



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

March 1, 2013

10 CFR 50.55a

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

Browns Ferry Nuclear Plant, Unit 1  
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 Cycle 9 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 9 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.

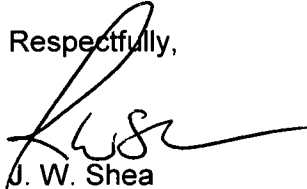
The report is an overview of the inservice examination results that were performed on components within the ASME Section XI boundary, up to and including the Unit 1 Cycle 9 refueling outage, during the second inspection period of the second 10-year inspection interval. The applicable provisions of the ASME Code require that this report be submitted 90 days from the end of the applicable outage. The BFN, Unit 1, Cycle 9 refueling outage ended on December 4, 2012. Accordingly, this submittal is due by March 4, 2013.

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

Respectfully,



J. W. Shea  
Vice President, Nuclear Licensing

Enclosure:

American Society of Mechanical Engineers, Section XI, Second 10-Year Inspection Interval, Inservice Inspection, System Pressure Test, Containment Inspection, and Repair and Replacement Programs, Owner's Activity Report for Cycle 9 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, Second 10-Year Inspection Interval**

**Inservice Inspection, System Pressure Test, Containment Inservice Inspection,  
and Repair and Replacement Programs**

**Owner's Activity Report for Cycle 9 Operation**

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# FORM OAR-1 OWNER'S ACTIVITY REPORT

## TABLES

Report Number BFNU1C9  
Plant Browns Ferry  
Unit No. 1 Commercial service date 08/01/1974 Refueling outage no. 9  
Current inspection interval 2nd Current inspection period 2nd

## FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number BFNU1C9  
Plant Browns Ferry Nuclear Plant, P.O. Box 2000, Decatur, AL 35609  
Unit No. 1 Commercial service date August 1, 1974 Refueling Outage no. Cycle 9  
(if applicable)  
Current Inspection Interval Second Ten Year Inspection Interval  
(1st, 2nd, 3rd, other)  
Current Inspection Period Second Period  
(1st, 2nd, 3rd)  
Edition and Addenda of Section XI applicable to the inspection plans 2001 Edition through 2003 Addenda  
Date and Revision of inspection plan 1-SI-4.6.G, Revision 029 12/10/2012  
Edition and Addenda of Section XI applicable to repairs and replacements, if different than the inspection plan 2004 Edition  
Code Cases used: N-460, N-508-3, N-528-1, N-532-4, N-552, N-586-1, N-613-1, N-648-1, N-686-1, N-695  
(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 U1C9 conform to the requirements of Section XI. (refueling outage number)

Signed



Owner or Owner's Designee, Title


Date

2-25-13

### CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Tennessee and employed by HSB CT of Hartford, 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 requirement of Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations, tests, repairs, replacements, evaluations, and corrective measures 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

TN4011

National Board, State, Province and Endorsements

Date

2/26/13

# FORM OAR-1 OWNER'S ACTIVITY REPORT

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Report Number BFNU1C9  
 Plant Browns Ferry  
 Unit No. 1 Commercial service date 08/01/1974 Refueling outage no. 9  
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**TABLE 1  
 ITEMS WITH FLAWS OR RELEVANT CONDITIONS THAT REQUIRE  
 EVALUATIONS FOR CONTINUED SERVICE**

