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June 27, 2001  
2130-01-20131

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

Subject: Oyster Creek Generating Station  
Docket No. 50-219  
Core Operating Limits Report for Cycle 18

Enclosed in this letter is the Revised Core Operating Limits Report for Operating Cycle 18 at the Oyster Creek Generating Station (Topical Report – 066, Revision 12). This information was prepared in accordance with Technical Specification 6.9.1.f.

If any additional information or assistance is required, please contact Mr. John Rogers of my staff at 609.971.4893.

Very truly yours,



Ron J. DeGregorio, Vice President  
Oyster Creek Generating Station

RJD/JJR

cc: Administrator, Region I  
NRC Senior Project Manager  
Senior Resident Inspector

A001

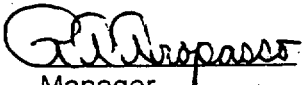
Oyster Creek Cycle 18  
Core Operating Limits Report


Topical Report - 066  
Rev. 12

BA Number 335400

May 2001

Prepared by: M. P. Hynes

Approved:  5/18/01  
Manager Date  
Nuclear Design – BWR Branch

Approved:  5/18/01  
Director Date  
Nuclear Fuel Management

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## INTRODUCTION

Generic Letter 88-16 provides guidance for Technical Specification Changes concerning cycle-specific limits. The generic letter provides a vehicle for the removal of cycle specific parameters from the Technical Specifications and the maintenance of these values within a Core Operating Limits Report (COLR). The Technical Specification modification also establishes reporting requirements and includes definitions supporting the proposed changes. The COLR, including mid-cycle revisions, will be provided for each reload cycle.

This COLR has been prepared in accordance with the requirements of OC Technical Specification 6.9.1.f. The information in this report was reviewed and approved for use at Oyster Creek by means of the Cycle 18 Reload Information and Safety Analysis Report (TR-133, Revision 1) dated April 2001 (Reference 7). The Cycle 18 fuel/core operating limits were generated using the NRC-approved codes and methodologies identified in References 1 through 6.

For each GE fuel design, the APLHGR limits provided in the COLR for operation with less than five loops are calculated to be the same as the five-loop limits at all exposure levels provided a non-operating loop is not an ISOLATED RECIRCULATION LOOP. If a non-operating loop is ISOLATED, both the suction and discharge valves are in the closed position as defined in Reference 6, then a 0.98 MAPHLGR multiplier must be applied at all exposure levels. Only one ISOLATED non-operating loop is permitted. Requirements for operation with recirculation loops out-of-service are provided in Technical Specification 3.3.F.2.

During power operation thermal margins should be maintained within the specified limits. If at any time during power operation it is determined by normal surveillance that the limiting value for APLHGR (Figures 1 and 2), LLHGR (Figure 5) or CPR (Figure 3) is being exceeded, action shall be initiated to restore operation to within the prescribed limits as specified in Technical Specification Section 3.10.

## REFERENCES

1. Letter from J. N. Donahew, Jr. (NRC) to P.B. Fiedler (GPUN) dated November 14, 1986, "Reload Topical Report TR 020, Rev 0 (TAC6039)."
2. Letter from A. W. Dromerick (NRC) to P.B. Fiedler (GPUN) dated September 27, 1987, GPU Nuclear Corp. (GPUN) Topical Report TR 021, Revision 0, "Methods for the analysis of Boiling Water Reactors Steady State Physics."
3. Letter from A. W. Dromerick (NRC) to P.B. Fiedler (GPUN) dated March 21, 1988, GPU Nuclear Corp. (GPUN) Topical Report TR 033, Revision 0, "Methods for the Generation of Core Kinetics Data for RETRAN-02 (TAC No. 65138)."
4. Letter from A. W. Dromerick (NRC) to P.B. Fiedler (GPUN) dated March 21, 1988, GPU Nuclear Corp. (GPUN) Topical Report TR 040, Revision 0, "Steady State and Quasi-Steady State Methods for Analyzing Accidents and Transients (TAC No. 65139)."
5. Letter from A. W. Dromerick (NRC) to E.E. Fitzpatrick (GPUN) dated October 12, 1988, GPU Nuclear Corp. (GPUN) Topical Report TR 045, Revision 0, "BWR-2 Transient Analysis Model using the RETRAN Code (TAC No. 66358)."
6. "Oyster Creek NGS SAFER/CORECOOL/GESTR-LOCA Loss-of-Coolant Accident Analysis," NEDE-31462P August 1987
7. "Reload Information and Safety Analysis Report for Oyster Creek Cycle 18 Reload, GPUN TR-133 Revision 1, April 2001
8. Letter from A. W. Dromerick (NRC) to E. E. Fitzpatrick (GPUN) dated October 31, 1988 "Issuance of Amendment No. 129 (TAC No. 67743)."
9. "General Electric Standard Application for Reload Fuel," NEDE-240011-P-A-14 June 2000
10. Letter WHO: 94-036, W.H. Hetzel (GE) to R.V. Furia (GPUN) dated July 29, 1994, "MAPLHGR Report for Oyster Creek Reload Fuel Bundles."

