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Vice President  
Nuclear Licensing

May 24, 2010

10 CFR 50.4  
10 CFR 50.55a

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

Browns Ferry Nuclear Plant, Unit 2  
Facility Operating License No. DPR-52  
NRC Docket No. 50-260

Subject: **American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, System Pressure Test Program for the Fourth 10-Year Inspection Interval**

The Tennessee Valley Authority is submitting the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, System Pressure Test (SPT) Program for the Fourth 10-Year Inspection Interval for Unit 2 of the Browns Ferry Nuclear Plant (BFN). The Code of Record for the Fourth 10-Year Interval SPT Program is the 2004 Edition of the ASME Boiler and Pressure Vessel Code, Section XI. The Fourth 10-Year Interval for BFN, Unit 2, commences on May 25, 2011 and ends on May 24, 2021.

The applicable regulation, 10 CFR 50.55a(g), requires that SPT examinations of ASME components of a water-cooled nuclear power facility meet the requirements of the ASME Section XI Code. Additionally, 10 CFR 50.55a(g)(4)(ii) requires that the SPT program be updated every 120 months to the latest NRC approved Edition and Addenda of the ASME Section XI Code, which is in effect 12 months prior to the start of the next 120-month Inspection Interval. The enclosed BFN, Unit 2, SPT program update satisfies that requirement.

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The enclosure to this letter contains the updated BFN, Unit 2, ASME Section XI SPT Program for the Fourth 10-Year Inspection Interval, which conforms to the 2004 Edition of the ASME Section XI Code. There are no requests for relief submitted as a part of this SPT program update.

There are no new regulatory commitments contained in this letter. If you have any questions, please contact Terry Cribbe at (423) 751-3850.

Respectfully,



R. M. Krich

Enclosure: American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, System Pressure Test Program for the Fourth 10-Year Inspection Interval

cc (Enclosure):

NRC Regional Administrator - Region II  
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant

**Enclosure**

**Tennessee Valley Authority  
Browns Ferry Nuclear Plant  
Unit 2**

**American Society of Mechanical Engineers Boiler and Pressure Vessel Code,  
Section XI, System Pressure Test Program for the  
Fourth 10-Year Inspection Interval**

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(See Attached)

Browns Ferry Nuclear Plant  
Unit 2

ASME, Section XI, System Pressure Test Program  
for the Fourth 10-Year Inspection Interval

Inservice Pressure Test Program

Owner : Tennessee Valley Authority

Address of Corporate Office : Chattanooga Office Complex  
1101 Market Street  
Chattanooga, Tennessee 37402-2801

Name and Address of Nuclear Power Plant : Browns Ferry Nuclear Plant  
Post Office Box 2000  
Decatur, Alabama 35609-2000

Applicable Nuclear Units : Browns Ferry Nuclear Plant  
Unit 2

Commercial Operation Date : March 1, 1975

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## 1.0 Statement of Applicability

This program outlines the requirements for performing American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code, Section XI system pressure tests during the fourth inspection interval for Browns Ferry Nuclear Plant (BFN) Unit 2 systems which are classified ASME Code Class 1, 2 or 3 or equivalent, and contain water, steam or radioactive waste (other than radioactive waste management system).

Pressure tests will be performed in accordance with the ASME Section XI editions, addenda, and code cases, NRC approved requests for relief and additional provisions specified below or provisions approved by the NRC at a later date. Details concerning performance of system pressure tests are not part of this program description, but are contained in plant surveillance instructions. Performance of pressure tests required because of Repair/Replacement activities will be prescribed and controlled by the work documents performing the Repair/Replacement work.

The requirements of this program are applicable during the fourth 10-year inspection interval which begins on May 25, 2011.

## 2.0 Purpose

This program is designed to meet the requirements of Section XI of the ASME Boiler and Pressure Vessel Code which pertain to the inservice pressure testing of pressure retaining Code Class 1, 2 and 3 components, and pressure testing required following Repair/Replacement activities, at BFN Unit 2 during the fourth inspection interval. Compliance with Section XI of the ASME Boiler and Pressure Vessel Code is required by Part 50 of Title 10 of the Code of Federal Regulations.

