *	* 1.9410 *	* 1.5843 *	* 1.8257 *	* 1.8467 *	* 2.9442 *
12	* .9939 *	* 1.2616 *	* 1.1235 *	* 1.2402 *	* 1.0731 *	* 1.1160 *	* .8932 *	
	* 1.9608 *	* 1.5487 *	* 1.7399 *	* 1.5800 *	* 1.8200 *	* 1.7452 *	* 2.1684 *	
13	* 1.1492 *	* 1.1438 *	* 1.1738 *	* 1.0710 *	* 1.1203 *	* 1.0014 *	* .5676 *	
	* 1.6920 *	* 1.7030 *	* 1.6628 *	* 1.8200 *	* 1.7389 *	* 1.9397 *	* 3.3940 *	
14	* 1.1010 *	* 1.1513 *	* 1.0432 *	* 1.0539 *	* .8986 *	* .5794 *		
	* 1.7569 *	* 1.6822 *	* 1.8574 *	* 1.8408 *	* 2.1570 *	* 3.3237 *		
15	* .9211 *	* .6972 *	* .8225 *	* .6544 *	* F-SUB-Q			
	* 2.0809 *	* 2.7507 *	* 2.3330 *	* 2.9382 *	* M-SUB-Q			

AT 75% POWER, 150 BPPD, THIS IS LEVEL 1 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .4927 *	* .4102 *	* .6490 *	* .4605 *	* .6297 *	* .7840 *	* .7133 *	* .5548 *
	* 3.8306 *	* 4.6065 *	* 2.9293 *	* 4.1026 *	* 2.9961 *	* 2.4069 *	* 2.6425 *	* 3.3781 *
9	* .4102 *	* .5880 *	* .4562 *	* .6683 *	* .4969 *	* .7219 *	* .7508 *	* .4562 *
	* 4.6065 *	* 3.2271 *	* 4.1618 *	* 2.8400 *	* 3.7954 *	* 2.6209 *	* 2.5094 *	* 4.0968 *
10	* .6490 *	* .4562 *	* .6565 *	* .4712 *	* .6801 *	* .7743 *	* .6608 *	* .2870 *
	* 2.9293 *	* 4.1558 *	* 2.8883 *	* 4.0115 *	* 2.7906 *	* 2.4477 *	* 2.8568 *	* 6.4759 *
11	* .4605 *	* .6704 *	* .4734 *	* .6405 *	* .4830 *	* .6662 *	* .6544 *	* .4155 *
	* 4.1026 *	* 2.8316 *	* 4.0004 *	* 2.9532 *	* 3.9031 *	* 2.8372 *	* 2.8825 *	* 4.5059 *
12	* .6297 *	* .4991 *	* .6833 *	* .4852 *	* .6640 *	* .6983 *	* .5569 *	
	* 2.9961 *	* 3.7755 *	* 2.7772 *	* 3.8925 *	* 2.8484 *	* 2.7094 *	* 3.3900 *	
13	* .7840 *	* .7229 *	* .7765 *	* .6683 *	* .7004 *	* .6180 *	* .3652 *	
	* 2.4069 *	* 2.6138 *	* 2.4394 *	* 2.8289 *	* 2.6993 *	* 3.0596 *	* 5.1484 *	
14	* .7133 *	* .7518 *	* .6619 *	* .6565 *	* .5591 *	* .3727 *		
	* 2.6425 *	* 2.5072 *	* 2.8512 *	* 2.8710 *	* 3.3741 *	* 5.0406 *		
15	* .5548 *	* .4562 *	* .2881 *	* .4155 *	* F-SUB-Q			
	* 3.3781 *	* 4.0968 *	* 6.4614 *	* 4.4989 *	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 415 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .6319 *	* .6340 *	* .9478 *	* .7358 *	* .9457 *	* 1.0785 *	* 1.0078 *	* .8193 *
	* 1.9478 *	* 2.3787 *	* 1.6006 *	* 2.0568 *	* 1.6035 *	* 1.4090 *	* 1.5048 *	* 1.8353 *
9	* .6340 *	* .8675 *	* .7165 *	* .9714 *	* .7508 *	* 1.0217 *	* 1.0314 *	* .6919 *
	* 2.3787 *	* 1.7439 *	* 2.1134 *	* 1.5621 *	* 2.0184 *	* 1.4888 *	* 1.4702 *	* 2.1729 *
10	* .9478 *	* .7165 *	* .9596 *	* .7154 *	* .9607 *	* 1.0292 *	* .9232 *	* .4745 *
	* 1.6006 *	* 2.1113 *	* 1.5821 *	* 2.1155 *	* 1.5826 *	* 1.4775 *	* 1.6441 *	* 3.1510 *
11	* .7358 *	* .9735 *	* .7165 *	* .8761 *	* .6372 *	* .8611 *	* .8514 *	* .6158 *
	* 2.0568 *	* 1.5569 *	* 2.1134 *	* 1.7297 *	* 2.2890 *	* 1.7424 *	* 1.7771 *	* 2.4389 *
12	* .9457 *	* .7540 *	* .9618 *	* .6383 *	* .7133 *	* .7390 *	* .6887 *	
	* 1.035 *	* 2.0088 *	* 1.5796 *	* 2.2877 *	* 1.6616 *	* 1.6749 *	* 2.0556 *	
13	* .0785 *	* 1.0239 *	* 1.0303 *	* .8611 *	* .7401 *	* .6223 *	* .4670 *	
	* 1.4090 *	* 1.4852 *	* 1.4754 *	* 1.7410 *	* 1.6729 *	* 1.8474 *	* 2.7911 *	
14	* 1.0078 *	* 1.0314 *	* .9232 *	* .8525 *	* .6897 *	* .4712 *		
	* 1.5048 *	* 1.4702 *	* 1.6434 *	* 1.7756 *	* 2.0516 *	* 2.7618 *		
15	* .8193 *	* .6919 *	* .4745 *	* .6158 *	* F-SUB-Q			
	* 1.8353 *	* 2.1729 *	* 3.1486 *	* 2.4389 *	* M-SUB-Q			

AT 75% POWER, 415 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7786 *	* 1.3462 *	* 1.3184 *	* 1.4748 *	* 1.2584 *	* 1.3934 *	* 1.3088 *	* 1.1224 *
	* 1.8502 *	* 1.4108 *	* 1.4414 *	* 1.2887 *	* 1.5051 *	* 1.3623 *	* 1.4445 *	* 1.6708 *
9	* 1.3462 *	* 1.1792 *	* 1.4405 *	* 1.3345 *	* 1.4694 *	* 1.3430 *	* 1.3323 *	* .8868 *
	* 1.4108 *	* 1.6072 *	* 1.3207 *	* 1.4235 *	* 1.2922 *	* 1.4129 *	* 1.4219 *	* 2.1157 *
10	* 1.3184 *	* 1.4416 *	* 1.3377 *	* 1.4351 *	* 1.2970 *	* 1.3291 *	* 1.2145 *	* 1.0389 *
	* 1.4414 *	* 1.3200 *	* 1.4216 *	* 1.3258 *	* 1.4655 *	* 1.4298 *	* 1.5581 *	* 1.8062 *
11	* 1.4748 *	* 1.3377 *	* 1.4351 *	* 1.1620 *	* 1.3259 *	* 1.1385 *	* 1.1535 *	* .8086 *
	* 1.2887 *	* 1.4208 *	* 1.3258 *	* 1.6331 *	* 1.4250 *	* 1.6299 *	* 1.6410 *	* 2.3208 *
12	* 1.2584 *	* 1.4748 *	* 1.3002 *	* 1.3280 *	* .8750 *	* .9810 *	* .9114 *	
	* 1.5051 *	* 1.2874 *	* 1.4626 *	* 1.4243 *	* 1.5725 *	* 1.5686 *	* 1.9207 *	
13	* 1.3934 *	* 1.3452 *	* 1.3323 *	* 1.1395 *	* .9821 *	* .8204 *	* .6040 *	
	* 1.3623 *	* 1.4095 *	* 1.4274 *	* 1.6279 *	* 1.5667 *	* 1.7321 *	* 2.6737 *	
14	* 1.3088 *	* 1.3323 *	* 1.2156 *	* 1.1545 *	* .9136 *	* .6094 *		
	* 1.4445 *	* 1.4219 *	* 1.5572 *	* 1.6394 *	* 1.9164 *	* 2.6475 *		
15	* 1.1224 *	* .8868 *	* 1.0389 *	* .8086 *	* F-SUB-Q			
	* 1.6708 *	* 2.1166 *	* 1.8062 *	* 2.3208 *	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 75% POWER, 415 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8846	* 1.5272	* 1.4865	* 1.6590	* 1.3816	* 1.5476	* 1.4062	* 1.2252
	* 1.8053	* 1.3520	* 1.3856	* 1.2389	* 1.4777	* 1.3278	* 1.4563	* 1.6597
9	* 1.5272	* 1.3141	* 1.6354	* 1.5005	* 1.6515	* 1.4651	* 1.4576	* .9403
	* 1.3520	* 1.5612	* 1.2610	* 1.3724	* 1.2455	* 1.4023	* 1.4080	* 2.1553
10	* 1.4865	* 1.6365	* 1.5058	* 1.6279	* 1.4448	* 1.4791	* 1.3130	* 1.1428
	* 1.3856	* 1.2608	* 1.3710	* 1.2699	* 1.4253	* 1.3907	* 1.5589	* 1.7818
11	* 1.6590	* 1.5015	* 1.6279	* 1.2852	* 1.4865	* 1.2413	* 1.2670	* .8793
	* 1.2389	* 1.3717	* 1.2696	* 1.5964	* 1.3747	* 1.6072	* 1.6169	* 2.3094
12	* 1.3816	* 1.6568	* 1.4469	* 1.4876	* .9821	* 1.0764	* .9832	*
	* 1.4777	* 1.2418	* 1.4224	* 1.3737	* 1.5560	* 1.5524	* 1.9281	*
13	* 1.5476	* 1.4683	* 1.4812	* 1.2424	* 1.0774	* .8846	* .6372	*
	* 1.3278	* 1.3987	* 1.3882	* 1.6057	* 1.5502	* 1.7432	* 2.7370	*
14	* 1.4062	* 1.4576	* 1.3141	* 1.2670	* .9842	* .6437	*	*
	* 1.4563	* 1.4080	* 1.5580	* 1.6159	* 1.9246	* 2.7111	*	*
15	* 1.2252	* .9393	* 1.1428	* .8793	* F-SUB-Q			
	* 1.6597	* 2.1561	* 1.7818	* 2.3094	* M-SUB-Q			

AT 75% POWER, 415 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9200	* 1.5733	* 1.5219	* 1.7157	* 1.3977	* 1.5765	* 1.4137	* 1.2370
	* 1.8186	* 1.3619	* 1.4011	* 1.2428	* 1.5032	* 1.3466	* 1.4952	* 1.6997
9	* 1.5733	* 1.3388	* 1.6847	* 1.5347	* 1.6900	* 1.4812	* 1.4758	* .9403
	* 1.3619	* 1.5787	* 1.2683	* 1.3884	* 1.2596	* 1.4329	* 1.4357	* 2.2120
10	* 1.5219	* 1.6847	* 1.5369	* 1.6729	* 1.4694	* 1.5080	* 1.3216	* 1.1556
	* 1.4011	* 1.2677	* 1.3887	* 1.2770	* 1.4510	* 1.4116	* 1.6041	* 1.8197
11	* 1.7157	* 1.5347	* 1.6729	* 1.3045	* 1.5187	* 1.2552	* 1.2841	* .8857
	* 1.2428	* 1.3881	* 1.2770	* 1.6219	* 1.3925	* 1.6457	* 1.6584	* 2.3811
12	* 1.3977	* 1.6954	* 1.4716	* 1.5208	* 1.0078	* 1.0924	* .9896	*
	* 1.5032	* 1.2559	* 1.4483	* 1.3911	* 1.5965	* 1.5919	* 1.9911	*
13	* 1.5765	* 1.4844	* 1.5112	* 1.2563	* 1.0946	* .8932	* .6372	*
	* 1.3466	* 1.4300	* 1.4095	* 1.6442	* 1.5896	* 1.8019	* 2.8386	*
14	* 1.4137	* 1.4758	* 1.3216	* 1.2841	* .9917	* .6426	*	*
	* 1.4952	* 1.4357	* 1.6035	* 1.6580	* 1.9882	* 2.8110	*	*
15	* 1.2370	* .9403	* 1.1556	* .8846	* F-SUB-Q			
	* 1.6997	* 2.2138	* 1.8197	* 2.3820	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 415 EFPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8900	* 1.5197	* 1.4651	* 1.6579	* 1.3377	* 1.5133	* 1.3516	* 1.1813
	* 1.9404	* 1.4643	* 1.5303	* 1.3481	* 1.6403	* 1.4701	* 1.6385	* 1.8589
9	* 1.5197	* 1.2863	* 1.6311	* 1.4748	* 1.6268	* 1.4169	* 1.4148	* .8954
	* 1.4643	* 1.7197	* 1.3759	* 1.5179	* 1.3737	* 1.5713	* 1.5678	* 2.4166
10	* 1.4651	* 1.6311	* 1.4758	* 1.6161	* 1.4105	* 1.4501	* 1.2616	* 1.1063
	* 1.5303	* 1.3757	* 1.5203	* 1.3890	* 1.5895	* 1.5431	* 1.7639	* 1.9939
11	* 1.6579	* 1.4758	* 1.6172	* 1.2499	* 1.4630	* 1.2027	* 1.2316	* .8451
	* 1.3481	* 1.5171	* 1.3879	* 1.7715	* 1.4967	* 1.7824	* 1.8200	* 2.6201
12	* 1.3377	* 1.6322	* 1.4126	* 1.4641	* .9714	* 1.0507	* .9489	
	* 1.6403	* 1.3694	* 1.5872	* 1.4951	* 1.7398	* 1.7315	* 2.1662	
13	* 1.5133	* 1.4201	* 1.4523	* 1.2038	* 1.0528	* .8589	* .6094	
	* 1.4701	* 1.5682	* 1.5409	* 1.7813	* 1.7304	* 1.9707	* 3.0970	
14	* 1.3516	* 1.4148	* 1.2616	* 1.2316	* .9500	* .6148		
	* 1.6385	* 1.5678	* 1.7639	* 1.8200	* 2.1629	* 3.0664		
15	* 1.1813	* .8943	* 1.1053	* .8450	* F-SUB-Q			
	* 1.8589	* 2.4178	* 1.9939	* 2.6226	* M-SUB-Q			

AT 75% POWER, 415 EFPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8879	* 1.5144	* 1.4555	* 1.6536	* 1.3238	* 1.5037	* 1.3355	* 1.1717
	* 2.0176	* 1.5252	* 1.6498	* 1.4443	* 1.7602	* 1.5775	* 1.7628	* 1.9904
9	* 1.5144	* 1.2777	* 1.6301	* 1.4641	* 1.6161	* 1.4019	* 1.4030	* .8868
	* 1.5252	* 1.8041	* 1.4724	* 1.6365	* 1.4770	* 1.6955	* 1.6835	* 2.5780
10	* 1.4555	* 1.6301	* 1.4651	* 1.6161	* 1.4009	* 1.4416	* 1.2499	* 1.0988
	* 1.6498	* 1.4720	* 1.6407	* 1.4866	* 1.7130	* 1.6594	* 1.8993	* 2.1361
11	* 1.6536	* 1.4641	* 1.6161	* 1.2413	* 1.4576	* 1.1963	* 1.2284	* .8418
	* 1.4443	* 1.6365	* 1.4859	* 1.8412	* 1.5626	* 1.8662	* 1.8996	* 2.8121
12	* 1.3238	* 1.6226	* 1.4030	* 1.4587	* .9682	* 1.0539	* .9500	
	* 1.7602	* 1.4713	* 1.7109	* 1.5615	* 1.8355	* 1.8215	* 2.2649	
13	* 1.5037	* 1.4041	* 1.4437	* 1.1974	* 1.0560	* .8654	* .6137	
	* 1.5775	* 1.6915	* 1.6570	* 1.8650	* 1.8192	* 2.0743	* 3.2325	
14	* 1.3355	* 1.4030	* 1.2499	* 1.2284	* .9510	* .6201		
	* 1.7628	* 1.6845	* 1.8999	* 1.8992	* 2.2626	* 3.2005		
15	* 1.1717	* .8857	* 1.0978	* .8407	* F-SUB-Q			
	* 1.9904	* 2.5790	* 2.1377	* 2.8149	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 415 RFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.8857	1.4930	1.4212	1.6172	1.2841	1.4641	1.2959	1.1395
	2.1775	1.6441	1.7895	1.5876	1.9574	1.7417	1.9472	2.1892
9	1.4930	1.2509	1.5001	1.4266	1.5797	1.3612	1.3645	.8600
	1.6441	1.9560	1.5914	1.7940	1.6276	1.8780	1.8559	2.8478
10	1.4212	1.6001	1.4298	1.5851	1.3687	1.4094	1.2188	1.0710
	1.7895	1.5914	1.7805	1.6038	1.8485	1.7912	2.0769	2.3498
11	1.6172	1.4266	1.5862	1.2167	1.4394	1.1813	1.2092	.8236
	1.5876	1.7940	1.6029	1.9918	1.6792	2.0030	2.0374	3.0288
12	1.2841	1.5862	1.3698	1.4405	.9714	1.0614	.9478	
	1.9574	1.6219	1.8462	1.6782	1.9600	1.9354	2.4160	
13	1.4641	1.3634	1.4105	1.1813	1.0624	.8825	.6190	
	1.7417	1.8743	1.7901	2.0017	1.9328	2.2005	3.4395	
14	1.2959	1.3645	1.2188	1.2092	.9489	.6244		
	1.9472	1.8571	2.0769	2.0384	2.4133	3.4036		
15	1.1395	.8600	1.0710	.8236	F-SUB-Q			
	2.1892	2.8494	2.3507	3.0320	M-SUB-Q			

AT 75% POWER, 415 RFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.9639	1.4887	1.3923	1.5819	1.2488	1.4255	1.2584	1.1085
	2.3994	1.7849	1.9522	1.7292	2.1717	1.9249	2.1594	2.4198
9	1.4887	1.2338	1.5712	1.3923	1.5444	1.3238	1.3291	.8354
	1.7849	2.1493	1.7294	1.9599	1.7695	2.0518	2.0494	3.1823
10	1.3923	1.5712	1.3987	1.5583	1.3420	1.3859	1.1931	1.0474
	1.9522	1.7295	1.9417	1.7408	2.0090	1.9391	2.2541	2.5729
11	1.5819	1.3923	1.5583	1.2027	1.4394	1.1824	1.1995	.8097
	1.7292	1.9599	1.7398	2.1853	1.8204	2.1746	2.1939	3.2696
12	1.2488	1.5497	1.3430	1.4405	1.0571	1.1192	.9628	
	2.1717	1.7653	2.0064	1.8192	2.1281	2.0901	2.6122	
13	1.4255	1.3259	1.3869	1.1835	1.1203	.9564	.6394	
	1.9249	2.0504	1.9378	2.1730	2.0881	2.3742	3.7462	
14	1.2584	1.3280	1.1931	1.1995	.9639	.6458		
	2.1594	2.0494	2.2544	2.1939	2.6094	3.7073		
15	1.1085	.8343	1.0464	.8097	F-SUB-Q			
	2.4198	3.1823	2.5752	3.2733	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 415 RFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0924	* 1.5272	* 1.4041	* 1.5947	* 1.2499	* 1.4298	* 1.2584	* 1.1128
	* 2.5912	* 1.9102	* 2.1036	* 1.8562	* 2.3634	* 2.0672	* 2.3310	* 2.6044
9	* 1.5272	* 1.2541	* 1.5915	* 1.3998	* 1.5551	* 1.3302	* 1.3334	* .8375
	* 1.9102	* 2.3327	* 1.8550	* 2.1128	* 1.8964	* 2.2076	* 2.1963	* 3.4570
10	* 1.4041	* 1.5915	* 1.4064	* 1.5776	* 1.3559	* 1.4052	* 1.2038	* 1.0549
	* 2.1036	* 1.8550	* 2.0929	* 1.8646	* 2.1603	* 2.0739	* 2.4109	* 2.7445
11	* 1.5947	* 1.3998	* 1.5787	* 1.2252	* 1.4823	* 1.2252	* 1.2284	* .8225
	* 1.8562	* 2.1128	* 1.8646	* 2.3653	* 1.9421	* 2.3171	* 2.3308	* 3.4785
12	* 1.2499	* 1.5604	* 1.3570	* 1.4833	* 1.2113	* 1.2349	* 1.0110	*
	* 2.3634	* 1.8927	* 2.1570	* 1.9408	* 2.2701	* 2.2150	* 2.7587	*
13	* 1.4298	* 1.3313	* 1.4052	* 1.2263	* 1.2370	* 1.0764	* .6822	*
	* 2.0672	* 2.2059	* 2.0727	* 2.3153	* 2.2133	* 2.5134	* 3.9838	*
14	* 1.2584	* 1.3334	* 1.2038	* 1.2284	* 1.0121	* .6887	*	*
	* 2.3310	* 2.1964	* 2.4130	* 2.3312	* 2.7556	* 3.9455	*	*
15	* 1.1128	* .8365	* 1.0549	* .8215	* F-SUB-Q			
	* 2.6044	* 3.4570	* 2.7464	* 3.4827	* M-SUB-Q			

AT 75% POWER, 415 RFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1063	* 1.5176	* 1.3762	* 1.5626	* 1.2177	* 1.3966	* 1.2284	* 1.0860
	* 2.7196	* 1.9988	* 2.2149	* 1.9542	* 2.5115	* 2.1947	* 2.4899	* 2.7798
9	* 1.5176	* 1.2349	* 1.5637	* 1.3687	* 1.5240	* 1.3013	* 1.3055	* .8150
	* 1.9988	* 2.4602	* 1.9515	* 2.2286	* 2.0057	* 2.3501	* 2.3463	* 3.7124
10	* 1.3762	* 1.5637	* 1.3794	* 1.5508	* 1.3313	* 1.3837	* 1.1813	* 1.0346
	* 2.2149	* 1.9515	* 2.2098	* 1.9675	* 2.2886	* 2.2065	* 2.5857	* 2.9472
11	* 1.5626	* 1.3687	* 1.5508	* 1.2092	* 1.4758	* 1.2242	* 1.2188	* .8097
	* 1.9542	* 2.2303	* 1.9661	* 2.5094	* 2.0542	* 2.4728	* 2.4963	* 3.7559
12	* 1.2177	* 1.5272	* 1.3323	* 1.4769	* 1.2413	* 1.2670	* 1.0174	*
	* 2.5115	* 2.0016	* 2.2868	* 2.0542	* 2.4170	* 2.3674	* 2.9684	*
13	* 1.3966	* 1.3023	* 1.3837	* 1.2252	* 1.2691	* 1.1106	* .6919	*
	* 2.1947	* 2.3482	* 2.2048	* 2.4707	* 2.3655	* 2.6918	* 4.3367	*
14	* 1.2284	* 1.3055	* 1.1813	* 1.2188	* 1.0185	* .6994	*	*
	* 2.4899	* 2.3463	* 2.5880	* 2.4985	* 2.9654	* 4.2916	*	*
15	* 1.0860	* .8150	* 1.0335	* .8086	* F-SUB-Q			
	* 2.7798	* 3.7124	* 2.9472	* 3.7608	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 415 EFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1363	* 1.5572	* 1.3987	* 1.5936	* 1.2338	* 1.4201	* 1.2456	* 1.1053
	* 2.6474	* 1.9217	* 2.1222	* 1.8658	* 2.3713	* 2.0516	* 2.3008	* 2.5476
9	* 1.5572	* 1.2574	* 1.5969	* 1.3902	* 1.5551	* 1.3216	* 1.3280	* .8290
	* 1.9217	* 2.3558	* 1.8670	* 2.1331	* 1.9039	* 2.2149	* 2.1746	* 3.3944
10	* 1.3987	* 1.5958	* 1.4019	* 1.5840	* 1.3548	* 1.4126	* 1.2038	* 1.0549
	* 2.1222	* 1.8670	* 2.1190	* 1.8604	* 2.1815	* 2.0839	* 2.4109	* 2.6914
11	* 1.5936	* 1.3902	* 1.5840	* 1.2338	* 1.5144	* 1.2563	* 1.2499	* .8279
	* 1.8658	* 2.1331	* 1.8804	* 2.3989	* 1.9661	* 2.3539	* 2.3349	* 3.4507
12	* 1.2338	* 1.5583	* 1.3559	* 1.5155	* 1.2820	* 1.3130	* 1.0507	
	* 2.3713	* 1.8989	* 2.1798	* 1.9661	* 2.3463	* 2.2671	* 2.7852	
13	* 1.4201	* 1.3216	* 1.4126	* 1.2574	* 1.3152	* 1.1556	* .7186	
	* 2.0516	* 2.2132	* 2.0824	* 2.3520	* 2.2635	* 2.5673	* 4.0339	
14	* 1.2456	* 1.3280	* 1.2027	* 1.2499	* 1.0517	* .7261		
	* 2.3008	* 2.1763	* 2.4109	* 2.3349	* 2.7825	* 3.9948		
15	* 1.1053	* .8279	* 1.0539	* .8268	* F-SUB-Q			
	* 2.5476	* 3.3951	* 2.6939	* 3.4549	* M-SUB-Q			

AT 75% POWER, 415 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1406	* 1.5669	* 1.4009	* 1.6011	* 1.2327	* 1.4223	* 1.2456	* 1.1074
	* 2.3616	* 1.7100	* 1.8900	* 1.6542	* 2.1008	* 1.8155	* 2.0432	* 2.2638
9	* 1.5669	* 1.2595	* 1.6044	* 1.3912	* 1.5615	* 1.3216	* 1.3313	* .8290
	* 1.7100	* 2.1021	* 1.6591	* 1.8972	* 1.6855	* 1.9642	* 1.9255	* 3.0195
10	* 1.4009	* 1.6033	* 1.4030	* 1.5904	* 1.3570	* 1.4191	* 1.2059	* 1.0581
	* 1.8900	* 1.6593	* 1.8888	* 1.6724	* 1.9464	* 1.8530	* 2.1385	* 2.3798
11	* 1.6011	* 1.3912	* 1.5915	* 1.2359	* 1.5262	* 1.2627	* 1.2574	* .8311
	* 1.6542	* 1.8983	* 1.6724	* 2.1426	* 1.7547	* 2.1051	* 2.0809	* 3.0656
12	* 1.2327	* 1.5637	* 1.3580	* 1.5262	* 1.2906	* 1.3280	* 1.0603	
	* 2.1008	* 1.6806	* 1.9451	* 1.7537	* 2.0975	* 2.0212	* 2.4877	
13	* 1.4223	* 1.3227	* 1.4191	* 1.2638	* 1.3291	* 1.1695	* .7251	
	* 1.8155	* 1.9642	* 1.8530	* 2.1051	* 2.0198	* 2.2886	* 3.6103	
14	* 1.2456	* 1.3313	* 1.2049	* 1.2574	* 1.0614	* .7336		
	* 2.0432	* 1.9268	* 2.1401	* 2.0824	* 2.4856	* 3.5746		
15	* 1.1074	* .8279	* 1.0571	* .8300	* F-SUB-Q			
	* 2.2638	* 3.0221	* 2.3817	* 3.0688	* M-SUB-Q			

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Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 415 EFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1310	* 1.5594	* 1.3902	* 1.5904	* 1.2209	* 1.4116	* 1.2349	* 1.0978
	* 2.0853	* 1.5205	* 1.6917	* 1.4820	* 1.8939	* 1.6364	* 1.8481	* 2.0501
9	* 1.5594	* 1.2488	* 1.5947	* 1.3805	* 1.5508	* 1.3109	* 1.3227	* .8193
	* 1.5205	* 1.8768	* 1.4821	* 1.7023	* 1.5131	* 1.7672	* 1.7352	* 2.7420
10	* 1.3902	* 1.5947	* 1.3912	* 1.5819	* 1.3462	* 1.4105	* 1.1963	* 1.0496
	* 1.6917	* 1.4829	* 1.6915	* 1.4941	* 1.7405	* 1.6561	* 1.9227	* 2.1487
11	* 1.5904	* 1.3794	* 1.5819	* 1.2263	* 1.5176	* 1.2541	* 1.2509	* .8225
	* 1.4820	* 1.7023	* 1.4941	* 1.9131	* 1.5597	* 1.8759	* 1.8537	* 2.7555
12	* 1.2209	* 1.5540	* 1.3473	* 1.5187	* 1.2820	* 1.3238	* 1.0539	
	* 1.8939	* 1.5092	* 1.7395	* 1.5589	* 1.8608	* 1.7966	* 2.2155	
13	* 1.4116	* 1.3109	* 1.4105	* 1.2541	* 1.3248	* 1.1642	* .7197	
	* 1.6364	* 1.7664	* 1.6561	* 1.8746	* 1.7955	* 2.0369	* 3.2333	
14	* 1.2349	* 1.3216	* 1.1952	* 1.2499	* 1.0549	* .7272		
	* 1.8481	* 1.7362	* 1.9240	* 1.8549	* 2.2138	* 3.1982		
15	* 1.0978	* .8182	* 1.0485	* .8215	* F-SUB-Q			
	* 2.0501	* 2.7441	* 2.1503	* 2.7608	* M-SUB-Q			

AT 75% POWER, 415 EFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1652	* 1.6108	* 1.4309	* 1.6429	* 1.2563	* 1.4555	* 1.2702	* 1.1320
	* 1.8093	* 1.3244	* 1.4857	* 1.2992	* 1.6705	* 1.4415	* 1.6330	* 1.8112
9	* 1.6108	* 1.2863	* 1.6472	* 1.4201	* 1.6011	* 1.3484	* 1.3623	* .8429
	* 1.3244	* 1.6444	* 1.2976	* 1.4962	* 1.3272	* 1.5566	* 1.5291	* 2.4251
10	* 1.4309	* 1.6461	* 1.4319	* 1.6322	* 1.3848	* 1.4544	* 1.2306	* 1.0806
	* 1.4857	* 1.2976	* 1.4857	* 1.3079	* 1.5287	* 1.4517	* 1.6918	* 1.8960
11	* 1.6429	* 1.4201	* 1.6333	* 1.2616	* 1.5679	* 1.2906	* 1.2906	* .8472
	* 1.2992	* 1.4970	* 1.3079	* 1.6750	* 1.3587	* 1.6359	* 1.6218	* 2.4271
12	* 1.2563	* 1.3044	* 1.3655	* 1.5679	* 1.3205	* 1.3655	* 1.0871	
	* 1.6705	* 1.3253	* 1.5278	* 1.3580	* 1.6076	* 1.5511	* 1.9257	
13	* 1.4555	* 1.3484	* 1.4544	* 1.2916	* 1.3666	* 1.2027	* .7422	
	* 1.4415	* 1.5565	* 1.4517	* 1.6351	* 1.5496	* 1.7555	* 2.7996	
14	* 1.2702	* 1.3612	* 1.2295	* 1.2895	* 1.0881	* .7508		
	* 1.6330	* 1.5299	* 1.6930	* 1.6227	* 1.9234	* 2.7706		
15	* 1.1320	* .8429	* 1.0806	* .8461	* F-SUB-Q			
	* 1.8112	* 2.4271	* 1.8972	* 2.4295	* M-SUB-Q			



Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 75% POWER, 415 EPPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1556	* 1.6033	* 1.4244	* 1.6384	* 1.2499	* 1.4512	* 1.2681	* 1.1278
	* 1.6779	* 1.2251	* 1.3765	* 1.2038	* 1.5509	* 1.3366	* 1.5147	* 1.6828
9	* 1.6033	* 1.2798	* 1.6397	* 1.4137	* 1.5947	* 1.3441	* 1.3612	.8375 *
	* 1.2251	* 1.5237	* 1.2019	* 1.3867	* 1.2301	* 1.4424	* 1.4148	* 2.2625 *
10	* 1.4244	* 1.6397	* 1.4255	* 1.6258	* 1.3784	* 1.4512	* 1.2263	* 1.0753 *
	* 1.3765	* 1.2019	* 1.3757	* 1.2107	* 1.4163	* 1.3416	* 1.5682	* 1.7635 *
11	* 1.6354	* 1.4137	* 1.6268	* 1.2563	* 1.5615	* 1.2852	* 1.2873	* .8397 *
	* 1.2038	* 1.3874	* 1.2107	* 1.5496	* 1.2512	* 1.5107	* 1.4980	* 2.2622 *
12	* 1.2499	* 1.5969	* 1.3794	* 1.5626	* 1.3152	* 1.3645	* 1.0828 *	
	* 1.5509	* 1.2281	* 1.4150	* 1.2506	* 1.4798	* 1.4233	* 1.7771 *	
13	* 1.4512	* 1.3452	* 1.4512	* 1.2863	* 1.3655	* 1.2006	* .7368 *	
	* 1.3366	* 1.4417	* 1.3416	* 1.5099	* 1.4220	* 1.6116	* 2.5881 *	
14	* 1.2681	* 1.3602	* 1.2252	* 1.2873	* 1.0839	* .7454 *		
	* 1.5147	* 1.4161	* 1.5691	* 1.4986	* 1.7749	* 2.5610 *		
15	* 1.1278	* .8375	* 1.0753	* .8386	* F-SUB-Q			
	* 1.6828	* 2.2640	* 1.7648	* 2.2640	* M-SUB-Q			

AT 75% POWER, 415 EPPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1535	* 1.6033	* 1.4255	* 1.6365	* 1.2563	* 1.4608	* 1.2841	* 1.1395 *
	* 1.5812	* 1.1496	* 1.2939	* 1.1308	* 1.4525	* 1.2507	* 1.4084	* 1.5718 *
9	* 1.6033	* 1.2831	* 1.6408	* 1.4148	* 1.5958	* 1.3559	* 1.3762	* .8482 *
	* 1.1496	* 1.4298	* 1.1296	* 1.3035	* 1.1558	* 1.3451	* 1.3182	* 2.1100 *
10	* 1.4255	* 1.6397	* 1.4276	* 1.6247	* 1.3827	* 1.4619	* 1.2391	* 1.0828 *
	* 1.2939	* 1.1305	* 1.2915	* 1.1391	* 1.3273	* 1.2527	* 1.4614	* 1.6533 *
11	* 1.6365	* 1.4148	* 1.6247	* 1.2616	* 1.5690	* 1.2948	* 1.2981	* .8439 *
	* 1.1308	* 1.3035	* 1.1390	* 1.4497	* 1.1695	* 1.4088	* 1.3970	* 2.1234 *
12	* 1.2563	* 1.5990	* 1.3837	* 1.5690	* 1.3238	* 1.3773	* 1.0946 *	
	* 1.4525	* 1.1536	* 1.3261	* 1.1686	* 1.3798	* 1.3230	* 1.6527 *	
13	* 1.4608	* 1.3570	* 1.4619	* 1.2959	* 1.3784	* 1.2145	* .7465 *	
	* 1.2507	* 1.3444	* 1.2523	* 1.4081	* 1.3218	* 1.4950	* 2.4029 *	
14	* 1.2841	* 1.3752	* 1.2381	* 1.2981	* 1.0956	* .7551 *		
	* 1.4084	* 1.3192	* 1.4623	* 1.3976	* 1.6500	* 2.3779 *		
15	* 1.1395	* .8472	* 1.0817	* .8439	* F-SUB-Q			
	* 1.5718	* 2.1115	* 1.6542	* 2.1249	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 75% POWER, 415 EFPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0464	* 1.4394	* 1.2895	* 1.4748	* 1.1556	* 1.3484	* 1.2081	* 1.0517
	* 1.6669	* 1.2233	* 1.3678	* 1.1971	* 1.5105	* 1.2954	* 1.4358	* 1.6364
9	* 1.4394	* 1.1695	* 1.4769	* 1.2788	* 1.4448	* 1.2595	* 1.2777	* .8011
	* 1.2233	* 1.4996	* 1.1973	* 1.3787	* 1.2166	* 1.3862	* 1.3607	* 2.1443
10	* 1.2895	* 1.4758	* 1.2927	* 1.4651	* 1.2616	* 1.3473	* 1.1578	* .9896
	* 1.3678	* 1.1983	* 1.3646	* 1.2034	* 1.3912	* 1.3000	* 1.5000	* 1.7368
11	* 1.4748	* 1.2788	* 1.4662	* 1.1599	* 1.4244	* 1.1952	* 1.1931	* .7765
	* 1.1971	* 1.3787	* 1.2028	* 1.5090	* 1.2313	* 1.4611	* 1.4548	* 2.2162
12	* 1.1556	* 1.4501	* 1.2638	* 1.4255	* 1.2145	* 1.2702	* 1.0196	*
	* 1.5105	* 1.2121	* 1.3894	* 1.2307	* 1.4383	* 1.3729	* 1.7009	*
13	* 1.3484	* 1.2606	* 1.3484	* 1.1952	* 1.2713	* 1.1278	* .7036	*
	* 1.2954	* 1.3855	* 1.2994	* 1.4603	* 1.3716	* 1.5416	* 2.4471	*
14	* 1.2081	* 1.2766	* 1.1567	* 1.1931	* 1.0207	* .7111	*	*
	* 1.4358	* 1.3614	* 1.5008	* 1.4554	* 1.6989	* 2.4209	*	*
15	* 1.0517	* .8011	* .9896	* .7754	* F-SUB-Q			
	* 1.6364	* 2.1456	* 1.7376	* 2.2183	* M-SUB-Q			

