



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

June 29, 2012

10 CFR 50.4
10 CFR 50.55a

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

Sequoyah Nuclear Plant, Unit 1
Facility Operating License No. DPR-77
NRC Docket No. 50-327

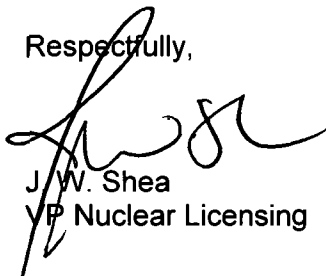
Subject: **Unit 1 Refueling Outage 18 - 90-Day Inservice Inspection Summary Report**

In accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Article IWA-6230 and Code Case N-532-4, the Tennessee Valley Authority is providing the Sequoyah Nuclear Plant (SQN), Unit 1, Inservice Inspection (ISI) Summary Report within 90 days from completion of the Unit 1 Refueling Outage 18 (U1R18). The U1R18 ended on March 31, 2012. Accordingly, this report is required to be submitted by June 29, 2012.

The enclosure to this letter contains the Owner's Activity Report provides a list of items with flaws or relevant conditions that required evaluation for continued service (Table 1), an abstract of repairs, replacements, or corrective measures required for continued service (Table 2), and the evaluation of acceptability of inaccessible areas of the steel containment vessel in accordance with 10 CFR 50.55a(b)(2)(ix)(A).

There are no regulatory commitments associated with this submittal. Should you have any questions, please contact Rusty Proffitt (423) 843-6651.

Respectfully,



J.W. Shea
VP Nuclear Licensing

Enclosure: ASME Section XI Inservice Inspection Summary Report,
Unit 1 Refueling Outage 18

cc: See page 2

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NRK

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Enclosure

cc (Enclosure):

NRC Regional Administrator – Region II
NRC Senior Resident Inspector – Sequoyah Nuclear Plant

**ENCLOSURE
TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNIT 1**

**ASME SECTION XI
INSERVICE INSPECTION SUMMARY REPORT
UNIT 1 REFUELING OUTAGE 18**

FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number U1R18

Plant SEQUOYAH NUCLEAR PLANT, P.O. Box 2000, Soddy-Daisy, TN 37384-2000

Unit No. 1 Commercial service date July 1, 1981 Refueling outage no. 18
(if applicable)

Current inspection interval Third Inspection Interval
(1st, 2nd, 3rd, 4th, other)

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

Edition and Addenda of Section XI applicable to the inspection plans 2001 Edition, 2003 Addenda

Date and revision of inspection plans August 15, 2011 - O-SI-DXI-000.114.3, Revision 17

Edition and Addenda of Section XI applicable to repair/replacement activities, if different than the inspection plans
Not Applicable

Code Cases used: N-460, N-513-3, N-532-4, N-566-2, N-586-1, N-686-1, N-706-1, N-722-1, N-729-1, N-770-1

CERTIFICATE OF CONFORMANCE

I certify that (a) the statements made in this report are correct; (b) the examinations and tests meet the Inspection Plan required by the ASME Code XI and (c) the repair/replacement activities and evaluations supporting the completion of U1C18 conform to the requirements of Section XI (refueling outage number)

Signed [Signature] Date 6/26/12
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 H.S.B. CT 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 make 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 personal injury or property damage or a loss of any kind arising from or connected with this inspection.

[Signature] Commissions TN 4150
Inspector's Signature National Board, State, Province, and Endorsements

Date 6/26/12

**ASME SECTION XI
INSERVICE INSPECTION SUMMARY REPORT
SEQUOYAH NUCLEAR PLANT UNIT 1 REFUELING OUTAGE 18**

TABLE 1

**ITEMS WITH FLAWS OR RELEVANT CONDITIONS THAT
REQUIRED EVALUATION FOR CONTINUED SERVICE**

Examination Category and Item Number	Item Description	Evaluation Description
None	N/A	N/A

