Catawba Unit 2 Cycle 9

Core Operating Limits Report

June 1997

Duke Power Company

		Date
Prepared By:	Scott B. Thomas	6/11/97
Checked By:	ML Elder	6/11/97
Checked By:	M.S. Carroll	6/11/97
Approved By:	RH Clark	6/11/97

QA Condition 1

The contents of this document have been reviewed to verify that no material herein either directly or indirectly changes the results and conclusions presented in the 10CFR50.59 Catawba 2 Cycle 9 Reload Safety Evaluation.

IMPLEMENTATION INSTRUCTION FOR REVISION 11

Revision 11 to the Catawba Unit 2 COLR should be implemented as soon as possible.

INSERTION SHEET FOR REVISION 11

<u>Remove</u>	<u>Insert</u>
Pages 1-4, 20	Pages 1-4, 20
Appendix A, Pages 259-266, 269	Appendix A, Pages 259-266, 269

REVISION LOG

Revision	Effective Date	Comment
Original Issue	February 1993	C2C06 COLR
Revision 1	April 1994	C2C06 COLR rev 1
Revision 2	May 1994	C2C07 COLR
Revision 3	October 1994	C2C07 COLR rev 1
Revision 4	April 1995	C2C07 COLR rev 2
Revision 5	September 1995	C2C07 COLR rev 3
Revision 6	October 1995	C2C08 COLR
Revision 7	September 1996	C2C08 COLR rev 1
Revision 8	March 1997	C2C08 COLR rev 2
Revision 9	March 1997	C2C09 COLR
Revision 10	April 1997	C2C09 COLR rev 1
Revision 11	June 1997	C2C09 COLR rev 2

3.8 Boron Dilution Mitigation System (Specification 3/4.3.3.11)

3.8.1 Reactor Water Makeup Pump flowrate limits:

Applicable Mode	Limit
Mode 3	≤ 150 gpm
Mode 4 and 5	≤ 70 gpm

3.9 Accumulators (Specification 3/4.5.1)

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

Parameter	Limit
Cold Leg Accumulator minimum boron concentration for LCO 3.5.1c	2,675 ppm
Cold Leg Accumulator maximum boron concentration for LCO 3.5.1c	3,075 ppm
Minimum Cold Leg Accumulator boron concentration required to ensure post-LOCA subcriticality	2,567 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**:

Parameter	Limit
Refueling Water Storage Tank minimum boron concentration for LCO 3.5.4b	2,875 ppm
Refueling Water Storage Tank maximum boron concentration for LCO 3.5.4b	3,075 ppm

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	.9950	1.3520	1.0300	1.3440	1.0160	1.3720	1.1700	.7380
	1.6114	1.2233	1.4538	1.2164	1.4596	1.1642	1.3473	2.0866
9	1.3520	1.2580	1.3800	1.2510	1.3850	1.3050	1.3850	.7150
	1.2233	1.3127	1.1928	1.3020	1.1753	1.2414	1.1504	1.9990
10	1.0310	1.3800	1.0750	1.3750	1.2810	1.3940	1.2760	.7660
	1.4536	1.1945	1.3969	1.2017	1.2836	1.1892	1.2728	2.0474
11	1.3430	1.2490	1.3740	1.2610	1.3930	1.3110	1.4030	.6630
	1.2175	1.3040	1.2026	1.3173	1.1835	1.2599	1.1608	2.3823
12	1.0160	1.3850	1.2810	1.3930	1.2540	1.4000	1.0050	
	1.4596	1.1753	1.2837	1.1829	1.2997	1.1731	1.6151	
13	1.3720	1.3050	1.3950	1.3120	1.4030	1.1170	.5940	
	1.1643	1.2415	1.1892	1.2593	1.1703	1.4124	2.6153	
14	1.1700	1.3850	1.2770	1.4050	1.0070	.5940		
	1.3463	1.1505	1.2729	1.1595	1.6135	2.6110		
15	.7380	.7150	.7660	.6640	F-DEL-H			
	2.0840	1.9964	2.0450	2.3789	M-DEL-H			

