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July 31, 2002

U.S. Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, D.C. 20555-0001

Subject: Duke Energy Corporation  
Catawba Nuclear Station Unit 2  
Docket No.: 50-414  
Core Operating Limits Report (COLR)  
Catawba Unit 2 Cycle 12, Revision 21

Attached, pursuant to Catawba Technical Specification 5.6.5,  
is an information copy of the Core Operating Limits Report  
for Catawba Unit 2 Cycle 12, Revision 21.

This letter and attachment do not contain any commitments.

Please direct any questions or concerns to George Strickland  
at (803) 831-3585.

Sincerely,

G. R. Peterson

Attachment

Accol

U. S. Nuclear Regulatory Commission  
July 31, 2002  
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xc w/att:

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U. S. Nuclear Regulatory Commission  
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Catawba Nuclear Site

**Catawba Unit 2 Cycle 12**  
**Core Operating Limits Report**  
**Revision 21**  
**July 2002**

Duke Power Company

	Date
Prepared By: <u>Dandra B Bodi</u>	<u>7/24/02</u>
Checked By: <u>Scott B. Thurman</u>	<u>7/24/02</u>
Checked By: <u>R-J AI - Jlt</u>	<u>7/24/02</u>
Approved By: <u>P. M. Abraham</u>	<u>7/24/02</u>

**QA Condition 1**

The information presented in this report has been prepared and issued in accordance with Catawba Technical Specification 5.6.5.

**Catawba 2 Cycle 12 Core Operating Limits Report**

**IMPLEMENTATION INSTRUCTIONS FOR REVISION 21**

Revision 21 of the Catawba Unit 2 COLR must be implemented to meet the requirements of Technical Specification Amendment 192.

## Catawba 2 Cycle 12 Core Operating Limits Report

### REVISION LOG

<u>Revision</u>	<u>Effective Date</u>	<u>Pages Affected</u>	<u>COLR</u>
Revisions 1-13	N/A	N/A	C2C06 – C2C09
Revision 14	August 1998	N/A	C2C10 COLR
Revision 15	October 1998	N/A	C2C10 COLR rev 1
Revision 16	December 1998	N/A	C2C10 COLR rev 2
Revision 17	February 2000	N/A	C2C11 COLR
Revision 18	February 2001	N/A	C2C11 COLR rev 1
Revision 19	September 2001	ALL	C2C12 COLR
Revision 20	September 2001	1,2,3,4,25,26,27	C2C12 COLR rev 1
Revision 21	July 2002	1-4, 5a, 5b, 5c	C2C12 COLR rev 2

**Catawba 2 Cycle 12 Core Operating Limits Report**

**INSERTION SHEET FOR REVISION 21**

**Remove pages**

1,2,3,4

**Insert Rev. 21 pages**

1,2,3,4,5a,5b,5c

## Catawba 2 Cycle 12 Core Operating Limits Report

### 1.1 Analytical Methods

The analytical methods used to determine core operating limits for parameters identified in Technical Specifications and previously reviewed and approved by the NRC are as follows.

1. WCAP-9272-P-A, "WESTINGHOUSE RELOAD SAFETY EVALUATION METHODOLOGY," (W Proprietary).

Revision 0  
Report Date: July 1985  
Not Used for C2C12

2. WCAP-10054-P-A, "Westinghouse Small Break ECCS Evaluation Model using the NOTRUMP Code," (W Proprietary).

Revision 0  
Report Date: August 1985

3. WCAP-10266-P-A, "THE 1981 VERSION OF WESTINGHOUSE EVALUATION MODEL USING BASH CODE", (W Proprietary).

Revision 2  
Report Date: March 1987  
Not Used for C2C12

4. WCAP-12945-P-A, Volume 1 and Volumes 2-5, "Code Qualification Document for Best-Estimate Loss of Coolant Analysis," (W Proprietary).

Revision: Volume 1 (Revision 2) and Volumes 2-5 (Revision 1)  
Report Date: March 1998

5. BAW-10168P-A, "B&W Loss-of-Coolant Accident Evaluation Model for Recirculating Steam Generator Plants," (B&W Proprietary).

Revision 1  
SER Date: January 22, 1991  
Revision 2  
SER Dates: August 22, 1996 and November 26, 1996.  
Revision 3  
SER Date: June 15, 1994.  
Not Used for C2C12

## Catawba 2 Cycle 12 Core Operating Limits Report

### 1.1 Analytical Methods (continued)

6. DPC-NE-3000PA, "Thermal-Hydraulic Transient Analysis Methodology," (DPC Proprietary).  
  
Revision 2  
SER Date: October 14, 1998
7. DPC-NE-3001PA, "Multidimensional Reactor Transients and Safety Analysis Physics Parameter Methodology," (DPC Proprietary).  
  
Revision 0  
Report Date: November 1991
8. DPC-NE-3002A, "FSAR Chapter 15 System Transient Analysis Methodology".  
  
Revision 3  
SER Date: February 5, 1999
9. DPC-NE-2004P-A, "Duke Power Company McGuire and Catawba Nuclear Stations Core Thermal-Hydraulic Methodology using VIPRE-01," (DPC Proprietary).  
  
Revision 1  
SER Date: February 20, 1997
10. DPC-NE-2005P-A, "Thermal Hydraulic Statistical Core Design Methodology," (DPC Proprietary).  
  
Revision 1  
SER Date: November 7, 1996
11. DPC-NE-2008P-A, "Fuel Mechanical Reload Analysis Methodology Using TACO3," (DPC Proprietary).  
  
Revision 0  
SER Date: April 3, 1995
12. DPC-NE-2009-P-A, "Westinghouse Fuel Transition Report," (DPC Proprietary).  
  
Revision 0  
SER Date: September 22, 1999
13. DPC-NE-1004A, "Nuclear Design Methodology Using CASMO-3/SIMULATE-3P."  
  
Revision 1  
SER Date: April 26, 1996

## Catawba 2 Cycle 12 Core Operating Limits Report

### 1.1 Analytical Methods (continued)

14. DPC-NF-2010A, "Duke Power Company McGuire Nuclear Station Catawba Nuclear Station Nuclear Physics Methodology for Reload Design."

Revision 0  
Report Date: June 1985

15. DPC-NE-2011PA, "Duke Power Company Nuclear Design Methodology for Core Operating Limits of Westinghouse Reactors," (DPC Proprietary).

Revision 0  
Report Date: March 1990