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U. S. Nuclear Regulatory Commission
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Subject: Oconee Nuclear Site Docket No. 50-270
Core Operating Limits Report (COLR)

Gentlemen:

Attached, pursuant to Oconee Technical Specifications 5.6.5, is an information copy of a revision to the Core Operating Limits Report for Oconee Unit 2, cycle 18, rev. 15.

Very truly yours,

W. R. McCollum, Site Vice President
Oconee Nuclear Site

Attachment

A001

xc w/att: Mr. L. A. Reyes, Regional Administrator
U. S. Nuclear Regulatory Commission, Region II

Mr. D. E. LaBarge, Project Manager
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COLR

Page 1 of 1

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Duke Power Company

Oconee 2 Cycle 18

Core Operating Limits Report

QA Condition 1

NOT REVIEWED OR APPROVED BY CFAM 3.13

FOR INFORMATION ONLY

Prepared By : D. W. Harris David W Harris Date : April 6, 2001

Checked By : J. D. Forster Jay D. Forster Date : 06APR2001

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Approved By : R. R. St. Clair R. R. St. Clair Date : 06 APR 01

Oconee 2 Cycle 18

Core Operating Limits Report

Insertion Sheet for Revision 15

This revision is effective April 2001.

Remove these revision 14 pages	Insert these revision 15 pages
1-4	1-4

Revision Log

Revision	Effective Date	Pages Revised	Pages Added	Pages Deleted	Total Effective Pages
Oconee 2 Cycle 18 revisions below					
15	Apr-01	1-4	-	-	31
14	Feb-00	1-4	-	-	31
13	Nov-99	1-31	-	-	31
12	Sep-99	1-31	-	-	31
11	Apr-99	1-4, 6	-	-	0
10	Mar-99	1 - 31	-	-	0
Oconee 2 Cycle 17 revisions below					
9A	Jul-99	1-4	-	-	31
9	Jul-99	1-31	-	-	31
9	Mar-99	1 - 31	-	32 - 38	31
8	May-98	1-3,5,11,32,35		-	38
7	Mar-98	1 - 38	-	-	38
Oconee 2 Cycle 16 revisions below					
6	Oct-96	1-3, 18	-	-	38
5	Mar-96	1 - 34	35 - 38	-	38

Oconee 2 Cycle 18

1.0 Error Adjusted Core Operating Limits

The Core Operating Limits Report for O2C18 has been prepared in accordance with the requirements of ITS 5.6.5. The core operating limits within this report have been developed using NRC approved methodology identified in references 1, 2, 3, 4, 5, 6, and 7. The RPS protective limits and maximum allowable setpoints are documented in references 8, 9, and 13. These limits are validated for use in O2C18 by references 10, 11, and 12. The O2C18 analyses assume a design flow of 107.5% of 88,000 gpm per RCS pump, radial local peaking (Fdh) of 1.714, axial peaking factor (Fz) of 1.5, and an EOC (≤ 100 ppmB) Tavg reduction of up to 10 °F provided 4 RCPs are in operation and Tavg does not decrease below 569 °F.

The error adjusted core operating limits included in section 1 of the report incorporate all necessary uncertainties and margins required for operation of the O2C18 reload core.

1.1 References

1. Nuclear Design Methodology Using CASMO-3 / SIMULATE-3P, DPC-NE-1004A, Revision 0, (SER dated November 23, 1992).

2. Oconee Nuclear Station Reload Design Methodology II, DPC-NE-1002A, Revision 1, (SER dated October 1, 1985).

3. Oconee Nuclear Station Reload Design Methodology, NFS-1001A, Revision 4, (SER dated July 29, 1981).

4. ONS Core Thermal Hydraulic Methodology Using VIPRE-01, DPC-NE-2003P-A, (SER dated July 19, 1989).

5. Thermal Hydraulic Statistical Core Design Methodology, DPC-NE-2005P-A, Revision 2, (SER dated June 8, 1999).

6. Fuel Mechanical Reload Analysis Methodology Using TACO3, DPC-NE-2008P-A, (SER dated April 3, 1995).

7. UFSAR Chapter 15 Transient Analysis Methodology, DPC-NE-3005-PA, Revision 1, (SER dated May 25, 1999).

8. Variable Low Pressure Safety Limit, OSC-4048, Revision 3, July 1998.

9. Power Imbalance Safety Limits and Tech Spec Setpoints Using Error Adjusted Flux-Flow Ratio of 1.094, OSC-5604, Revision 1, November 1998.

10. O2C18 Maneuvering Analysis, OSC-7273, Revision 6, April 2001.

11. O2C18 Specific DNB Analysis, OSC-7333, Revision 0, January 1999.

12. O2C18 Reload Safety Evaluation , OSC-7361, Revision 3, April 2001.

13. ΔTc and EOC Reduced Tavg Operation, OSC-7265, Rev. 0, Duke Power Co., April 2001.

Oconee 2 Cycle 18

Miscellaneous Setpoints

BWST boron concentration shall be greater than 2220 ppm and less than 3000 ppm.
Referred to by ITS 3.5.4.

Spent fuel pool boron concentration shall be greater than 2220 ppm and less than 3000 ppm.
Referred to by ITS 3.7.12.

The equivalent of at least 1100 cubic feet of 11,000 ppm boron shall be maintained in the CBAST.
Referred to by ITS SLC 16.5.13.

CFT boron concentration shall be greater than 1835 ppm. The average boron concentration in the CFT's shall be less than 4000 ppm. Referred to by ITS 3.5.1.

RCS and Refueling canal boron concentration shall be greater than 2220 ppm.
Referred to by ITS 3.9.1.

Shutdown Margin (SDM) shall be greater than 1% Δk/k.
Referred to by ITS 3.1.1.

Moderator Temperature Coefficient (MTC) shall be less than :
Linear interpolation is valid within table provided.
Referred to by ITS 3.1.3.

MTC x 10-4 Δρ / °F	% FP
0.700	0
31.000	15
-0.281	95
-0.300	100
-0.375	120

Departure from Nucleate Boiling (DNB) parameter for RCS loop pressure shall be
Referred to by ITS 3.4.1.
4 RCP: measured hot leg pressure ≥ 2125 psig
3 RCP: measured hot leg pressure ≥ 2125 psig

DNB parameter for RCS loop average temperature shall be:
Referred to by ITS 3.4.1.

The measured Tavg must be less than the temperature specified by an amount equal to the uncertainty corresponding to the instrument from which it is read.
ΔTc is the setpoint value selected by the operators.

	Max Loop Tavg (Incl 2°F unc)	
ΔTc, °F	4 RCP Op	3 RCP Op
0	581.0	581.0 *
1	581.4	581.2
2	581.8	581.4
3	582.1	581.7
4	582.5	581.9
5	582.9	582.1

* This limit is applied to the loop with the lowest loop average temperature consistent with the NOTE in SR 3.4.1.2. All other temperature limits apply to the maximum loop Tavg.

DNB parameter for RCS loop total flow shall be:
Referred to by ITS 3.4.1.
4 RCP: Measured ≥ 107.5 %df
3 RCP: Measured ≥ 74.7 % of 4 RCP min flow

Regulating rod groups shall be withdrawn in sequence starting with group 5, group 6, and finally group 7.
Referred to by ITS 3.2.1.

Regulating rod group overlap shall be 25% ± 5% between two sequential groups.
Referred to by ITS 3.2.1.