



Tennessee Valley Authority  
1101 Market Street, LP 3R  
Chattanooga, Tennessee 37402-2801

**R. M. Krich**  
Vice President  
Nuclear Licensing

February 22, 2011

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 8 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 1 Cycle 8 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."

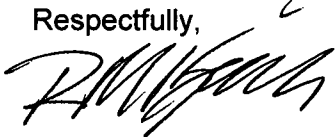
The report is an overview of the inservice examination results that were performed on components within the ASME Section XI boundary, up to and including the Unit 1 Cycle 8 refueling outage, during the first inspection period of the second 10-year inspection interval.

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There are no new regulatory commitments in this letter. If you have any questions regarding these reports, please contact Tom Matthews at (423) 751-2687.

Respectfully,

A handwritten signature in black ink, appearing to read 'R. M. Krich', with a small checkmark above the 'i'.

R. M. Krich

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 8 Operation

cc (Enclosure):

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 8 Operation**

# FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number BFNU1C8

Plant Browns Ferry Nuclear Plant, P.O. Box 2000, Decatur, AL 35602-2000

Unit No. 1 Commercial service date August 1, 1974 Refueling Outage no. Cycle 8  
(if applicable)

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

Current Inspection Period First 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-4.8.G, Revision 019, 02/15/2011

Edition and Addenda of Section XI applicable to repairs and replacements, if different than the inspection plan Same as above

Code Cases used: N-460, N-513-2, N-526, N-532-4, N-552, N-586-1, N-613-1, N-624, N-648-1, N-663, N-695, N-700, N-504-3, N-688-1, and 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 Cycle 8  
(refueling outage number)

conform to the requirements of Section XI.

Signed:  Director of Eng Date 2/16/11  
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.

Commissions TN 4011  
Inspector's Signature National Board, State, Province and Endorsements

Date 2/16/11

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

**TABLES**

Report Number BFNU1C8  
Plant Browns Ferry  
Unit No. 1 Commercial service date 08/01/1974 Refueling outage no. 8  
Current inspection interval 2nd Current inspection period 1st

**TABLE 1  
ITEMS WITH FLAWS OR RELEVANT CONDITIONS THAT REQUIRE  
EVALUATIONS FOR CONTINUED SERVICE**

Examination Category and Item Number	Item Description	Evaluation Description
N/A	N/A	N/A

There were no items with flaws or relevant conditions that required evaluations for continued service.

# FORM OAR-1 OWNER'S ACTIVITY REPORT

## TABLES

Report Number BFNU1C8  
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Current inspection interval 2nd Current inspection period 1st

**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	Seal Water Heat Exchanger 1-HEX-074-0016	Replaced heat exchanger	12/08/2009	07-721058-001
3	Valve 1-SHV-067-0655	Replaced valve and associated piping	05/05/2009	09-711929-000
2	Valve 1-FCV-074-0066	Replaced valve disc	11/20/2010	111571105
2	Flow Element 1-FE-063-0011	Replaced pipe and coupling	11/14/2010	111625531
2	Flow Element 1-FE-063-0011	Repaired socket weld	11/11/2010	111632698

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### TABLES

Report Number BFNU1C8  
 Plant Browns Ferry  
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#### Summary of IWE Indications for U1C8

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 E1.30	MSB-1-1	Gouges and surface irregularities in Moisture Seal Barrier (MSB) [NOI U1R8-001]	Moisture seal barrier replaced. Drywell liner examined (VT-3 and UT) in areas excavated for repair.	None. Entire MSB was inspected. VT-3 examinations conducted of liner in areas where portions of MSB excavated for repair.	None
E-A E1.11	GEN-VTE	Ductwork in contact with drywell liner [NOI U1R8-002]	Interference removed. Liner re-examined. No damage to liner.	None	None
E-A E1.11	GEN-VTE	Arc strikes on torus exterior [NOI U1R8-003]	Engineering accept-as-is. Indications on the torus exterior consisting of arc strikes and pitting less than 1/32" were identified. Minor surface indications consisting of scrapes, dings, dents, arc strikes, etc. are expected based on the age and service conditions of the Steel Containment Vessel (SCV). The arc strikes noted had no appreciable depth and were determined to be acceptable. None of the conditions noted are considered suspect and do not impact the structural integrity or leak tightness of the SCV. There is no indication that an adverse condition exists that may be present in inaccessible areas.	None	None

# FORM OAR-1 OWNER'S ACTIVITY REPORT

## TABLES

Report Number BFNU1C8  
 Plant Browns Ferry  
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 Current inspection interval 2nd Current inspection period 1st