AT 100% POWER, 100 EFPD

	H	G	F	E	D	C	B	A
8	1.0260	1.3970	1.0410	1.3800	1.0280	1.3820	1.1420	.7270
	1.5700	1.1784	1.4388	1.1941	1.4103	1.1637	1.3505	2.0579
9	1.3980	1.2650	1.4030	1.2640	1.3970	1.2890	1.3550	.6970
	1.1783	1.2944	1.1861	1.3014	1.1734	1.2638	1.1812	1.9888
10	1.0400	1.4030	1.0950	1.3980	1.2730	1.3930	1.2160	.7400
	1.4413	1.1870	1.3719	1.1860	1.2866	1.1829	1.3358	2.0601
11	1.3790	1.2620	1.3970	1.2700	1.3930	1.2730	1.3260	.6330
	1.1949	1.3029	1.1864	1.2930	1.1961	1.2738	1.2149	2.4501
12	1.0290	1.3960	1.2720	1.3920	1.2080	1.3620	.9430	
	1.4129	1.1737	1.2865	1.1976	1.3137	1.1754	1.6743	
13	1.3820	1.2890	1.3930	1.2740	1.3640	1.0570	.5790	
	1.1645	1.2638	1.1829	1.2728	1.1737	1.4902	2.6481	
14	1.1420	1.3550	1.2160	1.3270	.9440	.5790		
	1.3504	1.1816	1.3356	1.2140	1.6727	2.6440		
15	.7280	.6970	.7410	.6340	F-DEL-H			
	2.0579	1.9888	2.0577	2.4466	M-DEL-H			

TABLE 5 (CONTINUED)

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

AT 100% POWER, 200 EFPD

	H	G	F	E	D	C	B	A
8	1.0300	1.4020	1.0480	1.3900	1.0410	1.3770	1.1170	.7250
	1.5413	1.1748	1.4170	1.1575	1.3977	1.1427	1.3850	2.0355
9	1.4020	1.2480	1.3940	1.2610	1.4020	1.2700	1.3210	.6910
	1.1748	1.3128	1.1803	1.2748	1.1746	1.2523	1.1839	1.9774
10	1.0460	1.3930	1.0970	1.4030	1.2670	1.3840	1.1780	.7320
	1.4187	1.1817	1.3561	1.1736	1.2850	1.1861	1.3565	2.0563
11	1.3890	1.2600	1.4020	1.2720	1.3930	1.2450	1.2820	.6230
	1.1583	1.2757	1.1736	1.2902	1.1763	1.2848	1.2415	2.4581
12	1.0390	1.4020	1.2670	1.3930	1.1850	1.3250	.9070	
	1.3994	1.1754	1.2929	1.1766	1.3206	1.1911	1.7193	
13	1.3770	1.2700	1.3840	1.2460	1.3270	1.0200	.5780	
	1.1436	1.2524	1.1861	1.2845	1.1895	1.5230	2.6594	
14	1.1170	1.3210	1.1780	1.2830	.9080	.5780		
	1.3851	1.1841	1.3563	1.2406	1.7175	2.6592		
15	.7250	.6910	.7320	.6230	F-DEL-H			
	2.0355	1.9775	2.0539	2.4574	M-DEL-H			

AT 100% POWER, 300 EFPD

	H	G	F	E	D	C	B	A
8	1.0140	1.3750	1.0420	1.3860	1.0430	1.3630	1.0930	.7290
	1.5575	1.1739	1.4020	1.1428	1.3737	1.1404	1.3941	2.0297
9	1.3760	1.2170	1.3850	1.2460	1.3890	1.2490	1.2900	.6930
	1.1739	1.3246	1.1596	1.2713	1.1483	1.2543	1.1957	1.9740
10	1.0400	1.3850	1.0870	1.3920	1.2550	1.3680	1.1560	.7350
	1.4033	1.1604	1.3476	1.1567	1.2815	1.1700	1.3635	2.0543
11	1.3850	1.2450	1.3920	1.2650	1.3870	1.2280	1.2580	.6260
	1.1436	1.2722	1.1575	1.2802	1.1679	1.3017	1.2651	2.4545
12	1.0420	1.3890	1.2540	1.3860	1.1740	1.3040	.8930	
	1.3750	1.1491	1.2824	1.1681	1.3316	1.2106	1.7514	
13	1.3630	1.2490	1.3680	1.2290	1.3060	1.0030	.5890	
	1.1404	1.2549	1.1700	1.3015	1.2088	1.5528	2.5820	
14	1.0930	1.2900	1.1560	1.2580	.8930	.5890		
	1.3940	1.1956	1.3635	1.2651	1.7494	2.5824		
15	.7290	.6930	.7350	.6260	F-DEL-H			
	2.0293	1.9738	2.0522	2.4508	M-DEL-H			