AT 75% POWER, 415 EFPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7283	* .6587	* .8632	* .6844	* .8086	* .9639	* .8771	* .7165
	* 2.3096	* 2.5624	* 1.9684	* 2.4716	* 2.0828	* 1.7506	* 1.9203	* 2.3368
9	* .6587	* .8032	* .6833	* .8611	* .6929	* .8954	* .9243	* .5858
	* 2.5624	* 2.1049	* 2.4758	* 1.9735	* 2.4316	* 1.8888	* 1.8227	* 2.8562
10	* .8632	* .6833	* .8654	* .6833	* .8718	* .9628	* .8257	* .4252
	* 1.9684	* 2.4758	* 1.9644	* 2.4754	* 1.9428	* 1.7580	* 2.0411	* 3.9043
11	* .6844	* .8611	* .6833	* .8075	* .6747	* .8407	* .8332	* .5494
	* 2.4716	* 1.9735	* 2.4729	* 2.0861	* 2.4931	* 2.0083	* 2.0199	* 3.0412
12	* .8086	* .6940	* .8729	* .6758	* .8354	* .8857	* .7165	*
	* 2.0828	* 2.4239	* 1.9399	* 2.4909	* 2.0181	* 1.9041	* 2.3482	*
13	* .9639	* .8954	* .9626	* .8418	* .8868	* .7883	* .5023	*
	* 1.7506	* 1.8866	* 1.7571	* 2.0069	* 1.9016	* 2.1404	* 3.3338	*
14	* .8771	* .9233	* .8257	* .8332	* .7186	* .5087	*	*
	* 1.9203	* 1.8239	* 2.0413	* 2.0199	* 2.3444	* 3.2927	*	*
15	* .7165	* .5858	* .4252	* .5484	* F-SUB-Q			
	* 2.3368	* 2.8562	* 3.9053	* 3.0445	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.3192	.2731	.5623	.3534	.5858	.7079	.6694	.5141
	4.6959	6.5335	3.4602	5.5169	3.3429	2.7657	2.9410	3.8020
9	.2731	.4937	.3363	.5976	.3898	.6683	.6812	.4455
	6.5335	3.8437	5.6859	3.1779	4.8774	2.9273	2.8506	4.3829
10	.5623	.3363	.5751	.3502	.6180	.6640	.6083	.2420
	3.4602	5.6859	3.2701	5.2859	3.0431	2.8050	3.1121	7.7345
11	.3534	.6019	.3513	.5323	.3309	.5537	.5398	.3856
	5.5169	3.1652	5.2682	3.1811	4.8400	3.0227	3.1843	4.6820
12	.5858	.3920	.6212	.3320	.4391	.4584	.4338	
	3.3429	4.8474	3.0285	4.8252	2.9912	2.9799	3.5819	
13	.7079	.6694	.6662	.5558	.4616	.3770	.2677	
	2.7657	2.9165	2.7951	3.0111	2.9686	3.2466	5.2947	
14	.6694	.6822	.6105	.5419	.4370	.2742		
	2.9410	2.8481	3.1060	3.1715	3.5617	5.1732		
15	.5141	.4455	.2431	.3866	F-SUB-Q			
	3.8020	4.3829	7.7156	4.6681	M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.4595	.8279	.8782	.9939	.8675	.9885	1.0164	.8482
	4.0092	2.8326	2.8038	2.4925	2.8557	2.5022	2.4436	2.9095
9	.8279	.7454	.9575	.9211	1.0282	1.0217	.9982	.6779
	2.8326	3.1934	2.5417	2.6481	2.3300	2.3906	2.4451	3.6355
10	.8782	.9585	.9168	.9778	.9425	.9478	.9296	.7294
	2.8038	2.5384	2.6229	2.4025	2.4861	2.5169	2.5501	3.2472
11	.9939	.9253	.9821	.7904	.9189	.8525	.8439	.5998
	2.4925	2.6390	2.3981	2.7776	2.3343	2.5054	2.5586	3.8189
12	.8675	1.0378	.9478	.9232	.6255	.7229	.6972	
	2.8557	2.3175	2.4749	2.3258	2.4328	2.4545	2.8389	
13	.9885	1.0249	.9510	.8557	.7272	.6094	.4134	
	2.5022	2.3833	2.5038	2.4957	2.4467	2.5552	4.3774	
14	1.0164	1.0003	.9328	.8472	.7015	.4241		
	2.4436	2.4405	2.5417	2.5484	2.8223	4.2662		
15	.8482	.6769	.7315	.6030	F-SUB-Q			
	2.9095	3.6389	3.2390	3.8038	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .6008	* 1.1042	* 1.1588	* 1.2959	* 1.0892	* 1.2124	* 1.2316	* 1.0614
	* 3.4638	* 2.3695	* 2.3640	* 2.1259	* 2.5217	* 2.2714	* 2.2442	* 2.5885
9	* 1.1042	* .9714	* 1.2702	* 1.2038	* 1.2927	* 1.2434	* 1.2295	* .8161
	* 2.3695	* 2.7209	* 2.1325	* 2.2602	* 2.0579	* 2.1696	* 2.2092	* 3.3505
10	* 1.1588	* 1.2723	* 1.2102	* 1.2798	* 1.1920	* 1.1963	* 1.1438	* .9339
	* 2.3640	* 2.1292	* 2.2187	* 2.0517	* 2.1916	* 2.2164	* 2.3096	* 2.8287
11	* 1.2959	* 1.2092	* 1.2863	* 1.0185	* 1.1877	* 1.0656	* 1.0614	* .7572
	* 2.1259	* 2.2515	* 2.0476	* 2.4261	* 2.0385	* 2.2320	* 2.2664	* 3.3819
12	* 1.0892	* 1.3013	* 1.1995	* 1.1920	* .8150	* .9232	* .8729	
	* 2.5217	* 2.0466	* 2.1823	* 2.0375	* 2.1515	* 2.1616	* 2.5465	
13	* 1.2124	* 1.2477	* 1.2027	* 1.0710	* .9286	* .7786	* .5034	
	* 2.2714	* 2.1594	* 2.2057	* 2.2235	* 2.1537	* 2.2789	* 4.0372	
14	* 1.2316	* 1.2327	* 1.1470	* 1.0667	* .8782	* .5173		
	* 2.2442	* 2.2045	* 2.3032	* 2.2552	* 2.5328	* 3.9288		
15	* 1.0614	* .8150	* .9361	* .7604	* F-SUB-Q			
	* 2.5885	* 3.3533	* 2.8210	* 3.3653	* M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7026	* 1.3023	* 1.3570	* 1.5112	* 1.2499	* 1.3827	* 1.3966	* 1.2113
	* 3.1897	* 2.1624	* 2.1680	* 1.9595	* 2.3461	* 2.1391	* 2.1271	* 2.4374
9	* 1.3023	* 1.1320	* 1.4940	* 1.4009	* 1.4983	* 1.4191	* 1.4073	* .9189
	* 2.1624	* 2.4963	* 1.9485	* 2.0888	* 1.9164	* 2.0419	* 2.0764	* 3.1774
10	* 1.3570	* 1.4973	* 1.4148	* 1.4951	* 1.3816	* 1.3805	* 1.3045	* 1.0742
	* 2.1670	* 1.9458	* 2.0429	* 1.8938	* 2.0459	* 2.0620	* 2.1804	* 2.6491
11	* 1.5112	* 1.4073	* 1.5037	* 1.1824	* 1.3902	* 1.2284	* 1.2274	* .8675
	* 1.9595	* 2.0805	* 1.8886	* 2.2552	* 1.8904	* 2.0930	* 2.1196	* 3.1842
12	* 1.2499	* 1.5112	* 1.3891	* 1.3955	* .9489	* 1.0753	* 1.0067	
	* 2.3461	* 1.9050	* 2.0359	* 1.8878	* 2.0172	* 2.0172	* 2.3996	
13	* 1.3827	* 1.4266	* 1.3891	* 1.2349	* 1.0817	* .9082	* .5751	
	* 2.1391	* 2.0310	* 2.0529	* 2.0836	* 2.0095	* 2.1413	* 3.8347	
14	* 1.3966	* 1.4105	* 1.3098	* 1.2338	* 1.0132	* .5901		
	* 2.1271	* 2.0723	* 2.1725	* 2.1089	* 2.3832	* 3.7309		
15	* 1.2113	* .9189	* 1.0774	* .8718	* F-SUB-Q			
	* 2.4374	* 3.1799	* 2.6424	* 3.1697	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7551	* 1.4073	* 1.4566	* 1.6215	* 1.3280	* 1.4748	* 1.4769	* 1.2841
	* 3.2400	* 2.1876	* 2.2035	* 1.9913	* 2.3951	* 2.1887	* 2.1933	* 2.5101
9	* 1.4073	* 1.2124	* 1.6119	* 1.4994	* 1.6119	* 1.5090	* 1.4973	* .9682
	* 2.1876	* 2.5354	* 1.9737	* 2.1326	* 1.9537	* 2.0988	* 2.1315	* 3.2757
10	* 1.4566	* 1.6140	* 1.5155	* 1.6129	* 1.4791	* 1.4801	* 1.3859	* 1.1428
	* 2.2035	* 1.9710	* 2.0844	* 1.9262	* 2.0967	* 2.1051	* 2.2467	* 2.7264
11	* 1.6215	* 1.5048	* 1.6194	* 1.2670	* 1.5015	* 1.3163	* 1.3184	* .9221
	* 1.9913	* 2.1240	* 1.9210	* 2.2987	* 1.9262	* 2.1499	* 2.1753	* 3.2916
12	* 1.3280	* 1.6215	* 1.4876	* 1.5080	* 1.0239	* 1.1631	* 1.0806	*
	* 2.3951	* 1.9430	* 2.0864	* 1.9201	* 2.0752	* 2.0671	* 2.4735	*
13	* 1.4748	* 1.5176	* 1.4887	* 1.3238	* 1.1706	* .9832	* .6169	*
	* 2.1887	* 2.0874	* 2.0957	* 2.1401	* 2.0580	* 2.2047	* 3.9563	*
14	* 1.4769	* 1.5015	* 1.3912	* 1.3248	* 1.0892	* .6340	*	*
	* 2.1933	* 2.1272	* 2.2396	* 2.1642	* 2.4563	* 3.8468	*	*
15	* 1.2841	* .9671	* 1.1460	* .9264	* F-SUB-Q			
	* 2.5101	* 3.2782	* 2.7177	* 3.2738	* M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8290	* 1.5422	* 1.5915	* 1.7650	* 1.4416	* 1.6001	* 1.6001	* 1.3923
	* 3.2885	* 2.2253	* 2.2415	* 2.0300	* 2.4355	* 2.2380	* 2.2462	* 2.5665
9	* 1.5422	* 1.3259	* 1.7618	* 1.6343	* 1.7618	* 1.6429	* 1.6268	* 1.0464
	* 2.2253	* 2.5662	* 2.0082	* 2.1747	* 1.9905	* 2.1464	* 2.1791	* 3.3408
10	* 1.5915	* 1.7639	* 1.6558	* 1.7629	* 1.6172	* 1.6151	* 1.5090	* 1.2434
	* 2.2415	* 2.0054	* 2.1252	* 1.9650	* 2.1422	* 2.1497	* 2.3015	* 2.7877
11	* 1.7650	* 1.6397	* 1.7693	* 1.3912	* 1.6547	* 1.4512	* 1.4533	* 1.0057
	* 2.0300	* 2.1659	* 1.9588	* 2.3367	* 1.9650	* 2.1980	* 2.2218	* 3.3737
12	* 1.4416	* 1.7714	* 1.6268	* 1.6622	* 1.1374	* 1.3013	* 1.2017	*
	* 2.4355	* 1.9795	* 2.1305	* 1.9588	* 2.1242	* 2.1117	* 2.5318	*
13	* 1.6001	* 1.6515	* 1.6258	* 1.4598	* 1.3098	* 1.1117	* .6908	*
	* 2.2380	* 2.1347	* 2.1390	* 2.1879	* 2.1024	* 2.2533	* 4.0365	*
14	* 1.6001	* 1.6311	* 1.5155	* 1.4608	* 1.2102	* .7101	*	*
	* 2.2462	* 2.1747	* 2.2929	* 2.2104	* 2.5140	* 3.9272	*	*
15	* 1.3923	* 1.0453	* 1.2477	* 1.0110	* F-SUB-Q			
	* 2.5665	* 3.3434	* 2.7805	* 3.3579	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9125	* 1.6290	* 1.6611	* 1.8400	* 1.4962	* 1.6643	* 1.6579	* 1.4426
	* 3.5088	* 2.3597	* 2.3844	* 2.1565	* 2.6009	* 2.3804	* 2.3909	* 2.7179
9	* 1.6290	* 1.3891	* 1.8453	* 1.7050	* 1.8464	* 1.7115	* 1.6933	* 1.0817
	* 2.3597	* 2.7351	* 2.1352	* 2.3205	* 2.1206	* 2.2947	* 2.3205	* 3.5618
10	* 1.6611	* 1.8475	* 1.7286	* 1.8464	* 1.6943	* 1.6933	* 1.5754	* 1.2959
	* 2.3844	* 2.1321	* 2.2718	* 2.0960	* 2.2935	* 2.2959	* 2.4644	* 2.9776
11	* 1.8400	* 1.7093	* 1.8560	* 1.4694	* 1.7661	* 1.5487	* 1.5455	* 1.0507
	* 2.1565	* 2.3118	* 2.0899	* 2.5057	* 2.0970	* 2.3584	* 2.3778	* 3.6224
12	* 1.4962	* 1.8571	* 1.7050	* 1.7736	* 1.2809	* 1.4341	* 1.2959	*
	* 2.6009	* 2.1082	* 2.2802	* 2.0899	* 2.2802	* 2.2612	* 2.7179	*
13	* 1.743	* 1.7211	* 1.7040	* 1.5572	* 1.4426	* 1.2691	* .7561	*
	*	* 2.2826	* 2.2850	* 2.3456	* 2.2518	* 2.4190	* 4.3509	*
14	*	* 1.6975	* 1.5808	* 1.5540	* 1.3055	* .7775	*	*
	*	* 2.3155	* 2.4560	* 2.3661	* 2.6976	* 4.2337	*	*
15	* 1.4426	* 1.0806	* 1.3002	* 1.0560	* F-SUB-Q			
	* 2.7179	* 3.5648	* 2.9674	* 3.6043	* M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.410	* 1.6900	* 1.6965	* 1.8775	* 1.5187	* 1.6954	* 1.6825	* 1.4641
	.433	* 2.5321	* 2.5681	* 2.2923	* 2.7745	* 2.4856	* 2.4842	* 2.7915
9	* 1.6900	* 1.4276	* 1.8914	* 1.7404	* 1.8967	* 1.7468	* 1.7265	* 1.0946
	* 2.5321	* 2.9751	* 2.2947	* 2.5028	* 2.2802	* 2.4686	* 2.4408	* 3.7009
10	* 1.6965	* 1.8946	* 1.7671	* 1.8967	* 1.7404	* 1.7393	* 1.6108	* 1.3227
	* 2.5681	* 2.2911	* 2.4546	* 2.2565	* 2.4757	* 2.4742	* 2.6612	* 3.1554
11	* 1.8775	* 1.7447	* 1.9075	* 1.5262	* 1.8571	* 1.6279	* 1.6151	* 1.0764
	* 2.2923	* 2.4956	* 2.2494	* 2.7320	* 2.2588	* 2.5530	* 2.5666	* 3.9207
12	* 1.5187	* 1.9075	* 1.7511	* 1.8646	* 1.5647	* 1.6022	* 1.3805	*
	* 2.7745	* 2.2671	* 2.4616	* 2.2506	* 2.4742	* 2.4463	* 2.9432	*
13	* 1.6954	* 1.7564	* 1.7511	* 1.6376	* 1.6097	* 1.4705	* .8182	*
	* 2.4856	* 2.4602	* 2.4602	* 2.5395	* 2.4353	* 2.6225	* 4.7695	*
14	* 1.6825	* 1.7307	* 1.6172	* 1.6247	* 1.3902	* .8418	*	*
	* 2.4842	* 2.4353	* 2.6514	* 2.5545	* 2.9233	* 4.6351	*	*
15	* 1.4641	* 1.0935	* 1.3270	* 1.0817	* F-SUB-Q			
	* 2.7915	* 3.7041	* 3.1463	* 3.8995	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1395	* 1.7629	* 1.7543	* 1.9396	* 1.5647	* 1.7489	* 1.7350	* 1.5112
	* 3.9221	* 2.5666	* 2.5336	* 2.2378	* 2.7358	* 2.4491	* 2.4504	* 2.7525
9	* 1.7629	* 1.4823	* 1.9610	* 1.8004	* 1.9696	* 1.8078	* 1.7843	* 1.1267
	* 2.5666	* 3.0404	* 2.2790	* 2.4644	* 2.2600	* 2.4339	* 2.4096	* 3.6906
10	* 1.7543	* 1.9642	* 1.8325	* 1.9781	* 1.8111	* 1.8078	* 1.6708	* 1.3709
	* 2.5336	* 2.2754	* 2.4574	* 2.2754	* 2.5072	* 2.4686	* 2.6547	* 3.1124
11	* 1.9396	* 1.8046	* 1.9813	* 1.6033	* 1.9610	* 1.7232	* 1.7040	* 1.1181
	* 2.2378	* 2.4532	* 2.2623	* 2.7906	* 2.2911	* 2.6099	* 2.6417	* 3.9565
12	* 1.5647	* 1.9813	* 1.8218	* 1.9696	* 1.7564	* 1.7650	* 1.4748	*
	* 2.7358	* 2.2378	* 2.4913	* 2.2826	* 2.5291	* 2.5086	* 3.0360	*
13	* 1.7489	* 1.8186	* 1.8186	* 1.7329	* 1.7736	* 1.6376	* .8846	*
	* 2.4491	* 2.4203	* 2.4518	* 2.5958	* 2.4956	* 2.6976	* 5.0225	*
14	* 1.7350	* 1.7886	* 1.6772	* 1.7136	* 1.4865	* .9104	*	*
	* 2.4504	* 2.4029	* 2.6465	* 2.6273	* 3.0128	* 4.8750	*	*
15	* 1.5112	* 1.1256	* 1.3752	* 1.1245	* F-SUB-Q			
	* 2.7525	* 3.6938	* 3.1057	* 3.9385	* M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1267	* 1.7425	* 1.7222	* 1.9107	* 1.5315	* 1.7222	* 1.7040	* 1.4844
	* 4.0226	* 2.5174	* 2.4518	* 2.1597	* 2.6677	* 2.3558	* 2.3623	* 2.6661
9	* 1.7425	* 1.4555	* 1.9364	* 1.7682	* 1.9481	* 1.7789	* 1.7586	* 1.1021
	* 2.5174	* 2.9573	* 2.1947	* 2.3883	* 2.1804	* 2.3533	* 2.3205	* 3.6043
10	* 1.7222	* 1.9396	* 1.8036	* 1.9610	* 1.7854	* 1.7886	* 1.6461	* 1.3505
	* 2.4518	* 2.1914	* 2.3791	* 2.1936	* 2.4298	* 2.3817	* 2.5742	* 3.0639
11	* 1.9107	* 1.7736	* 1.9653	* 1.5904	* 1.9546	* 1.7168	* 1.6975	* 1.1021
	* 2.1597	* 2.3791	* 2.1815	* 2.8446	* 2.3218	* 2.6563	* 2.6809	* 3.9207
12	* 1.5315	* 1.9589	* 1.7971	* 1.9631	* 1.7650	* 1.7821	* 1.4748	*
	* 2.6677	* 2.1597	* 2.4136	* 2.3131	* 2.5757	* 2.5425	* 3.0880	*
13	* 1.7222	* 1.7896	* 1.8004	* 1.7265	* 1.7907	* 1.6558	* .8879	*
	* 2.3558	* 2.3444	* 2.3661	* 2.6401	* 2.5306	* 2.7420	* 5.1393	*
14	* 1.7040	* 1.7639	* 1.6536	* 1.7072	* 1.4865	* .9136	*	*
	* 2.3623	* 2.3155	* 2.5635	* 2.6644	* 3.0639	* 4.9970	*	*
15	* 1.4844	* 1.1021	* 1.3548	* 1.1074	* F-SUB-Q			
	* 2.6661	* 3.6043	* 3.0531	* 3.8995	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1353	* 1.7597	* 1.7393	* 1.9299	* 1.5455	* 1.7404	* 1.7254	* 1.5048
	* 3.9385	* 2.3804	* 2.3230	* 2.0455	* 2.5291	* 2.2263	* 2.2297	* 2.5115
9	* 1.7597	* 1.4683	* 1.9589	* 1.7875	* 1.9728	* 1.8025	* 1.7832	* 1.1149
	* 2.3804	* 2.8005	* 2.0769	* 2.2635	* 2.0660	* 2.2240	* 2.1914	* 3.4006
10	* 1.7393	* 1.9610	* 1.8239	* 1.9888	* 1.8089	* 1.8132	* 1.6697	* 1.3698
	* 2.3230	* 2.0739	* 2.2541	* 2.0759	* 2.2996	* 2.2529	* 2.4326	* 2.8941
11	* 1.9299	* 1.7929	* 1.9963	* 1.6161	* 1.9867	* 1.7479	* 1.7307	* 1.1171
	* 2.0455	* 2.2541	* 2.0640	* 2.6893	* 2.2483	* 2.5958	* 2.5696	* 3.7124
12	* 1.5455	* 1.9846	* 1.8207	* 1.9953	* 1.8014	* 1.8250	* 1.5980	
	* 2.5291	* 2.0455	* 2.2838	* 2.2390	* 2.5262	* 2.4899	* 3.0191	
13	* 1.7404	* 1.8121	* 1.8250	* 1.7575	* 1.8346	* 1.6997	* .9082	
	* 2.2263	* 2.2149	* 2.2378	* 2.5803	* 2.4771	* 2.6859	* 5.0494	
14	* 1.7254	* 1.7875	* 1.6772	* 1.7414	* 1.5197	* .9350		
	* 2.2297	* 2.1859	* 2.4217	* 2.5545	* 2.9941	* 4.9064		
15	* 1.5048	* 1.1138	* 1.3752	* 1.1235	* F-SUB-Q			
	* 2.5115	* 3.4033	* 2.8844	* 3.6903	* M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0999	* 1.7125	* 1.6922	* 1.8828	* 1.5026	* 1.6986	* 1.6836	* 1.4705
	* 3.8205	* 2.2814	* 2.2320	* 1.9586	* 2.4258	* 2.1165	* 2.1185	* 2.3713
9	* 1.7125	* 1.4255	* 1.9107	* 1.7393	* 1.9267	* 1.7575	* 1.7425	* 1.0849
	* 2.2814	* 2.6926	* 1.9947	* 2.1749	* 1.9783	* 2.1337	* 2.0849	* 3.2235
10	* 1.6922	* 1.9139	* 1.7746	* 1.9460	* 1.7639	* 1.7746	* 1.6301	* 1.3388
	* 2.2320	* 1.9919	* 2.1716	* 1.9928	* 2.2127	* 2.1565	* 2.3230	* 2.7386
11	* 1.8828	* 1.7457	* 1.9535	* 1.5765	* 1.9449	* 1.7093	* 1.6965	* 1.0892
	* 1.9586	* 2.1652	* 1.9810	* 2.5942	* 2.1630	* 2.5218	* 2.4560	* 3.5309
12	* 1.5026	* 1.9385	* 1.7757	* 1.9535	* 1.7618	* 1.7918	* 1.4758	
	* 2.4258	* 1.9586	* 2.1981	* 2.1533	* 2.5072	* 2.4491	* 2.9313	
13	* 1.6986	* 1.7682	* 1.7843	* 1.7190	* 1.8014	* 1.6686	* .8879	
	* 2.1165	* 2.1154	* 2.1426	* 2.5086	* 2.4367	* 2.6482	* 4.9176	
14	* 1.6836	* 1.7468	* 1.6365	* 1.7061	* 1.4887	* .9146		
	* 2.1185	* 2.0799	* 2.3143	* 2.4435	* 2.9096	* 4.7766		
15	* 1.4705	* 1.0849	* 1.3430	* 1.0956	* F-SUB-Q			
	* 2.3713	* 3.2259	* 2.7299	* 3.5137	* M-SUB-Q			



Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0282	* 1.6119	* 1.5883	* 1.7768	* 1.4105	* 1.6044	* 1.5883	* 1.3891
	* 3.7316	* 2.2367	* 2.1981	* 1.9204	* 2.3909	* 2.0709	* 2.0789	* 2.3255
9	* 1.6119	* 1.3345	* 1.8025	* 1.6343	* 1.8207	* 1.6558	* 1.6483	* 1.0207
	* 2.2367	* 2.6547	* 1.9533	* 2.1416	* 1.9393	* 2.0809	* 2.0388	* 3.1739
10	* 1.5883	* 1.8057	* 1.6675	* 1.8400	* 1.6611	* 1.6793	* 1.5358	* 1.2627
	* 2.1981	* 1.9507	* 2.1363	* 1.9471	* 2.1684	* 2.1051	* 2.2742	* 2.6809
11	* 1.7768	* 1.6408	* 1.8475	* 1.4833	* 1.8389	* 1.6119	* 1.6044	* 1.0239
	* 1.9204	* 2.1321	* 1.9358	* 2.5380	* 2.1021	* 2.4546	* 2.3857	* 3.4604
12	* 1.4105	* 1.8325	* 1.6718	* 1.8475	* 1.6611	* 1.6965	* 1.3923	*
	* 2.3909	* 1.9204	* 2.1533	* 2.0929	* 2.4312	* 2.3765	* 2.8559	*
13	* 1.6044	* 1.6654	* 1.6890	* 1.6215	* 1.7061	* 1.5765	* .8365	*
	* 2.0709	* 2.0739	* 2.0909	* 2.4408	* 2.3636	* 2.5773	* 4.8191	*
14	* 1.5883	* 1.6526	* 1.5433	* 1.6140	* 1.4041	* .8611	*	*
	* 2.0789	* 2.0340	* 2.2647	* 2.3713	* 2.8316	* 4.6786	*	*
15	* 1.3891	* 1.0196	* 1.2670	* 1.0303	* F-SUB-Q			
	* 2.3255	* 3.1762	* 2.6727	* 3.4439	* M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9778	* 1.5390	* 1.5187	* 1.7029	* 1.3516	* 1.5444	* 1.5305	* 1.3398
	* 3.5453	* 2.1662	* 2.1321	* 1.8610	* 2.3168	* 1.9993	* 2.0048	* 2.2413
9	* 1.5390	* 1.2745	* 1.7254	* 1.5647	* 1.7457	* 1.5926	* 1.5872	* .9821
	* 2.1662	* 2.5712	* 1.8910	* 2.0749	* 1.8698	* 2.0030	* 1.9648	* 3.0683
10	* 1.5187	* 1.7286	* 1.5969	* 1.7661	* 1.5958	* 1.6140	* 1.4780	* 1.2156
	* 2.1321	* 1.8878	* 2.0670	* 1.8787	* 2.0869	* 2.0254	* 2.1848	* 2.5803
11	* 1.7029	* 1.5722	* 1.7736	* 1.4244	* 1.7650	* 1.5497	* 1.5444	* .9832
	* 1.8610	* 2.0640	* 1.8674	* 2.4353	* 1.9993	* 2.3032	* 2.2671	* 3.3249
12	* 1.3516	* 1.7575	* 1.6065	* 1.7736	* 1.5979	* 1.6343	* 1.3409	*
	* 2.3168	* 1.8570	* 2.0729	* 1.9910	* 2.2996	* 2.2448	* 2.6826	*
13	* 1.5444	* 1.6022	* 1.6236	* 1.5594	* 1.6429	* 1.5197	* .8032	*
	* 1.9993	* 1.9956	* 2.0123	* 2.2898	* 2.2332	* 2.4353	* 4.5556	*
14	* 1.5305	* 1.5915	* 1.4855	* 1.5540	* 1.3516	* .8279	*	*
	* 2.0048	* 1.9595	* 2.1760	* 2.2529	* 2.6595	* 4.4253	*	*
15	* 1.3398	* .9821	* 1.2199	* .9896	* F-SUB-Q			
	* 2.2413	* 3.0704	* 2.5727	* 3.3072	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8686	* 1.3752	* 1.3537	* 1.5305	* 1.2124	* 1.3998	* 1.3848	* 1.2134
	* 3.6840	* 2.2413	* 2.2297	* 1.9341	* 2.4163	* 2.0630	* 2.0739	* 2.3205
9	* 1.3752	* 1.1342	* 1.5465	* 1.3998	* 1.5712	* 1.4341	* 1.4362	* .8857
	* 2.2413	* 2.6793	* 1.9639	* 2.1651	* 1.9247	* 2.0690	* 2.0264	* 3.1879
10	* 1.3537	* 1.5497	* 1.4266	* 1.5904	* 1.4330	* 1.4566	* 1.3334	* 1.0956
	* 2.2297	* 1.9612	* 2.1543	* 1.9419	* 2.1586	* 2.0839	* 2.2518	* 2.6694
11	* 1.5305	* 1.4062	* 1.5969	* 1.2777	* 1.5894	* 1.3944	* 1.3934	* .8825
	* 1.9341	* 2.1533	* 1.9298	* 2.5014	* 2.0245	* 2.3406	* 2.2923	* 3.4330
12	* 1.2124	* 1.5829	* 1.4426	* 1.5969	* 1.4362	* 1.4748	* 1.2070	*
	* 2.4163	* 1.9111	* 2.1416	* 2.0160	* 2.3143	* 2.2471	* 2.7231	*
13	* 1.3998	* 1.4426	* 1.4651	* 1.4019	* 1.4823	* 1.3698	* .7229	*
	* 2.0630	* 2.0611	* 2.0699	* 2.3255	* 2.2355	* 2.4312	* 4.5894	*
14	* 1.3848	* 1.4405	* 1.3388	* 1.4019	* 1.2177	* .7443	*	*
	* 2.0739	* 2.0216	* 2.2424	* 2.2778	* 2.7010	* 4.4572	*	*
15	* 1.2134	* .8857	* 1.0988	* .8879	* F-SUB-Q			
	* 2.3205	* 3.1903	* 2.6612	* 3.4140	* M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7647	* 1.2059	* 1.1899	* 1.3570	* 1.0849	* 1.2659	* 1.2574	* 1.0935
	* 3.8070	* 2.3739	* 2.3844	* 2.0572	* 2.5470	* 2.1554	* 2.1586	* 2.4353
9	* 1.2059	* 1.0014	* 1.3602	* 1.2391	* 1.4073	* 1.2938	* 1.2970	* .8032
	* 2.3739	* 2.8353	* 2.0980	* 2.2996	* 2.0151	* 2.1543	* 2.1154	* 3.3275
10	* 1.1899	* 1.3623	* 1.2584	* 1.4116	* 1.2809	* 1.3023	* 1.2017	* .9778
	* 2.3844	* 2.0950	* 2.2935	* 2.0542	* 2.2553	* 2.1793	* 2.3431	* 2.8151
11	* 1.3570	* 1.2445	* 1.4169	* 1.1417	* 1.4116	* 1.2477	* 1.2466	* .7872
	* 2.0572	* 2.2886	* 2.0426	* 2.5942	* 2.0980	* 2.3949	* 2.3610	* 3.6013
12	* 1.0849	* 1.4169	* 1.2895	* 1.4180	* 1.2841	* 1.3173	* 1.0817	*
	* 2.5470	* 2.0002	* 2.2390	* 2.0899	* 2.3962	* 2.3267	* 2.7825	*
13	* 1.2659	* 1.3002	* 1.3109	* 1.2541	* 1.3248	* 1.2284	* .6512	*
	* 2.1554	* 2.1458	* 2.1651	* 2.3804	* 2.3143	* 2.5218	* 4.7142	*
14	* 1.2574	* 1.3002	* 1.2059	* 1.2541	* 1.0913	* .6715	*	*
	* 2.1586	* 2.1103	* 2.3330	* 2.3469	* 2.7595	* 4.5749	*	*
15	* 1.0935	* .8022	* .9810	* .7915	* F-SUB-Q			
	* 2.4353	* 3.3300	* 2.8060	* 3.5805	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.6008	.9189	.9146	1.0549	.8739	1.0453	1.0507	.8793
	4.5365	2.9372	2.9532	2.5247	3.0065	2.4927	2.4714	2.9037
9	.9189	.7808	1.0399	.9628	1.1310	1.0710	1.0710	.6715
	2.9372	3.4466	2.6114	2.8187	2.3778	2.4799	2.4435	3.8137
10	.9146	1.0410	.9693	1.0978	1.0282	1.0507	.9896	.7668
	2.9532	2.6067	2.8279	2.5144	2.6563	2.5727	2.7044	3.4248
11	1.0549	.9671	1.1021	.9114	1.1256	1.0078	1.0014	.6265
	2.5247	2.8023	2.4999	3.0704	2.4757	2.7754	2.7595	4.2980
12	.8739	1.1395	1.0346	1.1320	1.0260	1.0571	.8761	
	3.0065	2.3610	2.6369	2.4630	2.7933	2.6909	3.2187	
13	1.0453	1.0753	1.0571	1.0142	1.0624	.9907	.5398	
	2.4927	2.4714	2.5605	2.7595	2.6760	2.8921	5.2963	
14	1.0507	1.0731	.9939	1.0078	.8836	.5558		
	2.4714	2.4394	2.6943	2.7420	3.1926	5.1454		
15	.8793	.6715	.7690	.6297	F-SUB-Q			
	2.9037	3.8171	3.4140	4.2726	M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.3748	.2870	.5344	.3438	.5516	.6972	.6469	.4969
	6.8768	8.9144	4.8191	7.3680	4.5894	3.6013	3.8890	4.9798
9	.2870	.4745	.3342	.5773	.3909	.6469	.6758	.4145
	8.9144	5.4223	7.6680	4.4849	6.5051	3.9421	3.7156	5.9922
10	.5344	.3342	.5601	.3599	.6105	.6854	.5976	.2356
	4.8191	7.6680	4.6736	7.1847	4.2350	3.7542	4.2895	10.6447
11	.3438	.5805	.3609	.5751	.3898	.6083	.5923	.3770
	7.3680	4.4618	7.1492	4.6685	6.7800	4.3939	4.4435	6.8768
12	.5516	.3941	.6148	.3920	.6030	.6340	.5119	
	4.5894	6.4566	4.2103	6.7483	4.4710	4.2895	5.2834	
13	.6972	.6490	.6887	.6115	.6372	.5719	.3299	
	3.6013	3.9314	3.7380	4.3717	4.2642	4.7925	8.3155	
14	.6469	.6769	.5998	.5955	.5162	.3384		
	3.8890	3.7124	4.2726	4.4208	5.2450	8.0979		
15	.4969	.4145	.2367	.3791	F-SUB-Q			
	4.9798	5.9922	10.6186	6.8442	M-SUB-Q			

Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 50% POWER, 150 HPPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.4048	.3748	.6672	.4734	.6737	.7636	.6265	.4552
	3.2137	4.1317	2.5335	3.6720	2.5660	2.1426	2.3063	2.9779
9	.3748	.5430	.4338	.7058	.5023	.7401	.7186	.4327
	4.1317	2.7752	3.7284	2.4155	3.3820	2.2667	2.2268	3.4893
10	.6672	.4338	.5912	.4498	.7090	.7733	.6812	.2924
	2.5335	3.7240	2.4510	3.5769	2.3809	2.1617	2.4411	5.6269
11	.4734	.7101	.4509	.6040	.4316	.6415	.6372	.4413
	3.6720	2.4081	3.5648	2.4794	3.4183	2.3754	2.4889	3.7267
12	.6737	.5044	.7122	.4327	.5152	.5473	.5098	
	2.5660	3.3642	2.3721	3.4107	2.3200	2.3041	2.8337	
13	.7636	.7422	.7765	.6437	.5494	.4466	.3202	
	2.1426	2.2618	2.1557	2.3699	2.2975	2.5528	4.1136	
14	.6265	.7197	.6833	.6394	.5119	.3256		
	2.3063	2.2267	2.4354	2.4829	2.8210	4.0402		
15	.4552	.4338	.2935	.4423	F-SUB-Q			
	2.9779	3.4893	5.6169	3.7183	M-SUB-Q			

AT 50% POWER, 150 HPPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.5687	1.0260	1.0560	1.2059	1.0282	1.1267	1.0025	.8065
	2.7922	2.0159	2.0698	1.8584	2.1838	1.9607	1.9877	2.3962
9	1.0260	.8804	1.1492	1.0913	1.2049	1.1363	1.0871	.6576
	2.0159	2.3198	1.8737	2.0096	1.8013	1.9133	1.9496	3.0409
10	1.0560	1.1503	.9382	1.1663	1.0956	1.1171	1.0324	.8097
	2.0698	1.8719	1.9799	1.8268	1.9488	1.9352	2.0691	2.6409
11	1.2059	1.0967	1.1717	.9082	1.0817	.9746	.9735	.6608
	1.8584	2.0034	1.8234	2.1534	1.8232	2.0082	2.0857	3.1828
12	1.0282	1.2145	1.1010	1.0849	.7165	.8268	.7722	
	2.1838	1.7938	1.9401	1.8181	1.9684	1.9693	2.3699	
13	1.1267	1.1406	1.1224	.9778	.8311	.6758	.4670	
	1.9607	1.9067	1.9276	2.0019	1.9633	2.1257	3.5629	
14	1.0025	1.0892	1.0346	.9768	.7765	.4766		
	1.9877	1.9467	2.0637	2.0791	2.3597	3.4954		
15	.8065	.6576	.8107	.6619	F-SUB-Q			
	2.3962	3.0409	2.6356	3.1750	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 150 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7090	* 1.3345	* 1.3527	* 1.5305	* 1.2616	* 1.4030	* 1.2959	* 1.0892
	* 2.5367	* 1.7696	* 1.8348	* 1.6542	* 1.9997	* 1.7963	* 1.8957	* 2.2344
9	* 1.3345	* 1.1395	* 1.4919	* 1.3848	* 1.5197	* 1.3805	* 1.3537	* .8290
	* 1.7696	* 2.0806	* 1.6470	* 1.7958	* 1.6410	* 1.7854	* 1.8214	* 2.9334
10	* 1.3527	* 1.4930	* 1.3666	* 1.4919	* 1.3527	* 1.3837	* 1.2413	* 1.0046
	* 1.8348	* 1.6450	* 1.7606	* 1.6275	* 1.7863	* 1.7641	* 1.9493	* 2.4186
11	* 1.5305	* 1.3902	* 1.4983	* 1.1588	* 1.3698	* 1.1738	* 1.1802	* .7958
	* 1.6542	* 1.7918	* 1.6275	* 1.9643	* 1.6338	* 1.8667	* 1.9345	* 2.9714
12	* 1.2616	* 1.5305	* 1.3591	* 1.3730	* .8825	* .9982	* .9136	*
	* 1.9997	* 1.6339	* 1.7787	* 1.6299	* 1.8134	* 1.8173	* 2.2417	*
13	* 1.4030	* 1.3859	* 1.3902	* 1.1781	* 1.0025	* .7979	* .5366	*
	* 1.7963	* 1.7785	* 1.7566	* 1.8608	* 1.8124	* 2.0048	* 3.4492	*
14	* 1.2959	* 1.3559	* 1.2445	* 1.1845	* .9178	* .5473	*	*
	* 1.8957	* 1.8190	* 1.9456	* 1.9282	* 2.2308	* 3.3839	*	*
15	* 1.0892	* .8290	* 1.0057	* .7979	* F-SUB-Q			
	* 2.2344	* 2.9334	* 2.4144	* 2.9628	* M-SUB-Q			

AT 50% POWER, 150 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8011	* 1.5294	* 1.5369	* 1.7307	* 1.4041	* 1.5733	* 1.4598	* 1.2381
	* 2.4446	* 1.6892	* 1.7617	* 1.5913	* 1.9437	* 1.7489	* 1.8803	* 2.2118
9	* 1.5294	* 1.2981	* 1.7093	* 1.5658	* 1.7179	* 1.5315	* 1.5176	* .9264
	* 1.6892	* 2.0008	* 1.5740	* 1.7311	* 1.5775	* 1.7554	* 1.7890	* 2.9218
10	* 1.5369	* 1.7104	* 1.5722	* 1.7072	* 1.5165	* 1.5487	* 1.3677	* 1.1149
	* 1.7617	* 1.5723	* 1.6989	* 1.5617	* 1.7339	* 1.7146	* 1.9277	* 2.3824
11	* 1.7307	* 1.5690	* 1.7093	* 1.3077	* 1.5465	* 1.2938	* 1.3034	* .8707
	* 1.5913	* 1.7283	* 1.5623	* 1.9080	* 1.5781	* 1.8344	* 1.9031	* 2.9504
12	* 1.4041	* 1.7297	* 1.5240	* 1.5508	* .9610	* 1.0978	* .9950	*
	* 1.9437	* 1.5710	* 1.7261	* 1.5739	* 1.7837	* 1.7835	* 2.2272	*
13	* 1.5733	* 1.5380	* 1.5562	* 1.2981	* 1.1031	* .8675	* .5762	*
	* 1.7489	* 1.7482	* 1.7070	* 1.8287	* 1.7774	* 1.9915	* 3.4534	*
14	* 1.4598	* 1.5197	* 1.3720	* 1.3077	* .9992	* .5880	*	*
	* 1.8803	* 1.7866	* 1.9233	* 1.8962	* 2.2166	* 3.3857	*	*
15	* 1.2381	* .9264	* 1.1171	* .8729	* F-SUB-Q			
	* 2.2118	* 2.9239	* 2.3784	* 2.9440	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 150 RFPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
B	.8365	1.5958	1.5926	1.7929	1.4405	1.6226	1.4962	1.2691
	2.5968	1.7888	1.8734	1.6862	2.0746	1.8710	2.0314	2.3912
9	1.5958	1.3441	1.7800	1.6183	1.7789	1.5679	1.5583	.9446
	1.7888	2.1243	1.6684	1.8471	1.6775	1.8894	1.9258	3.1590
10	1.5926	1.7821	1.6301	1.7779	1.5615	1.5947	1.3944	1.1385
	1.8734	1.6664	1.8133	1.6605	1.8558	1.8333	2.0861	2.5797
11	1.7929	1.6215	1.7800	1.3484	1.6011	1.3216	1.3323	.8814
	1.6862	1.8439	1.6605	2.0365	1.6833	1.9778	2.0547	3.2076
12	1.4405	1.7907	1.5690	1.6054	1.0121	1.1224	1.0089	
	2.0746	1.6709	1.8477	1.6787	1.9251	1.9231	2.4189	
13	1.6226	1.5754	1.6033	1.3270	1.1278	.8825	.5816	
	1.8710	1.8818	1.8254	1.9714	1.9162	2.1612	3.7512	
14	1.4962	1.5604	1.3977	1.3355	1.0142	.5933		
	2.0314	1.9224	2.0810	2.0478	2.4079	3.6786		
15	1.2691	.9436	1.1406	.8836	F-SUB-Q			
	2.3912	3.1590	2.5751	3.2003	M-SUB-Q			

AT 50% POWER, 150 RFPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
B	.8889	1.6793	1.6697	1.6753	1.5015	1.6933	1.5540	1.3195
	2.7437	1.8924	1.9877	1.7856	2.1998	1.9923	2.1670	2.5229
9	1.6793	1.4094	1.8678	1.6933	1.8614	1.6322	1.6236	.9789
	1.8924	2.2444	1.7694	1.9641	1.7834	2.0204	2.0562	3.3328
10	1.6697	1.8700	1.7050	1.8657	1.6301	1.6665	1.4469	1.1835
	1.9877	1.7672	1.9298	1.7665	1.9795	1.9543	2.2369	2.7644
11	1.8753	1.6954	1.8668	1.4084	1.6772	1.3773	1.3869	.9114
	1.7856	1.9615	1.7665	2.1647	1.7968	2.1242	2.2059	3.4550
12	1.5015	1.8742	1.6376	1.6825	1.0689	1.1760	1.0485	
	2.1998	1.7760	1.9713	1.7915	2.0740	2.0680	2.6133	
13	1.6933	1.6397	1.6740	1.3827	1.1802	.9286	.6062	
	1.9923	2.0119	1.9455	2.1169	2.0611	2.3375	4.0386	
14	1.5540	1.6258	1.4501	1.3912	1.0539	.6180		
	2.1670	2.0522	2.2322	2.2002	2.6007	3.9590		
15	1.3195	.9778	1.1845	.9136	F-SUB-Q			
	2.5229	3.3355	2.7591	3.4467	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 50% POWER, 150 BFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9018	* 1.6922	* 1.6740	* 1.8817	* 1.4983	* 1.6954	* 1.5487	* 1.3152
	* 3.0541	* 2.0929	* 2.2059	* 1.9756	* 2.4338	* 2.1848	* 2.3571	* 2.7368
9	* 1.6922	* 1.4126	* 1.8764	* 1.6943	* 1.8668	* 1.6290	* 1.6215	* .9725
	* 2.0929	* 2.4983	* 1.9612	* 2.1859	* 1.9792	* 2.2518	* 2.2588	* 3.6289
10	* 1.6740	* 1.8785	* 1.7061	* 1.8742	* 1.6311	* 1.6697	* 1.4416	* 1.1792
	* 2.2059	* 1.9586	* 2.1490	* 1.9612	* 2.2070	* 2.1716	* 2.4971	* 3.0574
11	* 1.8817	* 1.6975	* 1.8753	* 1.7105	* 1.6868	* 1.3784	* 1.3869	* .9061
	* 1.9756	* 2.1826	* 1.9595	* 2.4213	* 2.0020	* 2.3817	* 2.4644	* 3.8648
12	* 1.4983	* 1.8796	* 1.6386	* 1.6911	* 1.0828	* 1.1835	* 1.0496	*
	* 2.4338	* 1.9711	* 2.1981	* 1.9965	* 2.3318	* 2.3193	* 2.9392	*
13	* 1.6954	* 1.6365	* 1.6772	* 1.3827	* 1.1888	* .9403	* .6073	*
	* 2.1848	* 2.2424	* 2.1619	* 2.3739	* 2.3118	* 2.6257	* 4.5516	*
14	* 1.5487	* 1.6236	* 1.4448	* 1.3912	* 1.0549	* .6201	*	*
	* 2.3571	* 2.2553	* 2.4913	* 2.4574	* 2.9253	* 4.4607	*	*
15	* 1.3152	* .9725	* 1.1813	* .9082	* F-SUB-Q			
	* 2.7368	* 3.6320	* 3.0531	* 3.8544	* M-SUB-Q			

AT 50% POWER, 150 BFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8943	* 1.6772	* 1.6504	* 1.8582	* 1.4737	* 1.6718	* 1.5219	* 1.2927
	* 3.4981	* 2.3636	* 2.4813	* 2.1716	* 2.6806	* 2.3752	* 2.5696	* 2.9735
9	* 1.6772	* 1.3934	* 1.8560	* 1.6697	* 1.8443	* 1.6022	* 1.5969	* .9532
	* 2.3636	* 2.8560	* 2.2070	* 2.4408	* 2.1870	* 2.4785	* 2.4518	* 3.9835
10	* 1.6504	* 1.8582	* 1.6815	* 1.8539	* 1.6076	* 1.6493	* 1.4169	* 1.1610
	* 2.4813	* 2.2048	* 2.4367	* 2.2093	* 2.5072	* 2.4230	* 2.7612	* 3.2996
11	* 1.8582	* 1.6718	* 1.8550	* 1.3923	* 1.6708	* 1.3602	* 1.3698	* .8900
	* 2.1716	* 2.4367	* 2.2070	* 2.7817	* 2.2706	* 2.7077	* 2.7969	* 4.3108
12	* 1.4737	* 1.8560	* 1.6151	* 1.6761	* 1.0742	* 1.1760	* 1.0389	*
	* 2.6806	* 2.1727	* 2.4971	* 2.2647	* 2.6498	* 2.6273	* 3.3326	*
13	* 1.6718	* 1.6097	* 1.6568	* 1.3655	* 1.1813	* .9371	* .6030	*
	* 2.3752	* 2.4686	* 2.4109	* 2.6993	* 2.6193	* 2.9817	* 5.2110	*
14	* 1.5219	* 1.6001	* 1.4212	* 1.3741	* 1.0442	* .6148	*	*
	* 2.5696	* 2.4491	* 2.7542	* 2.7897	* 3.3173	* 5.1114	*	*
15	* 1.2927	* .9532	* 1.1620	* .8921	* F-SUB-Q			
	* 2.9735	* 3.9835	* 3.2971	* 4.3023	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 150 RFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9061	* 1.7007	* 1.6665	* 1.8796	* 1.4833	* 1.6868	* 1.5315	* 1.3023
	* 3.7386	* 2.5130	* 2.6146	* 2.2838	* 2.8496	* 2.4927	* 2.6893	* 3.0946
9	* 1.7007	* 1.4084	* 1.8785	* 1.6847	* 1.8625	* 1.6161	* 1.6119	* .9585
	* 2.5130	* 3.0707	* 2.3193	* 2.5727	* 2.2984	* 2.6052	* 2.5651	* 4.1968
10	* 1.6665	* 1.8807	* 1.6965	* 1.8753	* 1.6236	* 1.6686	* 1.4309	* 1.1717
	* 2.6146	* 2.3180	* 2.5712	* 2.3230	* 2.6498	* 2.5410	* 2.8921	* 3.4384
11	* 1.8796	* 1.6868	* 1.8775	* 1.4094	* 1.6986	* 1.3805	* 1.3923	* .8996
	* 2.2838	* 2.5681	* 2.3205	* 3.0086	* 2.4435	* 2.9552	* 3.0065	* 4.5035
12	* 1.4833	* 1.8742	* 1.6311	* 1.7040	* 1.0935	* 1.2049	* 1.0614	
	* 2.8496	* 2.2838	* 2.6385	* 2.4367	* 2.8941	* 2.8883	* 3.6840	
13	* 1.6868	* 1.6226	* 1.6772	* 1.3859	* 1.2102	* .9660	* .6201	
	* 2.4927	* 2.5958	* 2.5306	* 2.9452	* 2.8787	* 3.2946	* 5.8539	
14	* 1.5315	* 1.6151	* 1.4341	* 1.3955	* 1.0667	* .6319		
	* 2.6893	* 2.5620	* 2.8863	* 2.9982	* 3.6684	* 5.7372		
15	* 1.3023	* .9585	* 1.1738	* .9018	* F-SUB-Q			
	* 3.0946	* 4.1968	* 3.4330	* 4.4942	* M-SUB-Q			

AT 50% POWER, 150 RFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9061	* 1.6793	* 1.6301	* 1.8432	* 1.4437	* 1.6483	* 1.4919	* 1.2691
	* 3.9031	* 2.5306	* 2.5757	* 2.2623	* 2.8521	* 2.4985	* 2.7386	* 3.1903
9	* 1.6793	* 1.3805	* 1.8443	* 1.6440	* 1.8218	* 1.5787	* 1.5754	* .9318
	* 2.5306	* 3.0510	* 2.2814	* 2.5425	* 2.2790	* 2.6337	* 2.6130	* 4.3498
10	* 1.6301	* 1.8453	* 1.6590	* 1.8410	* 1.5904	* 1.6386	* 1.4009	* 1.1449
	* 2.5757	* 2.2790	* 2.5395	* 2.2886	* 2.6498	* 2.5575	* 2.9735	* 3.5805
11	* 1.8432	* 1.6461	* 1.8432	* 1.3880	* 1.6868	* 1.3698	* 1.3762	* .8814
	* 2.2623	* 2.5395	* 2.2874	* 3.0661	* 2.5291	* 3.0704	* 3.0990	* 4.7504
12	* 1.4437	* 1.8346	* 1.5979	* 1.6922	* 1.1063	* 1.2220	* 1.0635	
	* 2.8521	* 2.2647	* 2.6369	* 2.5218	* 3.0086	* 2.9920	* 3.8238	
13	* 1.6483	* 1.5851	* 1.6461	* 1.3752	* 1.2274	* .9960	* .6276	
	* 2.4985	* 2.6209	* 2.5455	* 3.0596	* 2.9837	* 3.4167	* 6.1365	
14	* 1.4919	* 1.5776	* 1.4041	* 1.3805	* 1.0689	* .6405		
	* 2.7386	* 2.6083	* 2.9674	* 3.0902	* 3.8070	* 6.0172		
15	* 1.2691	* .9318	* 1.1470	* .8836	* F-SUB-Q			
	* 3.1903	* 4.3498	* 3.5746	* 4.7400	* M-SUB-Q			



Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 150 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0121	* 1.7393	* 1.6643	* 1.8828	* 1.4651	* 1.6761	* 1.5144	* 1.2906
	* 3.8374	* 2.3857	* 2.4339	* 2.1384	* 2.7027	* 2.3623	* 2.5773	* 2.9735
9	* 1.7393	* 1.4180	* 1.8860	* 1.6761	* 1.8582	* 1.6097	* 1.6065	* .9457
	* 2.3857	* 2.8844	* 2.1533	* 2.4055	* 2.1543	* 2.4899	* 2.4616	* 4.0604
10	* 1.6643	* 1.8882	* 1.6933	* 1.8839	* 1.6311	* 1.6804	* 1.4341	* 1.1695
	* 2.4339	* 2.1522	* 2.4029	* 2.1608	* 2.5057	* 2.4136	* 2.8096	* 3.3429
11	* 1.8828	* 1.6783	* 1.8850	* 1.4341	* 1.7607	* 1.4341	* 1.4276	* .9050
	* 2.1384	* 2.4029	* 2.1597	* 2.8979	* 2.4096	* 2.9858	* 2.9194	* 4.4572
12	* 1.4651	* 1.8678	* 1.6386	* 1.7661	* 1.2531	* 1.3452	* 1.1310	*
	* 2.7027	* 2.1405	* 2.4942	* 2.4015	* 2.9941	* 2.9532	* 3.7124	*
13	* 1.6761	* 1.6172	* 1.6879	* 1.4394	* 1.3505	* 1.1470	* .6801	*
	* 2.3623	* 2.4785	* 2.4029	* 2.9735	* 2.9452	* 3.3820	* 5.9757	*
14	* 1.5144	* 1.6086	* 1.4373	* 1.4319	* 1.1363	* .6940	*	*
	* 2.5773	* 2.4588	* 2.8023	* 2.9116	* 3.6966	* 5.8625	*	*
15	* 1.2906	* .9457	* 1.1706	* .9071	* F-SUB-Q			
	* 2.9735	* 4.0604	* 3.3377	* 4.4480	* M-SUB-Q			

AT 50% POWER, 150 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1245	* 1.7586	* 1.6600	* 1.8796	* 1.4523	* 1.6665	* 1.5037	* 1.2820
	* 3.6560	* 2.2343	* 2.2862	* 1.9965	* 2.5247	* 2.1947	* 2.3870	* 2.7490
9	* 1.7586	* 1.4212	* 1.8850	* 1.6675	* 1.8593	* 1.6054	* 1.6011	* .9371
	* 2.2343	* 2.7094	* 2.0179	* 2.2576	* 2.0113	* 2.3180	* 2.2754	* 3.7673
10	* 1.6600	* 1.8871	* 1.6890	* 1.8828	* 1.6343	* 1.6836	* 1.4341	* 1.1663
	* 2.2862	* 2.0160	* 2.2588	* 2.0254	* 2.3456	* 2.2459	* 2.5989	* 3.0902
11	* 1.8796	* 1.6697	* 1.8850	* 1.4469	* 1.7982	* 1.4683	* 1.4480	* .9082
	* 1.9965	* 2.2541	* 2.0245	* 2.7179	* 2.2518	* 2.7825	* 2.6993	* 4.1222
12	* 1.4523	* 1.8668	* 1.6408	* 1.8036	* 1.4459	* 1.4726	* 1.1738	*
	* 2.5247	* 1.9983	* 2.3355	* 2.2459	* 2.8391	* 2.7861	* 3.5109	*
13	* 1.6665	* 1.6119	* 1.6911	* 1.4737	* 1.4758	* 1.2734	* .7176	*
	* 2.1947	* 2.3081	* 2.2367	* 2.7718	* 2.7772	* 3.1832	* 5.6485	*
14	* 1.5037	* 1.6033	* 1.4373	* 1.4523	* 1.1802	* .7315	*	*
	* 2.3870	* 2.2718	* 2.5927	* 2.6926	* 3.4939	* 5.5401	*	*
15	* 1.2820	* .9382	* 1.1674	* .9104	* F-SUB-Q			
	* 2.7490	* 3.7673	* 3.0880	* 4.1104	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 150 BFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1203	* 1.7232	* 1.6119	* 1.8303	* 1.4052	* 1.6194	* 1.4598	* 1.2466
	* 3.4604	* 2.1269	* 2.1837	* 1.9027	* 2.4163	* 2.0919	* 2.2754	* 2.6178
9	* 1.7232	* 1.3827	* 1.8378	* 1.6183	* 1.8153	* 1.5637	* 1.5594	* .9093
	* 2.1269	* 2.5896	* 1.9221	* 2.1576	* 1.9170	* 2.2082	* 2.1630	* 3.5983
10	* 1.6119	* 1.8400	* 1.6418	* 1.8368	* 1.5947	* 1.6451	* 1.3998	* 1.1385
	* 2.1837	* 1.9212	* 2.1565	* 1.9281	* 2.2332	* 2.1331	* 2.4700	* 2.9392
11	* 1.8303	* 1.6204	* 1.8378	* 1.4180	* 1.7779	* 1.4566	* 1.4287	* .8889
	* 1.9027	* 2.1543	* 1.9264	* 2.5850	* 2.1289	* 2.6289	* 2.5485	* 3.9136
12	* 1.4052	* 1.8228	* 1.6022	* 1.7832	* 1.4716	* 1.4973	* 1.1749	*
	* 2.4163	* 1.9043	* 2.2229	* 2.1227	* 2.6727	* 2.6225	* 3.3097	*
13	* 1.6194	* 1.5701	* 1.6526	* 1.4619	* 1.5015	* 1.3055	* .7229	*
	* 2.0919	* 2.1992	* 2.1237	* 2.6193	* 2.6162	* 3.0024	* 5.3619	*
14	* 1.4598	* 1.5615	* 1.4030	* 1.4330	* 1.1802	* .7379	*	*
	* 2.2754	* 2.1608	* 2.4644	* 2.5410	* 3.2946	* 5.2578	*	*
15	* 1.2466	* .9093	* 1.1406	* .8911	* F-SUB-Q			
	* 2.6178	* 3.5953	* 2.9372	* 3.9031	* M-SUB-Q			