Examination Category and Item Number	Component Identifier	Indication Description	Acceptability/Corrective Action	Inaccessible Area (Location and Evaluation)	Additional Samples
E-A E1.11	DW-LNR-1-1A	Pit in MSB seal area at Grid 17.75 in area excavated for repair. [NOI U1R8-004]	Engineering accept-as-is. Conditions noted do not impact structural integrity or leak tightness of the Steel Containment Vessel (SCV). The conditions identified are expected based on the age and service conditions of the SCV in the area under the MSB. There is no indication that an adverse condition exists that may be present in inaccessible areas. The drywell liner in the area beneath the MSB is monitored when portions of the MSB are excavated for repair.	None. Entire MSB was inspected. VT-3 examinations conducted of liner in areas where portions of MSB excavated for repair.	None
E-A E1.11	GEN-VTE	Gouges in drywell liner [NOI U1R8-005]	Engineering accept-as-is. Conditions noted do not impact structural integrity or leak tightness of the Steel Containment Vessel (SCV). Indication appears to be the result of removal of an attachment at some point in the past. The indications were coated with no indication of service induced degradation. There is no indication that an adverse condition exists that may be present in inaccessible areas.	None	None
E-A E1.11	GEN-VTE	Grind marks on outside radius of ECCS ring header. [NOI U1R8-006]	Engineering accept-as-is. Conditions noted do not impact structural integrity or leak tightness of the Steel Containment Vessel (SCV). No coating damage, flaking, or corrosion was present. The ECCS ring header is accessible for examination. There is no indication that an adverse condition exists that may be present in inaccessible areas.	None.	None



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Examination Category and Item Number	Component Identifier	Indication Description	Acceptability/Corrective Action	Inaccessible Area (Location and Evaluation)	Additional Samples
E-A E1.11	FLG-HD-1-1 (Lower Flange)	Pitting in lower flange gasket sealing surface. [NOI U1R8-007]	Engineering accept-as-is. Pitting on the lower flange of the drywell head is a known condition and has existed since restart of Unit 1 and was addressed by Design Change DCN 68136. The condition noted was not caused by a degradation mechanism that could affect the structural integrity or leak tightness of the Steel Containment Vessel (SCV). There is no indication that an adverse condition exists that may be present in inaccessible areas.	None. 100% of the Drywell Head sealing surface is accessible for examination.	None

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Report Number	<u>BFNU1C8</u>		
Plant	<u>Browns Ferry</u>		
Unit No.	<u>1</u>	Commercial service date	<u>08/01/1974</u>
		Refueling outage no.	<u>8</u>
Current inspection interval	<u>2nd</u>	Current inspection period	<u>1st</u>

### Attachment A

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

WELD ID	CONFIG	Limitation	%	Report
RWR-1-001-003	Elbow to Valve	Single Side Exam	50%	UT-10-024
RWR-1-001-S023A	Branch Connection to Pipe	Single Side Exam	50%	UT-10-028
RWR-1-002-012	Pipe to Valve	Single Side Exam	50%	UT-10-026
RWCU-1-001-019	Pipe to Valve	Single Side Exam	50%	UT-10-030
N1A-NV	Nozzle to Vessel	Component Design	27%	UT-10-037
N2D-NV	Nozzle to Vessel	Component Design	38.26%	UT-10-038
N2E-NV	Nozzle to Vessel	Component Design	38.26%	UT-10-039
N2G-NV	Nozzle to Vessel	Component Design	38.26%	UT-10-040
N3D-NV	Nozzle to Vessel	Component Design	33.4%	UT-10-041
N5A-NV	Nozzle to Vessel	Component Design	31.72%	UT-10-042
N5B-NV	Nozzle to Vessel	Component Design	31.72%	UT-10-043
N6A-NV	Nozzle to Vessel	Component Design	37%	UT-10-044
N8A-NV	Nozzle to Vessel	Component Design	80.33%	UT-10-045
N2D-IR	RPV Inner Radius Section	Jet Pump Riser	60%	VT-10-006
N2E-IR	RPV Inner Radius Section	Jet Pump Riser	60%	VT-10-007
N2G-IR	RPV Inner Radius Section	Jet Pump Riser	60%	VT-10-008
N5A-IR	RPV Inner Radius Section	Thermal Sleeve And Tee Box	50%	VT-10-011
N5B-IR	RPV Inner Radius Section	Thermal Sleeve And Tee Box	60%	VT-10-012
N8A-IR	RPV Inner Radius Section	Core Shroud Support	75%	VT-10-010