TABLE 5 (CONTINUED)

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

AT 100% POWER, 450 EFPD

	H	G	F	E	D	C	B	A
8	.9780	1.3080	1.0170	1.3410	1.0270	1.3270	1.0750	.7600
	1.5765	1.2127	1.4199	1.1834	1.3829	1.1816	1.4209	1.9587
9	1.3090	1.1610	1.3360	1.2010	1.3570	1.2150	1.2700	.7200
	1.2127	1.3646	1.2019	1.3244	1.1761	1.2843	1.2321	1.9016
10	1.0160	1.3360	1.0560	1.3720	1.2240	1.3430	1.1490	.7680
	1.4[illegible]13	1.2019	1.3673	1.1808	1.2979	1.2031	1.3831	1.9767
11	1.3410	1.2000	1.3710	1.2310	1.3630	1.2130	1.2460	.6610
	1.1835	1.3252	1.1812	1.2937	1.1848	1.3015	1.2677	2.3282
12	1.0260	1.3570	1.2240	1.3630	1.1630	1.2890	.9090	
	1.3843	1.1755	1.2979	1.1848	1.3227	1.2101	1.7025	
13	1.3270	1.2160	1.3430	1.2130	1.2900	1.0120	.6310	
	1.1816	1.2843	1.2031	1.3015	1.2092	1.5188	2.4147	
14	1.0760	1.2700	1.1490	1.2460	.9090	.6310		
	1.4210	1.2321	1.3831	1.2676	1.7016	2.4146		
15	.7610	.7200	.7680	.6610	F-DEL-H			
	1.9587	1.9016	1.9764	2.3284	M-DEL-H			

AT 75% POWER, 4 EFPD

	H	G	F	E	D	C	B	A
8	.9430	1.3470	1.0350	1.3550	1.0260	1.4060	1.1940	.7450
	2.0500	1.5270	1.7752	1.4929	1.7602	1.4075	1.6352	2.5411
9	1.3460	1.2570	1.3870	1.2650	1.4080	1.3280	1.4180	.7200
	1.5270	1.6338	1.4753	1.5983	1.4430	1.5119	1.3947	2.4034
10	1.0350	1.3850	1.0760	1.3820	1.2910	1.4090	1.2920	.7680
	1.7736	1.4774	1.7253	1.4880	1.5858	1.4578	1.5784	2.5225
11	1.3530	1.2630	1.3810	1.2610	1.3980	1.3120	1.4150	.6620
	1.4950	1.6007	1.4891	1.6198	1.4543	1.5391	1.4215	2.9870
12	1.0260	1.4080	1.2910	1.3990	1.1410	1.3680	.9940	
	1.7586	1.4440	1.5846	1.4522	1.5641	1.4154	1.9637	
13	1.4050	1.3280	1.4090	1.3130	1.3710	1.0740	.5720	
	1.4084	1.5119	1.4578	1.5379	1.4115	1.7582	3.3040	
14	1.1940	1.4180	1.2930	1.4160	.9950	.5730		
	1.6352	1.3948	1.5785	1.4205	1.9618	3.3029		
15	.7450	.7210	.7680	.6630	F-DEL-H			
	2.5412	2.4035	2.5197	2.9853	M-DEL-H			

TABLE 5 (CONTINUED)