Examination Category and Item Number	Item Description	Evaluation Description
F-A, Item F1.10C	As-Found variable spring support setting out-of-range. Range 9,815 to 10,316 lbs. As-Found 10,622 lbs. (1-47B452-3038) [NOI U1RF9-002]	<b>EVALUATED ACCEPTABLE</b> (No Corrective Measures Required.) The as-found setting was approximately 1/16 inch or 3% outside the specified spring setting range. The as-found setting was approximately at the mid-point of the spring economic range and well within the spring working range with considerable margin from topping or bottoming out. The setting out-of range had no detrimental affect on the Residual Heat Removal (RHR) system piping or adjacent supports. The spring was reset to the range specified on the support drawing to restore the as-designed configuration.
F-A, Item F1.10C	Loose bolting was found at two locations on variable support. (1-47B455-621) [NOI U1RF9-003]	<b>EVALUATED ACCEPTABLE</b> (No Corrective Measures Required.) The loose nuts did not impair the ability of the support to carry the designed load. The loose nuts were tightened to prevent further loosening.
F-A, Item F1.10C	Bolt in pipe clamp was loose. Nut was tight on bolt. (1-47B465-455) [NOI U1RF9-004]	<b>EVALUATED ACCEPTABLE</b> (No Corrective Measures Required.) The loose bolt was one of four bolts on a pipe clamp. The other three bolts on the pipe clamp were tight. The nut on the loose bolt was tight and prevented the bolt from becoming dislodged. The support remained capable of performing its design function. The loose bolted connection was tightened.
F-A, Item F1.40C	As-Found dual variable spring support setting out-of-range. Range 9,949 to 10,450 lbs. As-Found N-W spring 10,497 lbs. and As-Found S-E spring 10,747 lbs. (1-47B415-44) [NOI U1RF9-005]	<b>EVALUATED ACCEPTABLE</b> (No Corrective Measures Required.) The as-found setting was approximately in the middle of the working range 7,616 lbs. to 12,376 lbs. and did not top or bottom out. The setting out-of range had no detrimental affect on the Feedwater system piping or adjacent supports. The springs were reset to the range specified on the support drawing to restore the as-designed configuration.

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<p>F-A, Item F1.20C</p>	<p>As-Found dual variable spring support setting out-of-range. Range 5,916 to 6,166 lbs. As-Found both springs 5,750 lbs. (1-47B452-3063) [NOI U1RF9-006]</p>	<p><b>EVALUATED ACCEPTABLE</b> (No Corrective Measures Required.) The as-found setting was approximately in the middle of the working range 3,500 lbs. to 7,000 lbs. and did not top or bottom out. The as-found setting was less than 2 increments outside the specified setting range, which is less than 3% of an acceptable load applied to the piping. The As-Found setting out-of-range had no detrimental affect on the RHR system piping or adjacent supports. The springs were reset to the range specified on the support drawing to restore the as-designed configuration.</p>
<p>F-A, Item F1.40B</p>	<p>A loose bolt at welded attachment. Nut is tight on bolt. Bolt can be rotated in place and is not tight against steel member. (RHRG-1-14-C) [NOI U1RF9-007]</p>	<p><b>EVALUATED ACCEPTABLE</b> (No Corrective Measures Required.) One bolt in a four bolt connection was found loose on the lower support bracket of the 1C RHR Heat Exchanger. The lower support bracket provides only lateral support for the heat exchanger. Sufficient margin exists in the support design for the remaining bolts to carry all applied seismic forces. The loose bolt was tightened to restore the as-designed configuration.</p>

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**TABLE 2**  
**ABSTRACT OF REPAIR/REPLACEMENT ACTIVITIES REQUIRED FOR CONTINUED SERVICE**

Code Class	Item Description	Description of Work	Date Completed	Repair/Replacement Plan Number
3	1-CLR-064-0071 1D RHR Room Cooler	Repair tube to header connection	04/18/2012	113413064
2	1-HEX-074-0900A 1A RHR Heat Exchanger	Repair / Replace partition plate	11/12/2012	114083400

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#### Summary of IWE Indications for U1C9

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 E1.30	Moisture Seal Barrier MSB-1-1	Gouge in seal 1 inch long and 1/2 inch deep. [NOI U1RF9-001]	The gouge did not penetrate the depth of the seal. Function of the seal to prevent moisture penetration was maintained. The damaged portion of the seal was excavated and repaired under Work Order 112592893.	The entire seal was examined. The damaged portion of the seal was removed and exposed drywell liner visually examined (VT-3). No evidence of damage to the liner in this area was observed.	None