

**McGuire Unit 1 Cycle 10**  
**Core Operating Limits Report**

**October 1994**

**(rev. 1)**

**Duke Power Company**

		Date
Prepared By:	<u>David E. Botz</u>	<u>10/18/94</u>
Checked By:	<u>[Signature]</u>	<u>18 Oct 94</u>
Checked By:	<u>Christy L. Ray</u>	<u>10/18/94</u>
Approved By:	<u>R H Clark</u>	<u>10/18/94</u>

**QA Condition 1**

**NOTE**

The contents of this document have been reviewed to verify that no material herein either directly or indirectly changes or affects the results and conclusions presented in the 10CFR50.59 M1C10 Reload Safety Evaluation (calculation file: MCC-1552.08-00-0245).

**McGuire 1 Cycle 10 Core Operating Limits Report****REVISION LOG**

<u>Revision</u>	<u>Effective Date</u>	<u>Effective Pages</u>	<u>COLR</u>
Original Issue	May 24, 1993	Pages 6, 12, 13, 15-153	M1C09
Revision 1	May 27, 1993	Page 9	M1C09
Revision 2	February 24, 1994	Page 8	M1C09
Revision 3	June 20, 1994	Pages 1-3, 3A, 4, 5, 5A, 5B, 7, 7A, 10, 11, 14, 14A	M1C09
Revision 4	September 13, 1994	Pages 5 -9, 11 -18	M1C10
Revision 5	October 18, 1994	Pages 1 - 4, 10, 19	M1C10

## McGuire 1 Cycle 10 Core Operating Limits Report

### INSERTION SHEET

#### Remove pages

Pages 1- 4, 10 and 19 (rev. 4)

#### Insert . pages

Pages 1- 4, 10 and 19 (rev. 5)

## McGuire 1 Cycle 10 Core Operating Limits Report

### 1.0 Core Operating Limits Report

The Core Operating Limits Report, (COLR) for McGuire Unit 1, Cycle 10 has been prepared in accordance with the requirements of Technical Specification 6.9.1.9.

The Technical Specifications affected by this report are listed below, along with the location of the affected Technical Specification within this report.

Technical Specifications	Section	Page
2.2.1 - Reactor Trip System Instrumentation Setpoint	2.0	5
3/4.1.1.3 - Moderator Temperature Coefficient	3.0	7
3/4.1.2.5 - Borated Water Source - Shutdown	3.1	9
3/4.1.2.6 - Borated Water Source - Operating	3.2	10
3/4.1.3.5 - Shutdown Rod Insertion Limit	3.3	10
3/4.1.3.6 - Control Rod Insertion Limit	3.4	10
3/4.2.1 - Axial Flux Difference	3.5	10
3/4.2.2 - Heat Flux Hot Channel Factor	3.6	13
3/4.2.3 - Nuclear Enthalpy Rise Hot Channel Factor	3.7	16
3/4.5.1.1 - Accumulators	3.8	18
3/4.5.5 - Refueling Water Storage Tank	3.9	18
3/4.9.1 - Refueling Operations Boron Concentration	3.10	19
3/4.9.12 - Fuel Storage - Spent Fuel Storage Pool	3.11	19

## McGuire 1 Cycle 10 Core Operating Limits Report

### 3.2 Tech Spec 3/4.1.2.6 - Borated Water Source - Operating

#### 3.2.1 Volume and boron concentrations for the Boric Acid Storage System and the Refueling Water Storage Tank (RWST) during modes 1, 2, 3, & 4:

<u>Parameter</u>	<u>Limit</u>
Boric Acid Storage System minimum contained borated water volume for LCO 3.1.2.6a	20,453 gallons
Boric Acid Storage System minimum boron concentration for LCO 3.1.2.6a	7,000 ppm
Boric Acid Storage System minimum water volume required to maintain SDM at 7,000 ppm	9,851 gallons
Refueling Water Storage Tank minimum contained borated water volume for LCO 3.1.2.6b	91,000 gallons
Refueling Water Storage Tank minimum boron concentration for LCO 3.1.2.6b	2,175 ppm
Refueling Water Storage Tank maximum boron concentration for LCO 3.5.5b	2,275 ppm
Refueling Water Storage Tank minimum water volume required to maintain SDM at 2,175 ppm	57,107 gallons

### 3.3 Tech Spec 3/4.1.3.5 - Shutdown Rod Insertion Limit

3.3.1 The shutdown rods shall be withdrawn to at least 222 steps.

### 3.4 Tech Spec 3/4.1.3.6 - Control Rod Insertion Limits

3.4.1 The control rod banks shall be limited to physical insertion as shown in Figure 2.

### 3.5 Tech Spec 3/4.2.1 - Axial Flux Difference

3.5.1 The Axial Flux Difference (AFD) Limits are provided in Figure 3.

## McGuire 1 Cycle 10 Core Operating Limits Report

### 3.10 Tech Spec 3.4.9.1 - Refueling Operations - Boron Concentration

- 3.10.1 Minimum boron concentrations for the filled portions of the Reactor Coolant System and refueling canal. Applicable for mode 6 with the reactor vessel head closure bolts less than fully tensioned, or with the head removed.

<u>Parameter</u>	<u>Limit</u>
Refueling boron concentration for the filled portions of the Reactor Coolant System and refueling canal for LCO 3.9.1.b.	2175 ppm

### 3.11 Tech Spec 3/4.9.12 - Fuel Storage - Spent Fuel Storage Pool

- 3.11.1 Minimum boron concentration limit for the spent fuel pool. Applicable when fuel is stored in the spent fuel pool.

<u>Parameter</u>	<u>Limit</u>
Spent fuel pool minimum boron concentration for LCO 3.9.12.a.	2175 ppm
Spent fuel pool minimum boron concentration for surveillance 4.9.12b.	2175 ppm

---

#### Note:

Data contained in Tables in the Appendix to this document were generated in the McGuire 1 Cycle 10 Maneuvering Analysis calculational file (MCC-1553.05-00-0119.) The McGuire Reactor Engineering Group will control this information via computer file(s) and should be contacted if there is a need to access this information.