## 3.0 Inspection Interval and Inspection Periods

The fourth 10-year inspection interval for BFN Unit 2 begins on May 25, 2011. The fourth 10-year inspection interval will be divided into three inspection periods as shown below and will end in May 2021. The dates of the three inspection periods are as follows:

First inspection period - May 25, 2011 to May 24, 2014  
Second inspection period - May 25, 2014 to May 24, 2018  
Third inspection period - May 25, 2018 to May 24, 2021

4.0 Codes of Record

4.1 Primary Code Edition

This inservice system pressure test program is prepared to meet the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, 2004 Edition.

4.2 Adopted Portions of Later Editions and Addenda

None.

4.3 Adopted ASME Section XI Code Cases  
(as approved by NRC Regulatory Guide 1.147)

Code Case N-566-2 - Corrective Actions for Leakage Identified at bolted Connections – for systems containing boron for the purpose of controlling reactivity

Code Case N-686 - Alternative Requirements for Visual Examinations, VT-1, VT-2, and VT-3

5.0 Requests for Relief

None.

6.0 Tentative System Pressure Test Schedule

Tennessee Valley Authority  
Browns Ferry Nuclear Plant, Unit 2

System Description	Code Class	Unit 2 Fuel Cycle					
		17	18	19	20	21	22
Reactor Recirculation (Primary System)	1	L <sup>1</sup>	L <sup>1</sup>	L <sup>1</sup>	L <sup>1</sup>	L <sup>1,4</sup>	<sup>5</sup>
Small Bore Primary System Piping	2		L	L <sup>2</sup>		L	
Main Steam System	2		L	L <sup>2</sup>		L	
Fuel Pool Cooling	3		L	L <sup>2</sup>		L	
Standby Liquid Control	2		L	L <sup>2</sup>		L	
Core Spray	2		L	L <sup>2</sup>		L	
Residual Heat Removal – Common Suction	2		L	L <sup>2</sup>		L	
Residual Heat Removal – Injection Loops	2		L		L <sup>3</sup>	L	
High Pressure Coolant Injection	2		L		L <sup>3</sup>	L	
Reactor Core Isolation Cooling	2		L		L <sup>3</sup>	L	
RHR Service Water	3	L		L <sup>2</sup>		L	
Emergency Equipment Cooling Water	3		L		L <sup>3</sup>	L	

Legend: L - System leakage test {ASME Section XI, IWA-5211(a)}

Notes:

- <sup>1</sup> - At the end of the cycle refueling outage, prior to startup
- <sup>2</sup> - After 5/25/2014
- <sup>3</sup> - Before 5/24/2018
- <sup>4</sup> - All Class 1 pressure retaining components {ASME Section XI, IWB-5222(b)}
- <sup>5</sup> - U2R22 refueling outage will fall within the following 10-year interval

Note: ASME Section XI Code references in this section are from the 2004 Edition.

**Tennessee Valley Authority  
Browns Ferry Nuclear Plant, Unit 2**

**System Pressure Test Program Procedures and  
ASME Section XI Code Category and Item Number**

<b>Procedure Number</b>	<b>ASME Section XI Code Category / Item Number</b>
2-SI-3.3.1.A and 2-TI-358 Primary System Leakage Test (including Scram Discharge Volume)	B-P / B15.10 C-H / C7.10
2-SI-3.3.1.C Main Steam	C-H / C7.10
2-SI-3.3.1.D and 2-TI-358 Primary System Small Bore	C-H / C7.10
2-SI-3.3.3 Fuel Pool Cooling	D-B / D2.10
2-SI-3.3.4 Standby Liquid Control	C-H / C7.10
2-SI-3.3.6 Core Spray	C-H / C7.10
2-SI-3.3.8.A RHR Loop I	C-H / C7.10
2-SI-3.3.8.B RHR Common Suction	C-H / C7.10
2-SI-3.3.8.C RHR Loop II	C-H / C7.10
2-SI-3.3.9 HPCI	C-H / C7.10
2-SI-3.3.10 RCIC	C-H / C7.10
2-SI-3.3.13 RHRSW	D-B / D2.10
2-SI-3.3.13.C RHRSW (pits)	D-B / D2.10
2-SI-3.3.14.A EECW North Header	D-B / D2.10
2-SI-3.3.14.B EECW South Header	D-B / D2.10
2-SI-3.3.14.C EECW (pits)	D-B / D2.10

Note: ASME Section XI Code references in this section are from the 2004 Edition, Tables IWB-2500-1, IWC-2500-1, and IWD-2500-1.