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

AT 75% POWER, 100 EFPD

	H	G	F	E	D	C	B	A
8	.9590	1.3880	1.0490	1.3990	1.0450	1.4230	1.1700	.7360
	1.9543	1.4765	1.6826	1.3941	1.6588	1.3450	1.5978	2.4582
9	1.3870	1.2680	1.4200	1.2840	1.4220	1.3160	1.3920	.7050
	1.4765	1.5808	1.3987	1.5105	1.3762	1.4588	1.3582	2.3522
10	1.0490	1.4180	1.1010	1.4210	1.2900	1.4210	1.2310	.7440
	1.6823	1.4007	1.6187	1.3971	1.5230	1.3905	1.5758	2.4615
11	1.3980	1.2820	1.4200	1.2770	1.3960	1.2700	1.3380	.6320
	1.3960	1.5117	1.3980	1.5943	1.4631	1.5616	1.4680	2.9583
12	1.0450	1.4220	1.2890	1.3950	1.0780	1.3090	.9250	
	1.6619	1.3762	1.5242	1.4650	1.6072	1.4381	2.0646	
13	1.4220	1.3160	1.4200	1.2700	1.3120	.9980	.5520	
	1.3458	1.4590	1.3906	1.5604	1.4350	1.8317	3.3494	
14	1.1700	1.3920	1.2310	1.3390	.9260	.5520		
	1.5981	1.3582	1.5758	1.4671	2.0624	3.3492		
15	.7370	.7050	.7450	.6320	F-DEL-H			
	2.4582	2.3522	2.4589	2.9545	M-DEL-H			

AT 75% . OWER, 200 EFPD

	H	G	F	E	D	C	B	A
8	.9540	1.3870	1.0590	1.4260	1.0620	1.4260	1.1490	.7360
	1.9328	1.4407	1.6688	1.3621	1.6286	1.3355	1.6359	2.4783
9	1.3870	1.2540	1.4220	1.2870	1.4330	1.3020	1.3620	.7010
	1.4407	1.5955	1.3834	1.5040	1.3672	1.4685	1.3868	2.3771
10	1.0570	1.4210	1.1070	1.4330	1.2890	1.4160	1.1920	.7380
	1.6713	1.3849	1.6092	1.3729	1.5195	1.3790	1.6138	2.4913
11	1.4240	1.2860	1.4320	1.2810	1.3970	1.2380	1.2920	.6200
	1.3634	1.5062	1.3738	1.5822	1.4431	1.5943	1.5106	3.0101
12	1.0600	1.4320	1.2880	1.3960	1.0560	1.2570	.8830	
	1.6309	1.3672	1.5206	1.4441	1.6388	1.4775	2.1587	
13	1.4250	1.3020	1.4160	1.2390	1.2590	.9470	.5440	
	1.3359	1.4691	1.3794	1.5943	1.4753	1.9055	3.3950	
14	1.1490	1.3610	1.1920	1.2920	.8840	.5440		
	1.6360	1.3874	1.6138	1.5106	2.1563	3.3948		
15	.7360	.7010	.7380	.6210	F-DEL-H			
	2.4814	2.3771	2.4915	3.0057	M-DEL-H			

TABLE 5 (CONTINUED)

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

AT 75% POWER, 300 EFPD

	H	G	F	E	D	C	B	A
8	.9310	1.3610	1.0570	1.4310	1.0710	1.4180	1.1300	.7440
	1.9499	1.4546	1.6706	1.3576	1.6218	1.3485	1.6512	2.4512
9	1.3610	1.2250	1.4180	1.2780	1.4270	1.2860	1.3340	.7060
	1.4540	1.6281	1.3913	1.5168	1.3619	1.4913	1.4234	2.3800
10	1.0560	1.4170	1.1020	1.4260	1.2790	1.4060	1.1710	.7420
	1.6737	1.3923	1.5894	1.3782	1.5308	1.3905	1.6479	2.4737
11	1.4300	1.2760	1.4250	1.2770	1.3910	1.2190	1.2660	.6240
	1.3584	1.5189	1.3790	1.5829	1.4434	1.6184	1.5431	2.9624
12	1.0690	1.4270	1.2790	1.3910	1.0470	1.2200	.8640	
	1.6234	1.3620	1.5308	1.4439	1.6560	1.5053	2.1753	
13	1.4170	1.2860	1.4050	1.2190	1.2210	.9150	.5490	
	1.3485	1.4914	1.3905	1.6184	1.5030	1.9217	3.3066	
14	1.1300	1.3340	1.1710	1.2660	.8640	.5490		
	1.6511	1.4234	1.6479	1.5431	2.1742	3.3062		
15	.7440	.7060	.7430	.6240	F-DEL-H			
	2.4511	2.3814	2.4738	2.9619	M-DEL-H			

