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A Duke Energy Company

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U. S. Nuclear Regulatory Commission
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Washington, D. C. 20555

Subject: Oconee Nuclear Site Docket No. 50-269
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 1, Cycle 22, Rev. 23.

Very truly yours,

R. A. Jones Site, Vice President
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Attachment

A001

xc w/att: Mr. W. D. Travers, Regional Administrator
U. S. Nuclear Regulatory Commission, Region II

Mr. L. N. Olshan, Project Manager
Office of Nuclear Reactor Regulation

Mr. Mel Shannon
Senior Resident Inspector
Oconee Nuclear Site

Duke Power Company

FOR INFORMATION ONLY

Oconee 1 Cycle 22

Core Operating Limits Report

QA Condition 1

Prepared By: G. M. Presnell Michael Presnell Date: 1-31-2005

Checked By: J. M. Sanders Date: 1-31-2005

CDR By: S. G. Siry Stephen G. Siry Date: 2/01/05

Approved By: R. R. St. Clair R.R. St. Clair Date: 2/1/05

Document No. / Rev. ONEI-0400-50 Rev. 23
Date January 31, 2005

INSPECTION OF ENGINEERING INSTRUCTIONS

Inspection Waived By: _____ Date: 2/1/05
(Sponsor)

CATAWBA

	Inspection Waived	
MCE (Mechanical & Civil)	☐	Inspected By/Date: _____
RES (Electrical Only)	☐	Inspected By/Date: _____
RES (Reactor)	☐	Inspected By/Date: _____
MOD	☐	Inspected By/Date: _____
Other (_____)	☐	Inspected By/Date: _____

OCONEE

	Inspection Waived	
MCE (Mechanical & Civil)	☑	Inspected By/Date: _____
RES (Electrical Only)	☑	Inspected By/Date: _____
RES (Reactor)	☐	Inspected By/Date: Steve Penuno 1/31/05
MOD	☑	Inspected By/Date: _____
Other (_____)	☐	Inspected By/Date: _____

MCGUIRE

	Inspection Waived	
MCE (Mechanical & Civil)	☐	Inspected By/Date: _____
RES (Electrical Only)	☐	Inspected By/Date: _____
RES (Reactor)	☐	Inspected By/Date: _____
MOD	☐	Inspected By/Date: _____
Other (_____)	☐	Inspected By/Date: _____

Oconee 1 Cycle 22

Core Operating Limits Report

Insertion Sheet for Revision 23

This revision is not valid until the end of operation for Oconee 1 Cycle 21.

Remove these revision 22 pages	Insert these revision 23 pages
1 - 4, 6	1 - 4, 6

Revision Log

Revision	Effective Date	Pages Revised	Pages Added	Pages Deleted	Total Effective Pages
Oconee 1 Cycle 22 revisions below					
23	Feb 2005	1 - 4, 6	-	-	33
22	Dec 2004	1 - 3, 30	-	-	33
21	Feb 2004	1 - 4, 6	-	-	33
20	Nov 2003	1 - 32	33	-	33
Oconee 1 Cycle 21 revisions below					
19	Aug 2003	1, 2, 3	1a	-	32
18	Apr 2002	1, 2, 4	-	-	32
17	Mar 2002	1-31	32	-	32
Oconee 1 Cycle 20 revisions below					
16	May 2001	1-4	-	-	31
15	Nov 2000	1-31	-	-	31

Oconee 1 Cycle 22

1.0 Error Adjusted Core Operating Limits

The Core Operating Limits Report for O1C22 has been prepared in accordance with the requirements of TS 5.6.5. The core operating limits within this report have been developed using NRC approved methodology identified in references 1 through 11. The RPS protective limits and maximum allowable setpoints are documented in references 12 through 14. These limits are validated for use in O1C22 by references 15 through 17. The O1C22 analyses assume a design flow of 107.5% of 88,000 gpm per RCS pump, radial local peaking ($F\Delta h$) of 1.714, and 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 O1C22 reload core.

1.1 References

1. Nuclear Design Methodology Using CASMO-3 / SIMULATE-3P, DPC-NE-1004P-A, 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 5, SER dated December 8, 2000.

4. ONS Core Thermal Hydraulic Methodology Using VIPRE-01, DPC-NE-2003P-A, Revision 1, SER dated June 23, 2000.

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, Revision 0, SER dated April 3, 1995.

7. UFSAR Chapter 15 Transient Analysis Methodology, DPC-NE-3005-PA, Revision 2, SER dated September 24, 2003.

8. DPC-NE-3000P-A, Thermal Hydraulic Transient Analysis Methodology, Rev. 3, SER dated September 24, 2003.

9. BAW-10192-PA, BWNT LOCA - BWNT Loss of Coolant Accident Evaluation Model for Once-Through Steam Generator Plants, SER dated February 18, 1997.

10. BAW-10164P-A, Rev. 4, "RELAP5/MOD2-B&W - An Advanced Computer Program for Light Water Reactor LOCA and Non-LOCA Transient Analysis", SER dated April 9, 2002.

11. BAW-10227-PA, Evaluation of Advanced Cladding and Structural Material (M5) in PWR Reactor Fuel, SER dated February 4, 2000.

12. RPS RCS Pressure & Temperature Trip Function Uncertainty Analyses and Variable Low Pressure Safety Limit, OSC-4048, Revision 4, January 2001.

13. Power Imbalance Safety Limits and Tech Spec Setpoints Using Error Adjusted Flux-Flow Ratio of 1.094, OSC-5604, Revision 2, October 2001.

14. ΔTc and EOC Reduced Tavg Operation, OSC-7265, Rev. 1, Duke Power Co., June 2002.

15. O1C22 Maneuvering Analysis, OSC-8413, Revision 5, February 2005.

16. O1C22 Specific DNB Analysis, OSC-8460, Revision 1, September 2003.

17. O1C22 Reload Safety Evaluation, OSC-8471, Revision 3, February 2005.

Oconee 1 Cycle 22

Steady State Operating Band

EFPD	Rod Index Min	Max	APSR %WD Min	Max
0 to 433	292 ± 5	300	30	40
433 to EOC	292 ± 5	300	30	40

Quandrant Power Tilt Setpoints

Core Power Level, %FP	Steady State 30 - 100	0 - 30	Transient 30 - 100	0 - 30	Maximum 0 - 100
Full Incore	3.50	7.60	7.10	9.39	16.54
Out of Core	2.36	6.09	5.63	7.72	14.22
Backup Incore	2.26	3.87	3.63	4.81	10.07

Referred to by TS 3.2.3.

Correlation Slope (CS)

1.15

Referred to by TS 3.3.1 (SR 3.3.1.3).