AT 50% POWER, 150 BFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1149	* 1.7115	* 1.5990	* 1.8164	* 1.3934	* 1.6097	* 1.4555	* 1.2466
	* 3.1554	* 1.9873	* 2.0474	* 1.7836	* 2.2683	* 1.9586	* 2.1248	* 2.4394
9	* 1.7115	* 1.3720	* 1.8271	* 1.6065	* 1.8078	* 1.5583	* 1.5572	* .9071
	* 1.9873	* 2.4244	* 1.8007	* 2.0235	* 1.7969	* 2.0591	* 2.0151	* 3.3584
10	* 1.5990	* 1.8282	* 1.6301	* 1.8250	* 1.5894	* 1.6429	* 1.4009	* 1.1406
	* 2.0474	* 1.7992	* 2.0198	* 1.8037	* 2.0829	* 1.9864	* 2.2947	* 2.7368
11	* 1.8164	* 1.6076	* 1.8271	* 1.4148	* 1.7811	* 1.4662	* 1.4373	* .8921
	* 1.7836	* 2.0207	* 1.8022	* 2.4029	* 1.9702	* 2.4136	* 2.3495	* 3.6285
12	* 1.3934	* 1.8153	* 1.5969	* 1.7864	* 1.4898	* 1.5197	* 1.1910	*
	* 2.2683	* 1.7851	* 2.0729	* 1.9639	* 2.4230	* 2.3713	* 2.9755	*
13	* 1.6097	* 1.5647	* 1.6504	* 1.4716	* 1.5251	* 1.3334	* .7347	*
	* 1.9586	* 2.0513	* 1.9774	* 2.4055	* 2.3648	* 2.7162	* 4.8461	*
14	* 1.4555	* 1.5594	* 1.4041	* 1.4416	* 1.1963	* .7508	*	*
	* 2.1248	* 2.0132	* 2.2898	* 2.3431	* 2.9613	* 4.7504	*	*
15	* 1.2466	* .9071	* 1.1417	* .8943	* F-SUB-Q			
	* 2.4394	* 3.3584	* 2.7334	* 3.6194	* M-SUB-Q			

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 150 BFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0346	* 1.5958	* 1.4887	* 1.6965	* 1.3023	* 1.5123	* 1.3741	* 1.1792
	* 3.1531	* 1.9729	* 2.0542	* 1.7851	* 2.2754	* 1.9551	* 2.1134	* 2.4244
9	* 1.5958	* 1.2766	* 1.7082	* 1.4983	* 1.6954	* 1.4662	* 1.4705	* .8557
	* 1.9729	* 2.4217	* 1.7984	* 2.0302	* 1.7984	* 2.0474	* 2.0011	* 3.3455
10	* 1.4887	* 1.7093	* 1.5208	* 1.7072	* 1.4887	* 1.5455	* 1.3216	* 1.0774
	* 2.0542	* 1.7969	* 2.0207	* 1.8007	* 2.0719	* 1.9693	* 2.2718	* 2.7196
11	* 1.6965	* 1.5005	* 1.7082	* 1.3259	* 1.6772	* 1.3827	* 1.3602	* .8418
	* 1.7851	* 2.0273	* 1.7992	* 2.3752	* 1.9161	* 2.3343	* 2.2996	* 3.5864
12	* 1.3023	* 1.7029	* 1.4951	* 1.6825	* 1.4084	* 1.4437	* 1.1310	*
	* 2.2754	* 1.7858	* 2.0621	* 1.9102	* 2.3546	* 2.2971	* 2.8921	*
13	* 1.5123	* 1.4716	* 1.5530	* 1.3880	* 1.4491	* 1.2713	* .6983	*
	* 1.9551	* 2.0388	* 1.9604	* 2.3255	* 2.2886	* 2.6083	* 4.7040	*
14	* 1.3741	* 1.4726	* 1.3248	* 1.3645	* 1.1374	* .7133	*	*
	* 2.1134	* 1.9983	* 2.2659	* 2.2935	* 2.8787	* 4.6089	*	*
15	* 1.1792	* .8568	* 1.0796	* .8439	* F-SUB-Q			
	* 2.4244	* 3.3455	* 2.7162	* 3.5775	* M-SUB-Q			

AT 50% POWER, 150 BFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9500	* 1.4608	* 1.3666	* 1.5572	* 1.2124	* 1.4105	* 1.2981	* 1.1128
	* 3.1101	* 2.0011	* 2.1041	* 1.8272	* 2.3131	* 1.9846	* 2.1216	* 2.4408
9	* 1.4608	* 1.1770	* 1.5701	* 1.3805	* 1.5669	* 1.3741	* 1.3816	* .8118
	* 2.0011	* 2.4560	* 1.8436	* 2.0799	* 1.8412	* 2.0611	* 2.0151	* 3.3507
10	* 1.3666	* 1.5712	* 1.4009	* 1.5744	* 1.3805	* 1.4405	* 1.2434	* 1.0100
	* 2.1041	* 1.8412	* 2.0650	* 1.8436	* 2.0960	* 1.9882	* 2.2742	* 2.7472
11	* 1.5572	* 1.3827	* 1.5744	* 1.2316	* 1.5551	* 1.2948	* 1.2756	* .7893
	* 1.8272	* 2.0759	* 1.8358	* 2.3804	* 1.9161	* 2.3032	* 2.2850	* 3.5953
12	* 1.2124	* 1.5733	* 1.3869	* 1.5604	* 1.3184	* 1.3548	* 1.0678	*
	* 2.3131	* 1.8280	* 2.0859	* 1.9102	* 2.3131	* 2.2541	* 2.8060	*
13	* 1.4105	* 1.3794	* 1.4480	* 1.3002	* 1.3591	* 1.2027	* .6619	*
	* 1.9846	* 2.0523	* 1.9792	* 2.2947	* 2.2471	* 2.5545	* 4.5749	*
14	* 1.2981	* 1.3837	* 1.2466	* 1.2798	* 1.0742	* .6769	*	*
	* 2.1216	* 2.0123	* 2.2695	* 2.2790	* 2.7933	* 4.4802	*	*
15	* 1.1128	* .8118	* 1.0110	* .7915	* F-SUB-Q			
	* 2.4408	* 3.3507	* 2.7438	* 3.5864	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 150 HFPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7840 *	* 1.1674 *	* 1.1053 *	* 1.2595 *	* 1.0153 *	* 1.1770 *	* 1.1256 *	* .9393 *
	* 3.5395 *	* 2.3623 *	* 2.4799 *	* 2.1533 *	* 2.6449 *	* 2.2659 *	* 2.3495 *	* 2.7843 *
9	* 1.1674 *	* .9660 *	* 1.2574 *	* 1.1203 *	* 1.2873 *	* 1.1663 *	* 1.1770 *	* .7101 *
	* 2.3623 *	* 2.8391 *	* 2.1925 *	* 2.4463 *	* 2.1185 *	* 2.3180 *	* 2.2671 *	* 3.6840 *
10	* 1.1053 *	* 1.2584 *	* 1.1342 *	* 1.2691 *	* 1.1449 *	* 1.1984 *	* 1.0635 *	* .8354 *
	* 2.4799 *	* 2.1903 *	* 2.4326 *	* 2.1662 *	* 2.3976 *	* 2.2826 *	* 2.5395 *	* 3.1716 *
11	* 1.2595 *	* 1.1235 *	* 1.2745 *	* 1.0271 *	* 1.2649 *	* 1.0913 *	* 1.0710 *	* .6640 *
	* 2.1533 *	* 2.4380 *	* 2.1576 *	* 2.7094 *	* 2.2127 *	* 2.5666 *	* 2.5803 *	* 4.0833 *
12	* 1.0153 *	* 1.2927 *	* 1.1503 *	* 1.2691 *	* 1.0967 *	* 1.1395 *	* .9104 *	
	* 2.6449 *	* 2.1092 *	* 2.3844 *	* 2.2059 *	* 2.6052 *	* 2.5101 *	* 3.1101 *	
13	* 1.1770 *	* 1.1717 *	* 1.2027 *	* 1.0956 *	* 1.1438 *	* 1.0207 *	* .5751 *	
	* 2.2659 *	* 2.3094 *	* 2.2730 *	* 2.5575 *	* 2.4999 *	* 2.8078 *	* 4.9400 *	
14	* 1.1256 *	* 1.1781 *	* 1.0667 *	* 1.0753 *	* .9157 *	* .5880 *		
	* 2.3495 *	* 2.2647 *	* 2.5350 *	* 2.5727 *	* 3.0946 *	* 4.8353 *		
15	* .9393 *	* .7101 *	* .8365 *	* .6651 *	* F-SUB-Q			
	* 2.7843 *	* 3.6871 *	* 3.1693 *	* 4.0756 *	* M-SUB-Q			

AT 50% POWER, 150 HFPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .4959 *	* .4134 *	* .6587 *	* .4659 *	* .6372 *	* .7968 *	* .7240 *	* .5612 *
	* 5.2899 *	* 6.3154 *	* 3.9783 *	* 5.5544 *	* 4.0452 *	* 3.2307 *	* 3.5453 *	* 4.5271 *
9	* .4134 *	* .5944 *	* .4616 *	* .6769 *	* .5023 *	* .7336 *	* .7636 *	* .4627 *
	* 6.3154 *	* 4.4118 *	* 5.6707 *	* 3.8786 *	* 5.1576 *	* 3.5366 *	* 3.3715 *	* 5.5049 *
10	* .6587 *	* .4616 *	* .6651 *	* .4766 *	* .6908 *	* .7872 *	* .6704 *	* .2892 *
	* 3.9783 *	* 5.6633 *	* 3.9565 *	* 5.4980 *	* 3.8037 *	* 3.3429 *	* 3.8960 *	* 8.8416 *
11	* .4659 *	* .6790 *	* .4787 *	* .6480 *	* .4884 *	* .6747 *	* .6640 *	* .4188 *
	* 5.5544 *	* 3.8648 *	* 5.4840 *	* 4.1026 *	* 5.4564 *	* 3.9783 *	* 4.0152 *	* 6.2426 *
12	* .6372 *	* .5055 *	* .6940 *	* .4894 *	* .6704 *	* .7079 *	* .5633 *	
	* 4.0452 *	* 5.1271 *	* 3.7871 *	* 5.4427 *	* 4.0301 *	* 3.8786 *	* 4.8191 *	
13	* .7968 *	* .7347 *	* .7904 *	* .6769 *	* .7101 *	* .6255 *	* .3684 *	
	* 3.2307 *	* 3.5309 *	* 3.3300 *	* 3.9638 *	* 3.8648 *	* 4.4028 *	* 7.4312 *	
14	* .7240 *	* .7636 *	* .6726 *	* .6662 *	* .5666 *	* .3759 *		
	* 3.5453 *	* 3.3715 *	* 3.8890 *	* 4.0004 *	* 4.7925 *	* 7.2813 *		
15	* .5612 *	* .4627 *	* .2892 *	* .4198 *	* F-SUB-Q			
	* 4.5271 *	* 5.5049 *	* 8.8236 *	* 6.2247 *	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 415 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.5666	.5730	.8675	.6972	.8889	.9714	.7283	.5387
	2.2330	2.6913	1.8011	2.3080	1.8162	1.5735	1.6943	2.1065
9	.5730	.7229	.6276	.9168	.7154	.9618	.8932	.5473
	2.6913	1.9774	2.3653	1.7614	2.2663	1.6752	1.6511	2.5060
10	.8675	.6276	.7208	.6480	.9382	1.0132	.8814	.4305
	1.8011	2.3640	1.7800	2.3706	1.7864	1.6574	1.8692	3.6919
11	.6972	.9200	.6490	.7883	.6426	.8782	.8750	.6040
	2.3080	1.7567	2.3688	1.9609	2.5790	1.9183	1.9102	2.7464
12	.8889	.7176	.9403	.6437	.7026	.7840	.7229	
	1.8162	2.2550	1.7827	2.5769	1.8839	1.8941	2.2934	
13	.9714	.9639	1.0153	.8793	.7861	.6662	.4937	
	1.5735	1.6711	1.6548	1.9160	1.8919	2.1073	3.2601	
14	.7283	.8943	.8825	.8761	.7251	.5002		
	1.6943	1.6511	1.8681	1.9079	2.2867	3.2233		
15	.5387	.5473	.4316	.6040	F-SUB-Q			
	2.1065	2.5066	3.6889	2.7441	M-SUB-Q			

AT 50% POWER, 415 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.7219	1.2424	1.2466	1.4437	1.2242	1.3077	.9585	.7486
	2.1018	1.5752	1.5986	1.4299	1.6868	1.5146	1.6245	1.9178
9	1.2424	1.0142	1.3548	1.2906	1.4373	1.2991	1.2124	.7058
	1.5752	1.8020	1.4592	1.5791	1.4370	1.5803	1.5952	2.4385
10	1.2466	1.3559	.9628	1.3709	1.2916	1.3323	1.1802	.9553
	1.5986	1.4587	1.5763	1.4667	1.6350	1.5976	1.7681	2.0965
11	1.4437	1.2940	1.3741	1.0603	1.3163	1.1792	1.1877	.8065
	1.4299	1.5764	1.4661	1.8361	1.5944	1.8186	1.7983	2.6229
12	1.2242	1.4437	1.2948	1.3184	.8804	1.0442	.9650	
	1.6868	1.4313	1.6310	1.5931	1.7726	1.7742	2.1801	
13	1.3077	1.3023	1.3345	1.1813	1.0464	.8804	.6426	
	1.5146	1.5760	1.5945	1.8152	1.7718	1.9794	3.1273	
14	.9585	1.2134	1.1813	1.1888	.9671	.6490		
	1.6245	1.5952	1.7673	1.7966	2.1739	3.0922		
15	.7486	.7058	.9553	.8075	F-SUB-Q			
	1.9178	2.4395	2.0965	2.6211	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 415 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.8300	1.4469	1.4405	1.6654	1.3709	1.4844	1.0678	.8557
	2.0854	1.5330	1.5630	1.3899	1.6867	1.5149	1.6729	1.9432
9	1.4469	1.1620	1.5797	1.4801	1.6504	1.4437	1.3516	.7733
	1.5330	1.7765	1.4168	1.5463	1.4082	1.6000	1.6135	2.5329
10	1.4405	1.5797	1.1245	1.5776	1.4437	1.5015	1.2938	1.0710
	1.5630	1.4163	1.5444	1.4258	1.6199	1.5849	1.8090	2.1069
11	1.6654	1.4844	1.5808	1.1910	1.4705	1.2916	1.3109	.8868
	1.3899	1.5454	1.4253	1.8269	1.5646	1.8448	1.8083	2.6519
12	1.3709	1.6579	1.4469	1.4716	.9864	1.1385	1.0389	
	1.6867	1.4027	1.6163	1.5634	1.7880	1.7926	2.2429	
13	1.4844	1.4469	1.5037	1.2938	1.1406	.9382	.6737	
	1.5149	1.5957	1.5819	1.8415	1.7903	2.0332	3.2590	
14	1.0678	1.3537	1.2948	1.3130	1.0410	.6812		
	1.6729	1.6135	1.8082	1.8060	2.2368	3.2256		
15	.8557	.7743	1.0721	.8868	F-SUB-Q			
	1.9432	2.5345	2.1069	2.6519	M-SUB-Q			

AT 50% POWER, 415 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.8825	1.5508	1.5294	1.7725	1.4266	1.5690	1.1813	.9746
	2.1580	1.5900	1.6268	1.4290	1.7587	1.5807	1.7752	2.0521
9	1.5508	1.2445	1.6890	1.5583	1.7372	1.5005	1.4159	.8107
	1.5900	1.8509	1.4634	1.6092	1.4624	1.6837	1.6995	2.6823
10	1.5294	1.6890	1.2606	1.6697	1.5048	1.5626	1.3366	1.1192
	1.6268	1.4629	1.6146	1.4786	1.6913	1.6499	1.9053	2.2068
11	1.7725	1.5615	1.6729	1.2477	1.5422	1.3173	1.3441	.9071
	1.4290	1.6086	1.4776	1.9053	1.6346	1.9449	1.8955	2.7870
12	1.4266	1.7436	1.5080	1.5433	1.0164	1.1513	1.0453	
	1.7587	1.4568	1.6878	1.6327	1.8929	1.8954	2.3832	
13	1.5690	1.5037	1.5647	1.3195	1.1535	.9371	.6683	
	1.5807	1.6790	1.6466	1.9413	1.8929	2.1640	3.4771	
14	1.1813	1.4159	1.3366	1.3452	1.0474	.6758		
	1.7752	1.7000	1.9053	1.8938	2.3777	3.4423		
15	.9746	.8107	1.1192	.9071	F-SUB-Q			
	2.0521	2.6827	2.2068	2.7870	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 415 EFPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8836	* 1.5690	* 1.5337	* 1.7714	* 1.4094	* 1.5776	* 1.3120	* 1.1138
	* 2.3860	* 1.7696	* 1.8213	* 1.5924	* 1.9678	* 1.7637	* 1.9894	* 2.2911
9	* 1.5690	* 1.2981	* 1.7061	* 1.5508	* 1.7265	* 1.4844	* 1.4373	* .8547
	* 1.7696	* 2.0651	* 1.6278	* 1.8042	* 1.6366	* 1.8910	* 1.8986	* 2.9890
10	* 1.5337	* 1.7061	* 1.4608	* 1.6783	* 1.4908	* 1.5401	* 1.3184	* 1.1224
	* 1.8213	* 1.6278	* 1.8104	* 1.6455	* 1.9020	* 1.8409	* 2.1463	* 2.4654
11	* 1.7714	* 1.5530	* 1.6804	* 1.2745	* 1.5347	* 1.2766	* 1.3066	* .8836
	* 1.5924	* 1.8035	* 1.6442	* 2.1304	* 1.8243	* 2.1842	* 2.1208	* 3.1150
12	* 1.4094	* 1.7350	* 1.4940	* 1.5358	* .9928	* 1.1053	* 1.0025	*
	* 1.9678	* 1.6303	* 1.8986	* 1.8223	* 2.1413	* 2.1433	* 2.7021	*
13	* 1.5776	* 1.4876	* 1.5422	* 1.2777	* 1.1074	* .8911	* .6340	*
	* 1.7637	* 1.8860	* 1.8385	* 2.1809	* 2.1400	* 2.4583	* 3.9369	*
14	* 1.3120	* 1.4373	* 1.3195	* 1.3077	* 1.0046	* .6405	*	*
	* 1.9894	* 1.8995	* 2.1455	* 2.1198	* 2.6969	* 3.8959	*	*
15	* 1.1138	* .8547	* 1.1224	* .8836	* F-SUB-Q			
	* 2.2911	* 2.9911	* 2.4668	* 3.1150	* M-SUB-Q			

AT 50% POWER, 415 EFPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9018	* 1.6108	* 1.5690	* 1.8089	* 1.4298	* 1.6236	* 1.4137	* 1.2209
	* 2.5989	* 1.9358	* 2.0233	* 1.7366	* 2.1221	* 1.9341	* 2.2152	* 2.5332
9	* 1.6108	* 1.3527	* 1.7650	* 1.5840	* 1.7629	* 1.5101	* 1.4940	* .9232
	* 1.9358	* 2.2984	* 1.8094	* 1.9887	* 1.7716	* 2.0562	* 2.1110	* 3.2923
10	* 1.5690	* 1.7650	* 1.5669	* 1.7468	* 1.5123	* 1.5594	* 1.3377	* 1.1578
	* 2.0233	* 1.8094	* 2.0275	* 1.8301	* 2.0621	* 1.9768	* 2.2917	* 2.6618
11	* 1.8089	* 1.5851	* 1.7479	* 1.3238	* 1.5583	* 1.2756	* 1.3120	* .8900
	* 1.7366	* 1.9850	* 1.8286	* 2.3574	* 1.9968	* 2.3857	* 2.3027	* 3.3605
12	* 1.4298	* 1.7704	* 1.5155	* 1.5594	* .9939	* 1.0988	* .9971	*
	* 2.1221	* 1.7636	* 2.0581	* 1.9949	* 2.3717	* 2.3656	* 2.9771	*
13	* 1.6236	* 1.5133	* 1.5615	* 1.2766	* 1.0999	* .8804	* .6276	*
	* 1.9341	* 2.0522	* 1.9741	* 2.3831	* 2.3623	* 2.7083	* 4.3112	*
14	* 1.4137	* 1.4940	* 1.3377	* 1.3130	* .9982	* .6340	*	*
	* 2.2152	* 2.1120	* 2.2917	* 2.3015	* 2.9714	* 4.2674	*	*
15	* 1.2209	* .9221	* 1.1567	* .8900	* F-SUB-Q			
	* 2.5332	* 3.2949	* 2.6635	* 3.3632	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
 Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 50% POWER, 415 EFPD, THIS IS LEVEL 12 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8879	* 1.5894	* 1.5412	* 1.7789	* 1.3987	* 1.6001	* 1.4052	* 1.2242
	* 2.9656	* 2.1914	* 2.2401	* 1.9264	* 2.3739	* 2.1196	* 2.4176	* 2.7665
9	* 1.5894	* 1.3334	* 1.7436	* 1.5551	* 1.7329	* 1.4812	* 1.4823	* .9211
	* 2.1914	* 2.5570	* 1.9892	* 2.2127	* 1.9675	* 2.2826	* 2.2838	* 3.5920
10	* 1.5412	* 1.7447	* 1.5476	* 1.7275	* 1.4801	* 1.5283	* 1.3109	* 1.1438
	* 2.2401	* 1.9892	* 2.2506	* 2.0067	* 2.2996	* 2.2070	* 2.5455	* 2.8999
11	* 1.7789	* 1.5562	* 1.7286	* 1.3034	* 1.5272	* 1.2402	* 1.2809	* .8707
	* 1.9264	* 2.2093	* 2.0057	* 2.6025	* 2.2378	* 2.7027	* 2.5911	* 3.7608
12	* 1.3987	* 1.7404	* 1.4823	* 1.5283	* .9693	* 1.0667	* .9682	*
	* 2.3739	* 1.9586	* 2.2959	* 2.2355	* 2.6763	* 2.6542	* 3.3484	*
13	* 1.6001	* 1.4844	* 1.5305	* 1.2413	* 1.0689	* .8536	* .6073	*
	* 2.1196	* 2.2778	* 2.2048	* 2.7010	* 2.6510	* 3.0408	* 4.8338	*
14	* 1.4052	* 1.4823	* 1.3109	* 1.2809	* .9693	* .6137	*	*
	* 2.4176	* 2.2838	* 2.5455	* 2.5911	* 3.3432	* 4.7835	*	*
15	* 1.2242	* .9211	* 1.1438	* .8697	* F-SUB-Q			
	* 2.7665	* 3.5950	* 2.9018	* 3.7640	* M-SUB-Q			

AT 50% POWER, 415 EFPD, THIS IS LEVEL 11 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8686	* 1.5455	* 1.4919	* 1.7254	* 1.3516	* 1.5540	* 1.3666	* 1.1974
	* 3.4867	* 2.5086	* 2.5757	* 2.2104	* 2.7602	* 2.4149	* 2.7162	* 3.0661
9	* 1.5455	* 1.2927	* 1.6933	* 1.5037	* 1.6793	* 1.4330	* 1.4437	* .8986
	* 2.5086	* 2.9525	* 2.2730	* 2.5440	* 2.2576	* 2.6146	* 2.5803	* 4.0399
10	* 1.4919	* 1.6933	* 1.4973	* 1.6761	* 1.4298	* 1.4801	* 1.2691	* 1.1138
	* 2.5757	* 2.2730	* 2.5681	* 2.2886	* 2.6514	* 2.5365	* 2.9155	* 3.2772
11	* 1.7254	* 1.5037	* 1.6772	* 1.2616	* 1.4801	* 1.1984	* 1.2413	* .8429
	* 2.2104	* 2.5440	* 2.2862	* 3.0044	* 2.5773	* 3.1349	* 2.9858	* 4.3151
12	* 1.3516	* 1.6868	* 1.4319	* 1.4823	* .9436	* 1.0357	* .9371	*
	* 2.7602	* 2.2483	* 2.6482	* 2.5742	* 3.0976	* 3.0529	* 3.8568	*
13	* 1.5540	* 1.4362	* 1.4823	* 1.1995	* 1.0378	* .8300	* .5880	*
	* 2.4149	* 2.6099	* 2.5350	* 3.1326	* 3.0485	* 3.4908	* 5.5976	*
14	* 1.3666	* 1.4426	* 1.2691	* 1.2413	* .9382	* .5944	*	*
	* 2.7162	* 2.5819	* 2.9155	* 2.9858	* 3.8500	* 5.5340	*	*
15	* 1.1974	* .8975	* 1.1138	* .8429	* F-SUB-Q			
	* 3.0661	* 4.0437	* 3.2796	* 4.3194	* M-SUB-Q			



Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 50% POWER, 415 RFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8750	* 1.5337	* 1.4726	* 1.7082	* 1.3334	* 1.5401	* 1.3548	* 1.1931
	* 3.8384	* 2.7987	* 3.0003	* 2.5635	* 3.2414	* 2.7843	* 3.1124	* 3.4743
9	* 1.5337	* 1.2777	* 1.6793	* 1.4833	* 1.6654	* 1.4159	* 1.4330	* .8932
	* 2.7987	* 3.4405	* 2.6321	* 2.9633	* 2.6146	* 3.0296	* 2.9532	* 4.6291
10	* 1.4726	* 1.6793	* 1.4769	* 1.6622	* 1.4116	* 1.4662	* 1.2574	* 1.1096
	* 3.0003	* 2.6321	* 2.9879	* 2.6498	* 3.0880	* 2.9352	* 3.3611	* 3.7380
11	* 1.7082	* 1.4833	* 1.6622	* 1.2488	* 1.4673	* 1.1877	* 1.2338	* .8386
	* 2.5635	* 2.9633	* 2.6482	* 3.5190	* 2.9096	* 3.5338	* 3.4384	* 4.9344
12	* 1.3334	* 1.6718	* 1.4137	* 1.4683	* .9478	* 1.0367	* .9339	*
	* 3.2414	* 2.6036	* 3.0836	* 2.9076	* 3.4521	* 3.4086	* 4.2980	*
13	* 1.5401	* 1.4180	* 1.4673	* 1.1877	* 1.0378	* .8354	* .5880	*
	* 2.7843	* 3.0254	* 2.9332	* 3.5309	* 3.4033	* 3.8995	* 6.3168	*
14	* 1.3548	* 1.4319	* 1.2574	* 1.2338	* .9350	* .5944	*	*
	* 3.1124	* 2.9552	* 3.3637	* 3.4384	* 4.2938	* 6.2436	*	*
15	* 1.1931	* .8932	* 1.1085	* .8375	* F-SUB-Q			
	* 3.4743	* 4.6341	* 3.7413	* 4.9400	* M-SUB-Q			

AT 50% POWER, 415 RFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8472	* 1.4812	* 1.4148	* 1.6440	* 1.2788	* 1.4823	* 1.3045	* 1.1513
	* 4.2144	* 3.0107	* 3.1349	* 2.6960	* 3.4275	* 2.9593	* 3.3455	* 3.7542
9	* 1.4812	* 1.2284	* 1.6172	* 1.4234	* 1.6022	* 1.3602	* 1.3816	* .8600
	* 3.0107	* 3.6103	* 2.7525	* 3.1101	* 2.7595	* 3.2259	* 3.1670	* 5.0260
10	* 1.4148	* 1.6161	* 1.4180	* 1.5990	* 1.3559	* 1.4137	* 1.2124	* 1.0710
	* 3.1349	* 2.7542	* 3.1326	* 2.7843	* 3.2673	* 3.1281	* 3.6315	* 4.0490
11	* 1.6440	* 1.4234	* 1.6001	* 1.1995	* 1.4180	* 1.1460	* 1.1942	* .8097
	* 2.6960	* 3.1079	* 2.7825	* 3.7092	* 3.1531	* 3.8544	* 3.7188	* 5.3953
12	* 1.2788	* 1.6086	* 1.3580	* 1.4191	* .9200	* 1.0089	* .9071	*
	* 3.4275	* 2.7472	* 3.2623	* 3.1508	* 3.7706	* 3.7156	* 4.6786	*
13	* 1.4823	* 1.3623	* 1.4148	* 1.1470	* 1.0100	* .8161	* .5719	*
	* 2.9593	* 3.2197	* 3.1258	* 3.8544	* 3.7124	* 4.2558	* 6.8987	*
14	* 1.3045	* 1.3816	* 1.2113	* 1.1931	* .9082	* .5783	*	*
	* 3.3455	* 3.1693	* 3.6315	* 3.7220	* 4.6736	* 6.8334	*	*
15	* 1.1513	* .8600	* 1.0710	* .8086	* F-SUB-Q			
	* 3.7542	* 5.0318	* 4.0490	* 5.4020	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 50% POWER, 415 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8547	* 1.4919	* 1.4201	* 1.6536	* 1.2820	* 1.4908	* 1.3098	* 1.1610
	* 4.0301	* 2.8653	* 2.9879	* 2.5620	* 3.2404	* 2.7790	* 3.1168	* 3.4659
9	* 1.4919	* 1.2349	* 1.6290	* 1.4276	* 1.6129	* 1.3634	* 1.3902	* .8664
	* 2.8653	* 3.4357	* 2.6193	* 2.9613	* 2.6099	* 3.0360	* 2.9512	* 4.6385
10	* 1.4201	* 1.6290	* 1.4223	* 1.6119	* 1.3623	* 1.4244	* 1.2209	* 2.0817
	* 2.9879	* 2.6193	* 2.9879	* 2.6465	* 3.1012	* 2.9492	* 3.3873	* 3.7380
11	* 1.6536	* 1.4276	* 1.6129	* 1.2081	* 1.4298	* 1.1567	* 1.2092	* .8193
	* 2.5620	* 2.9633	* 2.6465	* 3.5251	* 2.9735	* 3.5924	* 3.4687	* 5.0028
12	* 1.2820	* 1.6194	* 1.3634	* 1.4309	* .9296	* 1.0271	* .9232	
	* 3.2404	* 2.6005	* 3.0968	* 2.9735	* 3.5924	* 3.4882	* 4.3237	
13	* 1.4908	* 1.3666	* 1.4255	* 1.1578	* 1.0282	* .8365	* .5858	
	* 2.7790	* 3.0318	* 2.9472	* 3.5924	* 3.4854	* 3.9820	* 6.3712	
14	* 1.3098	* 1.3891	* 1.2199	* 1.2081	* .9243	* .5923		
	* 3.1168	* 2.9532	* 3.3873	* 3.4715	* 4.3194	* 6.3063		
15	* 1.1610	* .8654	* 1.0806	* .8172	* F-SUB-Q			
	* 3.4659	* 4.6385	* 3.7413	* 5.0085	* M-SUB-Q			

AT 50% POWER, 415 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8643	* 1.5015	* 1.4169	* 1.6515	* 1.2734	* 1.4844	* 1.3023	* 1.1567
	* 3.6997	* 2.5247	* 2.6465	* 2.2671	* 2.8806	* 2.4658	* 2.7718	* 3.0792
9	* 1.5015	* 1.2349	* 1.6311	* 1.4223	* 1.6097	* 1.3559	* 1.3848	* .8611
	* 2.5247	* 3.0381	* 2.3143	* 2.6273	* 2.3106	* 2.6993	* 2.6193	* 4.1261
10	* 1.4169	* 1.6311	* 1.4180	* 1.6140	* 1.3602	* 1.4266	* 1.2188	* 1.0806
	* 2.6465	* 2.3143	* 2.6482	* 2.3393	* 2.7472	* 2.6083	* 3.0044	* 3.3173
11	* 1.6515	* 1.4223	* 1.6140	* 1.2092	* 1.4405	* 1.1674	* 1.2177	* .8215
	* 2.2671	* 2.6273	* 2.3380	* 3.1168	* 2.6353	* 3.2428	* 3.0618	* 4.4299
12	* 1.2734	* 1.6161	* 1.3623	* 1.4416	* .9446	* 1.0517	* .9403	
	* 2.8806	* 2.3020	* 2.7455	* 2.6337	* 3.3122	* 3.2044	* 3.9601	
13	* 1.4844	* 1.3580	* 1.4266	* 1.1674	* 1.0528	* .8643	* .6019	
	* 2.4658	* 2.6943	* 2.6083	* 3.2428	* 3.1997	* 3.6560	* 5.8625	
14	* 1.3023	* 1.3837	* 1.2188	* 1.2177	* .9414	* .6094		
	* 2.7718	* 2.6209	* 3.0065	* 3.0618	* 3.9565	* 5.7997		
15	* 1.1567	* .8611	* 1.0796	* .8204	* F-SUB-Q			
	* 3.0792	* 4.1300	* 3.3198	* 4.4389	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - NORMAL OPERATION

AT 50% POWER, 415 RFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9221	* 1.5240	* 1.4159	* 1.6451	* 1.2627	* 1.4726	* 1.2884	* 1.1449
	* 3.2772	* 2.2565	* 2.3831	* 2.0407	* 2.6052	* 2.2286	* 2.5115	* 2.7915
9	* 1.5240	* 1.2424	* 1.6311	* 1.4159	* 1.6011	* 1.3462	* 1.3730	* .8504
	* 2.2565	* 2.7282	* 2.0799	* 2.3687	* 2.0839	* 2.4422	* 2.3700	* 3.7510
10	* 1.4159	* 1.6311	* 1.4159	* 1.6140	* 1.3602	* 1.4276	* 1.2156	* 1.0742
	* 2.3831	* 2.0799	* 2.3844	* 2.1021	* 2.4757	* 2.3469	* 2.7128	* 3.0003
11	* 1.6451	* 1.4159	* 1.6140	* 1.2124	* 1.4662	* 1.1877	* 1.2306	* .8215
	* 2.0407	* 2.3700	* 2.1021	* 2.8041	* 2.3558	* 2.8999	* 2.7438	* 4.0004
12	* 1.2627	* 1.6076	* 1.3612	* 1.4673	* 1.0142	* 1.1063	* .9703	*
	* 2.6052	* 2.0759	* 2.4728	* 2.3546	* 2.9372	* 2.8503	* 3.4967	*
13	* 1.4726	* 1.3473	* 1.4276	* 1.1888	* 1.1074	* .9296	* .6308	*
	* 2.2286	* 2.4380	* 2.3469	* 2.8999	* 2.8484	* 3.2574	* 5.2514	*
14	* 1.2884	* 1.3730	* 1.2145	* 1.2295	* .9714	* .6372	*	*
	* 2.5115	* 2.3700	* 2.7145	* 2.7455	* 3.4939	* 5.1947	*	*
15	* 1.1449	* .8504	* 1.0731	* .8204	* F-SUB-Q			
	* 2.7915	* 3.7542	* 3.0024	* 4.0078	* M-SUB-Q			

AT 50% POWER, 415 RFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0946	* 1.6204	* 1.4758	* 1.7082	* 1.3045	* 1.5230	* 1.3291	* 1.1824
	* 2.7542	* 1.9612	* 2.0879	* 1.7895	* 2.2947	* 1.9630	* 2.2195	* 2.4658
9	* 1.6204	* 1.3066	* 1.7040	* 1.4716	* 1.6622	* 1.3955	* 1.4201	* .8782
	* 1.9612	* 2.3804	* 1.8173	* 2.0799	* 1.8288	* 2.1533	* 2.0889	* 3.3173
10	* 1.4758	* 1.7040	* 1.4737	* 1.6858	* 1.4191	* 1.4930	* 1.2649	* 1.1138
	* 2.0879	* 1.8173	* 2.0899	* 1.8365	* 2.1684	* 2.0542	* 2.3817	* 2.6417
11	* 1.7082	* 1.4705	* 1.6868	* 1.2734	* 1.5626	* 1.2734	* 1.2991	* .8579
	* 1.7895	* 2.0809	* 1.8365	* 2.4463	* 2.0407	* 2.4885	* 2.3883	* 3.5080
12	* 1.3045	* 1.6886	* 1.4201	* 1.5637	* 1.2145	* 1.2788	* 1.0528	*
	* 2.2947	* 1.8219	* 2.1662	* 2.0397	* 2.4799	* 2.4042	* 2.9796	*
13	* 1.5230	* 1.3966	* 1.4930	* 1.2734	* 1.2798	* 1.1021	* .6972	*
	* 1.9630	* 2.1501	* 2.0542	* 2.4870	* 2.4029	* 2.7507	* 4.4208	*
14	* 1.3291	* 1.4191	* 1.2638	* 1.2981	* 1.0539	* .7047	*	*
	* 2.2195	* 2.0899	* 2.3844	* 2.3896	* 2.9755	* 4.3717	*	*
15	* 1.1824	* .8771	* 1.1138	* .8568	* F-SUB-Q			
	* 2.4658	* 3.3198	* 2.6449	* 3.5137	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 415 EFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1738	* 1.6558	* 1.4844	* 1.7147	* 1.3045	* 1.5230	* 1.3291	* 1.1802
	* 2.5291	* 1.7619	* 1.9195	* 1.6511	* 2.1248	* 1.8173	* 2.0572	* 2.2898
9	* 1.6558	* 1.3227	* 1.7136	* 1.4769	* 1.6675	* 1.4019	* 1.4234	* .8739
	* 1.7619	* 2.1738	* 1.6708	* 1.9187	* 1.6910	* 1.9928	* 1.9332	* 3.0902
10	* 1.4844	* 1.7136	* 1.4833	* 1.6965	* 1.4309	* 1.5080	* 1.2723	* 1.1160
	* 1.9195	* 1.6714	* 1.9204	* 1.6884	* 1.9919	* 1.8836	* 2.1936	* 2.4477
11	* 1.7147	* 1.4758	* 1.6975	* 1.2927	* 1.6033	* 1.3109	* 1.3216	* .8632
	* 1.6511	* 1.9195	* 1.6877	* 2.2343	* 1.8234	* 2.2390	* 2.1716	* 3.2380
12	* 1.3045	* 1.6708	* 1.4319	* 1.6044	* 1.3216	* 1.3655	* 1.0713	*
	* 2.1248	* 1.6844	* 1.9901	* 1.8219	* 2.2506	* 2.1749	* 2.6893	*
13	* 1.5230	* 1.4019	* 1.5080	* 1.3109	* 1.3677	* 1.1920	* .7294	*
	* 1.8173	* 1.9901	* 1.8836	* 2.2378	* 2.1727	* 2.4799	* 4.0301	*
14	* 1.3291	* 1.4223	* 1.2713	* 1.3205	* 1.0924	* .7379	*	*
	* 2.0572	* 1.9341	* 2.1947	* 2.1727	* 2.6859	* 3.9856	*	*
15	* 1.1802	* .8739	* 1.1149	* .8622	* F-SUB-Q			
	* 2.2898	* 3.0924	* 2.4504	* 3.2404	* M-SUB-Q			

AT 50% POWER, 415 EFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1920	* 1.6729	* 1.4919	* 1.7211	* 1.3141	* 1.5347	* 1.3473	* 1.1942
	* 2.2766	* 1.6220	* 1.7888	* 1.5456	* 1.9855	* 1.6990	* 1.9128	* 2.1384
9	* 1.6729	* 1.3366	* 1.7211	* 1.4833	* 1.6750	* 1.4191	* 1.4426	* .8868
	* 1.6220	* 2.0048	* 1.5618	* 1.7932	* 1.5864	* 1.8499	* 1.8007	* 2.8787
10	* 1.4919	* 1.7200	* 1.4940	* 1.7040	* 1.4448	* 1.5294	* 1.2927	* 1.1278
	* 1.7888	* 1.5618	* 1.7888	* 1.5766	* 1.8483	* 1.7427	* 2.0292	* 2.2862
11	* 1.7211	* 1.4833	* 1.7050	* 1.3109	* 1.6311	* 1.3420	* 1.3484	* .8750
	* 1.5456	* 1.7940	* 1.5760	* 2.0513	* 1.6695	* 2.0311	* 1.9892	* 3.0044
12	* 1.3141	* 1.6798	* 1.4459	* 1.6322	* 1.3634	* 1.4148	* 1.1256	*
	* 1.9855	* 1.5794	* 1.8467	* 1.6689	* 2.0207	* 1.9489	* 2.4203	*
13	* 1.5347	* 1.4201	* 1.5294	* 1.3420	* 1.4169	* 1.2424	* .7593	*
	* 1.6990	* 1.8491	* 1.7420	* 2.0302	* 1.9471	* 2.2252	* 3.5953	*
14	* 1.3473	* 1.4416	* 1.2927	* 1.3473	* 1.1267	* .7690	*	*
	* 1.9128	* 1.8014	* 2.0311	* 1.9901	* 2.4176	* 3.5541	*	*
15	* 1.1942	* .8857	* 1.1267	* .8739	* F-SUB-Q			
	* 2.1384	* 2.8806	* 2.2886	* 3.0086	* M-SUB-Q			

Appendix A

TABLE 1 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - NORMAL OPERATION

AT 50% POWER, 415 BFPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0849	* 1.5026	* 1.3495	* 1.5476	* 1.2081	* 1.4159	* 1.2681	* 1.1010
	* 2.3674	* 1.7030	* 1.8845	* 1.6380	* 2.0680	* 1.7619	* 1.9533	* 2.2320
9	* 1.5026	* 1.2188	* 1.5476	* 1.3398	* 1.5144	* 1.3184	* 1.3398	* .8386
	* 1.7030	* 2.0839	* 1.6517	* 1.8952	* 1.6663	* 1.9060	* 1.8594	* 2.9313
10	* 1.3495	* 1.5465	* 1.3516	* 1.5337	* 1.3184	* 1.4105	* 1.2092	* 1.0324
	* 1.8845	* 1.6523	* 1.8845	* 1.6682	* 1.9281	* 1.7992	* 2.0769	* 2.4002
11	* 1.5476	* 1.3388	* 1.5347	* 1.2070	* 1.4833	* 1.2434	* 1.2434	* .8075
	* 1.6380	* 1.8952	* 1.6669	* 2.1134	* 1.7343	* 2.0789	* 2.0523	* 3.1191
12	* 1.2081	* 1.5208	* 1.3205	* 1.4855	* 1.2595	* 1.3152	* 1.0560	
	* 2.0680	* 1.6599	* 1.9255	* 1.7330	* 2.0719	* 1.9864	* 2.4602	
13	* 1.4159	* 1.3195	* 1.4116	* 1.2434	* 1.3173	* 1.1652	* .7240	
	* 1.7619	* 1.9052	* 1.7984	* 2.0779	* 1.9846	* 2.2448	* 3.5894	
14	* 1.2681	* 1.3388	* 1.2092	* 1.2434	* 1.0581	* .7326		
	* 1.9533	* 1.8602	* 2.0779	* 2.0533	* 2.4574	* 3.5511		
15	* 1.1010	* .8375	* 1.0314	* .8065	* F-SUB-Q			
	* 2.2320	* 2.9332	* 2.4015	* 3.1213	* M-SUB-Q			

AT 50% POWER, 415 BFPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7508	* .6801	* .8964	* .7101	* .8397	* 1.0067	* .9157	* .7465
	* 3.2501	* 3.5805	* 2.7231	* 3.4140	* 2.8634	* 2.3962	* 2.6289	* 3.2021
9	* .6801	* .8311	* .7079	* .8943	* .7186	* .9318	* .9650	* .6105
	* 3.5805	* 2.9293	* 3.4330	* 2.7282	* 3.3637	* 2.6083	* 2.4999	* 3.9207
10	* .8964	* .7079	* .8986	* .7069	* .9061	* 1.0025	* .8600	* .4402
	* 2.7231	* 3.4330	* 2.7248	* 3.4411	* 2.7010	* 2.4394	* 2.8335	* 5.4427
11	* .7101	* .8943	* .7079	* .8354	* .6972	* .8718	* .8654	* .5687
	* 3.4140	* 2.7282	* 3.4384	* 2.9293	* 3.5309	* 2.8409	* 2.8559	* 4.2853
12	* .8397	* .7208	* .9071	* .6983	* .8632	* .9168	* .7422	
	* 2.8634	* 3.3532	* 2.6976	* 3.5280	* 2.8999	* 2.7507	* 3.3741	
13	* 1.0067	* .9328	* 1.0035	* .8718	* .9178	* .8140	* .5173	
	* 2.3962	* 2.6052	* 2.4380	* 2.8391	* 2.7472	* 3.1124	* 4.8788	
14	* .9157	* .9639	* .8600	* .8654	* .7433	* .5237		
	* 2.6289	* 2.5028	* 2.8335	* 2.8559	* 3.3689	* 4.8138		
15	* .7465	* .6094	* .4391	* .5676	* F-SUB-Q			
	* 3.2021	* 3.9243	* 5.4427	* 4.2895	* M-SUB-Q			

