



Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

February 2, 2017

10 CFR 50.55a

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

Browns Ferry Nuclear Plant, Unit 1
Renewed Facility Operating License No. DPR-33
NRC Docket No. 50-259

Subject: **American Society of Mechanical Engineers Section XI, Inservice Inspection, System Pressure Test, Containment Inservice Inspection, and Repair and Replacement Programs - Owner's Activity Report for Browns Ferry Nuclear Plant, Unit 1, Cycle 11 Operation**

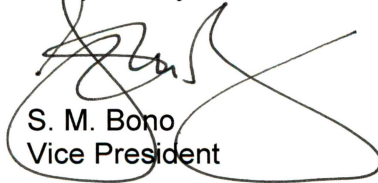
The Tennessee Valley Authority is submitting the Browns Ferry Nuclear Plant (BFN), American Society of Mechanical Engineers (ASME), Section XI, Owner's Activity Report for BFN, Unit 1, Cycle 11 Operation. The report is contained in the enclosure to this letter and is in accordance with the requirements of ASME Code Case N-532-4, Repair/Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission, Section XI, Division 1.

The report is an overview of the inservice examination results that were performed on components within the ASME Section XI boundary, up to and including the BFN, Unit 1, Cycle 11 refueling outage, during the first inspection period of the Third 10 Year Inspection Interval. The applicable provisions of the ASME Code Case N-532-4 require that this report be submitted within 90 calendar days of the completion of each refueling outage. The BFN, Unit 1, Cycle 11 refueling outage ended on November 4, 2016. Accordingly, this submittal is due by February 2, 2017.

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There are no new regulatory commitments contained in this letter. Should you have any questions concerning this submittal, please contact M. W. Oliver, Nuclear Site Licensing Manager, at (256) 729-2636.

Respectfully,



S. M. Bono
Vice President

Enclosure:

American Society of Mechanical Engineers, Section XI, Third 10 Year Inspection Interval, Inservice Inspection, System Pressure Test, Containment Inspection, and Repair and Replacement Programs, Owner's Activity Report for Browns Ferry Nuclear Plant, Unit 1, Cycle 11 Operation

cc (Enclosure):

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

Enclosure

Tennessee Valley Authority

**Browns Ferry Nuclear Plant
Unit 1**

**American Society of Mechanical Engineers,
Section XI, Third 10 Year Inspection Interval, Inservice Inspection,
System Pressure Test, Containment Inservice Inspection,
and Repair and Replacement Programs,
Owner's Activity Report for Browns Ferry Nuclear Plant, Unit 1, Cycle 11 Operation**

See Enclosed

FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number BFN1R11

Plant Browns Ferry Nuclear Plant, P.O. Box 2000, Decatur, AL 35609

Unit No. 1 Commercial service date August 1, 1974 Refueling Outage no. Refueling Outage 11
(if applicable)

Current Inspection Interval Third Ten Year Inspection Interval
(1st, 2nd, 3rd, other)

Current Inspection Period 1st Period
(1st, 2nd, 3rd)

Edition and Addenda of Section XI applicable to the inspection plans 2007 Edition through 2008 Addenda

Date and Revision of inspection plan 1-SI-4.6.G, Revision 0034, 10/13/2016

Edition and Addenda of Section XI applicable to repairs and replacements, if different than the inspection plan N/A

Code Cases used: N-508-4, N-526, N-532-5, N-586-1, N-600, N-613-1, N-648-1, N-661-2, N-716-1, N-735, N-747, N-751, and N-753
(if applicable)

CERTIFICATE OF CONFORMANCE

I certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the Inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of U1R11 conform to the requirements of Section XI.
(refueling outage number)

Signed


Owner or Owner's Designee, Title

Date

1-30-17

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the items described in this Owner's Activity Report and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair/replacement activities and evaluation described in this report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this Inspection.


Inspector's Signature

Commissions

NB 13977 I, N, R

National Board Number and Endorsements

Date

1/30/17

FORM OAR-1 OWNER'S ACTIVITY REPORT

Table 1
Items with Flaws or Relevant Conditions That Required Evaluation for Continued Service

Examination Category and Item Number	Item Description	Evaluation Description
B-D, Item B3.90 [NOI-U1R11-010]	Subsurface indications detected during automated ultrasonic (UT) examination of N4A Feedwater Nozzle to Vessel weld.	<p>EVALUATED ACCEPTABLE (No Corrective Measures Required.) The subsurface indications detected during automated UT examination of the N4A Feedwater Nozzle to Vessel weld in the vicinity of N4A Feedwater Nozzle were characterized in General Electric (GE) inspection report R-078. Each individual indication was determined to meet the acceptance standards of American Society of Mechanical Engineers (ASME) Code Section XI IWB-3500, however, when the indications were grouped using the proximity standards of IWA 3300, several groups of indications required further evaluation per the flaw evaluation methods of IWB-3600.</p> <p>An ASME Code Section XI Flaw Evaluation of Indications in N4A Feedwater Nozzle to Vessel Weld was performed. This evaluation concluded the indications found during the inservice inspection of the N4A Feedwater Nozzle to Vessel weld were acceptable and meet the requirements of ASME Code, Section XI, IWB 3610. Successive examinations as required by ASME Section XI, IWB-2420(b) and (c) are not required per ASME Section XI, Code Case N-526.</p>