**ASME SECTION XI
INSERVICE INSPECTION SUMMARY REPORT
SEQUOYAH NUCLEAR PLANT UNIT 1 REFUELING OUTAGE 18**

TABLE 2

**ABSTRACT OF REPAIRS, REPLACEMENTS, OR CORRECTIVE MEASURES
REQUIRED FOR CONTINUED SERVICE**

Code Class	Item Description	Description of Work	Date Completed	Repair/Replacement Plan Number
3	Essential Raw Cooling Water (ERCW) Vent Valves	Replace 0-VLV-067-0889B and -0889A with stainless steel ball valves and replace the carbon steel piping and fittings with stainless steel. Small items replacement)	11/22/2011	110835785
3	Control Rod Drive Mechanism Cooler Coil 1B-B	Braze repair of cooler coil socket fitting.	3/16/2012	113272203
3	Centrifugal Charging Pump Room Cooler 1B-B	Replace the cooler coil due to leakage from a socket weld connection.	3/24/2012	112261016
2	Seal Water Filter Housing Integral Attachment Weld	Repair welds on two of the integral attachment welds to the U1 seal water return filter housing. Flaws exceed the acceptance criteria of ASME Section III and were removed and repaired by welding.	3/27/2012	113325859
MC	Steel Containment Vessel (SCV) Moisture Barrier Sealant: Category E-A, Item E1.30	Sealant was removed and reinstalled to support SCV base metal inspection (Note this is not an ASME Section XI repair/replacement activity)	3/27/2012	113339250
3	ERCW Piping	Replace ERCW B-train emergency supply piping to the Unit 1 Turbine Driven Auxiliary Feedwater pump due to leakage from microbiologically influenced corrosion (MIC).	3/29/2012	112358403
3	ERCW Piping	Replace ERCW return piping from the 1B electric board room chiller due to leakage from (MIC).	8/14/2011	112565958

**ASME SECTION XI
INSERVICE INSPECTION SUMMARY REPORT
SEQUOYAH NUCLEAR PLANT UNIT 1 REFUELING OUTAGE 18**

**REPORTING REQUIRED BY 10 CFR 50.55a(b)(2)(ix)(A)
ASME Section XI, Subsection IWE
Steel Containment Vessel Inspection Program**

10 CFR 50.55a(b)(2)(ix)(A) requires reporting of the degradation assessment for inaccessible areas when conditions are identified during the performance of the ASME Section XI, Subsection IWE Steel Containment Vessel (SCV) Inspection Program that could indicate the presence of, or result in degradation to such inaccessible areas.

During the Unit 1 Cycle 18 refueling outage inspection of the steel containment moisture barrier (Item Number E1.30) four indications were identified in the SCV moisture barrier sealant (caulk) at the interface of the SCV and the Raceway floor in which the sealant was un-bonded from the SCV and/or concrete surfaces. The majority of the un-bonded area was along the concrete interface, not the SCV interface. However, failure of the moisture barrier sealant could potentially create a condition in which moisture would be allowed to penetrate the seal, and cause corrosion damage to the underlying SCV surface. Because of this potential, the sealant has been removed at the four locations to perform inspections of the otherwise inaccessible SCV surfaces. These visual inspections were performed to evaluate the acceptability of the inaccessible areas in accordance with 10CFR50.55a (b)(2)(ix)(A).

Results of the visual inspections, described below, show all inaccessible areas are acceptable for continued operation with no corrective action required. Since no additional corrosion is expected after the sealant is reinstalled, an evaluation of future corrosion rates and wall thickness effects is not required. The damaged areas of the moisture barrier sealant were repaired, and do not require an engineering evaluation. Future inspections of the SCV moisture barrier will continue to be performed in accordance with the ASME Code, Section XI, IWE-2500-1 schedule.

1. Azimuth 165 degrees - lack of bonding between the sealant and the concrete and SCV surfaces: Sealant was removed at the location of the flaw. Visual inspection of the underlying SCV and concrete surfaces identified no degradation or corrosion damage. No additional corrective action was required. The sealant has been reinstalled per IWE-3510.4 to prevent future moisture intrusion and reexamined to verify adequate sealing.
2. Azimuth 85 degrees - lack of bonding between the sealant and the concrete and SCV surfaces: Sealant was removed at the location of the flaw. Visual inspection of the underlying SCV and concrete surfaces identified no degradation or corrosion damage. No additional corrective action was required. The sealant has been reinstalled per IWE-3510.4 to prevent future moisture intrusion and reexamined to verify adequate sealing.
3. Azimuth 39 degrees - lack of bonding between the sealant and the concrete and SCV surfaces: Sealant was removed at the location of the flaw. Visual inspection of the underlying SCV and concrete surfaces identified no degradation or corrosion damage. No additional corrective action was required. The sealant has been reinstalled per IWE-3510.4 to prevent future moisture intrusion and reexamined to verify adequate sealing.

4. Azimuth 34 degrees - lack of bonding between the sealant and the concrete and SCV surfaces: Sealant was removed at the location of the flaw. Visual inspection of the underlying SCV and concrete surfaces identified no degradation or corrosion damage. No additional corrective action was required. The sealant has been reinstalled per IWE-3510.4 to prevent future moisture intrusion and reexamined to verify adequate sealing.