TABLE 2

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 100% POWER, 4 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.3813	.2945	.5644	.3502	.5698	.6544	.6148	.4798
	* 2.7133	* 3.8753	* 2.1069	* 3.3818	* 2.0799	* 1.7983	* 1.9195	* 2.4357
9	.2945	.5098	.3406	.5987	.3834	.6265	.6297	.4230
	* 3.8753	* 2.3085	* 3.4776	* 1.9691	* 3.0699	* 1.8809	* 1.8613	* 2.7608
10	.5644	.3406	.5826	.3566	.6062	.6351	.5805	.2410
	* 2.1069	* 3.4700	* 2.0088	* 3.2775	* 1.9336	* 1.8292	* 2.0165	* 4.8121
11	.3502	.6008	.3577	.5633	.3588	.5805	.5484	.3963
	* 3.3818	* 1.9621	* 3.2650	* 1.9864	* 3.0690	* 1.9215	* 2.0741	* 2.9059
12	.5698	.3856	.6083	.3599	.5355	.5205	.4798	
	* 2.0799	* 3.0521	* 1.9265	* 3.0631	* 1.8742	* 1.9472	* 2.2984	
13	.6544	.6297	.6372	.5816	.5226	.4712	.3277	
	* 1.7983	* 1.8742	* 1.8250	* 1.9168	* 1.9424	* 2.1069	* 3.2970	
14	.6148	.6297	.5816	.5494	.4819	.3342		
	* 1.9195	* 1.8610	* 2.0118	* 2.0686	* 2.2884	* 3.2305		
15	.4798	.4230	.2420	.3973	F-SUB-Q			
	* 2.4357	* 2.7615	* 4.8099	* 2.8961	M-SUB-Q			

AT 100% POWER, 4 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.5633	.8332	.8354	.9286	.8129	.8975	.9168	.7775
	* 2.4061	* 1.7691	* 1.7902	* 1.6049	* 1.8292	* 1.6455	* 1.6102	* 1.8801
9	.8332	.7433	.9082	.8675	.9650	.9350	.9104	.6340
	* 1.7691	* 1.9911	* 1.6397	* 1.7179	* 1.5293	* 1.5788	* 1.6143	* 2.3127
10	.8354	.9093	.8771	.9307	.9018	.8911	.8761	.7036
	* 1.7902	* 1.6371	* 1.6957	* 1.5624	* 1.6344	* 1.6538	* 1.6751	* 2.0691
11	.9286	.8707	.9328	.8022	.9382	.8729	.8504	.6030
	* 1.6049	* 1.7120	* 1.5601	* 1.7971	* 1.5377	* 1.6523	* 1.6868	* 2.4066
12	.8129	.9693	.9061	.9414	.7915	.8354	.7668	
	* 1.8292	* 1.5223	* 1.6277	* 1.5330	* 1.6100	* 1.6316	* 1.8429	
13	.8975	.9371	.8954	.8750	.8386	.8032	.5055	
	* 1.6455	* 1.5751	* 1.6469	* 1.6469	* 1.6263	* 1.6794	* 2.7492	
14	.9168	.9125	.8782	.8536	.7700	.5173		
	* 1.6102	* 1.6127	* 1.6709	* 1.6821	* 1.8356	* 2.6885		
15	.7775	.6330	.7047	.6051	F-SUB-Q			
	* 1.8801	* 2.3131	* 2.0650	* 2.3980	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 100% POWER, 4 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7765	* 1.1010	* 1.0903	* 1.1974	* 1.0153	* 1.1085	* 1.1149	* .9757
	* 2.0796	* 1.4847	* 1.5108	* 1.3679	* 1.6036	* 1.4724	* 1.4571	* 1.6497
9	* 1.1010	* .9596	* 1.1910	* 1.1213	* 1.2134	* 1.1535	* 1.1256	* .7647
	* 1.4847	* 1.6979	* 1.3778	* 1.4643	* 1.3414	* 1.4127	* 1.4389	* 2.0991
10	* 1.0903	* 1.1920	* 1.1428	* 1.2134	* 1.1363	* 1.1256	* 1.0817	* .8986
	* 1.5108	* 1.3767	* 1.4349	* 1.3328	* 1.4302	* 1.4460	* 1.4969	* 1.7854
11	* 1.1974	* 1.1245	* 1.2156	* 1.0282	* 1.2124	* 1.1021	* 1.0817	* .7604
	* 1.3679	* 1.4602	* 1.3311	* 1.5648	* 1.3302	* 1.4602	* 1.4754	* 2.1080
12	* 1.0153	* 1.2188	* 1.1417	* 1.2145	* 1.1224	* 1.1074	* .9714	
	* 1.6036	* 1.3354	* 1.4252	* 1.3302	* 1.4107	* 1.4221	* 1.6331	
13	* 1.1085	* 1.1578	* 1.1299	* 1.1053	* 1.1106	* 1.0581	* .6255	
	* 1.4724	* 1.4078	* 1.4399	* 1.4552	* 1.4174	* 1.4807	* 2.5051	
14	* 1.1149	* 1.1267	* 1.0839	* 1.0860	* .9757	* .6405		
	* 1.4571	* 1.4369	* 1.4936	* 1.4703	* 1.6255	* 2.4458		
15	* .9757	* .7636	* .9007	* .7626	* F-SUB-Q			
	* 1.6497	* 2.1012	* 1.7810	* 2.1015	* M-SUB-Q			

AT 100% POWER, 4 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9082	* 1.2991	* 1.2766	* 1.3966	* 1.1674	* 1.2777	* 1.2713	* 1.1203
	* 1.8873	* 1.3336	* 1.3614	* 1.2377	* 1.4635	* 1.3476	* 1.3486	* 1.5159
9	* 1.2991	* 1.1181	* 1.3998	* 1.3066	* 1.4073	* 1.3248	* 1.2938	* .8654
	* 1.3336	* 1.5329	* 1.2377	* 1.3275	* 1.2228	* 1.2997	* 1.3216	* 1.9441
10	* 1.2766	* 1.4009	* 1.3355	* 1.4234	* 1.3173	* 1.3034	* 1.2402	* 1.0378
	* 1.3614	* 1.2363	* 1.2980	* 1.2061	* 1.3069	* 1.3191	* 1.3794	* 1.6328
11	* 1.3966	* 1.3098	* 1.4266	* 1.1952	* 1.4223	* 1.2777	* 1.2584	* .8739
	* 1.2377	* 1.3232	* 1.2040	* 1.4228	* 1.2067	* 1.3384	* 1.3476	* 1.9425
12	* 1.1674	* 1.4137	* 1.3238	* 1.4255	* 1.3173	* 1.3045	* 1.1278	
	* 1.4635	* 1.2172	* 1.3020	* 1.2040	* 1.2941	* 1.2980	* 1.5019	
13	* 1.2777	* 1.3302	* 1.3098	* 1.2820	* 1.3088	* 1.2424	* .7165	
	* 1.3476	* 1.2949	* 1.3134	* 1.3341	* 1.2933	* 1.3581	* 2.3295	
14	* 1.2713	* 1.2959	* 1.2434	* 1.2627	* 1.1331	* .7347		
	* 1.3486	* 1.3198	* 1.3759	* 1.3426	* 1.4945	* 2.2714		
15	* 1.1203	* .8654	* 1.0399	* .8771	* F-SUB-Q			
	* 1.5159	* 1.9474	* 1.6290	* 1.9353	* M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 100% POWER, 4 WPPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9735	* 1.4041	* 1.3730	* 1.5048	* 1.2456	* 1.3698	* 1.3537	* 1.1942
	* 1.8672	* 1.3114	* 1.3445	* 1.2205	* 1.4493	* 1.3356	* 1.3448	* 1.5105
9	* 1.4041	* 1.1984	* 1.5123	* 1.4030	* 1.5187	* 1.4148	* 1.3848	* .9168
	* 1.3114	* 1.5112	* 1.2170	* 1.3143	* 1.2089	* 1.2937	* 1.3119	* 1.9420
10	* 1.3730	* 1.5144	* 1.4341	* 1.5380	* 1.4148	* 1.4019	* 1.3238	* 1.1096
	* 1.3445	* 1.2156	* 1.2844	* 1.1894	* 1.2970	* 1.3038	* 1.3758	* 1.6260
11	* 1.5048	* 1.4052	* 1.5412	* 1.2820	* 1.5358	* 1.3709	* 1.3516	* .9296
	* 1.2205	* 1.3104	* 1.1874	* 1.4059	* 1.1901	* 1.3300	* 1.3371	* 1.9451
12	* 1.2456	* 1.5251	* 1.4201	* 1.5401	* 1.4159	* 1.4084	* 1.2081	*
	* 1.4493	* 1.2028	* 1.2914	* 1.1874	* 1.2875	* 1.2860	* 1.4989	*
13	* 1.3698	* 1.4212	* 1.4084	* 1.3762	* 1.4126	* 1.3366	* .7626	*
	* 1.3356	* 1.2883	* 1.2983	* 1.3250	* 1.2814	* 1.3532	* 2.3307	*
14	* 1.3537	* 1.3869	* 1.3270	* 1.3570	* 1.2145	* .7818	*	*
	* 1.3448	* 1.3101	* 1.3715	* 1.3321	* 1.4906	* 2.2726	*	*
15	* 1.1942	* .9157	* 1.1117	* .9328	* F-SUB-Q			
	* 1.5105	* 1.9438	* 1.6224	* 1.9365	* M-SUB-Q			

AT 100% POWER, 4 EPPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0560	* 1.5305	* 1.4994	* 1.6397	* 1.3548	* 1.4898	* 1.4737	* 1.3013
	* 1.8255	* 1.2817	* 1.3122	* 1.1935	* 1.4114	* 1.3090	* 1.3170	* 1.4772
9	* 1.5305	* 1.3055	* 1.6515	* 1.5294	* 1.6568	* 1.5412	* 1.5090	* .9939
	* 1.2817	* 1.4706	* 1.1883	* 1.2848	* 1.1817	* 1.2674	* 1.2840	* 1.8980
10	* 1.4994	* 1.6526	* 1.5637	* 1.6783	* 1.5433	* 1.5283	* 1.4405	* 1.2081
	* 1.3122	* 1.1869	* 1.2570	* 1.1651	* 1.2711	* 1.2772	* 1.3493	* 1.5943
11	* 1.6397	* 1.5326	* 1.6825	* 1.3977	* 1.6772	* 1.4962	* 1.4769	* 1.0089
	* 1.1935	* 1.2817	* 1.1626	* 1.3718	* 1.1657	* 1.3059	* 1.3114	* 1.9152
12	* 1.3548	* 1.6643	* 1.5497	* 1.6815	* 1.5444	* 1.5401	* 1.3184	*
	* 1.4114	* 1.1766	* 1.2651	* 1.1632	* 1.2649	* 1.2612	* 1.4731	*
13	* 1.4898	* 1.5476	* 1.5358	* 1.5015	* 1.5455	* 1.4619	* .8279	*
	* 1.3090	* 1.2622	* 1.2711	* 1.3003	* 1.2568	* 1.3282	* 2.2905	*
14	* 1.4737	* 1.5123	* 1.4448	* 1.4833	* 1.3259	* .8493	*	*
	* 1.3170	* 1.2817	* 1.3459	* 1.3059	* 1.4651	* 2.2325	*	*
15	* 1.3013	* .9939	* 1.2102	* 1.0132	* F-SUB-Q			
	* 1.4772	* 1.8997	* 1.5908	* 1.9084	* M-SUB-Q			



TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 100% POWER, 4 RFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0903	* 1.5958	* 1.5615	* 1.7115	* 1.4084	* 1.5540	* 1.5347	* 1.3559
	* 1.8820	* 1.3065	* 1.3396	* 1.2156	* 1.4478	* 1.3355	* 1.3455	* 1.5085
9	* 1.5958	* 1.3559	* 1.7243	* 1.5925	* 1.7307	* 1.6044	* 1.5744	* 1.3314
	* 1.3065	* 1.5075	* 1.2088	* 1.3121	* 1.2021	* 1.2948	* 1.3089	* 1.9813
10	* 1.5615	* 1.7265	* 1.6290	* 1.7543	* 1.6076	* 1.5958	* 1.4994	* 1.2563
	* 1.3396	* 1.2075	* 1.2833	* 1.1850	* 1.2963	* 1.3002	* 1.3789	* 1.6312
11	* 1.7115	* 1.5958	* 1.7586	* 1.4555	* 1.7522	* 1.5594	* 1.5412	* 1.0453
	* 1.2156	* 1.3081	* 1.1824	* 1.4028	* 1.1857	* 1.3314	* 1.3355	* 1.9675
12	* 1.4084	* 1.7393	* 1.6161	* 1.7575	* 1.6097	* 1.6097	* 1.3720	
	* 1.4478	* 1.1968	* 1.2909	* 1.1831	* 1.2909	* 1.2833	* 1.5053	
13	* 1.5540	* 1.6119	* 1.6044	* 1.5658	* 1.6151	* 1.5251	* .8579	
	* 1.3355	* 1.2894	* 1.2940	* 1.3265	* 1.2787	* 1.3547	* 2.3567	
14	* 1.5347	* 1.5776	* 1.5037	* 1.5487	* 1.3805	* .8804		
	* 1.3455	* 1.3065	* 1.3745	* 1.3298	* 1.4970	* 2.2955		
15	* 1.3559	* 1.0303	* 1.2595	* 1.0496	F-SUB-Q			
	* 1.5085	* 1.9531	* 1.6275	* 1.9586	M-SUB-Q			

AT 100% POWER, 4 RFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1031	* 1.6290	* 1.5915	* 1.7511	* 1.4341	* 1.5894	* 1.5679	* 1.3859
	* 1.9734	* 1.3497	* 1.3877	* 1.2558	* 1.5160	* 1.3797	* 1.3913	* 1.5584
9	* 1.6290	* 1.3784	* 1.7650	* 1.6747	* 1.7725	* 1.6376	* 1.6119	* 1.0474
	* 1.3497	* 1.5799	* 1.2485	* 1.3598	* 1.2414	* 1.3421	* 1.3513	* 2.0392
10	* 1.5915	* 1.7671	* 1.6600	* 1.7971	* 1.6408	* 1.6343	* 1.5294	* 1.2788
	* 1.3877	* 1.2471	* 1.3314	* 1.2252	* 1.3446	* 1.3438	* 1.4298	* 1.6884
11	* 1.7511	* 1.6279	* 1.8014	* 1.4855	* 1.7961	* 1.5915	* 1.5776	* 1.0603
	* 1.2558	* 1.3564	* 1.2225	* 1.4692	* 1.2259	* 1.3833	* 1.3824	* 2.0474
12	* 1.4341	* 1.7811	* 1.6493	* 1.8014	* 1.6440	* 1.6493	* 1.3987	
	* 1.5160	* 1.2357	* 1.3380	* 1.2231	* 1.3421	* 1.3306	* 1.5663	
13	* 1.5894	* 1.6451	* 1.6429	* 1.5990	* 1.6558	* 1.5583	* .8697	
	* 1.3797	* 1.3363	* 1.3372	* 1.3771	* 1.3249	* 1.4085	* 2.4816	
14	* 1.5679	* 1.6151	* 1.5337	* 1.5840	* 1.4073	* .8921		
	* 1.3913	* 1.3488	* 1.4251	* 1.3762	* 1.5562	* 2.4171		
15	* 1.3859	* 1.0464	* 1.2831	* 1.0646	F-SUB-Q			
	* 1.5584	* 2.0411	* 1.6844	* 2.0378	M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 100% POWER, 4 BFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1320	* 1.6836	* 1.6483	* 1.8153	* 1.4833	* 1.6472	* 1.6301	* 1.4384
	* 1.9882	* 1.3430	* 1.3789	* 1.2492	* 1.5213	* 1.3771	* 1.3957	* 1.5618
9	* 1.6836	* 1.4223	* 1.8314	* 1.6836	* 1.8410	* 1.6997	* 1.6761	* 1.0839
	* 1.3430	* 1.5827	* 1.2414	* 1.3530	* 1.2364	* 1.3421	* 1.3564	* 2.0702
10	* 1.6483	* 1.8336	* 1.7211	* 1.8668	* 1.7029	* 1.6986	* 1.5872	* 1.3238
	* 1.3789	* 1.2400	* 1.3249	* 1.2211	* 1.3405	* 1.3430	* 1.4393	* 1.7016
11	* 1.8153	* 1.6879	* 1.8721	* 1.5412	* 1.8657	* 1.6526	* 1.6397	* 1.0935
	* 1.2492	* 1.3505	* 1.2190	* 1.4755	* 1.2231	* 1.3886	* 1.3957	* 2.0709
12	* 1.4633	* 1.8507	* 1.7115	* 1.8710	* 1.7061	* 1.7157	* 1.4501	
	* 1.5213	* 1.2301	* 1.3339	* 1.2197	* 1.3480	* 1.3388	* 1.5835	
13	* 1.6472	* 1.7072	* 1.7072	* 1.6600	* 1.7232	* 1.6204	* .8975	
	* 1.3771	* 1.3363	* 1.3355	* 1.3824	* 1.3330	* 1.4205	* 2.5438	
14	* 1.6301	* 1.6793	* 1.5926	* 1.6472	* 1.4598	* .9211		
	* 1.3957	* 1.3530	* 1.4346	* 1.3895	* 1.5731	* 2.4767		
15	* 1.4384	* 1.0828	* 1.3280	* 1.0988	F-SUB-Q			
	* 1.5618	* 2.0722	* 1.6976	* 2.0630	M-SUB-Q			

AT 100% POWER, 4 BFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1096	* 1.6654	* 1.6279	* 1.8036	* 1.4630	* 1.6354	* 1.6183	* 1.4266
	* 1.9873	* 1.3249	* 1.3632	* 1.2280	* 1.5117	* 1.3539	* 1.3719	* 1.5462
9	* 1.6654	* 1.3987	* 1.8196	* 1.6654	* 1.8314	* 1.6847	* 1.6675	* 1.0689
	* 1.3249	* 1.5777	* 1.2197	* 1.3363	* 1.2136	* 1.3225	* 1.3306	* 2.0630
10	* 1.6279	* 1.8218	* 1.7018	* 1.8571	* 1.6868	* 1.6911	* 1.5712	* 1.3098
	* 1.3632	* 1.2183	* 1.3089	* 1.1994	* 1.3225	* 1.3176	* 1.4177	* 1.6510
11	* 1.8036	* 1.6697	* 1.8635	* 1.5240	* 1.8560	* 1.6376	* 1.6290	* 1.0774
	* 1.2280	* 1.3330	* 1.1961	* 1.4617	* 1.2008	* 1.3684	* 1.3710	* 2.0650
12	* 1.4633	* 1.8610	* 1.6954	* 1.8525	* 1.6900	* 1.7082	* 1.4341	
	* 1.5117	* 1.2075	* 1.3152	* 1.1968	* 1.3290	* 1.3144	* 1.5618	
13	* 1.6354	* 1.6933	* 1.6997	* 1.6461	* 1.7157	* 1.6065	* .8836	
	* 1.3539	* 1.3160	* 1.3105	* 1.3615	* 1.3089	* 1.3994	* 2.5455	
14	* 1.6183	* 1.6708	* 1.5776	* 1.6376	* 1.4437	* .9071		
	* 1.3719	* 1.3281	* 1.4130	* 1.3641	* 1.5517	* 2.4785		
15	* 1.4266	* 1.0678	* 1.3141	* 1.0817	F-SUB-Q			
	* 1.5462	* 2.0650	* 1.6858	* 2.0552	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 100% POWER, 4 BFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1235	* 1.6954	* 1.6600	* 1.8410	* 1.4908	* 1.6708	* 1.6579	* 1.4630
	* 1.9204	* 1.2750	* 1.3081	* 1.1773	* 1.4519	* 1.2979	* 1.3105	* 1.4732
9	* 1.6954	* 1.4234	* 1.8582	* 1.7007	* 1.8732	* 1.7243	* 1.7093	* 1.0924
	* 1.2750	* 1.5191	* 1.1684	* 1.2795	* 1.1609	* 1.2631	* 1.2698	* 1.9722
10	* 1.6600	* 1.8603	* 1.7372	* 1.9000	* 1.7265	* 1.7318	* 1.6086	* 1.3409
	* 1.3081	* 1.1671	* 1.2536	* 1.1449	* 1.2638	* 1.2587	* 1.3547	* 1.6166
11	* 1.8410	* 1.7061	* 1.9064	* 1.5572	* 1.8989	* 1.6772	* 1.6708	* 1.0988
	* 1.1773	* 1.2765	* 1.1419	* 1.3975	* 1.1461	* 1.3042	* 1.3049	* 1.9783
12	* 1.4908	* 1.8828	* 1.7361	* 1.8053	* 1.7297	* 1.7532	* 1.4683	*
	* 1.4519	* 1.1547	* 1.2572	* 1.1425	* 1.2660	* 1.2471	* 1.4878	*
13	* 1.6708	* 1.7329	* 1.7404	* 1.6847	* 1.7607	* 1.6483	* .9007	*
	* 1.2979	* 1.2565	* 1.2514	* 1.2979	* 1.2414	* 1.3281	* 2.4339	*
14	* 1.6579	* 1.7125	* 1.6151	* 1.6793	* 1.4791	* .9253	*	*
	* 1.3105	* 1.2675	* 1.3497	* 1.2987	* 1.4776	* 2.3674	*	*
15	* 1.4630	* 1.0913	* 1.3441	* 1.1042	* F-SUB-Q			
	* 1.4732	* 1.9740	* 1.6118	* 1.9693	* M-SUB-Q			

AT 100% POWER, 4 BFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0988	* 1.6718	* 1.6376	* 1.8218	* 1.4694	* 1.6536	* 1.6429	* 1.4501
	* 1.9037	* 1.2479	* 1.2818	* 1.1494	* 1.4212	* 1.2640	* 1.2702	* 1.4219
9	* 1.6718	* 1.3987	* 1.8389	* 1.6783	* 1.8560	* 1.7061	* 1.6954	* 1.0785
	* 1.2479	* 1.4914	* 1.1443	* 1.2563	* 1.1365	* 1.2355	* 1.2325	* 1.9112
10	* 1.6376	* 1.8410	* 1.7136	* 1.8828	* 1.7072	* 1.7179	* 1.5926	* 1.3259
	* 1.2818	* 1.1431	* 1.2345	* 1.1273	* 1.2429	* 1.2305	* 1.3221	* 1.5649
11	* 1.8218	* 1.6847	* 1.8892	* 1.5380	* 1.8817	* 1.6600	* 1.6568	* 1.0828
	* 1.1494	* 1.2533	* 1.1247	* 1.3826	* 1.1298	* 1.2902	* 1.2808	* 1.9288
12	* 1.4694	* 1.8657	* 1.7179	* 1.8892	* 1.7115	* 1.7393	* 1.4523	*
	* 1.4212	* 1.1306	* 1.2360	* 1.1258	* 1.2550	* 1.2322	* 1.4713	*
13	* 1.6536	* .7147	* 1.7265	* 1.6686	* 1.7479	* 1.6333	* .8878	*
	* 1.2640	* .2292	* 1.2235	* 1.2841	* 1.2266	* 1.3144	* 2.4124	*
14	* 1.6429	* 1.6997	* 1.5979	* 1.6654	* 1.4530	* .9125	*	*
	* 1.2702	* 1.2304	* 1.3174	* 1.2746	* 1.4606	* 2.3470	*	*
15	* 1.4501	* 1.0774	* 1.3302	* 1.0881	* F-SUB-Q			
	* 1.4219	* 1.9128	* 1.5604	* 1.9199	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 100% POWER, 4 RPPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0410	* 1.5979	* 1.5626	* 1.7479	* 1.4019	* 1.5883	* 1.5776	* 1.3934
	* 1.9134	* 1.2491	* 1.2865	* 1.1464	* 1.4258	* 1.2574	* 1.2662	* 1.4165
9	* 1.5979	* 1.3302	* 1.7639	* 1.6044	* 1.7832	* 1.6343	* 1.6311	* 1.0303
	* 1.2491	* 1.5015	* 1.1419	* 1.2582	* 1.1313	* 1.2327	* 1.2259	* 1.9161
10	* 1.5626	* 1.7661	* 1.6365	* 1.8089	* 1.6365	* 1.6526	* 1.5262	* 1.2702
	* 1.2865	* 1.1401	* 1.2358	* 1.1198	* 1.2408	* 1.2234	* 1.3186	* 1.5613
11	* 1.7479	* 1.6097	* 1.8153	* 1.4705	* 1.8078	* 1.5915	* 1.5915	* 1.0324
	* 1.1464	* 1.2544	* 1.1164	* 1.3790	* 1.1214	* 1.2826	* 1.2703	* 1.9308
12	* 1.4019	* 1.7929	* 1.6461	* 1.8153	* 1.6397	* 1.6729	* 1.3902	
	* 1.4258	* 1.1248	* 1.2337	* 1.1174	* 1.2552	* 1.2256	* 1.4619	
13	* 1.5883	* 1.6440	* 1.6611	* 1.5990	* 1.6815	* 1.5658	* .8450	
	* 1.2574	* 1.2265	* 1.2160	* 1.2758	* 1.2200	* 1.3105	* 2.4063	
14	* 1.5776	* 1.6343	* 1.5315	* 1.6011	* 1.4009	* .8697		
	* 1.4062	* 1.2233	* 1.3138	* 1.2636	* 1.4512	* 2.3392		
15	* 1.3934	* 1.0292	* 1.2745	* 1.0389	* F-SUB-Q			
	* 1.4165	* 1.9165	* 1.5568	* 1.9222	* M-SUB-Q			

AT 100% POWER, 4 RPPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0067	* 1.5519	* 1.5219	* 1.7061	* 1.3677	* 1.5583	* 1.5487	* 1.3687
	* 1.8906	* 1.2317	* 1.2647	* 1.1246	* 1.3989	* 1.2267	* 1.2334	* 1.3797
9	* 1.5519	* 1.2916	* 1.7200	* 1.5647	* 1.7436	* 1.6011	* 1.6001	* 1.0089
	* 1.2317	* 1.4799	* 1.1208	* 1.2348	* 1.1051	* 1.2015	* 1.1942	* 1.8726
10	* 1.5219	* 1.7222	* 1.5958	* 1.7682	* 1.6011	* 1.6172	* 1.4951	* 1.2445
	* 1.2647	* 1.1191	* 1.2120	* 1.0939	* 1.2116	* 1.1949	* 1.2854	* 1.5242
11	* 1.7061	* 1.5712	* 1.7757	* 1.4373	* 1.7682	* 1.5583	* 1.5604	* 1.0089
	* 1.1246	* 1.2299	* 1.0903	* 1.3466	* 1.0945	* 1.2487	* 1.2352	* 1.8916
12	* 1.3677	* 1.7554	* 1.6108	* 1.7757	* 1.6054	* 1.6408	* 1.3612	
	* 1.3989	* 1.0980	* 1.2042	* 1.0906	* 1.2178	* 1.1874	* 1.4220	
13	* 1.5583	* 1.6097	* 1.6258	* 1.5669	* 1.6493	* 1.5358	* .8257	
	* 1.2267	* 1.1968	* 1.1877	* 1.2422	* 1.1816	* 1.2689	* 2.3465	
14	* 1.5487	* 1.6044	* 1.5015	* 1.5701	* 1.3720	* .8493		
	* 1.2334	* 1.1919	* 1.2809	* 1.2289	* 1.4113	* 2.2808		
15	* 1.3687	* 1.0078	* 1.2488	* 1.0142	* F-SUB-Q			
	* 1.3797	* 1.8736	* 1.5199	* 1.8817	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 100% POWER, 4 EFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9082	* 1.4126	* 1.3827	* 1.5637	* 1.2499	* 1.4394	* 1.4287	* 1.2627
	* 2.0153	* 1.3009	* 1.3388	* 1.1792	* 1.4713	* 1.2747	* 1.2835	* 1.4365
9	* 1.4126	* 1.1717	* 1.5722	* 1.4276	* 1.6054	* 1.4726	* 1.4769	* .9264
	* 1.3009	* 1.5690	* 1.1779	* 1.3001	* 1.1518	* 1.2533	* 1.2414	* 1.9585
10	* 1.3827	* 1.5744	* 1.4544	* 1.6236	* 1.4662	* 1.4887	* 1.3741	* 1.1417
	* 1.3388	* 1.1763	* 1.2774	* 1.1424	* 1.2677	* 1.2450	* 1.3416	* 1.5939
11	* 1.5637	* 1.4341	* 1.6301	* 1.3141	* 1.6236	* 1.4298	* 1.4351	* .9211
	* 1.1792	* 1.2946	* 1.1384	* 1.4117	* 1.1424	* 1.3032	* 1.2854	* 1.9865
12	* 1.2499	* 1.6161	* 1.4758	* 1.6301	* 1.4726	* 1.5101	* 1.2477	*
	* 1.4713	* 1.1442	* 1.2602	* 1.1382	* 1.2680	* 1.2312	* 1.4829	*
13	* 1.4394	* 1.4791	* 1.4962	* 1.4373	* 1.5187	* 1.4105	* .7551	*
	* 1.2747	* 1.2486	* 1.2372	* 1.2970	* 1.2253	* 1.3179	* 2.4519	*
14	* 1.4287	* 1.4812	* 1.3794	* 1.4437	* 1.2584	* .7765	*	*
	* 1.2835	* 1.2393	* 1.3366	* 1.2782	* 1.4718	* 2.3830	*	*
15	* 1.2627	* .9253	* 1.1460	* .9264	* F-SUB-Q			
	* 1.4365	* 1.9603	* 1.5892	* 1.9766	* M-SUB-Q			

AT 100% POWER, 4 EFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8140	* 1.2627	* 1.2402	* 1.4148	* 1.1395	* 1.3270	* 1.3227	* 1.1588
	* 2.1782	* 1.4083	* 1.4445	* 1.2600	* 1.5596	* 1.3359	* 1.3401	* 1.5116
9	* 1.2627	* 1.0528	* 1.4116	* 1.2884	* 1.4662	* 1.3570	* 1.3602	* .8536
	* 1.4083	* 1.6889	* 1.2685	* 1.3923	* 1.2181	* 1.3136	* 1.3025	* 2.0529
10	* 1.2402	* 1.4137	* 1.3088	* 1.4694	* 1.3366	* 1.3580	* 1.2627	* 1.0378
	* 1.4445	* 1.2670	* 1.3724	* 1.2181	* 1.3425	* 1.3160	* 1.4105	* 1.6942
11	* 1.4148	* 1.2938	* 1.4758	* 1.1974	* 1.4726	* 1.3045	* 1.3098	* .8354
	* 1.2600	* 1.3865	* 1.2136	* 1.4949	* 1.2174	* 1.3768	* 1.3582	* 2.1144
12	* 1.1395	* 1.4758	* 1.3452	* 1.4769	* 1.3430	* 1.3773	* 1.1395	*
	* 1.5596	* 1.2099	* 1.3351	* 1.2126	* 1.3401	* 1.3002	* 1.5648	*
13	* 1.3270	* 1.3623	* 1.3666	* 1.3109	* 1.3837	* 1.2906	* .6919	*
	* 1.3359	* 1.3088	* 1.3080	* 1.3698	* 1.2940	* 1.3874	* 2.5787	*
14	* 1.3227	* 1.3634	* 1.2681	* 1.3173	* 1.1492	* .7122	*	*
	* 1.3401	* 1.2997	* 1.4054	* 1.3506	* 1.5529	* 2.5037	*	*
15	* 1.1588	* .8536	* 1.0421	* .8397	* F-SUB-Q			
	* 1.5116	* 2.0540	* 1.6889	* 2.1042	* M-SUB-Q			

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Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 100% POWER, 4 EPPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.6522	.9842	.9746	1.1235	.9382	1.1171	1.1256	.9478
	2.6545	1.7631	1.7931	1.5455	1.8442	1.5433	1.5317	1.7982
9	.9842	.8386	1.1031	1.0228	1.2038	1.1438	1.1438	.7261
	1.7631	2.0686	1.5817	1.7100	1.4428	1.5157	1.5051	2.3523
10	.9746	1.1053	1.0303	1.1695	1.0946	1.1181	1.0581	.8290
	1.7931	1.5794	1.6993	1.4900	1.5951	1.5477	1.6362	2.0666
11	1.1235	1.0271	1.1738	.9768	1.1984	1.0753	1.0710	.6769
	1.5455	1.7019	1.4849	1.7855	1.4535	1.6220	1.6124	2.5449
12	.9382	1.2124	1.1010	1.2038	1.0946	1.1267	.9393	
	1.8442	1.4337	1.5857	1.4467	1.5974	1.5400	1.8451	
13	1.1171	1.1481	1.1235	1.0806	1.1331	1.0592	.5826	
	1.5433	1.5104	1.5400	1.6136	1.5313	1.6412	2.9760	
14	1.1256	1.1460	1.0624	1.0774	.9468	.5998		
	1.5317	1.5020	1.6300	1.6040	1.8310	2.8925		
15	.9478	.7251	.8311	.6801	F-SUB-Q			
	1.7982	2.3533	2.0596	2.5313	M-SUB-Q			

AT 100% POWER, 4 EPPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.4177	.3192	.5880	.3802	.6051	.7593	.7058	.5451
	4.0651	5.3146	2.9058	4.4635	2.7986	2.2181	2.3938	3.0644
9	.3192	.5237	.3695	.6340	.4316	.7047	.7368	.4562
	5.3146	3.2538	4.6115	2.6937	3.9312	2.4098	2.2825	3.6776
10	.5880	.3695	.6158	.3973	.6662	.7454	.6512	.2624
	2.9058	4.6115	2.7786	4.2869	2.5522	2.2682	2.5999	5.3923
11	.3802	.6372	.3995	.6340	.4305	.6662	.6458	.4155
	4.4635	2.6803	4.2700	2.6922	3.9496	2.5613	2.6156	4.0651
12	.6051	.4348	.6704	.4327	.6640	.6908	.5591	
	2.7986	3.9029	2.5373	3.9353	2.5734	2.4579	3.0368	
13	.7593	.7069	.7486	.6694	.6940	.6233	.3620	
	2.2181	2.4018	2.2587	2.5492	2.4468	2.7315	4.7074	
14	.7058	.7379	.6533	.6501	.5633	.3716		
	2.3938	2.2801	2.5906	2.6030	3.0132	4.5822		
15	.5451	.4562	.2635	.4177	F-SUB-Q			
	3.0644	3.6776	6.3735	4.0455	M-SUB-Q			

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Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.3631	.2945	.5837	.3641	.5965	.7015	.5597	.5119
	* 3.3340	* 4.7064	* 2.5286	* 4.0457	* 2.4692	* 2.0892	* 2.2262	* 2.8429
9	.2945	.5216	.3513	.6212	.4006	.6640	.6747	.4477
	* 4.7064	* 2.7865	* 4.1659	* 2.3427	* 3.6272	* 2.2098	* 2.1577	* 3.2516
10	.5837	.3513	.5998	.3674	.6362	.6747	.6158	.2517
	* 2.5286	* 4.1577	* 2.4016	* 3.9031	* 2.2744	* 2.1229	* 2.3453	* 5.7013
11	.3641	.6244	.3695	.5698	.3620	.5944	.5719	.4102
	* 4.0457	* 2.3349	* 3.8887	* 2.3532	* 3.6147	* 2.2573	* 2.4071	* 3.4432
12	.5965	.4027	.6383	.3631	.5119	.5205	.4862	
	* 2.4692	* 3.6085	* 2.2646	* 3.6024	* 2.2168	* 2.2597	* 2.6800	
13	.7015	.6651	.6769	.5965	.5237	.4530	.3202	
	* 2.0892	* 2.2052	* 2.1165	* 2.2500	* 2.2524	* 2.4491	* 3.9031	
14	.6597	.6758	.6180	.5741	.4894	.3267		
	* 2.2262	* 2.1577	* 2.3401	* 2.3988	* 2.6698	* 3.8250		
15	.5119	.4477	.2517	.4113	F-SUB-Q			
	* 2.8429	* 3.2516	* 5.6859	* 3.4319	M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.5376	.8686	.8900	.9950	.8697	.9725	.9950	.8386
	* 2.8986	* 2.0909	* 2.0960	* 1.8719	* 2.1360	* 1.8996	* 1.8571	* 2.1831
9	.8686	.7786	.9703	.9296	1.0357	1.0100	.9864	.6769
	* 2.0909	* 2.3549	* 1.9123	* 1.9984	* 1.7678	* 1.8190	* 1.8598	* 2.7094
10	.8900	.9725	.9339	.9928	.9639	.9575	.9425	.7486
	* 2.0960	* 1.9094	* 1.9754	* 1.8152	* 1.8884	* 1.9109	* 1.9324	* 2.4168
11	.9950	.9328	.9971	.8397	.9853	.9157	.8986	.6330
	* 1.8719	* 1.9907	* 1.8126	* 2.0892	* 1.7751	* 1.9652	* 1.9440	* 2.8316
12	.8697	1.0399	.9693	.9885	.7626	.8418	.7904	
	* 2.1360	* 1.7605	* 1.8815	* 1.7690	* 1.8544	* 1.8747	* 2.1360	
13	.9725	1.0132	.9618	.9189	.8461	.7733	.5044	
	* 1.8996	* 1.8139	* 1.9024	* 1.8982	* 1.8692	* 1.9382	* 3.2417	
14	.9950	.9885	.9446	.9029	.7947	.5162		
	* 1.8571	* 1.8571	* 1.9280	* 1.9367	* 2.1254	* 3.1659		
15	.8386	.6758	.7497	.6351	F-SUB-Q			
	* 2.1831	* 2.7122	* 2.4123	* 2.8192	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 75% POWER, 4 RFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7647	* 1.1652	* 1.1717	* 1.2927	* 1.0913	* 1.1953	* 1.2092	* 1.0496
	* 2.5062	* 1.7521	* 1.7668	* 1.5953	* 1.8775	* 1.7096	* 1.6896	* 1.9269
9	* 1.1652	* 1.0164	* 1.2852	* 1.2113	* 1.3098	* 1.2477	* 1.2199	* .8150
	* 1.7521	* 2.0057	* 1.6037	* 1.7021	* 1.5537	* 1.6371	* 1.6660	* 2.4767
10	* 1.1717	* 1.2863	* 1.2306	* 1.2991	* 1.2242	* 1.2145	* 1.1652	* .9585
	* 1.7668	* 1.6018	* 1.6690	* 1.5476	* 1.6559	* 1.6751	* 1.7366	* 2.0961
11	* 1.2927	* 1.2156	* 1.3045	* 1.0892	* 1.2906	* 1.1727	* 1.1535	* .8011
	* 1.5953	* 1.6958	* 1.5450	* 1.8212	* 1.5406	* 1.6885	* 1.7074	* 2.4921
12	* 1.0913	* 1.3173	* 1.2306	* 1.2938	* 1.1299	* 1.1438	* 1.0174	*
	* 1.8775	* 1.5467	* 1.6489	* 1.5398	* 1.6294	* 1.6401	* 1.9061	*
13	* 1.1963	* 1.2531	* 1.2209	* 1.1770	* 1.1481	* 1.0774	* .6372	*
	* 1.7096	* 1.6303	* 1.6670	* 1.6833	* 1.6342	* 1.7160	* 2.9726	*
14	* 1.2092	* 1.2220	* 1.1685	* 1.1588	* 1.0239	* .6533	*	*
	* 1.6896	* 1.6629	* 1.7322	* 1.7011	* 1.8936	* 2.8969	*	*
15	* 1.0496	* .8140	* .9607	* .6043	* F-SUB-Q			
	* 1.9269	* 2.4790	* 2.0913	* 2.4831	* M-SUB-Q			

AT 75% POWER, 4 RFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9425	* 1.3837	* 1.3762	* 1.5080	* 1.2541	* 1.3773	* 1.3752	* 1.2017
	* 2.2947	* 1.5852	* 1.6034	* 1.4544	* 1.7289	* 1.5852	* 1.5798	* 1.7922
9	* 1.3837	* 1.1899	* 1.5144	* 1.4126	* 1.5230	* 1.4330	* 1.3998	* .9200
	* 1.5852	* 1.8251	* 1.4506	* 1.5551	* 1.4297	* 1.5203	* 1.5456	* 2.3198
10	* 1.3762	* 1.5155	* 1.4426	* 1.5347	* 1.4244	* 1.4094	* 1.3366	* 1.1053
	* 1.6034	* 1.4491	* 1.5211	* 1.4116	* 1.5269	* 1.5396	* 1.6174	* 1.9408
11	* 1.5080	* 1.4180	* 1.5347	* 1.2788	* 1.5283	* 1.3720	* 1.3495	* .9221
	* 1.4544	* 1.5499	* 1.4088	* 1.6723	* 1.4116	* 1.5620	* 1.5762	* 2.3229
12	* 1.2541	* 1.5305	* 1.4309	* 1.5326	* 1.4062	* 1.3923	* 1.1952	*
	* 1.7289	* 1.4224	* 1.5203	* 1.4080	* 1.5087	* 1.5112	* 1.7706	*
13	* 1.3773	* 1.4394	* 1.4169	* 1.3784	* 1.3977	* 1.3152	* .7433	*
	* 1.5852	* 1.5137	* 1.5337	* 1.5568	* 1.5055	* 1.5906	* 2.7922	*
14	* 1.3752	* 1.4030	* 1.3409	* 1.3559	* 1.2027	* .7626	*	*
	* 1.5798	* 1.5430	* 1.6127	* 1.5700	* 1.7605	* 2.7205	*	*
15	* 1.2017	* .9189	* 1.1074	* .9264	* F-SUB-Q			
	* 1.7922	* 2.3217	* 1.9355	* 2.3132	* M-SUB-Q			



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Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 75% POWER, 4 EPPD, THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0110	* 1.4940	* 1.4758	* 1.6183	* 1.3323	* 1.4694	* 1.4555	* 1.2723
	* 2.3032	* 1.5825	* 1.6059	* 1.4546	* 1.7396	* 1.5959	* 1.6004	* 1.8176
9	* 1.4940	* 1.2723	* 1.6322	* 1.5133	* 1.6386	* 1.5240	* 1.4908	* .9682
	* 1.5825	* 1.8277	* 1.4457	* 1.5624	* 1.4340	* 1.5361	* 1.5590	* 2.3559
10	* 1.4758	* 1.6333	* 1.5465	* 1.6558	* 1.5251	* 1.5112	* 1.4201	* 1.1738
	* 1.6059	* 1.4442	* 1.5270	* 1.4125	* 1.5378	* 1.5453	* 1.6394	* 1.9669
11	* 1.6183	* 1.5165	* 1.6579	* 1.3720	* 1.6515	* 1.4748	* 1.4491	* .9778
	* 1.4546	* 1.5564	* 1.4090	* 1.6777	* 1.4132	* 1.5772	* 1.5896	* 2.3652
12	* 1.3323	* 1.6472	* 1.5326	* 1.6568	* 1.5208	* 1.5123	* 1.2831	*
	* 1.7396	* 1.4260	* 1.5311	* 1.4090	* 1.5237	* 1.5204	* 1.7968	*
13	* 1.4694	* 1.5315	* 1.5187	* 1.4801	* 1.5176	* 1.4255	* .7947	*
	* 1.5959	* 1.5286	* 1.5386	* 1.5702	* 1.5147	* 1.6105	* 2.8396	*
14	* 1.4555	* 1.4940	* 1.4255	* 1.4555	* 1.2906	* .8161	*	*
	* 1.6004	* 1.5555	* 1.6337	* 1.5825	* 1.7855	* 2.7634	*	*
15	* 1.2723	* .9671	* 1.1770	* .9821	* F-SUB-Q			
	* 1.8176	* 2.3579	* 1.9614	* 2.3534	* M-SUB-Q			

AT 75% POWER, 4 EPPD, THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0903	* 1.6183	* 1.6001	* 1.7511	* 1.4373	* 1.5862	* 1.5712	* 1.3730
	* 2.3021	* 1.5826	* 1.6056	* 1.4564	* 1.7362	* 1.6020	* 1.6074	* 1.8242
9	* 1.6183	* 1.3762	* 1.7693	* 1.6386	* 1.7768	* 1.6483	* 1.6119	* 1.0410
	* 1.5826	* 1.8208	* 1.4454	* 1.5636	* 1.4338	* 1.5417	* 1.5636	* 2.3583
10	* 1.6001	* 1.7714	* 1.6750	* 1.7961	* 1.6536	* 1.6365	* 1.5347	* 1.2659
	* 1.6056	* 1.4432	* 1.5286	* 1.4140	* 1.5409	* 1.5476	* 1.6471	* 1.9750
11	* 1.7511	* 1.6429	* 1.8004	* 1.4876	* 1.7939	* 1.6001	* 1.5744	* 1.0539
	* 1.4564	* 1.5577	* 1.4099	* 1.6730	* 1.4140	* 1.5817	* 1.5931	* 2.3818
12	* 1.4373	* 1.7864	* 1.6622	* 1.8004	* 1.6536	* 1.6483	* 1.3923	*
	* 1.7362	* 1.4267	* 1.5335	* 1.4099	* 1.5294	* 1.5221	* 1.8047	*
13	* 1.5862	* 1.6558	* 1.6451	* 1.6076	* 1.6547	* 1.5540	* .8600	*
	* 1.6020	* 1.5335	* 1.5409	* 1.5748	* 1.5165	* 1.6147	* 2.8467	*
14	* 1.5712	* 1.6161	* 1.5401	* 1.5819	* 1.4019	* .8836	*	*
	* 1.6074	* 1.5602	* 1.6415	* 1.5861	* 1.7934	* 2.7708	*	*
15	* 1.3730	* 1.0399	* 1.2702	* 1.0581	* F-SUB-Q			
	* 1.8242	* 2.3603	* 1.9709	* 2.3719	* M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1160	* 1.6675	* 1.6472	* 1.8068	* 1.4758	* 1.6343	* 1.6172	* 1.4126
	* 2.4234	* 1.6542	* 1.6812	* 1.5233	* 1.8269	* 1.6782	* 1.6861	* 1.9064
9	* 1.6675	* 1.4126	* 1.8282	* 1.6879	* 1.8368	* 1.6965	* 1.6622	* 1.0667
	* 1.6542	* 1.9135	* 1.5106	* 1.6392	* 1.4996	* 1.6190	* 1.6373	* 2.4808
10	* 1.6472	* 1.8303	* 1.7254	* 1.8571	* 1.7050	* 1.6900	* 1.5787	* 1.3013
	* 1.6812	* 1.5082	* 1.6037	* 1.4804	* 1.6181	* 1.6217	* 1.7305	* 2.0734
11	* 1.8068	* 1.6922	* 1.8625	* 1.5315	* 1.8550	* 1.6504	* 1.6247	* 1.0796
	* 1.5233	* 1.6346	* 1.4759	* 1.7610	* 1.4812	* 1.6628	* 1.6724	* 2.5094
12	* 1.4758	* 1.8464	* 1.7136	* 1.8614	* 1.7061	* 1.7061	* 1.4341	
	* 1.8209	* 1.4919	* 1.6100	* 1.4766	* 1.6100	* 1.5984	* 1.9002	
13	* 1.6343	* 1.7050	* 1.6997	* 1.6579	* 1.7136	* 1.6044	* .8836	
	* 1.6782	* 1.6109	* 1.6145	* 1.6552	* 1.5915	* 1.6990	* 3.0118	
14	* 1.6172	* 1.6665	* 1.5840	* 1.6322	* 1.4437	* .9082		
	* 1.6861	* 1.6346	* 1.7254	* 1.6647	* 1.8878	* 2.9307		
15	* 1.4126	* 1.0656	* 1.3055	* 1.0849	* F-SUB-Q			
	* 1.9064	* 2.4830	* 2.0675	* 2.4985	* M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1160	* 1.6783	* 1.6536	* 1.8207	* 1.4801	* 1.6461	* 1.6268	* 1.4223
	* 2.5882	* 1.7420	* 1.7774	* 1.6055	* 1.9495	* 1.7676	* 1.7763	* 2.0030
9	* 1.6783	* 1.4159	* 1.8432	* 1.6954	* 1.8528	* 1.7061	* 1.6761	* 1.0699
	* 1.7420	* 2.0431	* 1.5922	* 1.7357	* 1.5817	* 1.7141	* 1.7264	* 2.6384
10	* 1.6536	* 1.8453	* 1.7329	* 1.8742	* 1.7136	* 1.7061	* 1.5851	* 1.3077
	* 1.7774	* 1.5905	* 1.6990	* 1.5629	* 1.7151	* 1.7131	* 1.8327	* 2.1897
11	* 1.8207	* 1.6997	* 1.8807	* 1.5412	* 1.8732	* 1.6600	* 1.6376	* 1.0806
	* 1.6055	* 1.7305	* 1.5587	* 1.8839	* 1.5638	* 1.7644	* 1.7698	* 2.6644
12	* 1.4801	* 1.8635	* 1.7232	* 1.8796	* 1.7157	* 1.7232	* 1.4416	
	* 1.9495	* 1.5731	* 1.7060	* 1.5587	* 1.7111	* 1.6930	* 2.0184	
13	* 1.6461	* 1.7147	* 1.7147	* 1.6686	* 1.7307	* 1.6172	* .8857	
	* 1.7676	* 1.7050	* 1.7040	* 1.7569	* 1.6861	* 1.8052	* 3.2337	
14	* 1.6268	* 1.6793	* 1.5915	* 1.6461	* 1.4523	* .9104		
	* 1.7763	* 1.7223	* 1.8269	* 1.7611	* 2.0043	* 3.1481		
15	* 1.4223	* 1.0689	* 1.3120	* 1.0860	* F-SUB-Q			
	* 2.0030	* 2.6409	* 2.1831	* 2.6522	* M-SUB-Q			