FORM OAR-1 OWNER'S ACTIVITY REPORT

Table 2
Abstract of Repair/replacement Activities Required for Continued Service

Code Class	Item Description	Description of Work	Date Completed	Repair/Replacement Plan Number
2	BFN-1-LA-085-0045M, EAST SDV LEVEL HIGH ROD BLOCK	Replace East SCRAM Discharge Volume Rod Withdrawal Block Level Sensor Switch	12/11/2014	116264259
3	BFN-1-SHV-023-0571, RHR HX 1D DEMIN WATER INLET	Replace 1-1/2 inch Demineralized Water to Residual Heat Removal Service Water (RHRSW) piping and elbow downstream of 1-SHV-23-571.	8/20/2015	117081832
3	BFN-1-SHV-023-0552, RHR HTX 1C DEMIN WATER INLET	Replace Unit 1C Residual Heat Removal Service Water (RHRSW) Heat Exchanger Demineralized Water Branch Line (piping and elbows) downstream of BFN-1-SHV-023-0552	5/6/2016	117235018
2	BFN-1-ACC-085-718/0243, SCRAM WATER ACCUMULATOR	Replace Scram Water Accumulator with NOVA Stainless Steel Accumulator	10/17/2016	117085221
2	BFN-1-ACC-085-718/1807, SCRAM WATER ACCUMULATOR	Replace Scram Water Accumulator with NOVA Stainless Steel Accumulator	11/6/2016	114977939

FORM OAR-1 OWNER'S ACTIVITY REPORT

Summary of IWE Indications for U1R11

The summary table below is provided in accordance with the requirements of 10 CFR 50.55a(b)(2)(ix)(A) and 10 CFR 50.55a(b)(2)(ix)(D).

Examination Category and Item Number	Component Identifier	Indication Description	Acceptability/Corrective Action	Inaccessible Area (Location and Evaluation)	Additional Samples
E-A, Item E1.12 [NOI-U1R11-002]	PSC INT-1-1B to 16B (Pressure Suppression Chamber Interior - Wetted Surfaces of Submerged Areas)	Pitting, Mechanical Damage, and Corrosion	EVALUATED ACCEPTABLE (No Corrective Measures Required.) The condition identified is pitting, mechanical damage, and corrosion identified in Bay 1: 132.7 mils, Bay 12: 77 mils, Bay 13: 80.3 mils and 75.3 mils, and Bay 15: 149 mils. The pitting and localized spot corrosion identified is the result of coating failures in the areas noted in Bays 1, 13, and 15. The coating failures are consistent with surface preparation deficiencies, irregular surfaces, and inadequate coating application. Minor mechanical damage to the coating caused by work activities impacting the coated surface is a contributing factor. One indication in Bay 12 was the result of mechanical damage affecting the substrate. The indication was 0.25" wide and 1" long consistent with damage caused by work activities impacting the coated surface. An evaluation of each area was conducted. This evaluation determined that the indications were acceptable and continue to meet applicable code requirements. Protective coating was reapplied where localized pitting was identified with a pit depth greater than 30 mils to prevent further degradation.	None	None
E-A, Item E1.20 [NOI-U1R11-006]	PSC MVH 1-B-16 (Pressure Suppression Chamber - Main Vent Header)	Mechanical Damage	EVALUATED ACCEPTABLE (No Corrective Measures Required.) The indication identified on the Unit 1 Torus main vent header (MVH) exterior surface is surface mechanical damage that does not represent an adverse condition to the wall thicknesses of the MVH. There is little discernable corrosion present where the base metal that has been revealed, and no appreciable depth to the mechanical marks. Therefore, no adverse condition exists and evaluation of inaccessible areas is not required.	None	None
E-A, Item E1.30 [NOI-U1R11-007]	MSB-1-1 (Moisture Seal Barrier)	Mechanical Damage	EVALUATED ACCEPTABLE (Affected Portions of MSB Replaced) The indications were the result of mechanical damage from outage related work activities. The indications identified did not affect the ability of the moisture seal barrier (MSB) to prevent intrusion of moisture against the inaccessible areas of the steel containment vessel below the MSB. The affected portions of the seal were cut out, the exposed drywell liner was examined, and the cut out seal sections re-poured. Therefore, no adverse condition exists and evaluation of inaccessible areas is not required.	None	None