AT 75% POWER, 450 EFPD

	H	G	F	E	D	C	B	A
8	.8760	1.2900	1.0410	1.4010	1.0690	1.4000	1.1280	.7880
	1.9921	1.5130	1.6804	1.3684	1.6253	1.3609	1.6769	2.3793
9	1.2910	1.1720	1.3780	1.2440	1.4130	1.2650	1.3270	.7440
	1.5119	1.6624	1.4050	1.5355	1.3628	1.5071	1.4325	2.3202
10	1.0410	1.3780	1.0780	1.4060	1.2500	1.3860	1.1710	.7820
	1.6820	1.4054	1.6308	1.3858	1.5441	1.4055	1.6436	2.3993
11	1.4010	1.2430	1.4050	1.2450	1.3540	1.1990	1.2560	.6630
	1.3688	1.5361	1.3858	1.5831	1.4596	1.6332	1.5474	2.8517
12	1.0680	1.4120	1.2500	1.3540	1.0160	1.1730	.8700	
	1.6268	1.3629	1.5441	1.4597	1.6673	1.5307	2.1899	
13	1.4000	1.2650	1.3860	1.1990	1.1730	.8870	.5760	
	1.3614	1.5078	1.4055	1.6318	1.5295	1.9555	3.1911	
14	1.1280	1.3270	1.1710	1.2560	.8700	.5760		
	1.6763	1.4325	1.6436	1.5479	2.1898	3.1908		
15	.7880	.7440	.7830	.6640	F-DEL-H			
	2.3793	2.3202	2.3977	2.8500	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	.9150	1.3430	1.0390	1.3660	1.0350	1.4390	1.2160	.7500
	2.2864	1.7080	2.4976	1.7321	2.4730	1.6238	1.9040	2.9785
9	1.3430	1.2570	1.4010	1.2780	1.4300	1.3500	1.4500	.7250
	1.7080	1.8252	1.6743	1.8311	1.6453	1.7414	1.6082	3.3881
10	1.0390	1.3990	1.0770	1.3960	1.3050	1.4310	1.3070	.7700
	2.4950	1.6743	2.3929	1.6478	1.7515	1.6354	1.7536	2.9226
11	1.3640	1.2760	1.3970	1.2630	1.4010	1.3120	1.4240	.6600
	1.7347	1.8339	1.6490	1.7930	1.6003	1.6925	1.5611	3.3598
12	1.0360	1.4290	1.3050	1.4020	1.1000	1.3360	.9820	
	2.4707	1.6452	1.7515	1.5947	1.7127	1.5462	2.1602	
13	1.4380	1.3500	1.4310	1.3130	1.3390	1.0320	.5520	
	1.6249	1.7413	1.6342	1.6913	1.5430	1.9316	3.6800	
14	1.2160	1.4500	1.3070	1.4260	.9830	.5530		
	1.9040	1.6082	1.7523	1.5600	2.1581	3.6737		
15	.7500	.7250	.7700	.6610	F-DEL-H			
	2.9785	3.3881	2.9190	3.3549	M-DEL-H			

AT 50% POWER, 100 EFPD

	H	G	F	E	D	C	B	A
8	.9110	1.3890	1.0670	1.4390	1.0710	1.4780	1.2060	.7520
	2.1522	1.5999	2.3598	1.5806	2.3268	1.5129	1.8189	2.8365
9	1.3890	1.2760	1.4520	1.3130	1.4580	1.3530	1.4400	.7180
	1.5999	1.7567	1.5773	1.7212	1.5583	1.6582	1.5401	3.3189
10	1.0670	1.4500	1.1110	1.4530	1.3140	1.4550	1.2480	.7560
	2.3597	1.5794	2.2785	1.5798	1.7233	1.5773	1.7865	2.8595
11	1.4370	1.3110	1.4520	1.2840	1.3960	1.2600	1.3480	.6320
	1.5816	1.7236	1.5809	1.7358	1.5770	1.6908	1.6108	3.4299
12	1.0710	1.4580	1.3130	1.3940	1.0130	1.2310	.8990	
	2.3246	1.5593	1.7233	1.5759	1.7291	1.5481	2.2366	
13	1.4780	1.3520	1.4550	1.2610	1.2330	.9130	.5170	
	1.5138	1.6594	1.5784	1.6895	1.5448	1.9793	3.6725	
14	1.2060	1.4390	1.2480	1.3480	.9000	.5180		
	1.8189	1.5401	1.7850	1.6093	2.2343	3.6676		
15	.7520	.7180	.7560	.6330	F-DEL-H			
	2.8365	3.3189	2.8599	3.4248	M-DEL-H			