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Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1310	* 1.7093	* 1.6847	* 1.8582	* 1.5069	* 1.6793	* 1.6633	* 1.4544
	* 2.6315	* 1.7483	* 1.7818	* 1.6109	* 1.9741	* 1.7807	* 1.8007	* 2.0369
9	* 1.7093	* 1.4405	* 1.8807	* 1.7286	* 1.8925	* 1.7404	* 1.7136	* 1.0903
	* 1.7483	* 2.0663	* 1.5957	* 1.7410	* 1.5878	* 1.7295	* 1.7483	* 2.7186
10	* 1.6847	* 1.8839	* 1.7661	* 1.9149	* 1.7489	* 1.7436	* 1.6183	* 1.3355
	* 1.7818	* 1.5940	* 1.7050	* 1.5714	* 1.7233	* 1.7264	* 1.8634	* 2.3477
11	* 1.8582	* 1.7329	* 1.9214	* 1.5722	* 1.9139	* 1.6943	* 1.6740	* 1.0999
	* 1.6109	* 1.7368	* 1.5672	* 1.9073	* 1.5740	* 1.7884	* 1.8052	* 2.7455
12	* 1.5069	* 1.9032	* 1.7586	* 1.9203	* 1.7511	* 1.7629	* 1.4726	
	* 1.9741	* 1.5791	* 1.7141	* 1.5680	* 1.7347	* 1.7213	* 2.0616	
13	* 1.6793	* 1.7500	* 1.7522	* 1.7029	* 1.7704	* 1.6536	* .9018	
	* 1.7807	* 1.7202	* 1.7161	* 1.7796	* 1.7131	* 1.8408	* 3.3759	
14	* 1.6633	* 1.7168	* 1.6247	* 1.6836	* 1.4833	* .9264		
	* 1.8007	* 1.7441	* 1.8562	* 1.7951	* 2.0470	* 3.2796		
15	* 1.4544	* 1.0892	* 1.3398	* 1.1053	* F-SUB-Q			
	* 2.0369	* 2.7211	* 2.2407	* 2.7299	* M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0935	* 1.6665	* 1.6376	* 1.8153	* 1.4630	* 1.6408	* 1.6226	* 1.4201
	* 2.6669	* 1.7526	* 1.7906	* 1.6073	* 1.9892	* 1.7741	* 1.7851	* 2.0141
9	* 1.6665	* 1.3955	* 1.8378	* 1.6804	* 1.8507	* 1.6954	* 1.6761	* 1.0592
	* 1.7526	* 2.0914	* 1.5966	* 1.7494	* 1.5870	* 1.7347	* 1.7410	* 2.7044
10	* 1.6376	* 1.8400	* 1.7168	* 1.8732	* 1.7018	* 1.7061	* 1.5765	* 1.3013
	* 1.7906	* 1.5948	* 1.7141	* 1.5706	* 1.7305	* 1.7254	* 1.8582	* 2.2494
11	* 1.8153	* 1.6858	* 1.8796	* 1.5305	* 1.8721	* 1.6504	* 1.6354	* 1.0678
	* 1.6073	* 1.7452	* 1.5655	* 1.9229	* 1.5723	* 1.7940	* 1.8052	* 2.7612
12	* 1.4630	* 1.8614	* 1.7115	* 1.8796	* 1.7050	* 1.7243	* 1.4341	
	* 1.9892	* 1.5783	* 1.7202	* 1.5663	* 1.7410	* 1.7202	* 2.0690	
13	* 1.6408	* 1.7050	* 1.7147	* 1.6590	* 1.7318	* 1.6129	* .8750	
	* 1.7741	* 1.7243	* 1.7141	* 1.7851	* 1.7121	* 1.8432	* 3.4100	
14	* 1.6226	* 1.6793	* 1.5829	* 1.6451	* 1.4448	* .8996		
	* 1.7851	* 1.7368	* 1.8610	* 1.7951	* 2.0528	* 3.3160		
15	* 1.4201	* 1.0592	* 1.3055	* 1.0731	* F-SUB-Q			
	* 2.0141	* 2.7069	* 2.2424	* 2.7455	* M-SUB-Q			

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Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0924	* 1.6718	* 1.6461	* 1.8261	* 1.4694	* 1.6515	* 1.6376	* 1.4351
	* 2.5811	* 1.6890	* 1.7233	* 1.5355	* 1.8977	* 1.6851	* 1.6890	* 1.8939
9	* 1.6718	* 1.3987	* 1.8485	* 1.6890	* 1.8635	* 1.7082	* 1.6911	* 1.0667
	* 1.6890	* 2.0155	* 1.5355	* 1.6831	* 1.5258	* 1.6609	* 1.6523	* 2.5492
10	* 1.6461	* 1.8507	* 1.7254	* 1.8871	* 1.7136	* 1.7200	* 1.5894	* 1.3120
	* 1.7233	* 1.5339	* 1.6514	* 1.5122	* 1.6647	* 1.6561	* 1.7917	* 2.1300
11	* 1.8261	* 1.6943	* 1.8935	* 1.5401	* 1.8850	* 1.6633	* 1.6515	* 1.0742
	* 1.5355	* 1.6782	* 1.5074	* 1.8538	* 1.5146	* 1.7295	* 1.7347	* 2.6474
12	* 1.4694	* 1.8742	* 1.7232	* 1.8935	* 1.7168	* 1.7404	* 1.4459	
	* 1.8977	* 1.5169	* 1.6552	* 1.5090	* 1.6841	* 1.6609	* 1.9947	
13	* 1.6515	* 1.7179	* 1.7286	* 1.6718	* 1.7489	* 1.6290	* .8793	
	* 1.6851	* 1.6523	* 1.6457	* 1.7202	* 1.6523	* 1.7818	* 3.3046	
14	* 1.6376	* 1.6954	* 1.5958	* 1.6611	* 1.4576	* .9050		
	* 1.6890	* 1.6486	* 1.7851	* 1.7254	* 1.9796	* 3.2128		
15	* 1.4351	* 1.0667	* 1.3163	* 1.0796	* F-SUB-Q			
	* 1.8939	* 2.5515	* 2.1237	* 2.6353	* M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0549	* 1.6247	* 1.5990	* 1.7789	* 1.4266	* 1.6108	* 1.5979	* 1.4019
	* 2.5028	* 1.6064	* 1.6299	* 1.4521	* 1.7995	* 1.5905	* 1.5966	* 1.7906
9	* 1.6247	* 1.3548	* 1.8014	* 1.6429	* 1.8175	* 1.6643	* 1.6526	* 1.0378
	* 1.6064	* 1.9178	* 1.4550	* 1.5966	* 1.4463	* 1.5680	* 1.5553	* 2.4190
10	* 1.5990	* 1.8046	* 1.6761	* 1.8410	* 1.6686	* 1.6804	* 1.5487	* 1.2798
	* 1.6299	* 1.4528	* 1.5766	* 1.4470	* 1.5905	* 1.5672	* 1.6881	* 2.0030
11	* 1.7789	* 1.6483	* 1.8485	* 1.4973	* 1.8400	* 1.6215	* 1.6129	* 1.0432
	* 1.4521	* 1.5922	* 1.4391	* 1.7962	* 1.4632	* 1.6782	* 1.6676	* 2.5028
12	* 1.4266	* 1.8282	* 1.6793	* 1.8475	* 1.6718	* 1.7007	* 1.4084	
	* 1.7995	* 1.4384	* 1.5809	* 1.4572	* 1.6676	* 1.6281	* 1.9332	
13	* 1.6108	* 1.6740	* 1.6890	* 1.6301	* 1.7093	* 1.5894	* .8547	
	* 1.5905	* 1.5595	* 1.5579	* 1.6686	* 1.6208	* 1.7505	* 3.2092	
14	* 1.5979	* 1.6558	* 1.5551	* 1.6226	* 1.4201	* .8793		
	* 1.5966	* 1.5520	* 1.6822	* 1.6590	* 1.9191	* 3.1224		
15	* 1.4019	* 1.0378	* 1.2841	* 1.0496	* F-SUB-Q			
	* 1.7906	* 2.4210	* 1.9974	* 2.4899	* M-SUB-Q			

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Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9864	* 1.5315	* 1.5037	* 1.6825	* 1.3420	* 1.5240	* 1.5112	* 1.3270
	* 2.4251	* 1.5604	* 1.5966	* 1.4193	* 1.7687	* 1.5528	* 1.5629	* 1.7526
9	* 1.5315	* 1.2713	* 1.7029	* 1.5465	* 1.7211	* 1.5712	* 1.5658	* .9778
	* 1.5604	* 1.8755	* 1.4172	* 1.5621	* 1.4048	* 1.5290	* 1.5161	* 2.3791
10	* 1.5037	* 1.7050	* 1.5776	* 1.7436	* 1.5744	* 1.5915	* 1.4619	* 1.2092
	* 1.5966	* 1.4151	* 1.5379	* 1.4000	* 1.5454	* 1.5201	* 1.6429	* 1.9528
11	* 1.6825	* 1.5519	* 1.7500	* 1.4105	* 1.7425	* 1.5305	* 1.5262	* .9810
	* 1.4193	* 1.5562	* 1.3966	* 1.7347	* 1.4068	* 1.6181	* 1.6019	* 2.4353
12	* 1.3420	* 1.7307	* 1.5851	* 1.7500	* 1.5776	* 1.6108	* 1.3391	
	* 1.7687	* 1.3960	* 1.5363	* 1.4014	* 1.6019	* 1.5655	* 1.8658	
13	* 1.5240	* 1.5797	* 1.6001	* 1.5390	* 1.6194	* 1.5015	* .8032	
	* 1.5528	* 1.5209	* 1.5106	* 1.6091	* 1.5579	* 1.6871	* 3.1191	
14	* 1.5112	* 1.5690	* 1.4683	* 1.5358	* 1.3398	* .8257		
	* 1.5629	* 1.5130	* 1.6364	* 1.5931	* 1.8515	* 3.0307		
15	* 1.3270	* .9778	* 1.2124	* .9875	* F-SUB-Q			
	* 1.7526	* 2.3811	* 1.9463	* 2.4230	* M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9414	* 1.4673	* 1.4437	* 1.6194	* 1.2916	* 1.4737	* 1.4630	* 1.2863
	* 2.3425	* 1.5130	* 1.5495	* 1.3747	* 1.7131	* 1.4973	* 1.5067	* 1.6890
9	* 1.4673	* 1.2177	* 1.6376	* 1.4865	* 1.6579	* 1.5165	* 1.5144	* .9446
	* 1.5130	* 1.8200	* 1.3708	* 1.5106	* 1.3528	* 1.4706	* 1.4595	* 2.2977
10	* 1.4437	* 1.6397	* 1.5165	* 1.6804	* 1.5187	* 1.5358	* 1.4126	* 1.1674
	* 1.5495	* 1.3695	* 1.4850	* 1.3440	* 1.4873	* 1.4624	* 1.5774	* 1.8792
11	* 1.6194	* 1.4930	* 1.6868	* 1.3591	* 1.6793	* 1.4788	* 1.4758	* .9457
	* 1.3747	* 1.5043	* 1.3396	* 1.6590	* 1.3453	* 1.5396	* 1.5241	* 2.3406
12	* 1.2916	* 1.6675	* 1.5283	* 1.6868	* 1.5230	* 1.5572	* 1.2831	
	* 1.7131	* 1.3434	* 1.4781	* 1.3403	* 1.5067	* 1.4699	* 1.7654	
13	* 1.4737	* 1.5262	* 1.5444	* 1.4855	* 1.5647	* 1.4523	* .7733	
	* 1.4973	* 1.4646	* 1.4528	* 1.5314	* 1.4624	* 1.5791	* 2.9412	
14	* 1.4630	* 1.5176	* 1.4191	* 1.4844	* 1.2938	* .7958		
	* 1.5067	* 1.4558	* 1.5714	* 1.5154	* 1.7515	* 2.8568		
15	* 1.2863	* .9446	* 1.1717	* .9510	* F-SUB-Q			
	* 1.6890	* 2.2996	* 1.8731	* 2.3292	* M-SUB-Q			

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Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 75% POWER, 4 EFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8397 *	* 1.3184 *	* 1.2948 *	* 1.4651 *	* 1.1642 *	* 1.3441 *	* 1.3313 *	* 1.1706 *
	* 2.4707 *	* 1.5861 *	* 1.6281 *	* 1.4320 *	* 1.7906 *	* 1.5470 *	* 1.5587 *	* 1.7483 *
9	* 1.3184 *	* 1.0903 *	* 1.4769 *	* 1.3388 *	* 1.5037 *	* 1.3752 *	* 1.3794 *	* .8568 *
	* 1.5861 *	* 1.9140 *	* 1.4305 *	* 1.5800 *	* 1.3994 *	* 1.5233 *	* 1.5082 *	* 2.3890 *
10	* 1.2948 *	* 1.4791 *	* 1.3634 *	* 1.5208 *	* 1.3730 *	* 1.3944 *	* 1.2809 *	* 1.0581 *
	* 1.6281 *	* 1.4291 *	* 1.5537 *	* 1.3906 *	* 1.5437 *	* 1.5130 *	* 1.6346 *	* 1.9489 *
11	* 1.4651 *	* 1.3441 *	* 1.5272 *	* 1.2263 *	* 1.5208 *	* 1.3366 *	* 1.3388 *	* .8525 *
	* 1.4320 *	* 1.5731 *	* 1.3859 *	* 1.7223 *	* 1.3913 *	* 1.5905 *	* 1.5697 *	* 2.4353 *
12	* 1.1642 *	* 1.5144 *	* 1.3816 *	* 1.5272 *	* 1.3773 *	* 1.4126 *	* 1.1610 *	
	* 1.7906 *	* 1.3899 *	* 1.5339 *	* 1.3859 *	* 1.5503 *	* 1.5043 *	* 1.8177 *	
13	* 1.3441 *	* 1.3827 *	* 1.4019 *	* 1.3441 *	* 1.4201 *	* 1.3163 *	* .6983 *	
	* 1.5470 *	* 1.5177 *	* 1.5027 *	* 1.5817 *	* 1.4973 *	* 1.6154 *	* 3.0244 *	
14	* 1.3313 *	* 1.3827 *	* 1.2863 *	* 1.3473 *	* 1.1717 *	* .7197 *		
	* 1.5587 *	* 1.5043 *	* 1.6281 *	* 1.5604 *	* 1.8040 *	* 2.9382 *		
15	* 1.1706 *	* .8557 *	* 1.0614 *	* .8579 *	F-SUB-Q			
	* 1.7483 *	* 2.3909 *	* 1.9423 *	* 2.4230 *	M-SUB-Q			

AT 75% POWER, 4 EFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7433 *	* 1.1642 *	* 1.1460 *	* 1.3077 *	* 1.0496 *	* 1.2231 *	* 1.2167 *	* 1.0614 *
	* 2.6644 *	* 1.7141 *	* 1.7537 *	* 1.5282 *	* 1.8939 *	* 1.6190 *	* 1.6244 *	* 1.8373 *
9	* 1.1642 *	* .9693 *	* 1.3088 *	* 1.1931 *	* 1.3559 *	* 1.2499 *	* 1.2531 *	* .7808 *
	* 1.7141 *	* 2.0557 *	* 1.5388 *	* 1.6890 *	* 1.4759 *	* 1.5931 *	* 1.5783 *	* 2.4985 *
10	* 1.1460 *	* 1.3098 *	* 1.2113 *	* 1.3591 *	* 1.2349 *	* 1.2552 *	* 1.1620 *	* .9500 *
	* 1.7537 *	* 1.5363 *	* 1.6657 *	* 1.4781 *	* 1.6299 *	* 1.5948 *	* 1.7131 *	* 2.0660 *
11	* 1.3077 *	* 1.1984 *	* 1.3655 *	* 1.1031 *	* 1.3612 *	* 1.2038 *	* 1.2059 *	* .7647 *
	* 1.5282 *	* 1.6922 *	* 1.4729 *	* 1.8177 *	* 1.4774 *	* 1.6744 *	* 1.6523 *	* 2.5834 *
12	* 1.0496 *	* 1.3655 *	* 1.2424 *	* 1.3666 *	* 1.2391 *	* 1.2713 *	* 1.0485 *	
	* 1.8939 *	* 1.4661 *	* 1.6199 *	* 1.4721 *	* 1.6299 *	* 1.5809 *	* 1.9090 *	
13	* 1.2231 *	* 1.2552 *	* 1.2638 *	* 1.2102 *	* 1.2788 *	* 1.1877 *	* .6340 *	
	* 1.6190 *	* 1.5870 *	* 1.5843 *	* 1.6647 *	* 1.5731 *	* 1.6920 *	* 3.1600 *	
14	* 1.2167 *	* 1.2563 *	* 1.1663 *	* 1.2134 *	* 1.0571 *	* .6522 *		
	* 1.6244 *	* 1.5748 *	* 1.7070 *	* 1.6429 *	* 1.8939 *	* 3.0694 *		
15	* 1.0614 *	* .7808 *	* .9532 *	* .7690 *	F-SUB-Q			
	* 1.8373 *	* 2.5007 *	* 2.0586 *	* 2.5696 *	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 75% POWER, 4 RFPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .5890 *	* .8954 *	* .8889 *	* 1.0249 *	* .8525 *	* 1.0174 *	* 1.0239 *	* .8589 *
	* 3.2489 *	* 2.1490 *	* 2.1831 *	* 1.8792 *	* 2.2442 *	* 1.8743 *	* 1.8598 *	* 2.1897 *
9	* .8954 *	* .7626 *	* 1.0089 *	* .9339 *	* 1.0988 *	* 1.0421 *	* 1.0421 *	* .8578 *
	* 2.1490 *	* 2.5247 *	* 1.9229 *	* 2.0779 *	* 1.7526 *	* 1.8420 *	* 1.8280 *	* 2.1897 *
10	* .8889 *	* 1.0100 *	* .9414 *	* 1.0667 *	* .9992 *	* 1.0207 *	* .9639 *	* .7508 *
	* 2.1831 *	* 1.9204 *	* 2.0675 *	* 1.8120 *	* 1.9397 *	* 1.8792 *	* 1.9905 *	* 2.5225 *
11	* 1.0249 *	* .9382 *	* 1.0710 *	* .8879 *	* 1.0935 *	* .9800 *	* .9757 *	* .6126 *
	* 1.8792 *	* 2.0690 *	* 1.8063 *	* 2.1749 *	* 1.7665 *	* 1.9742 *	* 1.9635 *	* 3.1090 *
12	* .8525 *	* 1.1063 *	* 1.0046 *	* 1.0999 *	* .9982 *	* 1.0282 *	* .8547 *	
	* 2.2442 *	* 1.7410 *	* 1.9281 *	* 1.7579 *	* 1.9450 *	* 1.8755 *	* 2.2512 *	
13	* 1.0174 *	* 1.0464 *	* 1.0260 *	* .9864 *	* 1.0335 *	* .9650 *	* .5280 *	
	* 1.8743 *	* 1.8350 *	* 1.8706 *	* 1.9621 *	* 1.8646 *	* 2.0016 *	* 3.6468 *	
14	* 1.0239 *	* 1.0442 *	* .9682 *	* .9810 *	* .8611 *	* .5441 *		
	* 1.8598 *	* 1.8234 *	* 1.9823 *	* 1.9528 *	* 2.2328 *	* 3.5439 *		
15	* .8589 *	* .6565 *	* .7529 *	* .6169 *	F-SUB-Q			
	* 2.1897 *	* 2.8682 *	* 2.5137 *	* 3.0924 *	M-SUB-Q			

AT 75% POWER, 4 RFPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .3716 *	* .2849 *	* .5269 *	* .3395 *	* .5430 *	* .6844 *	* .6351 *	* .4894 *
	* 5.0057 *	* 6.5345 *	* 3.5614 *	* 5.4702 *	* 3.4221 *	* 2.7044 *	* 2.9204 *	* 3.7461 *
9	* .2849 *	* .4691 *	* .3299 *	* .5687 *	* .3866 *	* .6351 *	* .6640 *	* .4091 *
	* 6.5345 *	* 3.9893 *	* 5.6522 *	* 3.2971 *	* 4.8058 *	* 2.9412 *	* 2.7852 *	* 4.4989 *
10	* .5269 *	* .3309 *	* .5516 *	* .3556 *	* .5998 *	* .6726 *	* .5869 *	* .2345 *
	* 3.5614 *	* 5.6411 *	* 3.4020 *	* 5.2514 *	* 3.1191 *	* 2.7665 *	* 3.1739 *	* 7.8485 *
11	* .3395 *	* .5719 *	* .3566 *	* .5676 *	* .3856 *	* .5987 *	* .5816 *	* .3716 *
	* 5.4702 *	* 3.2784 *	* 5.2324 *	* 3.2971 *	* 4.8380 *	* 3.1360 *	* 3.1985 *	* 4.9884 *
12	* .5430 *	* .3888 *	* .6040 *	* .3866 *	* .5955 *	* .6223 *	* .5034 *	
	* 3.4221 *	* 4.7740 *	* 3.0990 *	* 4.8218 *	* 3.1497 *	* 3.0055 *	* 3.7172 *	
13	* .6844 *	* .6372 *	* .6747 *	* .6019 *	* .6255 *	* .5612 *	* .3245 *	
	* 2.7044 *	* 2.9322 *	* 2.7560 *	* 3.1191 *	* 2.9930 *	* 3.3429 *	* 5.7765 *	
14	* .6351 *	* .6640 *	* .5890 *	* .5848 *	* .5077 *	* .3331 *		
	* 2.9204 *	* 2.7825 *	* 3.1635 *	* 3.1809 *	* 3.6887 *	* 5.6301 *		
15	* .4894 *	* .4091 *	* .2345 *	* .3738 *	F-SUB-Q			
	* 3.7461 *	* 4.4989 *	* 7.8273 *	* 4.9627 *	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.3663	.3020	.6073	.3791	.6255	.7518	.7090	.5430
	4.6959	6.5335	3.4602	5.5169	3.3429	2.7657	2.9410	3.8020
9	.3020	.5398	.3652	.6512	.4220	.7133	.7261	.4712
	6.5335	3.8437	5.6859	3.1779	4.8774	2.9273	2.8506	4.3829
10	.6073	.3663	.6265	.3845	.6747	.7251	.6597	.2624
	3.4602	5.6859	3.2701	5.2859	3.0431	2.8050	3.1121	7.7345
11	.3791	.6544	.3866	.5955	.3823	.6319	.6126	.4273
	5.5169	3.1652	5.2682	3.1811	4.8400	3.0227	3.1843	4.6820
12	.6255	.4252	.6779	.3834	.5344	.5558	.5152	
	3.3429	4.8474	3.0285	4.8252	2.9912	2.9799	3.5819	
13	.7518	.7144	.7283	.6340	.5591	.4809	.3331	
	2.7657	2.9165	2.7951	3.0111	2.9686	3.2466	5.2947	
14	.7090	.7261	.6519	.6158	.5184	.3406		
	2.9410	2.8481	3.1060	3.1715	3.5617	5.1732		
15	.5430	.4712	.2624	.4284	F-SUB-Q			
	3.8020	4.3829	7.7156	4.6681	M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.5591	.9211	.9553	1.0699	.9286	1.0528	1.0785	.8954
	4.0092	2.8326	2.8038	2.4925	2.8557	2.5022	2.4436	2.9095
9	.9211	.8236	1.0474	1.0046	1.1224	1.0967	1.0699	.7176
	2.8326	3.1934	2.5417	2.6481	2.3300	2.3906	2.4451	3.6355
10	.9553	1.0485	1.0089	1.0742	1.0464	1.0378	1.0185	.7925
	2.8038	2.5384	2.6229	2.4025	2.4861	2.5169	2.5501	3.2472
11	1.0699	1.0089	1.0796	.8996	1.0678	.9928	.9714	.6683
	2.4925	2.6390	2.3981	2.7776	2.3343	2.5054	2.5586	3.8189
12	.9286	1.1288	1.0517	1.0721	.8236	.9114	.8461	
	2.8557	2.3175	2.4749	2.3258	2.4328	2.4545	2.8389	
13	1.0528	1.1010	1.0432	.9971	.9168	.8311	.5301	
	2.5022	2.3833	2.5038	2.4957	2.4467	2.5552	4.3774	
14	1.0785	1.0721	1.0217	.9763	.8514	.5441		
	2.4436	2.4405	2.5417	2.5484	2.8223	4.2662		
15	.8954	.7165	.7947	.6715	F-SUB-Q			
	2.9095	3.6389	3.4390	3.8038	M-SUB-Q			



TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 50% POWER, 4 BFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7958	* 1.2413	* 1.2638	* 1.3955	* 1.1685	* 1.2895	* 1.3045	* 1.1181
	* 3.4638	* 2.3695	* 2.3640	* 2.1259	* 2.5217	* 2.2714	* 2.2442	* 2.5885
9	* 1.2413	* 1.0796	* 1.3934	* 1.3130	* 1.4212	* 1.3516	* 1.3184	* .8611
	* 2.3695	* 2.7209	* 2.1325	* 2.2602	* 2.0579	* 2.1696	* 2.2092	* 3.3505
10	* 1.2638	* 1.3955	* 1.3345	* 1.4105	* 1.3280	* 1.3173	* 1.2563	* 1.0153
	* 2.3640	* 2.1292	* 2.2187	* 2.0517	* 2.1916	* 2.2164	* 2.3096	* 2.8287
11	* 1.3953	* 1.3184	* 1.4180	* 1.1717	* 1.3977	* 1.2702	* 1.2445	* .8461
	* 2.1259	* 2.2515	* 2.0476	* 2.4261	* 2.0385	* 2.2320	* 2.2664	* 3.3819
12	* 1.1685	* 1.4298	* 1.3355	* 1.4019	* 1.2242	* 1.2413	* 1.0881	
	* 2.5217	* 2.0466	* 2.1823	* 2.0375	* 2.1515	* 2.1616	* 2.5485	
13	* 1.2895	* 1.3580	* 1.3248	* 1.2756	* 1.2466	* 1.1599	* .6694	
	* 2.2714	* 2.1594	* 2.2057	* 2.2235	* 2.1537	* 2.2789	* 4.0372	
14	* 1.3045	* 1.3216	* 1.2606	* 1.2509	* 1.0946	* .6876		
	* 2.2442	* 2.2045	* 2.3032	* 2.2552	* 2.5328	* 3.9288		
15	* 1.1181	* .8611	* 1.0174	* .8493	* F-SUB-Q			
	* 2.5885	* 3.3533	* 2.8210	* 3.3653	* M-SUB-Q			

AT 50% POWER, 4 BFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9778	* 1.4694	* 1.4769	* 1.6204	* 1.3345	* 1.4726	* 1.4726	* 1.2702
	* 3.1897	* 2.1624	* 2.1680	* 1.9595	* 2.3461	* 2.1391	* 2.1271	* 2.4374
9	* 1.4694	* 1.2584	* 1.6343	* 1.5251	* 1.6461	* 1.5422	* 1.5026	* .9660
	* 2.1624	* 2.4963	* 1.9485	* 2.0888	* 1.9164	* 2.0419	* 2.0764	* 3.1774
10	* 1.4769	* 1.6365	* 1.5562	* 1.6536	* 1.5369	* 1.5197	* 1.4309	* 1.1642
	* 2.1680	* 1.9458	* 2.0429	* 1.8938	* 2.0459	* 2.0620	* 2.1804	* 2.6491
11	* 1.6204	* 1.5305	* 1.6547	* 1.3687	* 1.6472	* 1.4780	* 1.4469	* .9682
	* 1.9595	* 2.0805	* 1.8886	* 2.2552	* 1.8904	* 2.0930	* 2.1196	* 3.1842
12	* 1.3345	* 1.6547	* 1.5455	* 1.6526	* 1.5165	* 1.5026	* 1.2713	
	* 2.3461	* 1.9050	* 2.0359	* 1.8878	* 2.0172	* 2.0172	* 2.3996	
13	* 1.4726	* 1.5497	* 1.5283	* 1.4855	* 1.5090	* 1.4084	* .7775	
	* 2.1391	* 2.0310	* 2.0529	* 2.0836	* 2.0095	* 2.1413	* 3.8347	
14	* 1.4726	* 1.5069	* 1.4362	* 1.4544	* 1.2798	* .7990		
	* 2.1271	* 2.0723	* 2.1725	* 2.1089	* 2.3832	* 3.7309		
15	* 1.2702	* .9660	* 1.1674	* .9725	* F-SUB-Q			
	* 2.4374	* 3.1799	* 2.6424	* 3.1697	* M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (%-SUB-Q OF MARGIN) - POWER ESCALATION

AT 50% POWER, 4 RFPD, THIS IS LEVEL 14 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0432	* 1.5733	* 1.5712	* 1.7232	* 1.4052	* 1.5572	* 1.5444	* 1.3334
	* 3.2400	* 2.1876	* 2.2035	* 1.9913	* 2.3951	* 2.1887	* 2.1933	* 2.5101
9	* 1.5733	* 1.3366	* 1.7457	* 1.6172	* 1.7554	* 1.6247	* 1.5851	* 1.0078
	* 2.1876	* 2.5334	* 1.9737	* 2.1326	* 1.9537	* 2.0988	* 2.1315	* 3.2757
10	* 1.5712	* 1.7479	* 1.6536	* 1.7682	* 1.6311	* 1.6140	* 1.5058	* 1.2263
	* 2.2035	* 1.9710	* 2.0844	* 1.9262	* 2.0967	* 2.1051	* 2.2467	* 2.7264
11	* 1.7232	* 1.6226	* 1.7714	* 1.4555	* 1.7639	* 1.5744	* 1.5390	* 1.0185
	* 1.9913	* 2.1240	* 1.9210	* 2.2987	* 1.9262	* 2.1499	* 2.1753	* 3.2916
12	* 1.4052	* 1.7650	* 1.6408	* 1.7704	* 1.6247	* 1.6172	* 1.3527	
	* 2.3951	* 1.9430	* 2.0864	* 1.9201	* 2.0752	* 2.0671	* 2.4735	
13	* 1.5572	* 1.6333	* 1.6236	* 1.5819	* 1.6247	* 1.5123	* .8268	
	* 2.1887	* 2.0874	* 2.0957	* 2.1401	* 2.0580	* 2.2047	* 3.9563	
14	* 1.5444	* 1.5894	* 1.5112	* 1.5465	* 1.3623	* .8493		
	* 2.1933	* 2.1272	* 2.2386	* 2.1642	* 2.4563	* 3.8468		
15	* 1.3334	* 1.0078	* 1.2306	* 1.0228	F-SUB-Q			
	* 2.5101	* 3.2782	* 2.7177	* 3.2738	M-SUB-Q			

AT 50% POWER, 4 RFPD, THIS IS LEVEL 13 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1171	* 1.6890	* 1.6847	* 1.8443	* 1.5005	* 1.6622	* 1.6472	* 1.4255
	* 3.2885	* 2.2253	* 2.2415	* 2.0300	* 2.4355	* 2.2380	* 2.2462	* 2.5665
9	* 1.6890	* 1.4319	* 1.8732	* 1.7329	* 1.8817	* 1.7372	* 1.6943	* 1.0742
	* 2.2253	* 2.5662	* 2.0082	* 2.1747	* 1.9905	* 2.1464	* 2.1791	* 3.3408
10	* 1.6847	* 1.8753	* 1.7714	* 1.8978	* 1.7489	* 1.7275	* 1.6086	* 1.3109
	* 2.2415	* 2.0054	* 2.1252	* 1.9650	* 2.1422	* 2.1497	* 2.3015	* 2.7877
11	* 1.8443	* 1.7372	* 1.9032	* 1.5604	* 1.8946	* 1.6890	* 1.6526	* 1.0871
	* 2.0300	* 2.1559	* 1.9588	* 2.3367	* 1.9650	* 2.1980	* 2.2218	* 3.3737
12	* 1.5005	* 1.8925	* 1.7566	* 1.9021	* 1.7468	* 1.7436	* 1.4533	
	* 2.4355	* 1.9795	* 2.1305	* 1.9588	* 2.1242	* 2.1117	* 2.5318	
13	* 1.6622	* 1.7468	* 1.7382	* 1.6975	* 1.7511	* 1.6311	* .8868	
	* 2.2380	* 2.1347	* 2.1390	* 2.1879	* 2.1024	* 2.2533	* 4.0365	
14	* 1.6472	* 1.6986	* 1.6151	* 1.6611	* 1.4641	* .9114		
	* 2.2462	* 2.1747	* 2.2929	* 2.2104	* 2.5140	* 3.9272		
15	* 1.4255	* 1.0731	* 1.3152	* 1.0935	F-SUB-Q			
	* 2.5665	* 3.3434	* 2.7805	* 3.3579	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
 Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 12 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1320	* 1.7222	* 1.7147	* 1.8807	* 1.5240	* 1.6933	* 1.6750	* 1.4501
	* 3.5088	* 2.3597	* 2.3844	* 2.1565	* 2.6009	* 2.3804	* 2.3909	* 2.7179
9	* 1.7222	* 1.4544	* 1.9117	* 1.7629	* 1.9203	* 1.7661	* 1.7265	* 1.0892
	* 2.3597	* 2.7351	* 2.1352	* 2.3205	* 2.1206	* 2.2947	* 2.3205	* 3.5618
10	* 1.7147	* 1.9139	* 1.8014	* 1.9385	* 1.7800	* 1.7639	* 1.6354	* 1.3334
	* 2.3844	* 2.1321	* 2.2718	* 2.0960	* 2.2935	* 2.2959	* 2.4644	* 2.9776
11	* 1.8807	* 1.7671	* 1.9439	* 1.5894	* 1.9353	* 1.7200	* 1.6858	* 1.1031
	* 2.1565	* 2.3118	* 2.0899	* 2.5057	* 2.0970	* 2.3584	* 2.3778	* 3.6224
12	* 1.5240	* 1.9321	* 1.7907	* 1.9439	* 1.7800	* 1.7811	* 1.4801	
	* 2.6009	* 2.1082	* 2.2802	* 2.0899	* 2.2802	* 2.2612	* 2.7179	
13	* 1.6933	* 1.7757	* 1.7736	* 1.7297	* 1.7896	* 1.6643	* .9018	
	* 2.3804	* 2.2826	* 2.2850	* 2.3456	* 2.2518	* 2.4190	* 4.3509	
14	* 1.6750	* 1.7307	* 1.6418	* 1.6954	* 1.4908	* .9275		
	* 2.3909	* 2.3155	* 2.4560	* 2.3661	* 2.6976	* 4.2337		
15	* 1.4501	* 1.0881	* 1.3377	* 1.1085	* F-SUB-Q			
	* 2.7179	* 3.5648	* 2.9674	* 3.6043	* M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 11 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1203	* 1.7147	* 1.7007	* 1.8732	* 1.5112	* 1.6858	* 1.6643	* 1.4426
	* 3.8233	* 2.5321	* 2.5681	* 2.2923	* 2.7745	* 2.4856	* 2.4842	* 2.7915
9	* 1.7147	* 1.4416	* 1.9042	* 1.7489	* 1.9139	* 1.7532	* 1.7190	* 1.0796
	* 2.5321	* 2.9751	* 2.2947	* 2.5028	* 2.2802	* 2.4686	* 2.4408	* 3.7009
10	* 1.7007	* 1.9064	* 1.7875	* 1.9321	* 1.7671	* 1.7586	* 1.6226	* 1.3248
	* 2.5681	* 2.2911	* 2.4546	* 2.2565	* 2.4757	* 2.4742	* 2.6612	* 3.1554
11	* 1.8732	* 1.7532	* 1.9385	* 1.5787	* 1.9299	* 1.7082	* 1.6783	* 1.0913
	* 2.2923	* 2.4956	* 2.2494	* 2.7320	* 2.2588	* 2.5530	* 2.5666	* 3.9207
12	* 1.5112	* 1.9246	* 1.7779	* 1.9374	* 1.7671	* 1.7757	* 1.4705	
	* 2.7745	* 2.2671	* 2.4616	* 2.2506	* 2.4742	* 2.4463	* 2.9432	
13	* 1.6858	* 1.7629	* 1.7671	* 1.7179	* 1.7832	* 1.6568	* .8932	
	* 2.4856	* 2.4602	* 2.4602	* 2.5395	* 2.4353	* 2.6225	* 4.7695	
14	* 1.5643	* 1.7222	* 1.6290	* 1.6879	* 1.4812	* .9189		
	* 2.4842	* 2.4353	* 2.6514	* 2.5545	* 2.9233	* 4.6351		
15	* 1.4426	* 1.0785	* 1.3291	* 1.0978	* F-SUB-Q			
	* 2.7915	* 3.7041	* 3.1463	* 3.8995	* M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 10 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.1235	1.7254	1.7115	1.8871	1.5197	1.6986	1.6793	1.4576
	3.9221	2.5666	2.5336	2.2378	2.7358	2.4491	2.4504	2.7525
9	1.7254	1.4491	1.9182	1.7597	1.9299	1.7661	1.7339	1.0871
	2.5666	3.0404	2.2790	2.4644	2.2600	2.4339	2.4096	3.6906
10	1.7115	1.9214	1.7982	1.9481	1.7800	1.7736	1.6343	1.3355
	2.5336	2.2754	2.4574	2.3754	2.5072	2.4686	2.6547	3.1124
11	1.8871	1.7650	1.9556	1.5904	1.9471	1.7211	1.6933	1.0978
	2.2378	2.4532	2.2623	2.7906	2.2911	2.6099	2.6417	3.9565
12	1.5197	1.9407	1.7907	1.9546	1.7800	1.7929	1.4823	
	2.7358	2.2378	2.4913	2.2826	2.5291	2.5086	3.0360	
13	1.6986	1.7757	1.7832	1.7307	1.8014	1.6729	.8986	
	2.4491	2.4203	2.4518	2.5958	2.4956	2.6976	5.0225	
14	1.6793	1.7382	1.6408	1.7029	1.4940	.9253		
	2.4504	2.4029	2.6465	2.6273	3.0128	4.8750		
15	1.4576	1.0860	1.3398	1.1042	F-SUB-Q			
	2.7525	3.6938	3.1057	3.9385	M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 9 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.0731	1.6600	1.6418	1.8196	1.4566	1.6376	1.6161	1.4052
	4.0226	2.5174	2.4518	2.1597	2.6677	2.3558	2.3623	2.6661
9	1.6600	1.3869	1.8496	1.6879	1.8614	1.6965	1.6729	1.0432
	2.5174	2.9573	2.1947	2.3883	2.1804	2.3533	2.3205	3.6043
10	1.6418	1.8518	1.7243	1.8796	1.7082	1.7115	1.5712	1.2852
	2.4518	2.1914	2.3791	2.1936	2.4298	2.3817	2.5742	3.0639
11	1.8196	1.6933	1.8871	1.5272	1.8785	1.6536	1.6322	1.0528
	2.1597	2.3791	2.1815	2.8446	2.3218	2.6563	2.6809	3.9207
12	1.4566	1.8721	1.7190	1.8860	1.7093	1.7286	1.4244	
	2.6677	2.1597	2.4136	2.3131	2.5757	2.5425	3.0880	
13	1.6376	1.7072	1.7211	1.6633	1.7372	1.6097	.8622	
	2.3558	2.3444	2.3661	2.6401	2.5306	2.7420	5.1393	
14	1.6161	1.6772	1.5776	1.6418	1.4362	.8868		
	2.3623	2.3155	2.5635	2.6644	3.0639	4.9970		
15	1.4052	1.0432	1.2895	1.0561	F-SUB-Q			
	2.6661	3.6043	3.0531	3.8995	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0592	* 1.6451	* 1.6268	* 1.8057	* 1.4437	* 1.6258	* 1.6086	* 1.4009
	* 3.9385	* 2.3804	* 2.3230	* 2.0455	* 2.5291	* 2.2263	* 2.2297	* 2.5115
9	* 1.6451	* 1.3720	* 1.8346	* 1.6740	* 1.8485	* 1.6858	* 1.6654	* 1.0378
	* 2.3804	* 2.8005	* 2.0769	* 2.2635	* 2.0660	* 2.2240	* 2.1914	* 3.4006
10	* 1.6268	* 1.8378	* 1.7093	* 1.8678	* 1.6965	* 1.7018	* 1.5626	* 1.2788
	* 2.3230	* 2.0739	* 2.2541	* 2.0759	* 2.2996	* 2.2529	* 2.4326	* 2.8941
11	* 1.8057	* 1.6793	* 1.8753	* 1.5165	* 1.8657	* 1.6429	* 1.6247	* 1.0442
	* 2.0455	* 2.2541	* 2.0640	* 2.6893	* 2.2483	* 2.5958	* 2.5696	* 3.7124
12	* 1.4437	* 1.8603	* 1.7072	* 1.8742	* 1.6975	* 1.7211	* 1.4180	
	* 2.5291	* 2.0455	* 2.2838	* 2.2390	* 2.5262	* 2.4899	* 3.0191	
13	* 1.6258	* 1.6965	* 1.7115	* 1.6526	* 1.7297	* 1.6033	* .8557	
	* 2.2263	* 2.2149	* 2.2378	* 2.5803	* 2.4771	* 2.6859	* 5.0494	
14	* 1.6086	* 1.6697	* 1.5690	* 1.6354	* 1.4298	* .8804		
	* 2.2297	* 2.1859	* 2.4217	* 2.5545	* 2.9941	* 4.9064		
15	* 1.4009	* 1.0367	* 1.2831	* 1.0507	* F-SUB-Q			
	* 2.5115	* 3.4033	* 2.8844	* 3.6903	* M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.0110	* 1.5776	* 1.5604	* 1.7361	* 1.3827	* 1.5647	* 1.5487	* 1.3505
	* 3.8205	* 2.2814	* 2.2320	* 1.9586	* 2.4258	* 2.1165	* 2.1185	* 2.3713
9	* 1.5776	* 1.3120	* 1.7639	* 1.6054	* 1.7789	* 1.6204	* 1.6044	* .9960
	* 2.2814	* 2.6926	* 1.9947	* 2.1749	* 1.9783	* 2.1237	* 2.0849	* 3.2235
10	* 1.5604	* 1.7661	* 1.6386	* 1.7971	* 1.6290	* 1.6386	* 1.5015	* 1.2306
	* 2.2320	* 1.9919	* 2.1716	* 1.9928	* 2.2127	* 2.1565	* 2.3230	* 2.7386
11	* 1.7361	* 1.6108	* 1.8046	* 1.4544	* 1.7961	* 1.5787	* 1.5658	* 1.0025
	* 1.9586	* 2.1662	* 1.9810	* 2.5942	* 2.1630	* 2.5218	* 2.4560	* 3.5309
12	* 1.3827	* 1.7896	* 1.6386	* 1.8046	* 1.6301	* 1.6579	* 1.3634	
	* 2.4258	* 1.9586	* 2.1981	* 2.1533	* 2.5072	* 2.4491	* 2.9313	
13	* 1.5647	* 1.6301	* 1.6483	* 1.5883	* 1.6665	* 1.5433	* .8204	
	* 2.1165	* 2.1154	* 2.1426	* 2.5086	* 2.4367	* 2.6482	* 4.9176	
14	* 1.5487	* 1.6086	* 1.5080	* 1.5754	* 1.3741	* .8439		
	* 2.1185	* 2.0799	* 2.3143	* 2.4435	* 2.9096	* 4.7766		
15	* 1.3505	* .9960	* 1.2349	* 1.0078	* F-SUB-Q			
	* 2.3713	* 3.2259	* 2.7299	* 3.5137	* M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 50% POWER, 4 BFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .9339	* 1.4683	* 1.4480	* 1.6194	* 1.2841	* 1.4608	* 1.4448	* 1.2606
	* 3.7316	* 2.2367	* 2.1981	* 1.9204	* 2.3909	* 2.0709	* 2.0789	* 2.3255
9	* 1.4683	* 1.2145	* 1.6440	* 1.4908	* 1.6611	* 1.5080	* 1.4994	* .9264
	* 2.2367	* 2.6547	* 1.9533	* 2.1416	* 1.9393	* 2.0809	* 2.0388	* 3.1739
10	* 1.4480	* 1.6472	* 1.5208	* 1.6783	* 1.5144	* 1.5315	* 1.3977	* 1.1470
	* 2.1981	* 1.9507	* 2.1363	* 1.9471	* 2.1684	* 2.1051	* 2.2742	* 2.6809
11	* 1.6194	* 1.4962	* 1.6858	* 1.3516	* 1.6772	* 1.4694	* 1.4608	* .9307
	* 1.9204	* 2.1321	* 1.9358	* 2.5380	* 2.1021	* 2.4546	* 2.3857	* 3.4604
12	* 1.2841	* 1.6708	* 1.5240	* 1.6847	* 1.5155	* 1.5476	* 1.2681	*
	* 2.3909	* 1.9204	* 2.1533	* 2.0929	* 2.4312	* 2.3765	* 2.8559	*
13	* 1.4608	* 1.5176	* 1.5401	* 1.4780	* 1.5562	* 1.4373	* .7604	*
	* 2.0709	* 2.0739	* 2.0909	* 2.4408	* 2.3636	* 2.5773	* 4.8191	*
14	* 1.4448	* 1.5037	* 1.4041	* 1.4705	* 1.2788	* .7840	*	*
	* 2.0789	* 2.0340	* 2.2647	* 2.3713	* 2.8316	* 4.6786	*	*
15	* 1.2606	* .9253	* 1.1513	* .9361	* F-SUB-Q			
	* 2.3255	* 3.1762	* 2.6727	* 3.4439	* M-SUB-Q			