FIGURE 1

GE9B-P8DWB348-12GZ-80M-145-T  
MAPLHGR LIMITS

Technical Specification 3.10.A

DATA POINTS

Exposure GWD/MT	LATTICES			
	PSZ KW/FT	DOM KW/FT	SDZ KW/FT	NATU KW/FT
0.22	10.89	10.23	9.81	10.76
1.10	10.97	10.32	9.92	10.59
3.31	11.14	10.61	10.28	10.62
5.51	11.30	10.94	10.68	10.76
8.82	11.26	11.26	11.13	10.93
11.02	11.21	11.21	11.21	10.99
13.78	11.15	11.15	11.15	10.76
16.53	10.83	10.83	10.83	10.38
19.29	10.05	10.05	10.05	9.99
22.05	9.93	9.93	9.93	9.60
27.56	9.74	9.74	9.74	8.81
38.58	9.28	9.45	9.43	7.24
48.12				4.78
49.60	7.85	7.97	7.96	
56.49			5.88	
56.62		5.87		
56.87	5.67			

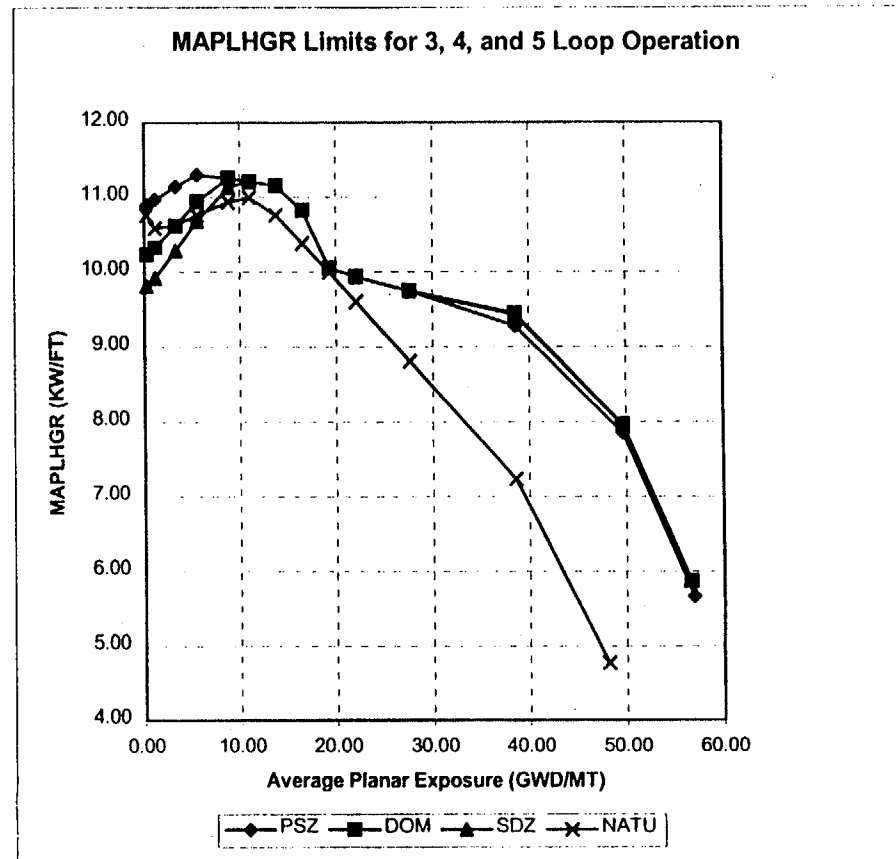


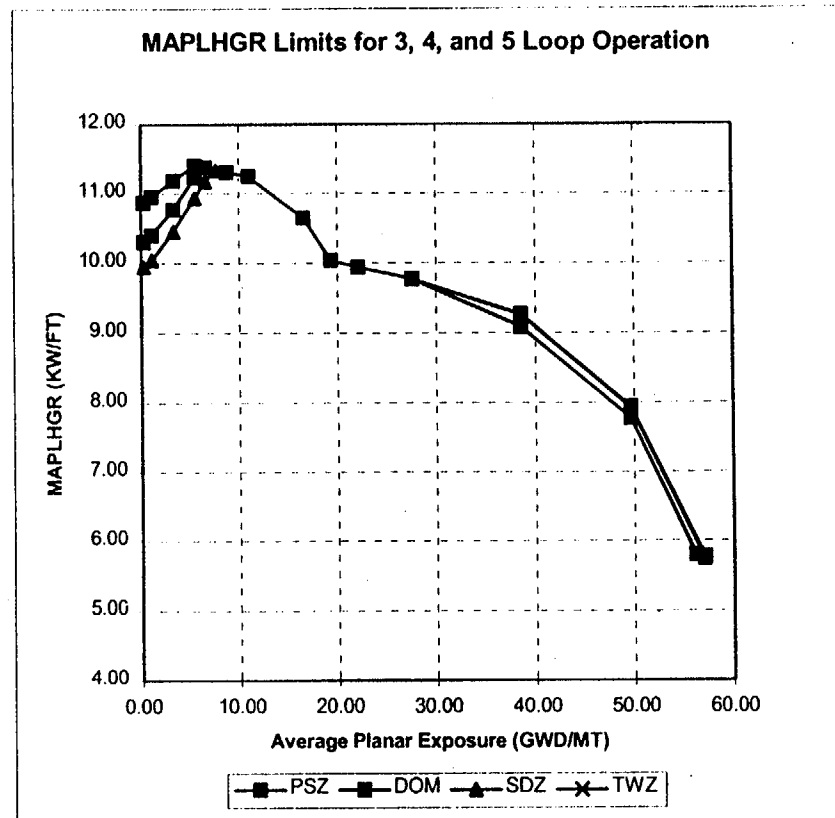
FIGURE 2

GE9B-P8DWB338-11GZ-80M-145-T  
MAPLHGR LIMITS

Technical Specification 3.10.A

DATA POINTS

Exposure GWD/MT	LATTICES			
	PSZ KW/FT	DOM KW/FT	SDZ KW/FT	TWZ KW/FT
0.22	10.87	10.30	9.95	10.87
1.10	10.96	10.40	10.05	10.96
3.31	11.19	10.77	10.45	11.19
5.51	11.41	11.23	10.94	11.41
6.61	11.38	11.38	11.18	11.38
7.72			11.34	
8.82	11.31	11.31		11.31
11.02	11.25	11.25	11.25	11.25
16.53	10.65	10.65	10.65	10.65
19.29	10.04	10.04	10.04	10.04
22.05	9.94	9.94	9.94	9.94
27.56	9.77	9.77	9.77	9.77
38.58	9.08	9.27	9.26	9.09
49.60	7.77	7.93	7.92	7.77
56.17				5.80
56.20	5.79			
57.01			5.74	
57.06		5.77		



**FIGURE 3**

MINIMUM CRITICAL POWER RATIO (MCPR) - Tech  
Spec 3.10.C

APRM STATUS	<u>MCPR LIMIT</u>
1. If any two (2) LPRM assemblies which are input to the APRM system and are separated in distance by less than three (3) times the control rod pitch contain a combination of three (3) out of four (4) detector located in either the A and B or C and D levels which are failed or bypassed (i.e., APRM channel or LPRM input bypassed or inoperable)	1.58
2. If any LPRM input to the APRM system at the B, C, or D level is failed or bypassed or any APRM channel is inoperable (or bypassed).	1.58
3. All B, C, and D LPRM inputs to the APRM system are operating and no APRM channels are inoperable or bypassed.	1.58



