

August 15, 2008

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

Gentlemen:

In the Matter of )  
Tennessee Valley Authority (TVA) )

Docket No. 50-327

**SEQUOYAH NUCLEAR PLANT (SQN) - UNIT 1 – STEAM GENERATOR TUBE  
INSPECTION INFORMATION, RESPONSE TO REQUEST FOR ADDITIONAL  
INFORMATION (RAI)**

Reference: NRC letter to TVA dated July 21, 2008, “Sequoyah Nuclear Plant, Unit 1 –  
Request for Additional Information Regarding Steam Generator Tube  
Inservice Inspection Report For the Cycle 15 Refueling Outage  
(TAC No. MD8755)

This letter responds to NRC’s request for additional information as contained in the  
referenced letter. The enclosure provides TVA responses to the NRC questions  
associated with the steam generator tube inspections.

There are no commitments contained in this letter.

If you have any questions about this change, please contact me at 843-7170.

Sincerely,

***Original signed by***

James D. Smith  
Manager, Site Licensing and  
Industry Affairs

U.S. Nuclear Regulatory Commission  
Page 2  
August 15, 2008

cc (Enclosure):

Mr. Brendan T. Moroney, Senior Project Manager  
U.S. Nuclear Regulatory Commission  
Mail Stop 08G-9a  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852-2739

Mr. Lawrence E. Nanney, Director  
Division of Radiological Health  
Third Floor  
L&C Annex  
401 Church Street  
Nashville, Tennessee 37243-1532

**ENCLOSURE**

**TENNESSEE VALLEY AUTHORITY (TVA)  
SEQUOYAH NUCLEAR PLANT (SQN)  
UNIT 1**

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**

**NRC Question 1**

*For each refueling outage and SG tube inspection since installation of the SGs, please provide the cumulative effective full power years that the SGs have operated.*

**TVA Response**

| <u>Refueling Outage</u> | <u>Date</u>    | <u>Effective Full Power Years</u> |
|-------------------------|----------------|-----------------------------------|
| Cycle 12                | March 2003     | New SGs installed                 |
| Cycle 13                | October 2004   | 1.32                              |
| Cycle 14                | April 2006     | 2.68                              |
| Cycle 15                | September 2007 | 4.05                              |

**NRC Question 2**

*Please discuss the scope and results of any secondary side inspections.*

**TVA Response**

A steam drum inspection was performed in each steam generator (SG) without any findings. During the upper steam drum inspections of SG No. 4 a radiological protection technician may have lost a group of smears, held together by a staple, inside the SG. A visual inspection was performed and the smears were not located. The condition was documented in the corrective action program and evaluated as being left in the SG. A foreign object search and retrieval (FOSAR) inspection was performed after sludge lancing on each SG tubesheet annulus and tubelane regions. No possible loose parts (PLPs) or foreign objects were identified. Additionally, in bundle inspections were performed on two cold leg columns and two hot leg columns in SG No. 4.

**NRC Question 3**

*It was indicated that the scope of the bobbin coil examinations were expanded in SGs 1, 2, and 3. Please discuss the reason for expanding the scope of inspection in these three SGs.*

**TVA Response**

SQN Unit 1 replacement SGs have U-bend support wear as an active degradation mechanism in SGs 1, 2, and 3. The degradation assessment defined a criteria for expansion should additional U-bend support wear be discovered. The expansions were in accordance with the defined criteria.

#### **NRC Question 4**

*Please discuss what types of indications/locations are included in the diagnostic +Point™ inspections. Please discuss how you concluded that the bobbin indications were a result of U-bend wear (i.e., were rotating probe inspections (or comparable inspections) performed at these locations to permit characterization of the bobbin signal so as to confirm that there was a volumetric indication associated with the tube support “contact” points?).*

#### **TVA Response**

The pre-determined diagnostic examinations were examinations of hot leg dents. The remainder of the examinations were plus point examinations of bobbin signals at vertical straps (U-bend supports) or bobbin signals in the tubesheet region. The U-bend support wear was discovered during the Unit 1 Cycle 13 inspection during which plus point examinations were performed on the bobbin coil indications to confirm they were volumetric wear at the U-bend support contact points. The discovery of new bobbin coil signals at U-bend supports during the U1C15 inspection was not unexpected and confirmation with plus point examinations was not considered necessary. The damage was in areas which had been identified in the previous inspection with bobbin and confirmed with plus point as being indicative of mechanical wear.