TABLE 5 (CONTINUED)

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

AT 50% POWER, 200 EFPD

	H	G	F	E	D	C	B	A
8	.8920	1.3830	1.0790	1.4830	1.0990	1.4890	1.1430	.7410
	2.0904	1.5733	2.2450	1.4664	2.1819	1.4322	1.7664	2.6754
9	1.3830	1.2580	1.4590	1.3260	1.4780	1.3490	1.4110	.7150
	1.5733	1.7318	1.4901	1.6232	1.4747	1.5840	1.4947	3.1593
10	1.0800	1.4570	1.0770	1.4760	1.3220	1.4640	1.2160	.7520
	2.2490	1.4913	2.1298	1.4806	1.6426	1.4893	1.7608	2.7107
11	1.4820	1.3240	1.4750	1.2870	1.4000	1.2320	1.3090	.6250
	1.4674	1.6256	1.4817	1.7211	1.5675	1.7289	1.6487	3.2850
12	1.0970	1.4770	1.3210	1.3990	.9780	1.1670	.8570	
	2.1858	1.4748	1.6438	1.5686	1.7423	1.5917	2.3029	
13	1.4880	1.3490	1.4640	1.2330	1.1680	.8470	.5070	
	1.4331	1.5851	1.4903	1.7276	1.5888	2.0255	3.6373	
14	1.1430	1.4110	1.2160	1.3090	.8580	.5070		
	1.7677	1.4957	1.7608	1.6486	2.3004	3.6336		
15	.7410	.7150	.7530	.6260	F-DEL-H			
	2.6784	3.1592	2.7080	3.2851	M-DEL-H			

AT 50% POWER, 300 EFPD

	H	G	F	E	D	C	B	A
8	.8630	1.3460	1.0780	1.4940	1.1120	1.4790	1.0900	.7330
	2.0875	1.5627	2.1947	1.4553	2.1289	1.4328	1.7692	2.6635
9	1.3460	1.2190	1.4440	1.3180	1.4950	1.3370	1.3780	.7160
	1.5624	1.7283	1.4796	1.6057	1.4591	1.5811	1.5122	3.1574
10	1.0790	1.4430	1.0290	1.4730	1.3170	1.4610	1.2030	.7560
	2.1988	1.4804	2.1176	1.4793	1.6106	1.4770	1.7139	2.6906
11	1.4930	1.3170	1.4720	1.2790	1.3990	1.2210	1.2920	.6330
	1.4563	1.6068	1.4804	1.6837	1.5658	1.6917	1.5661	3.0829
12	1.1110	1.4950	1.3170	1.3980	.9700	1.1360	.8450	
	2.1311	1.4598	1.6106	1.5670	1.7510	1.5975	2.3410	
13	1.4790	1.3370	1.4610	1.2220	1.1360	.8190	.5160	
	1.4328	1.5820	1.4770	1.6916	1.5951	2.0690	3.6098	
14	1.0900	1.3780	1.2030	1.2920	.8460	.5160		
	1.7690	1.5121	1.7140	1.5662	2.3384	3.6139		
15	.7330	.7160	.7560	.6330	F-DEL-H			
	2.6655	3.1571	2.6875	3.0833	M-DEL-H			

TABLE 5 (CONTINUED)