AT 50% POWER, 4 BFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8804	* 1.3891	* 1.3709	* 1.5369	* 1.2188	* 1.3923	* 1.3794	* 1.2059
	* 3.5453	* 2.1662	* 2.1321	* 1.8610	* 2.3168	* 1.9993	* 2.0048	* 2.2413
9	* 1.3891	* 1.1492	* 1.5594	* 1.4137	* 1.5776	* 1.4362	* 1.4309	* .8836
	* 2.1662	* 2.5712	* 1.8910	* 2.0749	* 1.8698	* 2.0030	* 1.9648	* 3.0683
10	* 1.3709	* 1.5615	* 1.4426	* 1.5958	* 1.4405	* 1.4576	* 1.3323	* 1.0935
	* 2.1321	* 1.8878	* 2.0670	* 1.8787	* 2.0869	* 2.0254	* 2.1848	* 2.5803
11	* 1.5369	* 1.4201	* 1.6022	* 1.2852	* 1.5947	* 1.3998	* 1.3923	* .8846
	* 1.8610	* 2.0640	* 1.8674	* 2.4353	* 1.9993	* 2.3032	* 2.2671	* 3.3249
12	* 1.2188	* 1.5872	* 1.4501	* 1.6022	* 1.4426	* 1.4758	* 1.2059	*
	* 2.3168	* 1.8570	* 2.0729	* 1.9910	* 2.2996	* 2.2448	* 2.6826	*
13	* 1.3923	* 1.4448	* 1.4662	* 1.4073	* 1.4833	* 1.3709	* .7240	*
	* 1.9993	* 1.9956	* 2.0123	* 2.2898	* 2.2332	* 2.4353	* 4.5556	*
14	* 1.3794	* 1.4341	* 1.3388	* 1.4019	* 1.2188	* .7454	*	*
	* 2.0048	* 1.9595	* 2.1760	* 2.2529	* 2.6595	* 4.4253	*	*
15	* 1.2059	* .8825	* 1.0978	* .8900	* F-SUB-Q			
	* 2.2413	* 3.0704	* 2.5727	* 3.3072	* M-SUB-Q			

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 Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 50% POWER, 4 EFPD, THIS IS LEVEL 4 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7765 *	* 1.2316 *	* 1.2134 *	* 1.3720 *	* 1.0849 *	* 1.2520 *	* 1.2391 *	* 1.0828 *
	* 3.6840 *	* 2.2413 *	* 2.2297 *	* 1.9341 *	* 2.4163 *	* 2.0630 *	* 2.0739 *	* 2.3205 *
9	* 1.2316 *	* 1.0153 *	* 1.3869 *	* 1.2552 *	* 1.4084 *	* 1.2841 *	* 1.2852 *	* .7915 *
	* 2.2413 *	* 2.6793 *	* 1.9639 *	* 2.1651 *	* 1.9247 *	* 2.0690 *	* 2.0264 *	* 3.1879 *
10	* 1.2134 *	* 1.3891 *	* 1.2788 *	* 1.4255 *	* 1.2841 *	* 1.3055 *	* 1.1920 *	* .9778 *
	* 2.2297 *	* 1.9612 *	* 2.1543 *	* 1.9419 *	* 2.1586 *	* 2.0839 *	* 2.2518 *	* 2.6694 *
11	* 1.3720 *	* 1.2606 *	* 1.4309 *	* 1.1438 *	* 1.4244 *	* 1.2488 *	* 1.2466 *	* .7883 *
	* 1.9341 *	* 2.1533 *	* 1.9298 *	* 2.5014 *	* 2.0245 *	* 2.3406 *	* 2.2923 *	* 3.4330 *
12	* 1.0849 *	* 1.4180 *	* 1.2927 *	* 1.4319 *	* 1.2863 *	* 1.3205 *	* 1.0796 *	
	* 2.4163 *	* 1.9111 *	* 2.1416 *	* 2.0160 *	* 2.3143 *	* 2.2471 *	* 2.7231 *	
13	* 1.2520 *	* 1.2916 *	* 1.3130 *	* 1.2552 *	* 1.3280 *	* 1.2263 *	* .6458 *	
	* 2.0630 *	* 2.0611 *	* 2.0699 *	* 2.3255 *	* 2.2355 *	* 2.4312 *	* 4.5894 *	
14	* 1.2391 *	* 1.2884 *	* 1.1974 *	* 1.2552 *	* 1.0892 *	* .6651 *		
	* 2.0739 *	* 2.0216 *	* 2.2424 *	* 2.2778 *	* 2.7010 *	* 4.4572 *		
15	* 1.0828 *	* .7904 *	* .9821 *	* .7925 *	F-SUB-Q			
	* 2.3205 *	* 3.1903 *	* 2.6612 *	* 3.4140 *	M-SUB-Q			

AT 50% POWER, 4 EFPD, THIS IS LEVEL 3 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .6790 *	* 1.0731 *	* 1.0603 *	* 1.2092 *	* .9650 *	* 1.1256 *	* 1.1181 *	* .9703 *
	* 3.8070 *	* 2.3739 *	* 2.3844 *	* 2.0572 *	* 2.5470 *	* 2.1554 *	* 2.1586 *	* 2.4353 *
9	* 1.0731 *	* .8911 *	* 1.2134 *	* 1.1042 *	* 1.2531 *	* 1.1513 *	* 1.1535 *	* .7122 *
	* 2.3739 *	* 2.8353 *	* 2.0980 *	* 2.2996 *	* 2.0151 *	* 2.1543 *	* 2.1154 *	* 3.3275 *
10	* 1.0603 *	* 1.2145 *	* 1.1213 *	* 1.2574 *	* 1.1406 *	* 1.1599 *	* 1.0678 *	* .8675 *
	* 2.3844 *	* 2.0950 *	* 2.2935 *	* 2.0542 *	* 2.2553 *	* 2.1793 *	* 2.3431 *	* 2.8151 *
11	* 1.2092 *	* 1.1085 *	* 1.2627 *	* 1.0153 *	* 1.2574 *	* 1.1096 *	* 1.1085 *	* .6994 *
	* 2.0572 *	* 2.2886 *	* 2.0426 *	* 2.5942 *	* 2.0960 *	* 2.3949 *	* 2.3610 *	* 3.6013 *
12	* .9550 *	* 1.2616 *	* 1.1481 *	* 1.2638 *	* 1.1428 *	* 1.1727 *	* .9618 *	
	* 2.5470 *	* 2.0002 *	* 2.2390 *	* 2.0899 *	* 2.3962 *	* 2.3267 *	* 2.7825 *	
13	* 1.1256 *	* 1.1567 *	* 1.1674 *	* 1.1160 *	* 1.1792 *	* 1.0924 *	* .5783 *	
	* 2.1554 *	* 2.1458 *	* 2.1651 *	* 2.3804 *	* 2.3143 *	* 2.5218 *	* 4.7142 *	
14	* 1.1181 *	* 1.1556 *	* 1.0731 *	* 1.1149 *	* .9703 *	* .5965 *		
	* 2.1586 *	* 2.1103 *	* 2.3330 *	* 2.3469 *	* 2.7595 *	* 4.5749 *		
15	* .9703 *	* .7122 *	* .8707 *	* .7026 *	F-SUB-Q			
	* 2.4353 *	* 3.3300 *	* 2.8060 *	* 3.5805 *	M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 50% POWER, 4 HPPD, THIS IS LEVEL 2 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.5312	.8140	.8107	.9339	.7733	.9253	.9296	.7765
	4.5365	2.9372	2.9532	2.5247	3.0065	2.4927	2.4714	2.9037
9	.8140	.6919	.9221	.8536	1.0025	.9478	.9478	.5933
	2.9372	3.4466	2.6114	2.8187	2.3778	2.4799	2.4435	3.8137
10	.8107	.9232	.8589	.9725	.9104	.9307	.8750	.6769
	2.9532	2.6067	2.8279	2.5144	2.6563	2.5727	2.7044	3.4248
11	.9339	.8568	.9768	.8075	.9971	.8932	.8857	.5537
	2.5247	2.8023	2.4999	3.0704	2.4757	2.7754	2.7595	4.2980
12	.7733	1.0089	.9168	1.0025	.9082	.9361	.7754	
	3.0065	2.3610	2.6369	2.4630	2.7933	2.6909	3.2187	
13	.9253	.9521	.9361	.8986	.9414	.8771	.4777	
	2.4927	2.4714	2.5605	2.7595	2.6760	2.8921	5.2963	
14	.9296	.9500	.8793	.8921	.7818	.4916		
	2.4714	2.4394	2.6943	2.7420	3.1926	5.1454		
15	.7765	.5933	.6801	.5569	F-SUB-Q			
	2.9037	3.8171	3.4140	4.2726	M-SUB-Q			

AT 50% POWER, 4 HPPD, THIS IS LEVEL 1 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.3299	.2528	.4712	.3031	.4862	.6148	.5698	.4370
	6.8768	8.9144	4.8191	7.3680	4.5894	3.6013	3.8890	4.9798
9	.2528	.4188	.2945	.5087	.3449	.5708	.5955	.3652
	8.9144	5.4223	7.8680	4.4849	6.5051	3.9421	3.7156	5.9922
10	.4712	.2945	.4937	.3170	.5376	.6040	.5269	.2078
	4.8191	7.6680	4.6736	7.1847	4.2350	3.7542	4.2895	10.6447
11	.3031	.5119	.3181	.5066	.3438	.5355	.5216	.3309
	7.3680	4.4618	7.1492	4.5685	6.7800	4.3939	4.4435	6.8768
12	.4862	.3470	.5419	.3449	.5312	.5591	.4509	
	4.5894	6.4566	4.2103	6.7483	4.4710	4.2895	5.2834	
13	.6148	.5730	.6073	.5387	.5612	.5034	.2902	
	3.6013	3.9314	3.7380	4.3717	4.2642	4.7925	8.3155	
14	.5698	.5965	.5291	.5248	.4552	.2977		
	3.8890	3.7124	4.2726	4.4208	5.2450	8.0979		
15	.4370	.3652	.2078	.3331	F-SUB-Q			
	4.9798	5.9922	10.6186	6.8442	M-SUB-Q			



TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 30% POWER, 4 EFPD, THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.3620	.3020	.6126	.3823	.6351	.7743	.7304	.5537
	*15.5605	*18.6505	*9.1948	*14.7323	*8.8692	*7.2745	*7.7118	*10.1730
9	.3020	.5409	.3684	.6597	.4295	.7347	.7486	.4787
	*18.6505	*10.4147	*15.2891	*8.5381	*13.1158	*7.6668	*7.5242	*11.7661
10	.6126	.3684	.6340	.3888	.6897	.7476	.6779	.2635
	*9.1948	*15.2891	*8.8842	*14.4888	*8.1668	*7.5350	*8.3088	*21.3798
11	.3823	.6629	.3909	.6019	.3888	.6458	.6297	.4305
	*14.7323	*8.4967	*14.4094	*9.3584	*14.4888	*8.7221	*8.9446	*13.0832
12	.6351	.4316	.6940	.3898	.5387	.5698	.5269	
	*8.8692	*13.0507	*8.1164	*14.4490	*10.4561	*9.8862	*10.6899	
13	.7743	.7358	.7508	.6480	.5741	.4916	.3363	
	*7.2745	*7.6557	*7.5028	*8.6933	*9.8124	*11.4585	*16.7498	
14	.7304	.7497	.6801	.6330	.5301	.3438		
	*7.7118	*7.5135	*8.2826	*8.8992	*10.6251	*16.3845		
15	.5537	.4787	.2645	.4327	F-SUB-Q			
	*10.1730	*11.7661	*21.2933	*13.0184	M-SUB-Q			

AT 30% POWER, 4 EFPD, THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.5676	.947P	.9917	1.1117	.9585	1.0967	1.1235	.9243
	*12.1411	*7.2745	*8.9490	*6.1992	*7.1897	*6.2840	*6.1342	*7.4563
9	.9478	.8445	1.0913	1.0474	1.1727	1.1449	1.1160	.7358
	*7.2709	*8.14	*6.3148	*.5795	*5.8765	*6.0194	*6.1754	*9.3665
10	.9917	1.0935	1.0507	1.1213	1.0924	1.0839	1.0603	.8140
	*6.9490	*6.3024	*6.5594	*6.1459	*6.3086	*6.3585	*6.4998	*8.4668
11	1.1117	1.051	1.1278	.9318	1.1149	1.0357	1.0110	.6844
	*6.1992	*6.5527	*6.1109	*7.3963	*6.1814	*6.6544	*6.8165	*10.0701
12	.9585	1.1792	1.096	1.1203	.8557	.9489	.8750	
	*7.1897	*5.8445	*6.271	*6.1518	*8.0536	*7.2627	*7.8761	
13	1.0967	1.1492	1.0903	1.0410	.9543	.8611	.5409	
	*6.2840	*5.9970	*6.3210	*6.6202	*7.2220	*8.0035	*12.7422	
14	1.1235	1.1192	1.0646	1.0164	.8814	.5548		
	*6.1342	*6.1577	*6.4736	*.7806	*7.8187	*12.4224		
15	.9243	.7358	.8172	.6876	F-SUB-Q			
	*7.4563	*9.3665	*8.4335	*10.0230	M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 30% POWER, 4 EFPD, THIS IS LEVEL 16 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.8118	1.2895	1.3227	1.4608	1.2145	1.3462	1.3623	1.1567
	9.0099	5.6974	5.5543	5.0290	6.0225	5.4571	5.3928	6.3515
9	1.2895	1.1181	1.4641	1.3794	1.4919	1.4159	1.3794	.8857
	5.6974	6.5417	5.0180	5.3258	4.9243	5.1888	5.3258	8.2582
10	1.3227	1.4662	1.4009	1.4844	1.3934	1.3827	1.3109	1.0474
	5.5543	5.0107	5.2444	4.9492	5.2726	5.3134	5.6043	7.0139
11	1.4608	1.3859	1.4919	1.2220	1.4651	1.3313	1.2991	.8697
	5.0290	5.3011	4.9243	5.9856	5.0143	5.5186	5.6551	8.4478
12	1.2145	1.5015	1.4019	1.4705	1.2841	1.3013	1.1288	
	6.0225	4.8927	5.2404	4.9961	5.7211	5.6458	6.5082	
13	1.3462	1.4244	1.3902	1.3377	1.3077	1.2081	.6865	
	5.4571	5.1576	5.2848	5.4921	5.6180	6.0812	10.6545	
14	1.3623	1.3827	1.3163	1.3066	1.1363	.7047		
	5.3928	5.3134	5.5815	5.6226	6.4652	10.3792		
15	1.1567	.8857	1.0507	.8739	F-SUB-Q			
	6.3515	8.2582	6.9925	8.4064	M-SUB-Q			

AT 30% POWER, 4 EFPD, THIS IS LEVEL 15 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.0003	1.5283	1.5476	1.6986	1.3891	1.5369	1.5358	1.3130
	7.3765	4.8793	4.8185	4.3902	5.3120	4.8521	4.8555	5.6793
9	1.5283	1.3055	1.7200	1.6033	1.7329	1.6151	1.5712	.9939
	4.8793	5.6519	4.3355	4.6512	4.3033	4.6172	4.7463	7.4242
10	1.5476	1.7232	1.6365	1.7372	1.6161	1.5947	1.4930	1.2006
	4.8185	4.3274	4.5568	4.2927	4.6142	4.6762	4.9948	6.2112
11	1.6986	1.6097	1.7436	1.4287	1.7297	1.5508	1.5101	.9960
	4.3902	4.6326	4.2769	5.1647	4.3113	4.8086	4.9381	7.4869
12	1.3891	1.7425	1.6258	1.7361	1.5926	1.5776	1.3195	
	5.3120	4.2795	4.5868	4.2954	4.6824	4.7269	5.6516	
13	1.5369	1.6247	1.6044	1.5583	1.5840	1.4694	.7990	
	4.8521	4.5898	4.6481	4.7854	4.7078	5.0749	9.2355	
14	1.5358	1.5744	1.4983	1.187	1.3291	.8215		
	4.8555	4.7366	4.9770	4.0	5.6106	8.9827		
15	1.3130	.9928	1.2038	.03	F-SUB-Q			
	5.6793	7.4323	6.1947	7.4548	M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 30% POWER, 4 EFPD, THIS IS LEVEL 14 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.0656	1.6343	1.6429	1.8025	1.4587	1.6204	1.6054	1.3752
	6.9848	4.6304	4.6062	4.1984	5.1027	4.6702	4.7138	5.5031
9	1.6343	1.3837	1.8336	1.6975	1.8432	1.6975	1.6515	1.0346
	4.6304	5.3792	4.1273	4.4580	4.1057	4.4580	4.5823	7.1945
10	1.6429	1.8368	1.7339	1.8539	1.7104	1.6890	1.5658	1.2616
	4.6062	4.1201	4.3644	4.0820	4.4245	4.4806	4.8331	5.9983
11	1.8025	1.7029	1.8571	1.5165	1.8475	1.6461	1.6022	1.0453
	4.1984	4.4440	4.0749	4.9081	4.0962	4.5972	4.7232	7.2397
12	1.4587	1.8539	1.7211	1.8550	1.7018	1.6933	1.4009	
	5.1027	4.0820	4.3970	4.0797	4.4468	4.4693	5.4021	
13	1.6204	1.7072	1.6997	1.6547	1.7007	1.5744	.8472	
	4.6702	4.4328	4.4524	4.5734	4.4496	4.8068	8.7862	
14	1.6054	1.6558	1.5722	1.6108	1.4116	.8718		
	4.7138	4.5705	4.8133	4.6981	5.3611	8.5379		
15	1.3752	1.0335	1.2659	1.0507	F-SUB-Q			
	5.5031	7.2019	5.9780	7.2028	M-SUB-Q			

AT 30% POWER, 4 EFPD, THIS IS LEVEL 13 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.1374	1.7479	1.7543	1.9235	1.5519	1.7232	1.7050	1.4630
	6.6008	4.3929	4.3768	3.9917	4.8379	4.4556	4.5032	5.2483
9	1.7479	1.4769	1.9589	1.8100	1.9674	1.8057	1.7564	1.0967
	4.3929	5.0834	3.9197	4.2421	3.9026	4.2522	4.3714	6.8457
10	1.7543	1.9621	1.8496	1.9813	1.8250	1.8004	1.6654	1.3430
	4.3768	3.9133	4.1512	3.8752	4.2072	4.2648	4.6104	5.7170
11	1.9235	1.8143	1.9856	1.6183	1.9760	1.7586	1.7125	1.1117
	3.9917	4.2321	3.8668	4.6393	3.8857	4.3661	4.4835	6.9067
12	1.5519	1.9792	1.8357	1.9846	1.8207	1.8164	1.4994	
	4.8379	3.8794	4.1827	3.8689	4.2171	4.2271	5.1208	
13	1.7232	1.8164	1.8121	1.7682	1.8239	1.6900	.9061	
	4.4556	4.2271	4.2371	4.3423	4.2097	4.5432	8.2861	
14	1.7050	1.7618	1.6718	1.7222	1.5112	.9318		
	4.5032	4.3581	4.5927	4.4584	8.0000	8.0575		
15	1.4630	1.0967	1.3484	1.1181	F-SUB-Q			
	5.2483	6.8457	5.6943	6.8670	M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 30% POWER, 4 RFPD, THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1470	* 1.7736	* 1.7746	* 1.9514	* 1.5669	* 1.7447	* 1.7222	* 1.4801
	* 6.6015	* 4.3603	* 4.3577	* 3.9630	* 4.8327	* 4.4326	* 4.4905	* 5.2248
9	* 1.7736	* 1.4930	* 1.9867	* 1.8293	* 1.9953	* 1.8239	* 1.7779	* 1.1063
	* 4.3603	* 5.0719	* 3.8925	* 4.2276	* 3.8758	* 4.2400	* 4.3498	* 6.8444
10	* 1.7746	* 1.9899	* 1.8700	* 2.0103	* 1.8453	* 1.8271	* 1.6815	* 1.3580
	* 4.3577	* 3.8863	* 4.1355	* 3.8469	* 4.1907	* 4.2325	* 4.5991	* 5.6945
11	* 1.9514	* 1.8346	* 2.0156	* 1.6376	* 2.0060	* 1.7789	* 1.7361	* 1.1213
	* 3.9630	* 4.2152	* 3.8367	* 4.6241	* 3.8551	* 4.3472	* 4.4544	* 6.8965
12	* 1.5669	* 2.0071	* 1.8571	* 2.0146	* 1.8432	* 1.8432	* 1.5176	
	* 4.8327	* 3.8531	* 4.1642	* 3.8387	* 4.1956	* 4.1956	* 5.0957	
13	* 1.7447	* 1.8346	* 1.8368	* 1.7896	* 1.8528	* 1.7147	* .9157	
	* 4.4326	* 4.2152	* 4.2103	* 4.3212	* 4.1738	* 4.5101	* 8.2693	
14	* 1.7222	* 1.7832	* 1.6890	* 1.7457	* 1.5305	* .9425		
	* 4.4905	* 4.3367	* 4.5787	* 4.4299	* 5.0529	* 8.0343		
15	* 1.4801	* 1.1053	* 1.3634	* 1.1278	F-SUB-Q			
	* 5.2248	* 6.8510	* 5.6722	* 6.8572	M-SUB-Q			

AT 30% POWER, 4 RFPD, THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 1.1278	* 1.7522	* 1.7479	* 1.9289	* 1.5412	* 1.7232	* 1.6975	* 1.4608
	* 6.7715	* 4.4136	* 4.4244	* 4.0092	* 4.9551	* 4.4877	* 4.5556	* 5.2937
9	* 1.7522	* 1.4683	* 1.9631	* 1.8014	* 1.9728	* 1.7961	* 1.7564	* 1.0881
	* 4.4136	* 5.2009	* 3.9393	* 4.2929	* 3.9200	* 4.3057	* 4.4028	* 7.0181
10	* 1.7479	* 1.9664	* 1.8400	* 1.9878	* 1.8186	* 1.8068	* 1.6558	* 1.3388
	* 4.4244	* 3.9328	* 4.2029	* 3.8904	* 4.2524	* 4.2802	* 4.6705	* 5.7765
11	* 1.9289	* 1.8057	* 1.9942	* 1.6151	* 1.9846	* 1.7532	* 1.7147	* 1.1021
	* 4.0092	* 4.2827	* 3.8779	* 4.7284	* 3.8967	* 4.4109	* 4.5101	* 7.0172
12	* 1.5412	* 1.9846	* 1.8293	* 1.9931	* 1.8153	* 1.8228	* 1.4962	
	* 4.9551	* 3.8967	* 4.2276	* 3.8800	* 4.2600	* 4.2425	* 5.1687	
13	* 1.7232	* 1.8068	* 1.8164	* 1.7629	* 1.8314	* 1.6922	* .9007	
	* 4.4877	* 4.2802	* 4.2575	* 4.3868	* 4.2226	* 4.5700	* 8.4785	
14	* 1.6975	* 1.7607	* 1.6633	* 1.7243	* 1.5080	* .9275		
	* 4.5556	* 4.3921	* 4.6495	* 4.4849	* 5.1283	* 8.2337		
15	* 1.4608	* 1.0881	* 1.3441	* 1.1085	F-SUB-Q			
	* 5.2937	* 7.0181	* 5.7535	* 6.9765	M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 30% POWER, 4 BPPD, THIS IS LEVEL 10 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.1224	1.7489	1.7436	1.9267	1.5369	1.7222	1.6975	1.4630
	6.8612	4.4217	4.4353	4.0137	5.0108	4.4905	4.5556	5.2860
9	1.7489	1.4641	1.9610	1.7961	1.9717	1.7939	1.7575	1.0871
	4.4217	5.2601	3.9436	4.3057	3.9221	4.3108	4.4002	7.0843
10	1.7436	1.9642	1.8357	1.9867	1.8143	1.8068	1.6536	1.3388
	4.4353	3.9371	4.2128	3.8925	4.2625	4.2802	4.6766	5.7765
11	1.9267	1.8014	1.9942	1.6129	1.9835	1.7500	1.7147	1.0988
	4.0137	4.2929	3.8779	4.7746	3.8988	4.4190	4.5101	7.0377
12	1.5369	1.9835	1.8261	1.9931	1.8121	1.8239	1.4962	
	5.0108	3.8988	4.2350	3.8800	4.2675	4.2400	5.1687	
13	1.7222	1.8046	1.8164	1.7607	1.8325	1.6943	.8996	
	4.4905	4.2853	4.2575	4.3921	4.2201	4.5643	9.5602	
14	1.6975	1.7618	1.6611	1.7254	1.5080	.9264		
	4.5556	4.3895	4.6555	4.4821	5.1283	8.3128		
15	1.4630	1.0871	1.3430	1.1052	F-SUB-Q			
	5.2860	7.0843	5.7581	6.9968	M-SUB-Q			

AT 30% POWER, 4 BPPD, THIS IS LEVEL 9 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.0635	1.6675	1.6558	1.8389	1.4587	1.6440	1.6183	1.3966
	7.2716	4.6375	4.6705	4.2054	5.3015	4.7040	4.7787	5.5373
9	1.6675	1.3880	1.8721	1.7061	1.8828	1.7061	1.6783	1.0335
	4.6375	5.5715	4.1308	4.5327	4.1073	4.5327	4.6079	7.4825
10	1.6558	1.8753	1.7425	1.8967	1.7254	1.7254	1.5733	1.2756
	4.6705	4.1237	4.4380	4.0772	4.4821	4.4821	4.9154	6.0627
11	1.8389	1.7104	1.9053	1.5337	1.8957	1.6643	1.6365	1.0442
	4.2054	4.5214	4.0588	5.0424	4.0795	4.6465	4.7256	7.4058
12	1.4587	1.8946	1.7361	1.9042	1.7222	1.7404	1.4244	
	5.3015	4.0818	4.4544	4.0611	4.4905	4.4435	5.4291	
13	1.6440	1.7168	1.7361	1.6750	1.7500	1.6140	.8547	
	4.7040	4.5045	4.4544	4.6168	4.4190	4.7914	9.0484	
14	1.6183	1.6825	1.5808	1.6461	1.4362	.8793		
	4.7787	4.5962	4.8920	4.6979	5.3845	8.7950		
15	1.3966	1.0335	1.2809	1.0496	F-SUB-Q			
	5.5373	7.4825	6.0373	7.3680	M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 30% POWER, 4 EFPD, THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	1.0399	1.6354	1.6247	1.8057	1.4309	1.6151	1.5936	1.3784
	7.4363	4.7287	4.7598	4.2827	5.4047	4.7882	4.8526	5.6105
9	1.6354	1.3602	1.8378	1.6740	1.8496	1.6772	1.6526	1.0174
	4.7287	5.6856	4.2078	4.6197	4.1810	4.6109	4.6796	7.6007
10	1.6247	1.8410	1.7093	1.8646	1.6943	1.6975	1.5487	1.2563
	4.7598	4.2005	4.5242	4.1474	4.5643	4.5556	4.9935	6.1557
11	1.8057	1.6793	1.8721	1.5068	1.8625	1.6365	1.6119	1.0260
	4.2827	4.6050	4.1308	5.1320	4.1522	4.7256	4.7978	7.5372
12	1.4309	1.8614	1.7050	1.8721	1.6911	1.7136	1.4019	
	5.4047	4.1546	4.5356	4.1308	4.5729	4.5129	5.5162	
13	1.6151	1.6879	1.7072	1.6461	1.7232	1.5904	.8397	
	4.7882	4.5816	4.5299	4.6979	4.4877	4.8624	9.2100	
14	1.5936	1.6568	1.5551	1.6215	1.4137	.8643		
	4.8526	4.6675	4.9729	4.7693	5.4702	8.9475		
15	1.3784	1.0174	1.2616	1.0324	F-SUB-Q			
	5.6105	7.6007	6.1296	7.4903	M-SUB-Q			

AT 30% POWER, 4 EFPD, THIS IS LEVEL 7 OF 16  
(LEVEL 16 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	.9821	1.5519	1.5401	1.7157	1.3570	1.5369	1.5165	1.3141
	7.8742	4.9832	5.0213	4.5073	5.6990	5.0318	5.0993	5.8848
9	1.5519	1.2863	1.7465	1.5872	1.7597	1.5936	1.5744	.9671
	4.9832	6.0122	4.4271	4.8722	4.3948	4.8526	4.9120	7.9963
10	1.5401	1.7489	1.5194	1.7746	1.6076	1.6161	1.4716	1.1952
	5.0213	4.4217	4.7756	4.3577	4.8106	4.7851	5.2552	6.4701
11	1.7157	1.5915	1.7821	1.4298	1.7725	1.5540	1.5347	.9735
	4.5073	4.8591	4.3393	5.4087	4.3629	4.9763	5.0388	7.9435
12	1.3570	1.7714	1.6194	1.7811	1.6054	1.6322	1.3334	
	5.6990	4.3656	4.7756	4.3419	4.8170	4.7380	5.7997	
13	1.5369	1.6044	1.6258	1.5637	1.6408	1.5133	.7958	
	5.0318	4.8202	4.7567	4.9457	4.7132	5.1102	9.7182	
14	1.5165	1.5787	1.4780	1.5444	1.3441	.8204		
	5.0993	4.8987	5.2324	5.0074	5.7535	9.4264		
15	1.3141	.9660	1.2006	.9800	F-SUB-Q			
	5.8848	8.0052	6.4413	7.8914	M-SUB-Q			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 30% POWER, 4 EFPL, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8975	* 1.4266	* 1.4126	* 1.5797	* 1.2445	* 1.4180	* 1.3977	* 1.2124
	* 8.6165	* 5.4209	* 5.4743	* 4.8954	* 6.2140	* 5.4537	* 5.5331	* 6.3787
9	* 1.4266	* 1.1781	* 1.6086	* 1.4555	* 1.6226	* 1.4651	* 1.4533	* .8889
	* 5.4209	* 6.5642	* 4.8074	* 5.3132	* 4.7661	* 5.2783	* 5.3210	* 8.6996
10	* 1.4126	* 1.6108	* 1.4855	* 1.6365	* 1.4769	* 1.4919	* 1.3537	* 1.1010
	* 5.4743	* 4.8010	* 5.2060	* 4.7256	* 5.2362	* 5.1835	* 5.7125	* 7.0240
11	* 1.5797	* 1.4608	* 1.6440	* 1.3130	* 1.6354	* 1.4287	* 1.4148	* .8932
	* 4.8954	* 5.2937	* 4.7040	* 5.8896	* 4.7287	* 5.4128	* 5.4661	* 8.6579
12	* 1.2445	* 1.6333	* 1.4876	* 1.6440	* 1.4758	* 1.5048	* 1.2263	*
	* 6.2140	* 4.7349	* 5.1985	* 4.7040	* 5.2400	* 5.1393	* 6.3063	*
13	* 1.4180	* 1.4748	* 1.5005	* 1.4384	* 1.5133	* 1.3934	* .7304	*
	* 5.4537	* 5.2438	* 5.1539	* 5.3765	* 5.1102	* 5.5501	* 10.5875	*
14	* 1.3977	* 1.4576	* 1.3602	* 1.4244	* 1.2370	* .7529	*	*
	* 5.5331	* 5.3054	* 5.6856	* 5.4291	* 6.2517	* 10.2712	*	*
15	* 1.2124	* .8879	* 1.1053	* .8996	* F-SUB-Q			
	* 6.3787	* 8.7101	* 6.9968	* 8.5960	* M-SUB-Q			

AT 30% POWER, 4 EFPL, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .8365	* 1.3334	* 1.3216	* 1.4801	* 1.1674	* 1.3323	* 1.3173	* 1.1449
	* 9.2454	* 5.7997	* 5.8514	* 5.2248	* 6.6245	* 5.8044	* 5.8705	* 6.7546
9	* 1.3334	* 1.1010	* 1.5069	* 1.3645	* 1.5230	* 1.3784	* 1.3698	* .8375
	* 5.7997	* 7.0240	* 5.1320	* 5.6677	* 5.0778	* 5.6105	* 5.6455	* 9.2336
10	* 1.3216	* 1.5090	* 1.3912	* 1.5369	* 1.3859	* 1.4019	* 1.2745	* 1.0367
	* 5.8514	* 5.1247	* 5.5586	* 5.0310	* 5.5801	* 5.5162	* 6.0678	* 7.4594
11	* 1.4801	* 1.3687	* 1.5433	* 1.2327	* 1.5358	* 1.3430	* 1.3313	* .8397
	* 5.2248	* 5.6500	* 5.0109	* 6.2734	* 5.0353	* 5.7581	* 5.8091	* 9.2100
12	* 1.1674	* 1.5326	* 1.3955	* 1.5433	* 1.3859	* 1.4159	* 1.1535	*
	* 6.6245	* 5.0459	* 5.5416	* 5.0109	* 5.5801	* 5.4619	* 6.7044	*
13	* 1.3323	* 1.3869	* 1.4105	* 1.3516	* 1.4244	* 1.3120	* .6865	*
	* 5.8044	* 5.5758	* 5.4827	* 5.7216	* 5.4291	* 5.8944	* 11.2647	*
14	* 1.3173	* 1.3730	* 1.2798	* 1.3409	* 1.1642	* .7079	*	*
	* 5.8705	* 5.6323	* 6.0424	* 5.7673	* 6.6427	* 10.9238	*	*
15	* 1.1449	* .8375	* 1.0410	* .8450	* F-SUB-Q			
	* 6.7546	* 9.2336	* 7.4287	* 9.1517	* M-SUB-Q			

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OP MARGIN) - POWER ESCALATION

AT 30% POWER, 4 EFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .7283	* 1.1674	* 1.1545	* 1.3034	* 1.0260	* 1.1835	* 1.1685	* 1.0153
	*10.6186	* 6.6245	* 6.6982	* 5.9332	* 7.5372	* 6.3345	* 6.6184	* 7.6167
9	* 1.1674	* .9607	* 1.3227	* 1.1942	* 1.3409	* 1.2167	* 1.2145	* .7411
	* 6.6245	* 8.0498	* 5.8467	* 6.4759	* 5.7673	* 6.3562	* 6.3674	*10.4345
10	* 1.1545	* 1.3248	* 1.2177	* 1.3548	* 1.2188	* 1.2391	* 1.1256	* .9157
	* 6.6982	* 5.8372	* 6.3506	* 5.7080	* 6.3450	* 6.2408	* 6.8703	* 8.4452
11	* 1.3034	* 1.2006	* 1.3612	* 1.0839	* 1.3537	* 1.1824	* 1.1760	* .7390
	* 5.9332	* 6.4413	* 5.6811	* 7.1350	* 5.7125	* 6.5405	* 6.5762	*10.4647
12	* 1.0260	* 1.3505	* 1.2274	* 1.3612	* 1.2199	* 1.2509	* 1.0174	*
	* 7.5372	* 5.7261	* 6.3007	* 5.6811	* 6.3395	* 6.1821	* 7.6007	*
13	* 1.1835	* 1.2242	* 1.2466	* 1.1899	* 1.2584	* 1.1578	* .6051	*
	* 6.5345	* 6.3173	* 6.2033	* 6.4992	* 6.1452	* 6.6796	*12.7799	*
14	* 1.1685	* 1.2177	* 1.1310	* 1.1845	* 1.0260	* .6233	*	*
	* 6.6184	* 6.3506	* 6.8377	* 6.5286	* 7.5372	*12.4066	*	*
15	* 1.0153	* .7401	* .9200	* .7433	* F-SUB-Q			
	* 7.6167	*10.4496	* 8.4059	*10.4044	* M-SUB-Q			

AT 30% POWER, 4 EFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .6297	* 1.0046	* .9950	* 1.1331	* .9007	* 1.0496	* 1.0399	* .8986
	*12.2800	* 7.6979	* 7.7725	* 6.6248	* 8.5858	* 7.3680	* 7.4363	* 8.6063
9	* 1.0046	* .8322	* 1.1406	* 1.0367	* 1.1738	* 1.0753	* 1.0753	* .6587
	* 7.6979	* 9.2930	* 6.7800	* 7.4594	* 6.5882	* 7.1919	* 7.1919	*11.7409
10	* .9950	* 1.1428	* 1.0539	* 1.1792	* 1.0678	* 1.0860	* .9950	* .8022
	* 7.7725	* 6.7673	* 7.3381	* 6.5583	* 7.2424	* 7.1210	* 7.7725	* 9.6404
11	* 1.1331	* 1.0410	* 1.1845	* .9489	* 1.1792	* 1.0378	* 1.0324	* .6469
	* 6.8248	* 7.4287	* 6.5286	* 8.1497	* 6.5583	* 7.4517	* 7.4903	*11.9547
12	* .9007	* 1.1824	* 1.0753	* 1.1845	* 1.0689	* 1.0956	* .8954	*
	* 8.5858	* 6.5405	* 7.1919	* 6.5286	* 7.2351	* 7.0583	* 8.6371	*
13	* 1.0496	* 1.0817	* 1.0935	* 1.0442	* 1.1021	* 1.0185	* .5355	*
	* 7.3680	* 7.1492	* 7.0721	* 7.4058	* 7.0172	* 7.5927	*14.4413	*
14	* 1.0399	* 1.0785	* .9992	* 1.0389	* .9029	* .5516	*	*
	* 7.4363	* 7.1705	* 7.7392	* 7.4440	* 8.5654	*14.0207	*	*
15	* .8986	* .6587	* .8054	* .6501	* F-SUB-Q			
	* 8.6063	*11.7409	* 9.6019	*11.8956	* M-SUB-Q			



Appendix A

TABLE 2 (CONTINUED)

F-SUB-Q & M-SUB-Q VALUES (F-SUB-Q OF MARGIN) - POWER ESCALATION

AT 30% POWER, 4 EFPD, THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .4862	* .7508	* .7497	* .8632	* .7111	* .8514	* .8547	* .7101
	*15.9045	*10.3005	*10.3152	* 8.9586	*10.8745	* 9.0826	* 9.0484	*10.8909
9	* .7508	* .6372	* .8536	* .7893	* .9264	* .8729	* .8718	* .5419
	*10.3005	*12.1356	* 9.0598	* 9.7974	* 8.3476	* 8.8597	* 8.8706	*14.2701
10	* .7497	* .8557	* .7958	* .8986	* .8407	* .8600	* .8054	* .6180
	*10.3152	* 9.0371	* 9.7182	* 8.6063	* 9.1983	* 8.9921	* 9.6019	*12.5141
11	* .8632	* .7936	* .9029	* .7433	* .9211	* .8236	* .8140	* .5055
	* 8.9586	* 9.7445	* 8.5654	*10.4044	* 8.3961	* 9.3897	* 9.5009	*15.2980
12	* .7111	* .9328	* .8472	* .9264	* .8575	* .8632	* .7122	
	*10.8745	* 8.2901	* 9.1285	* 8.3476	* 9.2336	* 8.9586	*10.8581	
13	* .8514	* .8771	* .8643	* .8290	* .8675	* .8065	* .4359	
	* 9.0826	* 8.8164	* 8.9475	* 9.3290	* 8.9144	* 9.5892	*17.7412	
14	* .8547	* .8739	* .8086	* .8193	* .7186	* .4487		
	* 9.0484	* 8.8488	* 9.5638	* 9.4388	*10.7610	*17.2331		
15	* .7101	* .5419	* .6201	* .5087	* F-SUB-Q			
	*10.8909	*14.2701	*12.4709	*15.2014	* M-SUB-Q			

AT 30% POWER, 4 EFPD, THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* .2956	* .2271	* .4273	* .2731	* .4402	* .5580	* .5173	* .3952
	*26.1618	*34.0597	*18.0969	*28.3163	*17.5685	*13.8592	*14.9495	*19.5682
9	* .2271	* .3781	* .2656	* .4616	* .3117	* .5184	* .5398	* .3299
	*34.0597	*20.4551	*29.1156	*16.7533	*24.8133	*14.9187	*14.3267	*23.4437
10	* .4273	* .2656	* .4466	* .2860	* .4884	* .5484	* .4787	* .1864
	*18.0969	*29.1156	*17.3157	*27.0437	*15.8348	*14.1028	*16.1536	*41.4980
11	* .2731	* .4648	* .2870	* .4584	* .3106	* .4852	* .4723	* .2977
	*28.3163	*16.6375	*26.9427	*16.8707	*24.8988	*15.9396	*16.3734	*25.9736
12	* .4402	* .3138	* .4916	* .3117	* .4809	* .5056	* .4091	
	*17.5685	*24.6439	*15.7313	*24.8133	*16.0816	*15.2657	*18.9022	
13	* .5580	* .5205	* .5516	* .4884	* .5098	* .4573	* .2613	
	*13.8592	*14.8573	*14.0207	*15.8348	*15.1694	*16.9102	*29.5929	
14	* .5173	* .5409	* .4809	* .4755	* .4123	* .2688		
	*14.9496	*14.2983	*16.0816	*16.2627	*18.7550	*28.7676		
15	* .3952	* .3299	* .1864	* .2999	* F-SUB-Q			
	*19.5682	*23.4437	*41.4980	*25.7881	* M-SUB-Q			

Appendix A

TABLE 3

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - NORMAL OPERATION

THIS IS LEVEL 18 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 5.2035	* 7.5064	* 4.1082	* 6.4743	* 3.8581	* 3.3308	* 3.6012	* 4.4650
	* 3.8630	* 5.2781	* 3.2926	* 4.7888	* 3.2144	* 2.8516	* 3.0474	* 3.8010
	* 2.4809	* 3.2187	* 2.3939	* 3.1735	* 2.4201	* 2.2527	* 2.4176	* 2.9249
9	* 7.5064	* 4.3611	* 6.6688	* 3.8148	* 5.8087	* 3.5807	* 3.4415	* 4.9902
	* 5.2781	* 3.4435	* 4.8702	* 3.1605	* 4.4569	* 3.0067	* 2.9531	* 4.2574
	* 3.2187	* 2.4146	* 3.1641	* 2.3848	* 3.1418	* 2.3386	* 2.3485	* 3.3127
10	* 4.1082	* 6.6688	* 3.9046	* 6.2528	* 3.6940	* 3.3889	* 3.7918	* 8.9044
	* 3.2926	* 4.8702	* 3.1925	* 4.6890	* 3.1198	* 2.8882	* 3.2022	* 7.0022
	* 2.3939	* 3.1639	* 2.3618	* 3.1544	* 2.3757	* 2.2490	* 2.5154	* 4.7778
11	* 6.4743	* 3.7964	* 6.2403	* 3.6808	* 5.7656	* 3.6555	* 3.8177	* 5.4422
	* 4.7888	* 3.1510	* 4.6820	* 3.1062	* 4.4950	* 3.1075	* 3.2518	* 4.6202
	* 3.1735	* 2.3848	* 3.1513	* 2.3822	* 3.1448	* 2.4047	* 2.5222	* 3.5237
12	* 3.8581	* 5.7763	* 3.6811	* 5.7549	* 3.5970	* 3.6052	* 4.2813	*
	* 3.2144	* 4.4443	* 3.1136	* 4.4822	* 3.0269	* 3.0386	* 3.6260	*
	* 2.4201	* 3.1356	* 2.3739	* 3.1448	* 2.2761	* 2.3123	* 2.7985	*
13	* 3.3308	* 3.5766	* 3.3816	* 3.6470	* 3.5968	* 3.9388	* 5.9223	*
	* 2.8516	* 3.0038	* 2.8829	* 3.1014	* 3.0327	* 3.3134	* 4.9098	*
	* 2.2527	* 2.3352	* 2.2474	* 2.4029	* 2.3106	* 2.5289	* 3.5552	*
14	* 3.6012	* 3.4415	* 3.7827	* 3.8084	* 4.2639	* 5.7982	*	*
	* 3.0474	* 2.9531	* 3.1957	* 3.2451	* 3.6177	* 4.8318	*	*
	* 2.4176	* 2.3485	* 2.5148	* 2.5222	* 2.7944	* 3.5236	*	*
15	* 4.4650	* 4.9902	* 8.8790	* 5.4234	* 4 EFPD	118 % POWER		
	* 3.8010	* 4.2574	* 7.0022	* 4.6135	* 150 EFPD	118 % POWER		
	* 2.9249	* 3.3127	* 4.7754	* 3.5237	* 415 EFPD	118 % POWER		

THIS IS LEVEL 17 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 3.6853	* 2.7332	* 2.7910	* 2.4605	* 2.7252	* 2.4802	* 2.4579	* 2.8073
	* 2.7825	* 2.1642	* 2.2556	* 2.0316	* 2.2700	* 2.1319	* 2.1509	* 2.5008
	* 2.0010	* 1.6370	* 1.7950	* 1.6564	* 1.8700	* 1.7754	* 1.8988	* 2.1755
9	* 2.7332	* 3.0080	* 2.5184	* 2.6658	* 2.3226	* 2.4164	* 2.4297	* 3.4012
	* 2.1642	* 2.3856	* 2.0622	* 2.2066	* 1.9805	* 2.0937	* 2.1190	* 3.0380
	* 1.6370	* 1.8469	* 1.6394	* 1.8031	* 1.6616	* 1.8170	* 1.8465	* 2.6288
10	* 2.7910	* 2.5143	* 2.6368	* 2.3868	* 2.5148	* 2.5041	* 2.5494	* 3.0922
	* 2.2556	* 2.0595	* 2.1701	* 2.0006	* 2.1348	* 2.1276	* 2.2237	* 2.7140
	* 1.7950	* 1.6394	* 1.7700	* 1.6393	* 1.8135	* 1.7871	* 1.9501	* 2.2647
11	* 2.4605	* 2.6568	* 2.3832	* 2.6773	* 2.3278	* 2.5269	* 2.5245	* 3.6512
	* 2.0316	* 2.2004	* 1.9981	* 2.2465	* 1.9968	* 2.1821	* 2.2363	* 3.2418
	* 1.6564	* 1.8031	* 1.6393	* 1.8579	* 1.6493	* 1.8807	* 1.9302	* 2.7536
12	* 2.7252	* 2.3140	* 2.5068	* 2.3226	* 2.4598	* 2.4547	* 2.7934	*
	* 2.2700	* 1.9743	* 2.1291	* 1.9930	* 2.1392	* 2.1363	* 2.4889	*
	* 1.8700	* 1.6573	* 1.8115	* 1.6487	* 1.8115	* 1.8039	* 2.1675	*
13	* 2.4802	* 2.4109	* 2.5001	* 2.5208	* 2.4489	* 2.5494	* 4.0265	*
	* 2.1319	* 2.0881	* 2.1205	* 2.1776	* 2.1319	* 2.2637	* 3.4829	*
	* 1.7754	* 1.8142	* 1.7855	* 1.8788	* 1.8018	* 1.9701	* 2.8187	*
14	* 2.4579	* 2.4260	* 2.5432	* 2.5163	* 2.7811	* 3.9329	*	*
	* 2.1509	* 2.1176	* 2.2206	* 2.2316	* 2.4811	* 3.4241	*	*
	* 1.8988	* 1.8465	* 1.9501	* 1.9291	* 2.1646	* 2.7962	*	*
15	* 2.8073	* 3.4050	* 3.0860	* 3.6428	* 4 EFPD	118 % POWER		
	* 2.5008	* 3.0410	* 2.7117	* 3.2351	* 150 EFPD	118 % POWER		
	* 2.1755	* 2.6288	* 2.2647	* 2.7536	* 415 EFPD	118 % POWER		

