



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

August 24, 2012

10 CFR 50.55a

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

Browns Ferry Nuclear Plant, Unit 3  
Facility Operating License No. DPR-68  
NRC Docket No. 50-296

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 15 Operation**

The Tennessee Valley Authority is submitting the Browns Ferry Nuclear Plant, American Society of Mechanical Engineers (ASME), Section XI, Owner's Activity Report for Unit 3 Cycle 15 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, "Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000, Section XI, Division 1."

The report is an overview of the results from inservice examinations that were performed on components within the ASME Section XI boundary, up to and including the Unit 3 Cycle 15 refueling outage, during the second inspection period of the third 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 Unit 3 Cycle 15 refueling outage ended on May 26, 2012. Accordingly, this submittal is due by August 24, 2012.

A047  
NRR

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There are no new regulatory commitments in this letter. If you have any questions regarding this report, please contact Thomas A. Hess at (423) 751-3487.

Respectfully,

*J. W. Shea*

for  
J. W. Shea  
Vice President, Nuclear Licensing

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 Cycle 15 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 3**

**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 Cycle 15 Operation**

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(See Attached)

# FORM OAR-1 OWNER'S ACTIVITY REPORT

## TABLES

Report Number BFNU3C15  
Plant Browns Ferry  
Unit No. 3 Commercial service date 03/01/1977 Refueling outage no. 15  
Current inspection interval 3rd Current inspection period 2nd

## FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number BFNU3C15  
Plant Browns Ferry Nuclear Plant, P.O. Box 2000, Decatur, AL 35602-2000  
Unit No. 3 Commercial service date March 1, 1977 Refueling Outage no. Cycle 15  
(if applicable)  
Current Inspection Interval Third 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 3-SI-4.6.G, Revision 040 03/28/2012  
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-577, N-586-1, N-613-1, N-648-1, N-686-1, N-695, N-702  
(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 U3C15 conform to the requirements of Section XI.  
(refueling outage number)

MH  
Signed [Signature] Asst. Eng. Dir. Date 8-9-12  
Owner or Owner's Designee, Title

### 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.

[Signature] Commissions TN4011  
Inspector's Signature National Board, State, Province and Endorsements  
Date 8/10/12

# FORM OAR-1 OWNER'S ACTIVITY REPORT

## TABLES

Report Number BFNU3C15  
 Plant Browns Ferry  
 Unit No. 3 Commercial service date 03/01/1977 Refueling outage no. 15  
 Current inspection interval 3rd Current inspection period 2nd

**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 F1.10B	Material deformation on the lower washer and top of RPV Head Flange due to an entrapped foreign object during a VT-1 examination. (RPV-WASH-3-50) [NOI U3RF15-002]	<b>EVALUATED ACCEPTABLE</b> (No Corrective Measures Required. The identified condition was the result of entrapment of a small washer between the RPV washer and the RPV Flange that resulted in an impression of the entrapped washer in the upper side of the RPV head Flange that is not a pressure boundary sealing surface. RPV Closure Head Assembly drawing 131855E states that surface finishes may have isolated tool marks or similar depressions provided they are minor in nature and are not on sealing surfaces used to seal pressure boundaries. The RPV Flange thickness is 2'-7"± 1/8". The impression caused by the entrapped washer was approximately 1/64" in depth. As a measure of good practice, the RPV washer was replaced.
F-A, Item F1.10C	As-Found constant spring support setting out-of-range. Range 8.7 ± 1/2 increment. As-Found 9.7 West Spring and 9.9 East Spring. (3-47B400-114) [NOI U3CRF15-004]	<b>EVALUATED ACCEPTABLE</b> (No Corrective Measures Required. Piping movement from the cold set to hot position is upward and thermal movement is less than the available travel. The springs did not bottom out during service. The as-found settings represent the final position after pipe movement through the available travel of the springs during the last operating cycle. This support was repaired U3R14. These springs have limited travel range tolerance and are difficult to reset. Since the as-found cold set positions were near bottoming out, the springs were reset to the cold set position to provide acceptable margin for continued operation.

**FORM OAR-1 OWNER'S ACTIVITY REPORT**

**TABLES**

Report Number BFNU3C15  
Plant Browns Ferry  
Unit No. 3 Commercial service date 03/01/1977 Refueling outage no. 15  
Current inspection interval 3rd Current inspection period 2nd

**TABLE 2**

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

Code Class	Item Description	Description of Work	Date Completed	Repair/Replacement Plan Number
CODE CLASS 3	Through wall leak in 2.5" EECW piping (~1/2 gallon per minute)	Cut old piping out and replace with new pipe	08/07/2011	Work Order 112536582
CODE CLASS 2	Physical damage on studs. Not service induced. (3-FCV-074-0071)	STUDS/NUTS REPLACED	05/09/2012	Work Order 111044049

# FORM OAR-1 OWNER'S ACTIVITY REPORT

## TABLES

Report Number	BFNU3C15				
Plant	Browns Ferry				
Unit No.	3	Commercial service date	03/01/1977	Refueling outage no.	15
Current inspection interval	3rd	Current inspection period	2nd		

### Summary of IWE Indications for U3C15

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 E1.11	Suppression Chamber  PSC EXT 3-B-1 PSC EXT 3-B-2 PSC EXT 3-B-3 PSC EXT 3-B-4 PSC EXT 3-B-5 PSC EXT 3-B-6 PSC EXT 3-B-7 PSC EXT 3-B-8 PSC EXT 3-B-9 PSC EXT 3-B-10 PSC EXT 3-B-11 PSC EXT 3-B-12 PSC EXT 3-B-13 PSC EXT 3-B-14 PSC EXT 3-B-15 PSC EXT 3-B-16	Mechanical damage, dings, dents, minor corrosion, pitting, scrapes, arc strikes, weld deposit, chip marks, grind marks, and minor surface indications. [NOI U3RF15-005]	Engineering accept-as-is. Conditions noted do not impact structural integrity or leak tightness of the SCV. The conditions identified are expected based on the age and service conditions of the SCV. None of the conditions noted were suspect. No detrimental flaws have been observed.	None	None

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## ATTACHMENT A

The following welds were calculated to have ASME Section XI Code examination coverage 90 percent or less. TVA will submit a request for relief for these weld examinations in separate correspondence.

WELD ID	CONFIG	Limitation	%
GR-3-63	Valve to Pipe	single side exam	50%
DRHR-3-12	Valve to Flued Head	single side exam	30%
RWCU-3-007-003	Pipe to Tee	single side exam	57.85%
RWCU-3-007-011	Valve to Pipe	single side exam	88.6%
N1B-NV	Nozzle to Vessel	joint geometry	25.27%
N4A-NV	Nozzle to Vessel	joint geometry	32.31%
N4B-NV	Nozzle to Vessel	joint geometry	32.38%
N4C-NV	Nozzle to Vessel	joint geometry	32.38%
N4D-NV	Nozzle to Vessel	joint geometry	32.31%
N4E-NV	Nozzle to Vessel	joint geometry	32.38%
N4F-NV	Nozzle to Vessel	joint geometry	32.38%
N9-NV	Nozzle to Vessel	joint geometry	27.96%
N10-NV	Nozzle to Vessel	joint geometry	74.10%
N10-IR	Inner Radius	joint geometry	90%