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

AT 50% POWER, 450 EFPD

	H	G	F	E	D	C	B	A
8	.7920	1.2630	1.0600	1.4700	1.1180	1.4570	1.0600	.7420
	2.1373	1.6104	2.2084	1.4457	2.1222	1.4389	1.7940	2.5864
9	1.2630	1.1380	1.3840	1.2840	1.4910	1.3270	1.3730	.7500
	1.6103	1.7829	1.4912	1.6294	1.4390	1.6035	1.5312	3.0621
10	1.0610	1.3830	.9790	1.4420	1.3010	1.4600	1.2280	.8080
	2.2063	1.4916	2.1396	1.4690	1.6318	1.4736	1.7225	2.6034
11	1.4690	1.2830	1.4410	1.2320	1.3680	1.2290	1.3120	.6900
	1.4468	1.6306	1.4700	1.6924	1.5392	1.6917	1.5760	2.9503
12	1.1170	1.4910	1.3010	1.3670	.9390	1.1240	.8760	
	2.1254	1.4390	1.6318	1.5391	1.7520	1.6108	2.2989	
13	1.4570	1.3270	1.4590	1.2290	1.1240	.8150	.5590	
	1.4389	1.6035	1.4735	1.6916	1.6083	2.0710	3.4451	
14	1.0600	1.3730	1.2280	1.3120	.8760	.5590		
	1.7940	1.5312	1.7223	1.5759	2.2988	3.4453		
15	.7420	.7500	.8090	.6910	F-DEL-H			
	2.5877	3.0620	2.6034	2.9502	M-DEL-H			

Table 7
Maximum Allowable Radial Peaks (MARPS)

MkBW Fuel MARPs

← Axial Peak →

Core Height (ft)	1.05	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1
0.12	1.695	1.725	1.790	1.847	1.897	1.903	1.844	1.804	1.717	1.637	1.531
1.2	1.692	1.723	1.784	1.839	1.886	1.867	1.811	1.788	1.727	1.660	1.540
2.4	1.696	1.725	1.781	1.833	1.872	1.823	1.768	1.751	1.694	1.639	1.566
3.6	1.699	1.726	1.778	1.822	1.830	1.779	1.726	1.705	1.652	1.603	1.541
4.8	1.701	1.725	1.772	1.810	1.784	1.733	1.682	1.664	1.614	1.565	1.501
6.0	1.703	1.725	1.763	1.779	1.732	1.686	1.638	1.622	1.574	1.529	1.461
7.2	1.703	1.721	1.751	1.731	1.683	1.633	1.587	1.571	1.527	1.488	1.424
8.4	1.698	1.709	1.719	1.677	1.628	1.579	1.534	1.522	1.479	1.440	1.373
9.6	1.690	1.694	1.668	1.617	1.574	1.529	1.487	1.476	1.436	1.399	1.337
10.8	1.679	1.666	1.619	1.566	1.518	1.476	1.434	1.427	1.390	1.355	1.294
12.0	1.657	1.629	1.576	1.526	1.480	1.439	1.401	1.395	1.362	1.332	1.279

PGE MkBW Fuel MARPs

← Axial Peak →

Core Height (ft)	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1
0.12	1.5491	1.5942	1.6385	1.6771	1.7127	1.6988	1.7053	1.6439	1.5837	1.5400
1.2	1.5491	1.5933	1.6346	1.6743	1.7087	1.6688	1.6788	1.6194	1.5626	1.5152
2.4	1.5518	1.5942	1.6331	1.6686	1.6787	1.6281	1.6435	1.5867	1.5326	1.4800
3.6	1.5545	1.5942	1.6300	1.6621	1.6400	1.5888	1.6012	1.5506	1.5011	1.4395
4.8	1.5555	1.5917	1.6238	1.6414	1.5987	1.5494	1.5624	1.5122	1.4626	1.4029
6.0	1.5564	1.5875	1.6138	1.5979	1.5553	1.5106	1.5235	1.4761	1.4289	1.3619
7.2	1.5545	1.5808	1.5938	1.5529	1.5073	1.4613	1.4765	1.4344	1.3921	1.3271
8.4	1.5464	1.5633	1.5454	1.5021	1.4587	1.4163	1.4294	1.3878	1.3484	1.2824
9.6	1.5345	1.5300	1.4900	1.4521	1.4113	1.3731	1.3882	1.3489	1.3126	1.2500
10.8	1.5145	1.4850	1.4423	1.4007	1.3607	1.3256	1.3435	1.3083	1.2726	1.2090
12.0	1.4827	1.4400	1.3985	1.3600	1.3227	1.2875	1.3076	1.2750	1.2442	1.1890