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 3 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - NORMAL OPERATION

THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	3.0080	2.1506	2.2050	1.9644	2.2649	2.0899	2.0937	2.3243
	2.3652	1.7653	1.8535	1.6761	1.9315	1.8006	1.8812	2.1435
	1.8418	1.4706	1.6080	1.4787	1.7122	1.5996	1.7651	1.9916
9	2.1506	2.4198	1.9794	2.1291	1.9124	2.0366	2.0378	2.9298
	1.7653	1.9948	1.6814	1.8246	1.6716	1.7975	1.8172	2.7106
	1.4706	1.6823	1.4631	1.6157	1.4896	1.6673	1.6906	2.4863
10	2.2050	1.9781	2.0881	1.9077	2.0649	2.0580	2.1450	2.5122
	1.8535	1.6796	1.7893	1.6549	1.8109	1.7873	1.9237	2.2950
	1.6080	1.4631	1.5870	1.4677	1.6387	1.6116	1.8042	2.0630
11	1.9644	2.1219	1.9042	2.1963	1.8949	2.0965	2.0759	3.0182
	1.6761	1.8203	1.6541	1.9061	1.6549	1.8689	1.9039	2.7934
	1.4787	1.6157	1.4677	1.7026	1.4899	1.7286	1.7668	2.5439
12	2.2649	1.9042	2.0581	1.8949	2.0251	2.0101	2.3341	
	1.9315	1.6663	1.8047	1.6523	1.8182	1.8141	2.1671	
	1.7122	1.4864	1.6370	1.4892	1.6741	1.6617	2.0215	
13	2.0899	2.0316	2.0526	2.0895	2.0049	2.1148	3.4789	
	1.8006	1.7924	1.7812	1.8645	1.8099	1.9632	3.1285	
	1.5996	1.6655	1.6102	1.7270	1.6600	1.8436	2.6979	
14	2.0937	2.0351	2.1392	2.0690	2.3220	3.3936		
	1.8812	1.8161	1.9213	1.9005	2.1597	3.0748		
	1.7651	1.6900	1.8042	1.7661	2.0180	2.6750		
15	2.3243	2.9326	2.5062	3.0067	4 EFPD 118 % POWER			
	2.1435	2.7131	2.2916	2.7885	150 EFPD 118 % POWER			
	1.9916	2.4856	2.0630	2.5445	415 EFPD 118 % POWER			

THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	2.7301	1.9159	1.9681	1.7537	2.0638	1.9077	1.9190	2.1227
	2.2106	1.6159	1.7032	1.5416	1.8066	1.6743	1.7762	2.0290
	1.8245	1.4447	1.5808	1.4470	1.7010	1.5764	1.7566	1.9758
9	1.9159	2.1805	1.7587	1.9097	1.7255	1.8579	1.8542	2.7131
	1.6159	1.8527	1.5363	1.6814	1.5363	1.6832	1.6990	2.5995
	1.4447	1.6679	1.4310	1.5891	1.4640	1.6548	1.6732	2.4944
10	1.9681	1.7567	1.8678	1.7075	1.8678	1.8553	1.9596	2.2834
	1.7032	1.5348	1.6497	1.5186	1.6779	1.6558	1.8141	2.1642
	1.5808	1.4310	1.5649	1.4417	1.6193	1.5862	1.7977	2.0460
11	1.7597	1.9028	1.7047	1.9961	1.7028	1.9016	1.8800	2.7616
	1.5416	1.6790	1.5186	1.7812	1.5267	1.7506	1.7853	2.6591
	1.4470	1.5891	1.4417	1.6913	1.4686	1.7195	1.7523	2.5418
12	2.0638	1.7179	1.8601	1.7028	1.8373	1.8152	2.1319	
	1.8066	1.5318	1.6725	1.5237	1.7042	1.6950	2.0595	
	1.7010	1.4609	1.6171	1.4679	1.6700	1.6548	2.0241	
13	1.9077	1.8503	1.8487	1.8948	1.8089	1.9249	3.2349	
	1.6743	1.6787	1.6506	1.7457	1.6914	1.8612	3.0199	
	1.5764	1.6530	1.5851	1.7179	1.6527	1.8483	2.7408	
14	1.9190	1.8509	1.9547	1.8721	2.1205	3.1512		
	1.7762	1.6977	1.8109	1.7812	2.0514	2.9669		
	1.7566	1.6732	1.7970	1.7523	2.0215	2.7180		
15	2.1227	2.7155	2.2783	2.7520	4 EFPD 118 % POWER			
	2.0290	2.6017	2.1612	2.6546	150 EFPD 118 % POWER			
	1.9758	2.4944	2.0469	2.5439	415 EFPD 118 % POWER			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 3 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - NORMAL OPERATION

THIS IS LEVEL 14 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.7082	* 1.8766	* 1.9343	* 1.7274	* 2.0471	* 1.8846	* 1.9051	* 2.1069
	* 2.2532	* 1.6242	* 1.7172	* 1.5507	* 1.8404	* 1.6941	* 1.8172	* 2.0826
	* 1.9370	* 1.5256	* 1.6714	* 1.5191	* 1.8044	* 1.6610	* 1.8524	* 2.0758
9	* 1.8766	* 2.1543	* 1.7207	* 1.8812	* 1.6972	* 1.8395	* 1.8313	* 2.7155
	* 1.6242	* 1.8814	* 1.5401	* 1.6968	* 1.5439	* 1.7125	* 1.7275	* 2.6867
	* 1.5256	* 1.7695	* 1.5090	* 1.6807	* 1.5447	* 1.7530	* 1.7671	* 2.6355
10	* 1.9343	* 1.7179	* 1.8395	* 1.6753	* 1.8427	* 1.8237	* 1.9451	* 2.2650
	* 1.7172	* 1.5386	* 1.6663	* 1.5259	* 1.6968	* 1.6716	* 1.8568	* 2.2221
	* 1.6714	* 1.5090	* 1.6571	* 1.5228	* 1.7139	* 1.6738	* 1.9076	* 2.1716
11	* 1.7274	* 1.8745	* 1.6717	* 1.9754	* 1.6735	* 1.8801	* 1.8564	* 2.7544
	* 1.5507	* 1.6941	* 1.5267	* 1.8130	* 1.5386	* 1.7833	* 1.8246	* 2.7448
	* 1.5191	* 1.6807	* 1.5223	* 1.7982	* 1.5528	* 1.8241	* 1.8556	* 2.7102
12	* 2.0471	* 1.6880	* 1.8352	* 1.6708	* 1.8182	* 1.7870	* 2.1176	*
	* 1.8404	* 1.5386	* 1.6914	* 1.5356	* 1.7390	* 1.7256	* 2.1190	*
	* 1.8044	* 1.5406	* 1.7120	* 1.5520	* 1.7754	* 1.7543	* 2.1572	*
13	* 1.8846	* 1.8309	* 1.8173	* 1.8734	* 1.7809	* 1.9074	* 3.2418	*
	* 1.6941	* 1.7060	* 1.6654	* 1.7782	* 1.7209	* 1.9132	* 3.1382	*
	* 1.6610	* 1.7514	* 1.6729	* 1.8230	* 1.7524	* 1.9672	* 2.9451	*
14	* 1.9051	* 1.8280	* 1.9403	* 1.8487	* 2.1049	* 3.1577	*	*
	* 1.8172	* 1.7256	* 1.8535	* 1.8193	* 2.1105	* 3.0810	*	*
	* 1.8524	* 1.7673	* 1.9076	* 1.8556	* 2.1542	* 2.9206	*	*
15	* 2.1069	* 2.7179	* 2.2601	* 2.7424	* 4 EFPD 118 % POWER			
	* 2.0826	* 2.6867	* 2.2190	* 2.7400	* 150 EFPD 118 % POWER			
	* 2.0758	* 2.6378	* 2.1716	* 2.7110	* 415 EFPD 118 % POWER			

THIS IS LEVEL 13 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.6679	* 1.8356	* 1.8891	* 1.6899	* 2.0093	* 1.8465	* 1.8667	* 2.0621
	* 2.2853	* 1.6343	* 1.7275	* 1.5599	* 1.8618	* 1.7097	* 1.8416	* 2.1134
	* 2.0253	* 1.5795	* 1.7200	* 1.5507	* 1.8561	* 1.7042	* 1.9005	* 2.1291
9	* 1.8356	* 2.1125	* 1.6798	* 1.8395	* 1.6592	* 1.8016	* 1.7922	* 2.6702
	* 1.6343	* 1.9013	* 1.5461	* 1.7097	* 1.5515	* 1.7313	* 1.7457	* 2.7375
	* 1.5795	* 1.8338	* 1.5499	* 1.7285	* 1.5850	* 1.8026	* 1.8047	* 2.7082
10	* 1.8891	* 1.6771	* 1.7985	* 1.6373	* 1.8026	* 1.7829	* 1.9074	* 2.2213
	* 1.7275	* 1.5446	* 1.6796	* 1.5348	* 1.7116	* 1.6841	* 1.8823	* 2.2572
	* 1.7200	* 1.5499	* 1.7097	* 1.5607	* 1.7702	* 1.7219	* 1.9657	* 2.2206
11	* 1.6899	* 1.8330	* 1.6330	* 1.9364	* 1.6373	* 1.8395	* 1.8152	* 2.7094
	* 1.5599	* 1.7069	* 1.5356	* 1.8349	* 1.5499	* 1.8047	* 1.8470	* 2.8009
	* 1.5507	* 1.7285	* 1.5599	* 1.8698	* 1.6151	* 1.9062	* 1.9213	* 2.7959
12	* 2.0093	* 1.6504	* 1.7944	* 1.6330	* 1.7802	* 1.7459	* 2.0758	*
	* 1.8618	* 1.5461	* 1.7051	* 1.5469	* 1.7623	* 1.7438	* 2.1553	*
	* 1.8561	* 1.5802	* 1.7682	* 1.6142	* 1.8604	* 1.8283	* 2.2550	*
13	* 1.8465	* 1.7934	* 1.7768	* 1.8320	* 1.7390	* 1.8656	* 3.1942	*
	* 1.7097	* 1.7256	* 1.6770	* 1.7995	* 1.7390	* 1.9439	* 3.2043	*
	* 1.7042	* 1.8006	* 1.7209	* 1.9051	* 1.8266	* 2.0554	* 3.0843	*
14	* 1.8667	* 1.7891	* 1.9016	* 1.8068	* 2.0622	* 3.1093	*	*
	* 1.8416	* 1.7438	* 1.8790	* 1.8427	* 2.1479	* 3.1447	*	*
	* 1.9005	* 1.8057	* 1.9657	* 1.9213	* 2.2523	* 3.0566	*	*
15	* 2.0621	* 2.6726	* 2.2150	* 2.6978	* 4 EFPD 118 % POWER			
	* 2.1134	* 2.7399	* 2.2539	* 2.7959	* 150 EFPD 118 % POWER			
	* 2.1291	* 2.7082	* 2.2221	* 2.7984	* 415 EFPD 118 % POWER			

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 3 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - NORMAL OPERATION

THIS IS LEVEL 12 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	2.7623	1.8869	1.9451	1.7361	2.0750	1.8961	1.9213	2.1198
	2.4352	1.7294	1.8330	1.6489	1.9818	1.8120	1.9571	2.2459
	2.1805	1.6886	1.8470	1.6532	1.9987	1.8246	2.0368	2.2751
9	1.8869	2.1805	1.7236	1.8948	1.7047	1.8568	1.8421	2.7573
	1.7294	2.0226	1.6352	1.8151	1.6420	1.8405	1.8503	2.9185
	1.6886	1.9728	1.6515	1.8557	1.6877	1.9319	1.9272	2.9019
10	1.9451	1.7217	1.8535	1.6825	1.8579	1.8334	1.9657	2.2867
	1.8330	1.6343	1.7843	1.6259	1.8182	1.7833	2.0045	2.3999
	1.8470	1.6515	1.8352	1.6610	1.8936	1.8309	2.0993	2.3692
11	1.7361	1.8880	1.6780	1.9987	1.6834	1.8971	1.8676	2.8034
	1.6489	1.8130	1.6259	1.9538	1.6429	1.9225	1.9645	2.9896
	1.6532	1.8557	1.6602	2.0027	1.7162	2.0238	2.0395	2.9755
12	2.0750	1.6954	1.8492	1.6780	1.8363	1.7953	2.1435	
	1.9818	1.6360	1.8120	1.6394	1.8790	1.8546	2.3017	
	1.9987	1.6841	1.8914	1.7153	1.9818	1.9427	2.3907	
13	1.8961	1.8481	1.8259	1.8891	1.7881	1.9237	3.3123	
	1.8120	1.8341	1.7772	1.9167	1.8492	2.0744	3.4280	
	1.8246	1.9296	1.8309	2.0225	1.9403	2.1882	3.2909	
14	1.9213	1.8378	1.9596	1.8598	2.1305	3.2246		
	1.9571	1.8481	2.0006	1.9596	2.2916	3.3673		
	2.0368	1.9272	2.0993	2.0395	2.3889	3.2592		
15	2.1198	2.7598	2.2817	2.7910	4 EFPD	118 % POWER		
	2.2459	2.9185	2.3980	2.9839	150 EFPD	118 % POWER		
	2.2751	2.9046	2.3692	2.9783	415 EFPD	118 % POWER		

THIS IS LEVEL 11 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	2.8556	1.9669	2.0342	1.8009	2.1728	1.9744	2.0032	2.2009
	2.6333	1.8601	1.9780	1.7732	2.1422	1.9499	2.1077	2.4072
	2.4217	1.8645	2.0448	1.8214	2.2139	2.0070	2.2348	2.4811
9	1.9669	2.2836	1.7963	1.9843	1.7768	1.9415	1.9183	2.8772
	1.8601	2.1868	1.7594	1.9620	1.7663	1.9868	1.9893	3.1382
	1.8645	2.1900	1.8193	2.0541	1.8535	2.1276	2.1119	3.1775
10	2.0342	1.7943	1.9427	1.7557	1.9463	1.9136	2.0568	2.3868
	1.9780	1.7584	1.9295	1.7515	1.9645	1.9190	2.1627	2.5807
	2.0448	1.8193	2.0316	1.8267	2.0881	2.0070	2.3017	2.5892
11	1.8089	1.9768	1.7508	2.0950	1.7567	1.9893	1.9508	2.9394
	1.7732	1.9596	1.7515	2.1154	1.7702	2.0799	2.1176	3.2285
	1.8214	2.0555	1.8267	2.2122	1.8801	2.2159	2.2237	3.2485
12	2.1728	1.7567	1.9367	1.7508	1.9284	1.8789	2.2491	
	2.1422	1.7603	1.9571	1.7663	2.0355	2.0032	2.4889	
	2.2139	1.8503	2.0868	1.8790	2.1686	2.1105	2.6020	
13	1.9744	1.9331	1.9054	1.9818	1.8721	2.0186	3.4869	
	1.9499	1.9793	1.9120	2.0730	1.9968	2.2443	3.7168	
	2.0070	2.1248	2.0057	2.2159	2.1091	2.3763	3.5728	
14	2.0032	1.9148	2.0514	1.9423	2.2348	3.3936		
	2.1077	1.9880	2.1582	2.1119	2.4792	3.6499		
	2.2348	2.1119	2.3017	2.2237	2.5977	3.5396		
15	2.2009	2.8759	2.3813	2.9284	4 EFPD	118 % POWER		
	2.4072	3.1414	2.5786	3.2252	150 EFPD	118 % POWER		
	2.4811	3.1775	2.5892	3.2518	415 EFPD	118 % POWER		

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 3 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - NORMAL OPERATION

THIS IS LEVEL 10 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.8290	* 1.9582	* 2.0212	* 1.7994	* 2.1620	* 1.9781	* 2.0109	* 2.2245 *
	* 2.7325	* 1.9596	* 2.0881	* 1.8667	* 2.2616	* 2.0488	* 2.2081	* 2.5128 *
	* 2.6493	* 2.0382	* 2.2427	* 1.9818	* 2.4178	* 2.1716	* 2.4127	* 2.6591 *
9	* 1.9582	* 2.2717	* 1.7860	* 1.9731	* 1.7728	* 1.9427	* 1.9266	* 2.9130 *
	* 1.9596	* 2.3113	* 1.8535	* 2.0717	* 1.8590	* 2.0909	* 2.0854	* 3.2873 *
	* 2.0382	* 2.4026	* 1.9830	* 2.2507	* 2.0121	* 2.3118	* 2.2751	* 3.4126 *
10	* 2.0212	* 1.7840	* 1.9319	* 1.7508	* 1.9463	* 1.9171	* 2.0730	* 2.4222 *
	* 2.0881	* 1.8514	* 2.0382	* 1.8459	* 2.0744	* 2.0173	* 2.2735	* 2.7001 *
	* 2.2427	* 1.9830	* 2.2284	* 1.9880	* 2.2784	* 2.1731	* 2.4831	* 2.7713 *
11	* 1.7994	* 1.9669	* 1.7459	* 2.0864	* 1.7518	* 2.0019	* 1.9719	* 2.9981 *
	* 1.8667	* 2.0689	* 1.8459	* 2.2366	* 1.8656	* 2.1943	* 2.2253	* 3.3918 *
	* 1.9818	* 2.2507	* 1.9880	* 2.4217	* 2.0461	* 2.4072	* 2.3944	* 3.4856 *
12	* 2.1620	* 1.7627	* 1.9367	* 1.7468	* 1.9427	* 1.8938	* 2.2767	*
	* 2.2616	* 1.8524	* 2.0662	* 1.8612	* 2.1538	* 2.1105	* 2.6215	*
	* 2.4178	* 2.0083	* 2.2767	* 2.0448	* 2.3621	* 2.2850	* 2.8059	*
13	* 1.9781	* 1.9331	* 1.9065	* 1.9918	* 1.8857	* 2.0408	* 3.5728	*
	* 2.0488	* 2.0854	* 2.0096	* 2.1882	* 2.1035	* 2.3674	* 3.9177	*
	* 2.1716	* 2.3101	* 2.1716	* 2.4072	* 2.2817	* 2.5681	* 3.8532	*
14	* 2.0109	* 1.9219	* 2.0662	* 1.9631	* 2.2620	* 3.4789	*	*
	* 2.2081	* 2.0826	* 2.2685	* 2.2190	* 2.6126	* 3.8484	*	*
	* 2.4127	* 2.2767	* 2.4850	* 2.3944	* 2.8009	* 3.8146	*	*
15	* 2.2245	* 2.9158	* 2.4165	* 2.9867	* 4	EFPD 118 % POWER		
	* 2.5128	* 3.2909	* 2.6955	* 3.3845	* 150	EFPD 118 % POWER		
	* 3.6591	* 3.4126	* 2.7738	* 3.4895	* 415	EFPD 118 % POWER		

THIS IS LEVEL 9 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.7901	* 1.9254	* 2.0173	* 1.7829	* 2.1543	* 1.9533	* 1.9880	* 2.1931 *
	* 2.7350	* 1.9547	* 2.0951	* 1.8711	* 2.2853	* 2.0799	* 2.2784	* 2.6193 *
	* 2.9814	* 2.2850	* 2.5228	* 2.2221	* 2.7131	* 2.4220	* 2.6853	* 2.9476 *
9	* 1.9254	* 2.2399	* 1.7728	* 1.9681	* 1.7577	* 1.9331	* 1.9030	* 2.8881 *
	* 1.9547	* 2.3131	* 1.8601	* 2.0868	* 1.8767	* 2.1392	* 2.1465	* 3.4280 *
	* 2.2850	* 2.7058	* 2.2237	* 2.5309	* 2.2491	* 2.5828	* 2.5289	* 3.7861 *
10	* 2.0173	* 1.7707	* 1.9284	* 1.7351	* 1.9367	* 1.8995	* 2.0608	* 2.4128 *
	* 2.0951	* 1.8590	* 2.0528	* 1.8568	* 2.1035	* 2.0528	* 2.3515	* 2.8311 *
	* 2.5228	* 2.2237	* 2.5068	* 2.2284	* 2.5556	* 2.4220	* 2.7616	* 3.0622 *
11	* 1.7829	* 1.9608	* 1.7303	* 2.0793	* 1.7361	* 1.9905	* 1.9557	* 2.9981 *
	* 1.8711	* 2.0854	* 1.8579	* 2.2565	* 1.8880	* 2.2539	* 2.3017	* 3.5685 *
	* 2.2221	* 2.5309	* 2.2269	* 2.7179	* 2.2800	* 2.6863	* 2.6546	* 3.8521 *
12	* 2.1543	* 1.7478	* 1.9260	* 1.7303	* 1.9331	* 1.8755	* 2.2669	*
	* 2.2853	* 1.8700	* 2.0951	* 1.8834	* 2.2097	* 2.1791	* 2.7281	*
	* 2.7131	* 2.2459	* 2.5535	* 2.2784	* 2.6324	* 2.5309	* 3.1044	*
13	* 1.9533	* 1.9225	* 1.8891	* 1.9818	* 1.8676	* 2.0264	* 3.5728	*
	* 2.0799	* 2.1319	* 2.0448	* 2.2475	* 2.1731	* 2.4541	* 4.1303	*
	* 2.4220	* 2.5807	* 2.4220	* 2.6840	* 2.5269	* 2.8362	* 4.2574	*
14	* 1.9880	* 1.8995	* 2.0541	* 1.9447	* 2.2507	* 3.4749	*	*
	* 2.2784	* 2.1435	* 2.3462	* 2.2967	* 2.7164	* 4.0533	*	*
	* 2.6863	* 2.5309	* 2.7640	* 2.6546	* 3.0983	* 4.2103	*	*
15	* 2.1931	* 2.8908	* 2.4053	* 2.9839	* 4	EFPD 118 % POWER		
	* 2.6193	* 3.4280	* 2.8260	* 3.5605	* 150	EFPD 118 % POWER		
	* 2.9476	* 3.7908	* 3.0652	* 3.8568	* 415	EFPD 118 % POWER		

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 3 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RFS MARGIN) - NORMAL OPERATION

THIS IS LEVEL 8 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.6401	* 1.8078	* 1.8914	* 1.6798	* 2.0159	* 1.8443	* 1.8790	* 2.0621
	* 2.5537	* 1.8267	* 1.9768	* 1.7673	* 2.1437	* 1.9584	* 2.1377	* 2.4276
	* 2.7598	* 2.1377	* 2.3745	* 2.1021	* 2.5559	* 2.3051	* 2.5765	* 2.8235
9	* 1.8078	* 2.1051	* 1.6735	* 1.8579	* 1.6654	* 1.8330	* 1.8036	* 2.7034
	* 1.8267	* 2.1589	* 1.7603	* 1.9756	* 1.7742	* 2.0225	* 2.0186	* 3.1841
	* 2.1377	* 2.5262	* 2.1007	* 2.3889	* 2.1377	* 2.4636	* 2.4257	* 3.6196
10	* 1.8914	* 1.6717	* 1.8224	* 1.6460	* 1.8384	* 1.8047	* 1.9596	* 2.2800
	* 1.9768	* 1.7584	* 1.9463	* 1.7574	* 1.9930	* 1.9391	* 2.2221	* 2.6412
	* 2.3745	* 2.1007	* 2.3656	* 2.1105	* 2.4239	* 2.3152	* 2.5546	* 2.9366
11	* 1.6798	* 1.8535	* 1.6417	* 1.9614	* 1.6477	* 1.9016	* 1.8620	* 2.8286
	* 1.7673	* 1.9743	* 1.7574	* 2.1302	* 1.7893	* 2.1392	* 2.1761	* 3.3450
	* 2.1021	* 2.3907	* 2.1091	* 2.5559	* 2.1582	* 2.5639	* 2.5514	* 3.7202
12	* 2.0159	* 1.6574	* 1.8299	* 1.6434	* 1.8514	* 1.7932	* 2.1582	*
	* 2.1437	* 1.7682	* 1.9855	* 1.7853	* 2.1035	* 2.0676	* 2.5807	*
	* 2.5559	* 2.1348	* 2.4220	* 2.1567	* 2.5088	* 2.4295	* 2.9867	*
13	* 1.8443	* 1.8246	* 1.7953	* 1.8925	* 1.7850	* 1.9379	* 3.3898	*
	* 1.9584	* 2.0147	* 1.9319	* 2.1334	* 2.0608	* 2.3255	* 3.8728	*
	* 2.3051	* 2.4636	* 2.3152	* 2.5639	* 2.4257	* 2.7258	* 4.1136	*
14	* 1.8790	* 1.7994	* 1.9523	* 1.8520	* 2.1435	* 3.2980	*	*
	* 2.1377	* 2.0173	* 2.2175	* 2.1716	* 2.5702	* 3.8051	*	*
	* 2.5765	* 2.4257	* 2.6568	* 2.5514	* 2.9839	* 4.0750	*	*
15	* 2.0621	* 2.7058	* 2.2733	* 2.8159	* 4 EFPD 118 % POWER			
	* 2.4276	* 3.1841	* 2.6390	* 3.3379	* 150 EFPD 118 % POWER			
	* 2.8235	* 3.6196	* 2.9366	* 3.7246	* 415 EFPD 118 % POWER			

THIS IS LEVEL 7 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.5346	* 1.7094	* 1.7873	* 1.5791	* 1.9002	* 1.7322	* 1.7643	* 1.9266
	* 2.4053	* 1.6951	* 1.8361	* 1.6361	* 1.9802	* 1.8005	* 1.9584	* 2.2195
	* 2.5346	* 1.9648	* 2.1780	* 1.9217	* 2.3311	* 2.0909	* 2.3255	* 2.5388
9	* 1.7094	* 1.9961	* 1.5823	* 1.7594	* 1.5743	* 1.7285	* 1.6954	* 2.5262
	* 1.6951	* 2.0064	* 1.6327	* 1.8340	* 1.6454	* 1.8645	* 1.8470	* 2.9059
	* 1.9648	* 2.3224	* 1.9218	* 2.1901	* 1.9478	* 2.2400	* 2.1897	* 3.2636
10	* 1.7873	* 1.5807	* 1.7323	* 1.5640	* 1.7476	* 1.7038	* 1.8449	* 2.1213
	* 1.8361	* 1.6311	* 1.8108	* 1.6310	* 1.8544	* 1.7914	* 2.0395	* 2.4022
	* 2.1780	* 1.9228	* 2.1722	* 1.9301	* 2.2181	* 2.1055	* 2.3999	* 2.6385
11	* 1.5791	* 1.7554	* 1.5648	* 1.8779	* 1.5735	* 1.8246	* 1.7809	* 2.6591
	* 1.6361	* 1.8319	* 1.6311	* 1.9815	* 1.6628	* 1.9956	* 2.0051	* 3.0477
	* 1.9217	* 2.1903	* 1.9301	* 2.3477	* 1.9824	* 2.3472	* 2.3070	* 3.3424
12	* 1.9002	* 1.5664	* 1.7390	* 1.5687	* 1.7802	* 1.7265	* 2.0689	*
	* 1.9802	* 1.6387	* 1.8479	* 1.6593	* 1.9830	* 1.9403	* 2.3835	*
	* 2.3311	* 1.9442	* 2.2165	* 1.9812	* 2.3220	* 2.2329	* 2.7127	*
13	* 1.7322	* 1.7209	* 1.6954	* 1.8161	* 1.7188	* 1.8590	* 3.2557	*
	* 1.8005	* 1.8590	* 1.7853	* 1.9905	* 1.9355	* 2.1761	* 3.5770	*
	* 2.0909	* 2.2397	* 2.1055	* 2.3472	* 2.2313	* 2.5024	* 3.7289	*
14	* 1.7643	* 1.6926	* 1.8395	* 1.7728	* 2.0555	* 3.1676	*	*
	* 1.9584	* 1.8449	* 2.0355	* 2.0013	* 2.3745	* 3.5151	*	*
	* 2.3255	* 2.1899	* 2.4017	* 2.3087	* 2.7103	* 3.6934	*	*
15	* 1.9266	* 2.5283	* 2.1169	* 2.6479	* 4 EFPD 118 % POWER			
	* 2.2195	* 2.9044	* 2.4004	* 3.0418	* 150 EFPD 118 % POWER			
	* 2.5388	* 3.2636	* 2.6407	* 3.3495	* 415 EFPD 118 % POWER			

TABLE 3 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - NORMAL OPERATION

THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.4333	* 1.6399	* 1.7190	* 1.5115	* 1.8316	* 1.6548	* 1.6868	* 1.8465
	* 2.2348	* 1.5731	* 1.7062	* 1.5156	* 1.8435	* 1.6677	* 1.8207	* 2.0596
	* 2.3031	* 1.7714	* 1.9749	* 1.7368	* 2.1224	* 1.8972	* 2.1185	* 2.3152
9	* 1.6399	* 1.9254	* 1.5115	* 1.6868	* 1.4977	* 1.6489	* 1.6152	* 2.4352
	* 1.5731	* 1.8724	* 1.5105	* 1.7029	* 1.5211	* 1.7301	* 1.7142	* 2.7068
	* 1.7714	* 2.1033	* 1.7368	* 1.9874	* 1.7621	* 2.0354	* 1.9885	* 2.9854
10	* 1.7190	* 1.5093	* 1.6576	* 1.4862	* 1.6663	* 1.6194	* 1.7603	* 2.0325
	* 1.7062	* 1.5091	* 1.6803	* 1.5055	* 1.7158	* 1.6577	* 1.8890	* 2.2262
	* 1.9749	* 1.7369	* 1.9700	* 1.7446	* 2.0129	* 1.9055	* 2.1805	* 2.4056
11	* 1.5115	* 1.6814	* 1.4827	* 1.7864	* 1.4890	* 1.7275	* 1.6816	* 2.5514
	* 1.5156	* 1.7011	* 1.5056	* 1.8353	* 1.5296	* 1.8365	* 1.8462	* 2.8310
	* 1.7368	* 1.9875	* 1.7444	* 2.1287	* 1.7862	* 2.1262	* 2.0920	* 3.0543
12	* 1.8316	* 1.4890	* 1.6576	* 1.4841	* 1.6996	* 1.6391	* 1.9596	
	* 1.8435	* 1.5163	* 1.7102	* 1.5266	* 1.8143	* 1.7714	* 2.1938	
	* 2.1224	* 1.7602	* 2.0117	* 1.7852	* 2.0941	* 2.0081	* 2.4573	
13	* 1.6548	* 1.6429	* 1.6110	* 1.7200	* 1.6322	* 1.7712	* 3.0967	
	* 1.6677	* 1.7249	* 1.6525	* 1.8311	* 1.7665	* 1.9892	* 3.3112	
	* 1.8972	* 2.0362	* 1.9055	* 2.1250	* 2.0058	* 2.2532	* 3.3866	
14	* 1.6868	* 1.6118	* 1.7545	* 1.6735	* 1.9463	* 3.0139		
	* 1.8207	* 1.7127	* 1.8956	* 1.8429	* 2.1862	* 3.2514		
	* 2.1185	* 1.9897	* 2.1850	* 2.0934	* 2.4554	* 3.3562		
15	* 1.8465	* 2.4372	* 2.0272	* 2.5391	* 4 EFPD 118 % POWER			
	* 2.0596	* 2.7068	* 2.2239	* 2.8270	* 150 EFPD 118 % POWER			
	* 2.3152	* 2.9883	* 2.4075	* 3.0573	* 415 EFPD 118 % POWER			

THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.3255	* 1.5648	* 1.6360	* 1.4361	* 1.7404	* 1.5624	* 1.5898	* 1.7420
	* 2.0545	* 1.4421	* 1.5620	* 1.3850	* 1.6888	* 1.5220	* 1.6562	* 1.8737
	* 2.0034	* 1.5376	* 1.7277	* 1.5171	* 1.8636	* 1.6698	* 1.8732	* 2.0483
9	* 1.5648	* 1.8371	* 1.4347	* 1.6003	* 1.4139	* 1.5530	* 1.5226	* 2.3061
	* 1.4421	* 1.7183	* 1.3786	* 1.5566	* 1.3853	* 1.5734	* 1.5563	* 2.4706
	* 1.5376	* 1.8361	* 1.5151	* 1.7405	* 1.5444	* 1.7955	* 1.7555	* 2.6471
10	* 1.6360	* 1.4334	* 1.5716	* 1.4005	* 1.5716	* 1.5286	* 1.6584	* 1.9207
	* 1.5620	* 1.3777	* 1.5357	* 1.3714	* 1.5628	* 1.5064	* 1.7158	* 2.0269
	* 1.7277	* 1.5156	* 1.7258	* 1.5247	* 1.7688	* 1.6752	* 1.9297	* 2.1302
11	* 1.4361	* 1.5946	* 1.3967	* 1.6827	* 1.4024	* 1.6201	* 1.5751	* 2.4127
	* 1.3850	* 1.5550	* 1.3720	* 1.6730	* 1.3898	* 1.6636	* 1.6720	* 2.5804
	* 1.5171	* 1.7415	* 1.5247	* 1.8639	* 1.5616	* 1.8695	* 1.8433	* 2.7071
12	* 1.7404	* 1.4055	* 1.5630	* 1.3973	* 1.5818	* 1.5226	* 1.8330	
	* 1.6888	* 1.3807	* 1.5570	* 1.3862	* 1.6381	* 1.5941	* 1.9835	
	* 1.8636	* 1.5422	* 1.7678	* 1.5608	* 1.8332	* 1.7589	* 2.1631	
13	* 1.5624	* 1.5484	* 1.5204	* 1.6118	* 1.5159	* 1.6429	* 2.8991	
	* 1.5220	* 1.5687	* 1.5009	* 1.6588	* 1.5889	* 1.7890	* 2.9995	
	* 1.6698	* 1.7946	* 1.6752	* 1.8685	* 1.7579	* 1.9751	* 2.9846	
14	* 1.5898	* 1.5196	* 1.6523	* 1.5671	* 1.8193	* 2.8212		
	* 1.6562	* 1.5547	* 1.7130	* 1.6685	* 1.9754	* 2.9457		
	* 1.8732	* 1.7564	* 1.9309	* 1.8435	* 2.1603	* 2.9556		
15	* 1.7420	* 2.3078	* 1.9148	* 2.4017	* 4 EFPD 118 % POWER			
	* 1.8737	* 2.4695	* 2.0243	* 2.5762	* 150 EFPD 118 % POWER			
	* 2.0483	* 2.6474	* 2.1316	* 2.7094	* 415 EFPD 118 % POWER			



TABLE 3 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - NORMAL OPERATION

THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.4140	* 1.6085	* 1.6841	* 1.4638	* 1.7812	* 1.5791	* 1.6085	* 1.7647
	* 2.0381	* 1.4186	* 1.5360	* 1.3542	* 1.6561	* 1.4839	* 1.6063	* 1.8180
	* 1.8250	* 1.3930	* 1.3684	* 1.3760	* 1.6954	* 1.5155	* 1.7060	* 1.8761
9	* 1.6085	* 1.8954	* 1.4666	* 1.6386	* 1.4321	* 1.5739	* 1.5384	* 2.3488
	* 1.4186	* 1.6944	* 1.3487	* 1.5267	* 1.3513	* 1.5312	* 1.5092	* 2.4063
	* 1.3930	* 1.6680	* 1.3736	* 1.5802	* 1.4015	* 1.6314	* 1.5953	* 2.4309
10	* 1.6841	* 1.4645	* 1.6109	* 1.4210	* 1.5971	* 1.5484	* 1.6814	* 1.9520
	* 1.5360	* 1.3475	* 1.5066	* 1.3383	* 1.5271	* 1.4652	* 1.6667	* 1.9724
	* 1.5684	* 1.3736	* 1.5661	* 1.3820	* 1.6067	* 1.5208	* 1.7603	* 1.9549
11	* 1.4638	* 1.6326	* 1.4164	* 1.7140	* 1.4216	* 1.6411	* 1.5904	* 2.4656
	* 1.3542	* 1.5252	* 1.3389	* 1.6356	* 1.3519	* 1.6158	* 1.6195	* 2.5199
	* 1.3760	* 1.5810	* 1.3819	* 1.6928	* 1.4128	* 1.7003	* 1.6779	* 2.4949
12	* 1.7812	* 1.4229	* 1.5882	* 1.4164	* 1.5971	* 1.5309	* 1.8546	*
	* 1.6561	* 1.3464	* 1.5212	* 1.3484	* 1.5880	* 1.5380	* 1.9194	*
	* 1.6954	* 1.3995	* 1.6057	* 1.4120	* 1.6646	* 1.5953	* 1.9745	*
13	* 1.5791	* 1.5692	* 1.5392	* 1.6326	* 1.5234	* 1.6541	* 2.9411	*
	* 1.4839	* 1.5260	* 1.4594	* 1.6108	* 1.5335	* 1.7233	* 2.9167	*
	* 1.5155	* 1.6312	* 1.5208	* 1.6996	* 1.5937	* 1.7952	* 2.7423	*
14	* 1.6085	* 1.5354	* 1.6761	* 1.5823	* 1.8416	* 2.8609	*	*
	* 1.6063	* 1.5077	* 1.6641	* 1.6154	* 1.9113	* 2.8631	*	*
	* 1.7060	* 1.5961	* 1.7613	* 1.6788	* 1.9720	* 2.7142	*	*
15	* 1.7647	* 2.3506	* 1.9471	* 2.4521	* 4 EFPD 118 % POWER			
	* 1.8180	* 2.4063	* 1.9699	* 2.5138	* 150 EFPD 118 % POWER			
	* 1.8761	* 2.4309	* 1.9561	* 2.4984	* 415 EFPD 118 % POWER			

THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 2.5537	* 1.7019	* 1.7742	* 1.5278	* 1.8438	* 1.6152	* 1.5386	* 1.8131
	* 2.0620	* 1.4336	* 1.5455	* 1.3551	* 1.6468	* 1.4718	* 1.5735	* 1.7877
	* 1.6846	* 1.2783	* 1.4414	* 1.2629	* 1.5547	* 1.3887	* 1.5541	* 1.7184
9	* 1.7019	* 1.9935	* 1.5415	* 1.7125	* 1.4770	* 1.6101	* 1.5743	* 2.4064
	* 1.4336	* 1.7031	* 1.3554	* 1.5309	* 1.3505	* 1.5107	* 1.4854	* 2.3592
	* 1.2783	* 1.5320	* 1.2614	* 1.4521	* 1.2877	* 1.4905	* 1.4559	* 2.2234
10	* 1.7742	* 1.5400	* 1.6886	* 1.4777	* 1.6497	* 1.5969	* 1.7256	* 2.0272
	* 1.5455	* 1.3545	* 1.5099	* 1.3409	* 1.5217	* 1.4528	* 1.6408	* 1.9562
	* 1.4414	* 1.2624	* 1.4382	* 1.2711	* 1.4745	* 1.3899	* 1.6078	* 1.7994
11	* 1.5278	* 1.7060	* 1.4735	* 1.7708	* 1.4763	* 1.6895	* 1.6391	* 2.5639
	* 1.3551	* 1.5294	* 1.3413	* 1.6244	* 1.3473	* 1.5970	* 1.5975	* 2.4984
	* 1.2629	* 1.4527	* 1.2711	* 1.5507	* 1.2940	* 1.5553	* 1.5355	* 2.3015
12	* 1.8438	* 1.4679	* 1.6403	* 1.4721	* 1.6446	* 1.5751	* 1.9097	*
	* 1.6468	* 1.3453	* 1.5157	* 1.3435	* 1.5691	* 1.5169	* 1.8869	*
	* 1.5547	* 1.2856	* 1.4731	* 1.2930	* 1.5226	* 1.4559	* 1.8045	*
13	* 1.6152	* 1.6044	* 1.5872	* 1.6814	* 1.5679	* 1.6977	* 3.0199	*
	* 1.4718	* 1.5056	* 1.4468	* 1.5917	* 1.5118	* 1.6892	* 2.8668	*
	* 1.3887	* 1.4898	* 1.3898	* 1.5545	* 1.4546	* 1.6370	* 2.5081	*
14	* 1.6386	* 1.5719	* 1.7190	* 1.6305	* 1.8948	* 2.9326	*	*
	* 1.5735	* 1.4840	* 1.6378	* 1.5926	* 1.8779	* 2.8098	*	*
	* 1.5541	* 1.4566	* 1.6092	* 1.5363	* 1.8024	* 2.6820	*	*
15	* 1.8131	* 2.4083	* 2.0219	* 2.5514	* 4 EFPD 118 % POWER			
	* 1.7877	* 2.3592	* 1.9543	* 2.4934	* 150 EFPD 118 % POWER			
	* 1.7184	* 2.2250	* 1.8004	* 2.3044	* 415 EFPD 118 % POWER			

TABLE 3 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - NORMAL OPERATION

THIS IS LEVEL 2 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 3.0501	* 2.0843	* 2.1567	* 1.8334	* 2.1347	* 1.8280	* 1.8352	* 2.1140
	* 2.3424	* 1.6724	* 1.7818	* 1.5565	* 1.8385	* 1.6474	* 1.7009	* 1.9925
	* 1.7404	* 1.3312	* 1.4912	* 1.3058	* 1.5830	* 1.4086	* 1.5530	* 1.7561
9	* 2.0843	* 2.3950	* 1.8800	* 2.0595	* 1.7122	* 1.8193	* 1.7819	* 2.7058
	* 1.6724	* 1.9400	* 1.5740	* 1.7569	* 1.5160	* 1.6627	* 1.6325	* 2.5394
	* 1.3312	* 1.5732	* 1.3064	* 1.5033	* 1.3245	* 1.5047	* 1.4730	* 2.2206
10	* 2.1567	* 1.8777	* 2.0474	* 1.7697	* 1.9190	* 1.8378	* 1.9608	* 2.4241
	* 1.7818	* 1.5733	* 1.7366	* 1.5413	* 1.7023	* 1.6241	* 1.7977	* 2.2267
	* 1.4912	* 1.3075	* 1.4870	* 1.3113	* 1.5127	* 1.4129	* 1.6192	* 1.8569
11	* 1.8334	* 2.0501	* 1.7637	* 2.0708	* 1.7255	* 1.9499	* 1.9054	* 3.0269
	* 1.5565	* 1.7525	* 1.5379	* 1.8192	* 1.5424	* 1.7704	* 1.7799	* 2.8009
	* 1.3058	* 1.5033	* 1.3107	* 1.5813	* 1.3340	* 1.5814	* 1.5671	* 2.3632
12	* 2.1347	* 1.7019	* 1.9085	* 1.7179	* 1.9190	* 1.8248	* 2.2066	
	* 1.8385	* 1.5102	* 1.6945	* 1.5386	* 1.7629	* 1.6855	* 2.0788	
	* 1.5330	* 1.3195	* 1.5113	* 1.3329	* 1.5553	* 1.4818	* 1.8247	
13	* 1.8290	* 1.8130	* 1.8291	* 1.9391	* 1.8152	* 1.9657	* 3.4203	
	* 1.6474	* 1.6574	* 1.6195	* 1.7644	* 1.6796	* 1.8643	* 3.1116	
	* 1.4086	* 1.5039	* 1.4124	* 1.5809	* 1.4797	* 1.6573	* 2.5139	
14	* 1.8352	* 1.7788	* 1.9535	* 1.8961	* 2.1897	* 3.3268		
	* 1.7009	* 1.6308	* 1.7946	* 1.7749	* 2.0692	* 3.0476		
	* 1.5530	* 1.4737	* 1.6200	* 1.5671	* 1.8226	* 2.4877		
15	* 2.1140	* 2.7058	* 2.4165	* 3.0124	* 4 EFPD	118 % POWER		
	* 1.9925	* 2.5394	* 2.2243	* 2.7945	* 150 EFPD	118 % POWER		
	* 1.7561	* 2.2206	* 1.8580	* 2.3655	* 415 EFPD	118 % POWER		

THIS IS LEVEL 1 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8	* 4.5844	* 6.1295	* 3.4176	* 5.1708	* 3.1808	* 2.5811	* 2.8210	* 3.5475
	* 3.4583	* 4.3227	* 2.7720	* 3.8683	* 2.7296	* 2.2806	* 2.4970	* 3.1642
	* 2.3634	* 2.7187	* 2.0979	* 2.6302	* 2.1362	* 1.8630	* 2.0386	* 2.4830
9	* 6.1295	* 3.6898	* 5.3396	* 3.1732	* 4.5567	* 2.8439	* 2.6538	* 4.1642
	* 4.3227	* 2.9411	* 3.9261	* 2.6879	* 3.5798	* 2.4802	* 2.3700	* 3.7051
	* 2.7187	* 2.1604	* 2.6346	* 2.1049	* 2.5826	* 2.0090	* 1.9347	* 2.9068
10	* 3.4176	* 5.3396	* 3.2687	* 4.9643	* 3.0096	* 2.6403	* 3.0622	* 7.3641
	* 2.7720	* 3.9261	* 2.7298	* 3.7867	* 2.6416	* 2.3202	* 2.6938	* 6.0023
	* 2.0979	* 2.6346	* 2.0937	* 2.6302	* 2.0673	* 1.8716	* 2.1623	* 4.0864
11	* 5.1708	* 3.1573	* 4.9485	* 3.0563	* 4.5835	* 3.0153	* 3.0378	* 4.7527
	* 3.8683	* 2.6788	* 3.7731	* 2.6886	* 3.6697	* 2.6732	* 2.7079	* 4.1910
	* 2.6302	* 2.1049	* 2.6280	* 2.1377	* 2.6404	* 2.1291	* 2.1334	* 3.1893
12	* 3.1808	* 4.5235	* 2.9924	* 4.5634	* 3.0240	* 2.8589	* 3.5726	
	* 2.7296	* 3.5615	* 2.6284	* 3.6611	* 2.6765	* 2.5497	* 3.1769	
	* 2.1362	* 2.5744	* 2.0635	* 2.6388	* 2.1377	* 2.0141	* 2.4746	
13	* 2.5811	* 2.8336	* 2.6291	* 3.0038	* 2.8458	* 3.2153	* 5.3311	
	* 2.2806	* 2.4744	* 2.3124	* 2.6652	* 2.5415	* 2.8735	* 4.6246	
	* 1.8630	* 2.0068	* 1.8708	* 2.1277	* 2.0116	* 2.2587	* 3.3709	
14	* 2.8210	* 2.6516	* 3.0533	* 3.0230	* 3.5444	* 5.1946		
	* 2.4970	* 2.3700	* 2.6892	* 2.6996	* 3.1610	* 4.5314		
	* 2.0386	* 1.9359	* 2.1627	* 2.1334	* 2.4707	* 3.3313		
15	* 3.5475	* 4.1642	* 7.3467	* 4.7384	* 4 EFPD	118 % POWER		
	* 3.1642	* 3.7076	* 5.9961	* 4.1854	* 150 EFPD	118 % POWER		
	* 2.4630	* 2.5075	* 4.0903	* 3.1901	* 415 EFPD	118 % POWER		