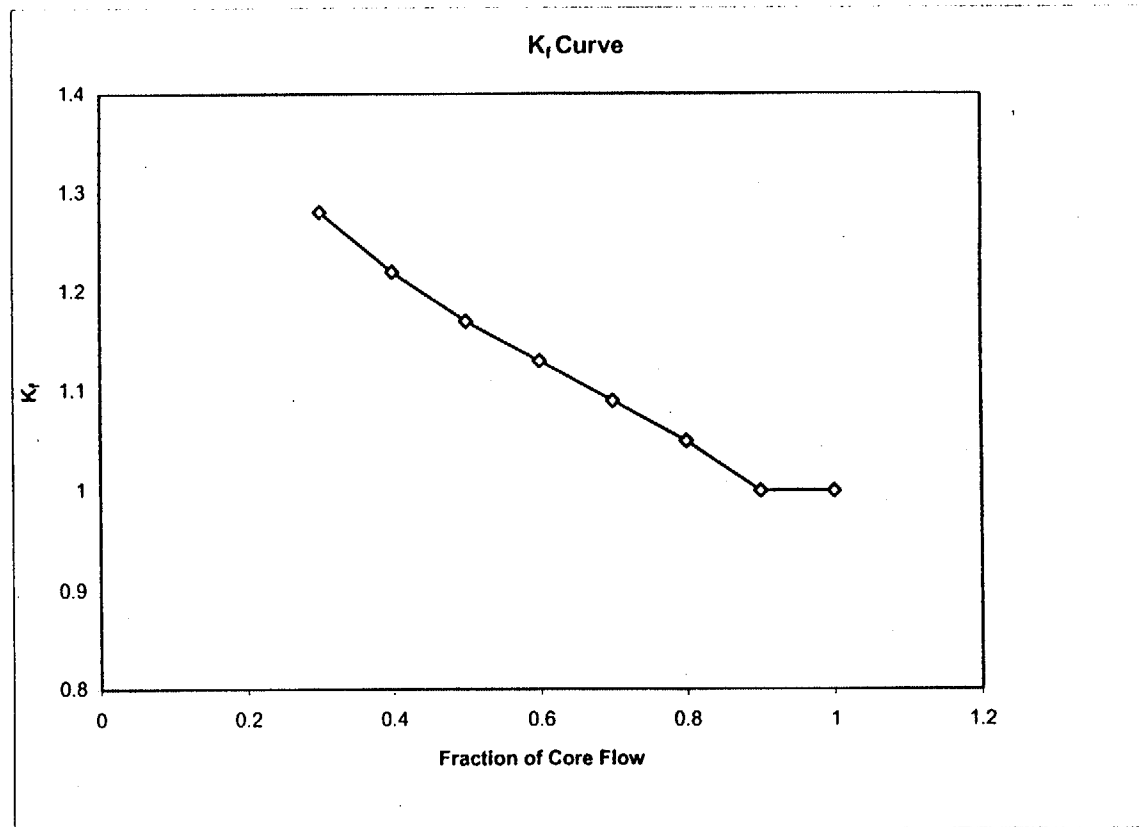
FIGURE 4

Technical Specification 3.10.C

DATA POINTS

FLOW	$K_f$
0.3	1.28
0.4	1.22
0.5	1.17
0.6	1.13
0.7	1.09
0.8	1.05
0.9	1.00
1.0	1.00

Flowmax = 117.0%



NOTE: For Fraction of Core Flow (FCF) less than 0.40 the following adjustment factor must be applied to the curve:  $1.0 + (0.32)(1.22)(0.40 - FCF)$

**FIGURE 5**

LOCAL LINEAR HEAT GENERATION RATE (LLHGR) - Tech Spec 3.10.B

<u>FUEL TYPE</u>	<u>LLHGR Limit</u>
GE8x8NB	$\leq 13.4$ kw/ft