TABLE 4

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - POWER ESCALATION

AT 118% POWER, 4 RPPD, THIS IS LEVEL 18 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	5.2035	7.5064	4.1082	5.4743	3.8581	3.3308	3.6012	4.4650
9*	7.5064	4.3611	6.6688	3.8148	5.8087	3.5807	3.4415	4.9902
10*	4.1082	6.6688	3.9046	6.2528	3.6940	3.3889	3.7918	8.9044
11*	6.4743	3.7964	6.2403	3.6808	5.7656	3.6555	3.8177	5.4422
12*	3.8581	5.7763	3.6811	5.7549	3.5970	3.6052	4.2813	
13*	3.3308	3.5766	3.3816	3.6470	3.5968	3.9388	5.9223	
14*	3.6012	3.4415	3.7827	3.8084	4.2639	5.7982		
15*	4.4650	4.9802	8.8790	5.4234				

AT 118% POWER, 4 RPPD, THIS IS LEVEL 17 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	3.6853	2.7332	2.7910	2.4605	2.7252	2.4802	2.4579	2.8073
9*	2.7332	3.0080	2.5181	2.6658	2.3226	2.4164	2.4297	3.4012
10*	2.7910	2.5143	2.6368	2.3868	2.5148	2.5041	2.5494	3.0922
11*	2.4605	2.6568	2.3832	2.6773	2.3278	2.5269	2.5245	3.6512
12*	2.7252	2.3140	2.5068	2.3226	2.4598	2.4547	2.7934	
13*	2.4802	2.4109	2.5001	2.5208	2.4489	2.5494	4.0265	
14*	2.4579	2.4260	2.5432	2.5163	2.7811	3.9329		
15*	2.8073	3.4050	3.0660	3.6428				

TABLE 4 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - POWER ESCALATION

AT 118% POWER, 4 EFPD, THIS IS LEVEL 16 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	3.0080	2.1506	2.2050	1.9644	2.2649	2.0899	2.0937	2.3243
9*	2.1506	2.4198	1.9794	2.1291	1.9124	2.0368	2.0378	2.9298
10*	2.2050	1.9781	2.0881	1.9077	2.0649	2.0580	2.1450	2.5122
11*	1.9644	2.1219	1.9042	2.1963	1.8949	2.0965	2.0759	3.0182
12*	2.2649	1.9042	2.0581	1.8949	2.0251	2.0101	2.3341	
13*	2.0899	2.0316	2.0526	2.0895	2.0049	2.1148	3.4789	
14*	2.0937	2.0351	2.1392	2.0690	2.3220	3.3936		
15 *	2.3243	2.9326	2.5062	3.0067				

AT 118% POWER, 4 EFPD, THIS IS LEVEL 15 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.7301	1.9159	1.9681	1.7597	2.0638	1.9077	1.9190	2.1227
9*	1.9159	2.1805	1.7587	1.9097	1.7255	1.8579	1.8542	2.7131
10*	1.9681	1.7567	1.8678	1.7075	1.8678	1.8553	1.9596	2.2834
11*	1.7597	1.9028	1.7047	1.9961	1.7028	1.9016	1.8800	2.7516
12*	2.0638	1.7179	1.8601	1.7028	1.8373	1.8152	2.1319	
13*	1.9077	1.8503	1.8487	1.8948	1.8089	1.9249	3.2349	
14*	1.9190	1.8509	1.9547	1.8721	2.1205	3.1512		
15 *	2.1227	2.7155	2.2783	2.7520				

TABLE 4 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - POWER ESCALATION

AT 118% POWER, 4 RFPD, THIS IS LEVEL 14 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.7082	1.8766	1.9343	1.7274	2.0471	1.8846	1.9051	2.1069
9*	1.8766	2.1543	1.7207	1.8812	1.6972	1.8395	1.8313	2.7155
10*	1.9343	1.7179	1.8395	1.6753	1.8427	1.8237	1.9451	2.2650
11*	1.7274	1.8745	1.6717	1.9754	1.6735	1.8801	1.8564	2.7544
12*	2.0471	1.6880	1.8352	1.6708	1.8182	1.7870	2.1176	
13*	1.8846	1.8309	1.8173	1.8734	1.7809	1.9074	3.2418	
14*	1.9051	1.8280	1.9403	1.8487	2.1049	3.1577		
15 *	2.1069	2.7179	2.2601	2.7424				

AT 118% POWER, 4 RFPD, THIS IS LEVEL 13 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.6679	1.8356	1.8891	1.6899	2.0093	1.8465	1.8667	2.0621
9*	1.8356	2.1125	1.6798	1.8395	1.6592	1.8016	1.7922	2.6702
10*	1.8891	1.6771	1.7985	1.6373	1.8026	1.7829	1.9074	2.2213
11*	1.6899	1.8330	1.6330	1.9364	1.6373	1.8395	1.8152	2.7094
12*	2.0093	1.6504	1.7944	1.6330	1.7802	1.7459	2.0758	
13*	1.8465	1.7934	1.7768	1.8320	1.7390	1.8656	3.1942	
14*	1.8667	1.7891	1.9016	1.8068	2.0622	3.1093		
15 *	2.0621	2.6726	2.2150	2.6978				

TABLE 4 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - POWER ESCALATION

AT 118% POWER, 4 EFPD, THIS IS LEVEL 12 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.7623	1.8869	1.9451	1.7361	2.0750	1.8961	1.9213	2.1198
9*	1.8869	2.1805	1.7236	1.8948	1.7047	1.8568	1.8421	2.7573
10*	1.9451	1.7217	1.8535	1.6825	1.8579	1.8334	1.9657	2.2867
11*	1.7361	1.8880	1.6780	1.9987	1.6834	1.8971	1.8676	2.8034
12*	2.0750	1.6954	1.8492	1.6780	1.8363	1.7953	2.1435	
13*	1.8961	1.8481	1.8259	1.8891	1.7881	1.9237	3.3123	
14*	1.9213	1.8378	1.9596	1.8598	2.1305	3.2246		
15 *	2.1198	2.7598	2.2817	2.7910				

AT 118% POWER, 4 EFPD, THIS IS LEVEL 11 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.8556	1.9669	2.0342	1.8089	2.1728	1.9744	2.0032	2.2009
9*	1.9669	2.2836	1.7963	1.9843	1.7768	1.9415	1.9183	2.8772
10*	2.0342	1.7943	1.9427	1.7557	1.9463	1.9136	2.0568	2.3868
11*	1.8089	1.9768	1.7508	2.0950	1.7567	1.9893	1.9508	2.9394
12*	2.1728	1.7667	1.9367	1.7508	1.9284	1.8789	2.2491	
13*	1.9744	1.9331	1.9054	1.9818	1.8721	2.0186	3.4869	
14*	2.0032	1.9148	2.0514	1.9423	2.2348	3.3936		
15 *	2.2009	2.8799	2.3813	2.9284				

TABLE 4 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - POWER ESCALATION

AT 118% POWER, 4 EFPD, THIS IS LEVEL 10 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.8290	1.9582	2.0212	1.7994	2.1620	1.9781	2.0109	2.2245
9*	1.9582	2.2717	1.7860	1.9731	1.7728	1.9427	1.9266	2.9130
10*	2.0212	1.7840	1.9319	1.7508	1.9463	1.9171	2.0730	3.4222
11*	1.7994	1.9669	1.7459	2.0864	1.7518	2.0019	1.9719	2.9981
12*	2.1620	1.7627	1.9367	1.7468	1.9427	1.8938	2.2767	
13*	1.9781	1.9331	1.9065	1.9918	1.8857	2.0408	3.5728	
14*	2.0109	1.9219	2.0662	1.9631	2.2620	3.4789		
15 *	2.2245	2.9158	2.4165	2.9867				

AT 118% POWER, 4 EFPD, THIS IS LEVEL 9 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.7901	1.9254	2.0173	1.7829	2.1543	1.9533	1.9880	2.1931
9*	1.9254	2.2399	1.7728	1.9681	1.7577	1.9331	1.9030	2.8881
10*	2.0173	1.7707	1.8284	1.7351	1.9367	1.8995	2.0608	2.4128
11*	1.7829	1.9608	1.7303	2.0793	1.7361	1.9905	1.9557	2.9981
12*	2.1543	1.7478	1.9260	1.7303	1.9331	1.8755	2.2669	
13*	1.9533	1.9225	1.8891	1.9818	1.8676	2.0264	3.5728	
14*	1.9880	1.8995	2.0541	1.9447	2.2507	3.4749		
15 *	2.1931	2.8908	2.4053	2.9839				

TABLE 4 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - POWER ESCALATION

AT 118% POWER, 4 BFPD, THIS IS LEVEL 8 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.6401	1.8078	1.8914	1.6798	2.0159	1.8443	1.8790	2.0621
9*	1.8078	2.1051	1.6735	1.8579	1.6654	1.8330	1.8036	2.7034
10*	1.8914	1.6717	1.8224	1.6460	1.8384	1.8047	1.9596	2.2800
11*	1.6798	1.8535	1.6417	1.9614	1.6477	1.9016	1.8620	2.8286
12*	2.0159	1.6574	1.8299	1.6434	1.8514	1.7932	2.1582	
13*	1.8443	1.8246	1.7953	1.8925	1.7850	1.9379	3.3898	
14*	1.8790	1.7994	1.9523	1.8520	2.1435	3.2980		
15 *	2.0621	2.7058	2.2733	2.8159				

AT 118% POWER, 4 BFPD, THIS IS LEVEL 7 OF 18  
 (LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.5346	1.7094	1.7873	1.5791	1.9002	1.7322	1.7643	1.9266
9*	1.7094	1.9961	1.5823	1.7594	1.5743	1.7285	1.6954	2.5262
10*	1.7873	1.5807	1.7323	1.5640	1.7476	1.7038	1.8449	2.1213
11*	1.5791	1.7554	1.5648	1.8779	1.5735	1.8246	1.7809	2.6591
12*	1.9002	1.5664	1.7390	1.5687	1.7802	1.7265	2.0689	
13*	1.7322	1.7209	1.6954	1.8161	1.7188	1.8590	3.2557	
14*	1.7643	1.6926	1.8395	1.7728	2.0555	3.1676		
15 *	1.9266	2.5283	2.1169	2.6479				



TABLE 4 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - POWER ESCALATION

AT 118% POWER, 4 RFPD, THIS IS LEVEL 6 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.4333	1.6399	1.7190	1.5115	1.8316	1.6548	1.6868	1.8465
9*	1.6399	1.9254	1.5115	1.6868	1.4977	1.6489	1.6152	2.4352
10*	1.7190	1.5093	1.6576	1.4862	1.6663	1.6194	1.7603	2.0325
11*	1.5115	1.6814	1.4827	1.7864	1.4890	1.7275	1.6816	2.5514
12*	1.8316	1.4890	1.6576	1.4841	1.6996	1.6391	1.9596	
13*	1.6548	1.6429	1.6110	1.7200	1.6322	1.7712	3.0967	
14*	1.6868	1.6118	1.7545	1.6735	1.9463	3.0139		
15 *	1.8465	2.4372	2.0272	2.5391				

AT 118% POWER, 4 RFPD, THIS IS LEVEL 5 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.3255	1.5648	1.6360	1.4361	1.7404	1.5624	1.5898	1.7420
9*	1.5648	1.8371	1.4347	1.8003	1.4139	1.5530	1.5226	2.3061
10*	1.6360	1.4334	1.5716	1.4005	1.5716	1.5286	1.6584	1.9207
11*	1.4361	1.5946	1.3967	1.6827	1.4024	1.6201	1.5751	2.4127
12*	1.7404	1.4055	1.5630	1.3973	1.5818	1.5226	1.8330	
13*	1.5624	1.5484	1.5204	1.6118	1.5159	1.6429	2.8991	
14*	1.5898	1.5196	1.6523	1.5671	1.8193	2.8212		
15 *	1.7420	2.3078	1.9148	2.4017				

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 4 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - POWER ESCALATION

AT 118% POWER, 4 EFPD, THIS IS LEVEL 4 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.4140	1.6085	1.6841	1.4638	1.7812	1.5791	1.6085	1.7647
9*	1.6085	1.8954	1.4666	1.6386	1.4321	1.5739	1.5384	2.3488
10*	1.6841	1.4645	1.6109	1.4210	1.5971	1.5484	1.6814	1.9520
11*	1.4638	1.6326	1.4164	1.7140	1.4216	1.6411	1.5904	2.4656
12*	1.7812	1.4229	1.5882	1.4164	1.5971	1.5309	1.8546	
13*	1.5791	1.5692	1.5392	1.6326	1.5234	1.6541	2.9411	
14*	1.6085	1.5354	1.6761	1.5823	1.8416	2.8609		
15 *	1.7647	2.3506	1.9471	2.4521				

AT 118% POWER, 4 EFPD, THIS IS LEVEL 3 OF 18  
(LEVEL 18 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	2.5537	1.7019	1.7742	1.5278	1.8438	1.6152	1.6386	1.8131
9*	1.7019	1.9935	1.5415	1.7125	1.4770	1.6101	1.5743	2.4064
10*	1.7742	1.5400	1.6886	1.4777	1.5497	1.5969	1.7256	2.0272
11*	1.5278	1.7060	1.4735	1.7708	1.4763	1.6895	1.6391	2.5639
12*	1.8438	1.4679	1.6403	1.4721	1.6446	1.5751	1.9097	
13*	1.6152	1.6044	1.5872	1.6814	1.5679	1.6977	3.0199	
14*	1.6386	1.5719	1.7190	1.6305	1.8948	2.9326		
15 *	1.8131	2.4083	2.0219	2.5514				

Catawba 2 Cycle 7 Core Operating Limits Report  
Appendix A

TABLE 4 (CONTINUED)

M-SUB-C VALUES (F-SUB-Q RPS MARGIN) - POWER ESCALATION

AT 118% POWER, 4 EFPD, THIS IS LEVEL 2 OF 16  
(LEVEL 16 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	3.0501	2.0843	2.1567	1.8334	2.1347	1.8280	1.8352	2.1140
9*	2.0843	2.3950	1.8800	2.0595	1.7122	1.8193	1.7819	2.7058
10*	2.1567	1.8777	2.0474	1.7697	1.9190	1.8378	1.9608	2.4241
11*	1.8334	2.0501	1.7637	2.0708	1.7255	1.9499	1.9054	3.0269
12*	2.1347	1.7019	1.9085	1.7179	1.9190	1.8248	2.2066	
13*	1.8280	1.8130	1.8291	1.9391	1.8152	1.9657	3.4203	
14*	1.8352	1.7788	1.9535	1.8961	2.1897	3.3268		
15 *	2.1140	2.7058	2.4165	3.0124				

AT 118% POWER, 4 EFPD, THIS IS LEVEL 1 OF 16  
(LEVEL 16 = TOP OF CORE, LEVEL 1 = BOTTOM)

	H	G	F	E	D	C	B	A
8*	4.5844	6.1295	3.4176	5.1708	3.1808	2.5811	2.8210	3.5475
9*	6.1295	3.6898	5.3396	3.1732	4.5567	2.8439	2.6538	4.1642
10*	3.4176	5.3396	3.2687	4.9643	3.0096	2.6403	3.0622	7.3641
11*	5.1708	3.1573	4.9485	3.0563	4.5835	3.0153	3.0378	4.7527
12*	3.1808	4.5235	2.9924	4.5634	3.0240	2.8589	3.5726	
13*	2.5811	2.8336	2.6291	3.0038	2.8458	3.2153	5.3311	
14*	2.8210	2.6516	3.0533	3.0230	3.5444	5.1946		
15 *	3.5475	4.1642	7.3467	4.7384				

TABLE 5

F-DEL-H & M-DEL-H VALUES - NORMAL OPERATION

AT 100% POWER, 4 EFPD

	H	G	F	E	D	C	B	A
8	.8290	1.2160	1.2180	1.3260	1.1140	1.2480	1.2490	1.0900
	1.8482	1.2483	1.2856	1.1544	1.4075	1.2473	1.2426	1.4008
9	1.2160	1.0520	1.3310	1.2510	1.3520	1.2910	1.2790	.8290
	1.2483	1.4764	1.1514	1.2563	1.1368	1.2201	1.2180	1.8426
10	1.2180	1.3320	1.2760	1.3650	1.2810	1.2850	1.2070	.9750
	1.2856	1.1505	1.2314	1.1282	1.2327	1.2330	1.2952	1.5320
11	1.3260	1.2560	1.3690	1.1540	1.3650	1.2480	1.2380	.8250
	1.1544	1.2523	1.1257	1.3685	1.1292	1.2629	1.2626	1.8549
12	1.1140	1.3600	1.2870	1.3690	1.2690	1.2930	1.0950	
	1.4075	1.1311	1.2269	1.1268	1.2262	1.2147	1.4218	
13	1.2480	1.2970	1.2920	1.2530	1.2980	1.2200	.6820	
	1.2473	1.2164	1.2272	1.2579	1.2102	1.2811	2.2610	
14	1.2490	1.2820	1.2110	1.2440	1.1020	.7000		
	1.2426	1.2162	1.2920	1.2574	1.4143	2.2013		
15	1.0900	.8280	.9780	.8290	F-DEL-H			
	1.4008	1.8447	1.5273	1.8460	M-DEL-H			

AT 100% POWER, 150 EFPD

	H	G	F	E	D	C	B	A
8	.9160	1.3140	1.2580	1.3720	1.1300	1.2810	1.1830	1.0140
	1.7192	1.1685	1.2405	1.1011	1.3628	1.2057	1.2818	1.4633
9	1.3140	1.1090	1.3810	1.2660	1.3740	1.2540	1.2460	.7620
	1.1685	1.4164	1.1038	1.2310	1.1094	1.2317	1.2265	1.9088
10	1.2580	1.3820	1.2870	1.3880	1.2620	1.2950	1.1430	.9140
	1.2405	1.1030	1.2139	1.1084	1.2417	1.2072	1.3218	1.5670
11	1.3720	1.2670	1.3880	1.1420	1.3690	1.1880	1.1580	.7510
	1.1011	1.2291	1.1068	1.3834	1.1269	1.2776	1.3012	1.9465
12	1.1300	1.3790	1.2670	1.3720	1.1960	1.2250	.9880	
	1.3628	1.1054	1.2377	1.1245	1.2509	1.2312	1.5048	
13	1.2810	1.2590	1.3000	1.1920	1.2290	1.0950	.6350	
	1.2057	1.2278	1.2034	1.2744	1.2280	1.3593	2.2936	
14	1.1830	1.2470	1.1450	1.1610	.9920	.6470		
	1.2818	1.2256	1.3195	1.2984	1.4990	2.2530		
15	1.0140	.7620	.9150	.7530	F-DEL-H			
	1.4633	1.9088	1.5653	1.9420	M-DEL-H			

TABLE 5 (CONTINUED)

F-DEL-H & M-DEL-H VALUES - NORMAL OPERATION

AT 100% POWER, 415 EFPD

	H	G	F	E	D	C	B	A
8	.9980	1.3170	1.2280	1.3440	1.1010	1.2530	1.1190	.9850
	1.5075	1.1375	1.2411	1.0929	1.3508	1.1874	1.3089	1.4621
9	1.3170	1.1170	1.3460	1.2210	1.3180	1.1800	1.1810	.7530
	1.1375	1.3691	1.1047	1.2357	1.1147	1.2628	1.2518	1.9121
10	1.2280	1.3460	1.2340	1.3390	1.1990	1.2500	1.0830	.9150
	1.2411	1.1050	1.2280	1.1124	1.2721	1.2192	1.3752	1.5440
11	1.3440	1.2210	1.3390	1.1030	1.2970	1.1270	1.1150	.7500
	1.0929	1.2356	1.1118	1.3837	1.1471	1.3454	1.3617	1.9581
12	1.1010	1.3210	1.2000	1.2980	1.1320	1.1750	.9530	
	1.3508	1.1107	1.2702	1.1462	1.2869	1.2835	1.5431	
13	1.2530	1.1810	1.2500	1.1270	1.1760	1.0440	.6650	
	1.1874	1.2616	1.2180	1.3449	1.2825	1.4060	2.1710	
14	1.1190	1.1800	1.0830	1.1150	.9540	.6720		
	1.3089	1.2517	1.3750	1.3616	1.5416	2.1507		
15	.9850	.7520	.9140	.7500	F-DEL-H			
	1.4621	1.9128	1.5444	1.9585	M-DEL-H			

AT 75% POWER, 4 EFPD

	H	G	F	E	D	C	B	A
8	.7720	1.2210	1.2370	1.3520	1.1290	1.2720	1.2730	1.1060
	2.3822	1.5884	1.6231	1.4441	1.7512	1.5498	1.5478	1.7461
9	1.2210	1.0550	1.3560	1.2730	1.3750	1.3110	1.3030	.8360
	1.5884	1.8828	1.4491	1.5801	1.4294	1.5200	1.5135	2.2928
10	1.2370	1.3570	1.2940	1.3740	1.2930	1.3040	1.2210	.9810
	1.6231	1.4480	1.5490	1.4155	1.5450	1.5486	1.6351	1.9448
11	1.3520	1.2780	1.3780	1.1490	1.3680	1.2430	1.2370	.8220
	1.4441	1.5738	1.4113	1.7220	1.4201	1.5837	1.5898	2.3777
12	1.1290	1.3840	1.3020	1.3730	1.1500	1.2520	1.0760	
	1.7512	1.4221	1.5377	1.4159	1.5348	1.5223	1.8012	
13	1.2720	1.3180	1.3110	1.2500	1.2580	1.1680	.6550	
	1.5498	1.5156	1.5405	1.5773	1.5153	1.6147	2.7719	
14	1.2730	1.3050	1.2260	1.2440	1.0840	.6730		
	1.5478	1.5102	1.6300	1.5821	1.7898	2.7018		
15	1.1060	.8360	.9840	.8260	F-DEL-H			
	1.7461	2.2956	1.9411	2.3661	M-DEL-H			

Appendix A

TABLE 5 (CONTINUED)

F-DEL-H & M-DEL-H VALUES - NORMAL OPERATION

AT 75% POWER, 150 BPPD

	H	G	F	E	D	C	B	A
8	* .8450	* 1.3240	* 1.2850	* 1.4080	* 1.1540	* 1.3110	* 1.2110	* 1.0310
	* 2.0794	* 1.4340	* 1.4785	* 1.3018	* 1.5967	* 1.4132	* 1.4897	* 1.7148
9	* 1.3240	* 1.1170	* 1.4150	* 1.2950	* 1.4050	* 1.2800	* 1.2730	* .7710
	* 1.4340	* 1.7216	* 1.3220	* 1.4547	* 1.3119	* 1.4332	* 1.4368	* 2.2832
10	* 1.2850	* 1.4160	* 1.3140	* 1.4140	* 1.2830	* 1.3200	* 1.1570	* .9190
	* 1.4785	* 1.3210	* 1.4443	* 1.3264	* 1.4850	* 1.4390	* 1.5876	* 1.8951
11	* 1.4080	* 1.2960	* 1.4150	* 1.1460	* 1.3720	* 1.1780	* 1.1580	* .7470
	* 1.3018	* 1.4524	* 1.3236	* 1.6616	* 1.3558	* 1.5728	* 1.6140	* 2.4277
12	* 1.1540	* 1.4100	* 1.2880	* 1.3760	* 1.0790	* 1.1660	* .9600	*
	* 1.5967	* 1.3038	* 1.4792	* 1.3529	* 1.5390	* 1.5197	* 1.8782	*
13	* 1.3110	* 1.2840	* 1.3250	* 1.1820	* 1.1700	* 1.0250	* .6000	*
	* 1.4132	* 1.4418	* 1.4326	* 1.5685	* 1.5153	* 1.6884	* 2.8999	*
14	* 1.2110	* 1.2750	* 1.1600	* 1.1620	* .9650	* .6120	*	*
	* 1.4897	* 1.4346	* 1.5848	* 1.6099	* 1.8703	* 2.8465	*	*
15	* 1.0310	* .7710	* .9200	* .7480	* F-DEL-H			
	* 1.7148	* 2.2833	* 1.8930	* 2.4212	* M-DEL-H			

AT 75% POWER, 415 BPPD

	H	G	F	E	D	C	B	A
8	* .9010	* 1.3280	* 1.2660	* 1.4030	* 1.1440	* 1.3090	* 1.1670	* 1.0210
	* 1.8570	* 1.3813	* 1.4600	* 1.2741	* 1.5433	* 1.3642	* 1.5005	* 1.6996
9	* 1.3280	* 1.1320	* 1.3940	* 1.2660	* 1.3710	* 1.2210	* 1.2270	* .7770
	* 1.3813	* 1.6249	* 1.2998	* 1.4222	* 1.3030	* 1.4500	* 1.4421	* 2.3216
10	* 1.2660	* 1.3940	* 1.2730	* 1.3840	* 1.2290	* 1.2820	* 1.1080	* .9340
	* 1.4600	* 1.2998	* 1.4198	* 1.3118	* 1.4704	* 1.4127	* 1.5950	* 1.8145
11	* 1.4030	* 1.2660	* 1.3850	* 1.1100	* 1.2950	* 1.1050	* 1.1160	* .7510
	* 1.2741	* 1.4220	* 1.3108	* 1.6508	* 1.4027	* 1.6160	* 1.6334	* 2.3388
12	* 1.1440	* 1.3760	* 1.2300	* 1.2960	* 1.0040	* 1.0740	* .9120	*
	* 1.5433	* 1.2978	* 1.4678	* 1.4026	* 1.5711	* 1.5532	* 1.9304	*
13	* 1.3090	* 1.2220	* 1.2820	* 1.1060	* 1.0760	* .9260	* .6120	*
	* 1.3642	* 1.4468	* 1.4119	* 1.6145	* 1.5513	* 1.7467	* 2.7683	*
14	* 1.1670	* 1.2260	* 1.1080	* 1.1160	* .9130	* .6180	*	*
	* 1.5005	* 1.4428	* 1.5947	* 1.6331	* 1.9274	* 2.7396	*	*
15	* 1.0210	* .7770	* .9340	* .7500	* F-DEL-H			
	* 1.6996	* 2.2215	* 1.8149	* 2.3380	* M-DEL-H			

TABLE 5 (CONTINUED)

F-DEL-H & M-DEL-H VALUES - NORMAL OPERATION

AT 50% POWER, 4 EFPD

	H	G	F	E	D	C	B	A
8	* .7440 *	* 1.2260 *	* 1.2580 *	* 1.3790 *	* 1.1450 *	* 1.2970 *	* 1.2990 *	* 1.1200 *
	* 3.2900 *	* 2.2233 *	* 2.2065 *	* 2.0168 *	* 2.4171 *	* 2.1574 *	* 2.1423 *	* 2.4590 *
9	* 1.2260 *	* 1.0590 *	* 1.3820 *	* 1.2970 *	* 1.3980 *	* 1.3340 *	* 1.3270 *	* .8430 *
	* 2.2233 *	* 2.5739 *	* 2.0054 *	* 2.1294 *	* 1.9272 *	* 2.0687 *	* 2.0907 *	* 3.2368 *
10	* 1.2580 *	* 1.3840 *	* 1.3140 *	* 1.3960 *	* 1.3100 *	* 1.3240 *	* 1.2350 *	* .9840 *
	* 2.2065 *	* 2.0024 *	* 2.0872 *	* 1.9141 *	* 2.0776 *	* 2.0885 *	* 2.2014 *	* 2.6813 *
11	* 1.3790 *	* 1.3020 *	* 1.4040 *	* 1.1470 *	* 1.3690 *	* 1.2390 *	* 1.2330 *	* .8180 *
	* 2.0168 *	* 2.1209 *	* 1.9085 *	* 2.3215 *	* 1.9137 *	* 2.1239 *	* 2.1422 *	* 3.2381 *
12	* 1.1450 *	* 1.4070 *	* 1.3190 *	* 1.3750 *	* 1.0990 *	* 1.2090 *	* 1.0540 *	
	* 2.4171 *	* 1.9160 *	* 2.0665 *	* 1.9066 *	* 2.0544 *	* 2.0413 *	* 2.4293 *	
13	* 1.2970 *	* 1.3410 *	* 1.3330 *	* 1.2460 *	* 1.2150 *	* 1.1110 *	* .6270 *	
	* 2.1574 *	* 2.0576 *	* 2.0789 *	* 2.1141 *	* 2.0323 *	* 2.1682 *	* 3.9237 *	
14	* 1.2990 *	* 1.3310 *	* 1.2400 *	* 1.2400 *	* 1.0620 *	* .6450 *		
	* 2.1423 *	* 2.0858 *	* 2.1943 *	* 2.1321 *	* 2.4121 *	* 3.8177 *		
15	* 1.1200 *	* .8430 *	* .9870 *	* .8220 *	* F-DEL-H			
	* 2.4590 *	* 3.2408 *	* 2.6758 *	* 3.2224 *	* M-DEL-H			

AT 50% POWER, 150 EFPD

	H	G	F	E	D	C	B	A
8	* .7880 *	* 1.3370 *	* 1.3270 *	* 1.4650 *	* 1.1950 *	* 1.3610 *	* 1.2200 *	* 1.0480 *
	* 2.8071 *	* 1.9480 *	* 2.0049 *	* 1.7931 *	* 2.1912 *	* 1.9282 *	* 2.0510 *	* 2.3964 *
9	* 1.3370 *	* 1.1290 *	* 1.4580 *	* 1.3400 *	* 1.4540 *	* 1.3210 *	* 1.3100 *	* .7830 *
	* 1.9480 *	* 2.3013 *	* 1.8181 *	* 1.9717 *	* 1.8055 *	* 1.9790 *	* 1.9700 *	* 3.2002 *
10	* 1.3270 *	* 1.4590 *	* 1.3210 *	* 1.4570 *	* 1.3160 *	* 1.3600 *	* 1.1840 *	* .9330 *
	* 2.0049 *	* 1.8155 *	* 1.9375 *	* 1.8063 *	* 1.9729 *	* 1.9453 *	* 2.1763 *	* 2.7074 *
11	* 1.4650 *	* 1.3420 *	* 1.4580 *	* 1.1500 *	* 1.3700 *	* 1.1680 *	* 1.1630 *	* .7490 *
	* 1.7931 *	* 1.9686 *	* 1.8063 *	* 2.1961 *	* 1.8244 *	* 2.0789 *	* 2.1519 *	* 3.3314 *
12	* 1.1950 *	* 1.4640 *	* 1.3220 *	* 1.3740 *	* .9920 *	* 1.0720 *	* .9240 *	
	* 2.1912 *	* 1.7932 *	* 1.9651 *	* 1.8203 *	* 2.0314 *	* 2.0155 *	* 2.5186 *	
13	* 1.3610 *	* 1.3270 *	* 1.3660 *	* 1.1720 *	* 1.0760 *	* .9130 *	* .5550 *	
	* 1.9282 *	* 1.9716 *	* 1.9363 *	* 2.0720 *	* 2.0090 *	* 2.2552 *	* 3.9350 *	
14	* 1.2200 *	* 1.3160 *	* 1.1870 *	* 1.1660 *	* .9280 *	* .5670 *		
	* 2.0510 *	* 1.9671 *	* 2.1705 *	* 2.1462 *	* 2.5082 *	* 3.8570 *		
15	* 1.0480 *	* .7830 *	* .9340 *	* .7510 *	* F-DEL-H			
	* 2.3964 *	* 3.2002 *	* 2.7048 *	* 3.3265 *	* M-DEL-H			

TABLE 5 (CONTINUED)

W-DEL-H & M-DEL-H VALUES - NORMAL OPERATION

AT 50% POWER, 415 RFPD

	H	G	F	E	D	C	B	A
8	* .8330 *	* 1.3330 *	* 1.3000 *	* 1.4690 *	* 1.1880 *	* 1.3530 *	* 1.1270 *	* .9800 *
	* 2.3968 *	* 1.8149 *	* 1.8340 *	* 1.6306 *	* 1.9893 *	* 1.7584 *	* 1.9527 *	* 2.2567 *
9	* 1.3330 *	* 1.1210 *	* 1.4300 *	* 1.3050 *	* 1.4340 *	* 1.2650 *	* 1.2480 *	* .7550 *
	* 1.8149 *	* 2.0984 *	* 1.6691 *	* 1.8111 *	* 1.6745 *	* 1.8738 *	* 1.8812 *	* 2.9527 *
10	* 1.3000 *	* 1.4300 *	* 1.1780 *	* 1.4090 *	* 1.2650 *	* 1.3280 *	* 1.1390 *	* .9480 *
	* 1.8340 *	* 1.6695 *	* 1.8154 *	* 1.6842 *	* 1.8975 *	* 1.8037 *	* 2.0760 *	* 2.4865 *
11	* 1.4690 *	* 1.3050 *	* 1.4110 *	* 1.1010 *	* 1.3030 *	* 1.1160 *	* 1.1410 *	* .7660 *
	* 1.6306 *	* 1.8108 *	* 1.6828 *	* 2.1545 *	* 1.8337 *	* 2.1026 *	* 2.0427 *	* 2.9646 *
12	* 1.1880 *	* 1.4410 *	* 1.2670 *	* 1.3040 *	* .9370 *	* 1.0190 *	* .9040 *	
	* 1.9893 *	* 1.6667 *	* 1.8931 *	* 1.8322 *	* 2.0624 *	* 2.0529 *	* 2.5568 *	
13	* 1.3530 *	* 1.2660 *	* 1.3290 *	* 1.1170 *	* 1.0210 *	* .8560 *	* .5880 *	
	* 1.7584 *	* 1.8690 *	* 1.8018 *	* 2.0985 *	* 2.0494 *	* 2.3261 *	* 3.7474 *	
14	* 1.1270 *	* 1.2480 *	* 1.1390 *	* 1.1410 *	* .9050 *	* .5950 *		
	* 1.9527 *	* 1.8819 *	* 2.0736 *	* 2.0420 *	* 2.5511 *	* 3.7073 *		
15	* .9800 *	* .7550 *	* .9480 *	* .7660 *	F-DEL-H			
	* 2.2567 *	* 2.9561 *	* 2.4865 *	* 2.9632 *	M-DEL-H			



TABLE 6

F-DEL-H & M-DEL-H VALUES - POWER ESCALATION

AT 100% POWER, 4 EFPD

	H	G	F	E	D	C	B	A
8	* .8240	* 1.2170	* 1.2190	* 1.3280	* 1.1150	* 1.2490	* 1.2500	* 1.0920
	* 1.8482	* 1.2483	* 1.2856	* 1.1544	* 1.4075	* 1.2473	* 1.2426	* 1.4008
9	* 1.2170	* 1.0530	* 1.3320	* 1.2520	* 1.3530	* 1.2910	* 1.2800	* .8300
	* 1.2483	* 1.4764	* 1.1514	* 1.2563	* 1.1368	* 1.2201	* 1.2180	* 1.8426
10	* 1.2190	* 1.3330	* 1.2770	* 1.3650	* 1.2810	* 1.2850	* 1.2080	* .9760
	* 1.2856	* 1.1505	* 1.2314	* 1.1282	* 1.2327	* 1.2330	* 1.2952	* 1.5320
11	* 1.3280	* 1.2570	* 1.3690	* 1.1530	* 1.3640	* 1.2470	* 1.2380	* .8260
	* 1.1544	* 1.2523	* 1.1257	* 1.3685	* 1.1292	* 1.2629	* 1.2626	* 1.8549
12	* 1.1150	* 1.3610	* 1.2870	* 1.3690	* 1.2600	* 1.2890	* 1.0940	
	* 1.4075	* 1.1311	* 1.2269	* 1.1268	* 1.2262	* 1.2147	* 1.4218	
13	* 1.2490	* 1.2980	* 1.2930	* 1.2520	* 1.2950	* 1.2160	* .6810	
	* 1.2473	* 1.2164	* 1.2272	* 1.2579	* 1.2102	* 1.2811	* 2.2610	
14	* 1.2500	* 1.2830	* 1.2120	* 1.2440	* 1.1010	* .6990		
	* 1.2426	* 1.2162	* 1.2920	* 1.2574	* 1.4143	* 2.2013		
15	* 1.0920	* .8290	* .9790	* .8300	F-DEL-H			
	* 1.4008	* 1.8447	* 1.5273	* 1.8460	M-DEL-H			

AT 75% POWER, 4 EFPD

	H	G	F	E	D	C	B	A
8	* .7970	* 1.2160	* 1.2270	* 1.3370	* 1.1160	* 1.2550	* 1.2560	* 1.0890
	* 2.3822	* 1.5884	* 1.6231	* 1.4441	* 1.7512	* 1.5498	* 1.5478	* 1.7461
9	* 1.2160	* 1.0490	* 1.3450	* 1.2630	* 1.3650	* 1.3000	* 1.2870	* .8240
	* 1.5884	* 1.8828	* 1.4491	* 1.5801	* 1.4294	* 1.5200	* 1.5135	* 2.2928
10	* 1.2270	* 1.3460	* 1.2870	* 1.3730	* 1.2880	* 1.2950	* 1.2120	* .9700
	* 1.6231	* 1.4480	* 1.5490	* 1.4155	* 1.5450	* 1.5486	* 1.6351	* 1.8448
11	* 1.3370	* 1.2680	* 1.3780	* 1.1540	* 1.3720	* 1.2510	* 1.2400	* .8140
	* 1.4441	* 1.5738	* 1.4113	* 1.7220	* 1.4201	* 1.5837	* 1.5898	* 2.3779
12	* 1.1160	* 1.3730	* 1.2960	* 1.3770	* 1.2430	* 1.2870	* 1.0880	
	* 1.7512	* 1.4221	* 1.5377	* 1.4159	* 1.5348	* 1.5223	* 1.8012	
13	* 1.2550	* 1.3070	* 1.3020	* 1.2570	* 1.2930	* 1.2080	* .6690	
	* 1.5498	* 1.5156	* 1.5405	* 1.5773	* 1.5153	* 1.6147	* 2.7719	
14	* 1.2560	* 1.2900	* 1.2170	* 1.2470	* 1.0960	* .6880		
	* 1.5478	* 1.5102	* 1.6300	* 1.5821	* 1.7898	* 2.7018		
15	* 1.0890	* .8250	* .9730	* .8220	F-DEL-H			
	* 1.7461	* 2.2956	* 1.9411	* 2.3661	M-DEL-H			

TABLE 6 (CONTINUED)

F-DEL-H & M-DEL-H VALUES - POWER ESCALATION

AT 50% POWER, 4 EFPD

	H	G	F	E	D	C	B	A
8	* .7830	* 1.2140	* 1.2330	* 1.3440	* 1.1150	* 1.2570	* 1.2570	* 1.0800
	* 3.2900	* 2.2233	* 2.2065	* 2.0168	* 2.4171	* 2.1574	* 2.1423	* 2.4590
9	* 1.2140	* 1.0450	* 1.3570	* 1.2730	* 1.3740	* 1.3060	* 1.2900	* .8150
	* 2.2233	* 2.5739	* 2.0054	* 2.1294	* 1.9272	* 2.0687	* 2.0907	* 3.2368
10	* 1.2330	* 1.3590	* 1.2980	* 1.3820	* 1.2870	* 1.3030	* 1.2130	* .9610
	* 2.2065	* 2.0024	* 2.0872	* 1.9141	* 2.0776	* 2.0885	* 2.2014	* 2.6813
11	* 1.3440	* 1.2790	* 1.3870	* 1.1550	* 1.3810	* 1.2580	* 1.2410	* .8090
	* 2.0168	* 2.1209	* 1.9085	* 2.3215	* 1.9137	* 2.1239	* 2.1422	* 3.2381
12	* 1.1150	* 1.3830	* 1.3050	* 1.3870	* 1.2470	* 1.2930	* 1.0850	*
	* 2.4171	* 1.9160	* 2.0665	* 1.9066	* 2.0544	* 2.0413	* 2.4293	*
13	* 1.2570	* 1.3140	* 1.3110	* 1.2650	* 1.3000	* 1.2080	* .6600	*
	* 2.1574	* 2.0576	* 2.0789	* 2.1141	* 2.0323	* 2.1682	* 3.9237	*
14	* 1.2570	* 1.2930	* 1.2180	* 1.2490	* 1.0930	* .6790	*	*
	* 2.1423	* 2.0858	* 2.1943	* 2.1321	* 2.4121	* 3.8177	*	*
15	* 1.0800	* .8140	* .9640	* .8130	* F-DEL-H			
	* 2.4590	* 3.2408	* 2.6758	* 3.2224	* M-DEL-H			

AT 30% POWER, 4 EFPD

	H	G	F	E	D	C	B	A
8	* .7720	* 1.2150	* 1.2400	* 1.3520	* 1.1140	* 1.2570	* 1.2550	* 1.0710
	* 3.2900	* 2.2233	* 2.2065	* 2.0168	* 2.4171	* 2.1574	* 2.1423	* 2.4590
9	* 1.2150	* 1.0440	* 1.3700	* 1.2830	* 1.3850	* 1.3110	* 1.2910	* .8050
	* 2.2233	* 2.5739	* 2.0054	* 2.1294	* 1.9272	* 2.0687	* 2.0907	* 3.2368
10	* 1.2400	* 1.3720	* 1.3080	* 1.3910	* 1.3030	* 1.3090	* 1.2130	* .9520
	* 2.2065	* 2.0024	* 2.0872	* 1.9141	* 2.0776	* 2.0885	* 2.2014	* 2.6813
11	* 1.3520	* 1.2890	* 1.3960	* 1.1560	* 1.3890	* 1.2630	* 1.2410	* .8000
	* 2.0168	* 2.1209	* 1.9085	* 2.3215	* 1.9137	* 2.1239	* 2.1422	* 3.2381
12	* 1.1140	* 1.3930	* 1.3120	* 1.3960	* 1.2510	* 1.2980	* 1.0810	*
	* 2.4171	* 1.9160	* 2.0665	* 1.9066	* 2.0544	* 2.0413	* 2.4293	*
13	* 1.2570	* 1.3190	* 1.3180	* 1.2700	* 1.3040	* 1.2060	* .6520	*
	* 2.1574	* 2.0576	* 2.0789	* 2.1141	* 2.0323	* 2.1682	* 3.9237	*
14	* 1.2550	* 1.2950	* 1.2180	* 1.2480	* 1.0890	* .6710	*	*
	* 2.1423	* 2.0858	* 2.1943	* 2.1321	* 2.4121	* 3.8177	*	*
15	* 1.0710	* .8050	* .9560	* .8050	* F-DEL-H			
	* 2.4590	* 3.2408	* 2.6758	* 3.2224	* M-DEL-H			

Table 7

Maximum Allowable Radial Peaks (MARPS)  
 for Non-Axial Blanket Fuel

<u>Core Height</u> <u>(ft)</u>	<u>1.1 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.2 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.3 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.4 Axial</u> <u>Peak</u> <u>MARP</u>
0.12	1.5809	1.6266	1.6722	1.7113
1.2	1.5806	1.6259	1.6677	1.7085
2.4	1.5836	1.6265	1.6663	1.7025
3.6	1.5859	1.6263	1.6635	1.6960
4.8	1.5871	1.6240	1.6571	1.6751
6.0	1.5878	1.6196	1.6470	1.6303
7.2	1.5864	1.6130	1.6265	1.5848
8.4	1.5781	1.5956	1.5773	1.5327
9.6	1.5655	1.5612	1.5208	1.4815
10.8	1.5459	1.5152	1.4717	1.4292
12.0	1.5133	1.4693	1.4274	1.3878

<u>Core Height</u> <u>(ft)</u>	<u>1.5 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.6 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.7 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.8 Axial</u> <u>Peak</u> <u>MARP</u>
0.12	1.7477	1.7331	1.7054	1.6430
1.2	1.7433	1.7029	1.6789	1.6193
2.4	1.7126	1.6616	1.6433	1.5869
3.6	1.6735	1.6211	1.6011	1.5504
4.8	1.6313	1.5811	1.5622	1.5121
6.0	1.5868	1.5415	1.5238	1.4763
7.2	1.5378	1.4913	1.4766	1.4344
8.4	1.4886	1.4450	1.4296	1.3880
9.6	1.4399	1.4013	1.3882	1.3490
10.8	1.3883	1.3526	1.3433	1.3081
12.0	1.3500	1.3140	1.3078	1.2749

<u>Core Height</u> <u>(ft)</u>	<u>1.9 Axial</u> <u>Peak</u> <u>MARP</u>	<u>2.1 Axial</u> <u>Peak</u> <u>MARP</u>
0.12	1.5839	1.5401
1.2	1.5624	1.5154
2.4	1.5328	1.4801
3.6	1.5013	1.4395
4.8	1.4626	1.4030
6.0	1.4291	1.3619
7.2	1.3920	1.3271
8.4	1.3485	1.2824
9.6	1.3126	1.2501
10.8	1.2726	1.2091
12.0	1.2443	1.1890

Table 8

Maximum Allowable Radial Peaks (MARPS)  
 for Axial Blanket Fuel

<u>Core Height</u> <u>(ft)</u>	<u>1.1 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.2 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.3 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.4 Axial</u> <u>Peak</u> <u>MARP</u>
0.12	1.5491	1.5942	1.6385	1.6771
1.2	1.5491	1.5933	1.6346	1.6743
2.4	1.5518	1.5942	1.6331	1.6686
3.6	1.5545	1.5942	1.6300	1.6621
4.8	1.5555	1.5917	1.6238	1.6414
6.0	1.5564	1.5875	1.6138	1.5979
7.2	1.5545	1.5808	1.5938	1.5529
8.4	1.5464	1.5633	1.5454	1.5021
9.6	1.5345	1.5300	1.4900	1.4521
10.8	1.5145	1.4850	1.4423	1.4007
12.0	1.4827	1.4400	1.3985	1.3600

<u>Core Height</u> <u>(ft)</u>	<u>1.5 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.6 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.7 Axial</u> <u>Peak</u> <u>MARP</u>	<u>1.8 Axial</u> <u>Peak</u> <u>MARP</u>
0.12	1.7127	1.6988	1.7053	1.6439
1.2	1.7087	1.6688	1.6788	1.6194
2.4	1.6787	1.6281	1.6435	1.5867
3.6	1.6400	1.5888	1.6012	1.5506
4.8	1.5987	1.5494	1.5624	1.5122
6.0	1.5553	1.5106	1.5235	1.4761
7.2	1.5073	1.4613	1.4765	1.4344
8.4	1.4587	1.4163	1.4294	1.3878
9.6	1.4113	1.3731	1.3882	1.3489
10.8	1.3607	1.3256	1.3435	1.3083
12.0	1.3227	1.2875	1.3076	1.2750

<u>Core Height</u> <u>(ft)</u>	<u>1.9 Axial</u> <u>Peak</u> <u>MARP</u>	<u>2.1 Axial</u> <u>Peak</u> <u>MARP</u>
0.12	1.5837	1.5400
1.2	1.5626	1.5152
2.4	1.5326	1.4800
3.6	1.5011	1.4395
4.8	1.4626	1.4029
6.0	1.4289	1.3619
7.2	1.3921	1.3271
8.4	1.3484	1.2824
9.6	1.3126	1.2500
10.8	1.2726	1.2090
12.0	1.2442	1.1890