



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

December 19, 2017

Mr. Joseph W. Shea  
Vice President, Nuclear Regulatory Affairs  
and Support Services  
Tennessee Valley Authority  
1101 Market Street, LP 3R-C  
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 2 – SUMMARY OF OCTOBER 27,  
2017, CONFERENCE CALL WITH TENNESSEE VALLEY AUTHORITY  
RE: FALL 2017 STEAM GENERATOR INSPECTIONS (EPID L-2017-LRO-0050)

Dear Mr. Shea:

On November 13, 2017, the U.S Nuclear Regulatory Commission staff participated in a conference call with representatives of the Tennessee Valley Authority (the licensee) regarding the ongoing steam generator inspection activities at the Watts Bar Nuclear Plant, Unit 2. A list of participants is provided as Enclosure 1. A summary of the conference call is provided as Enclosure 2, which includes a list of questions and the licensee's draft responses discussed during the call.

If you have any questions regarding this matter, I may be reached at (301) 415-6020 or [Robert.Schaaf@nrc.gov](mailto:Robert.Schaaf@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Robert G. Schaaf".

Robert G. Schaaf, Senior Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosures:

1. List of Participants
2. Conference Call Summary

cc: Distribution via Listserv

LIST OF PARTICIPANTS  
NOVEMBER 13, 2017, CONFERENCE CALL  
WITH TENNESSEE VALLEY AUTHORITY  
WATTS BAR NUCLEAR PLANT, UNIT 2  
FALL 2017 STEAM GENERATOR INSPECTIONS

U.S. Nuclear Regulatory Commission

Farideh Saba  
Alan Huynh  
Paul Klein  
Andrew Johnson  
Alexander Butcavage

Tennessee Valley Authority

Kim Hulvey  
Russell Wells  
Jeremy Mayo  
Dan Folsom  
Jesse Baron

SUMMARY OF NOVEMBER 13, 2017, CONFERENCE CALL

WITH TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT, UNIT 2

FALL 2017 STEAM GENERATOR TUBE INSPECTIONS

DOCKET NO. 50-391

On November 13, 2017, the U.S. Nuclear Regulatory Commission (NRC) staff participated in a conference call with Tennessee Valley Authority (the licensee), regarding the ongoing steam generator (SG) tube inspection activities at Watts Bar Nuclear Plant (Watts Bar), Unit 2.

Several topics regarding the ongoing inspections were discussed during the conference call. A summary of the discussion follows.

- This was the first refueling outage for the Watts Bar, Unit 2, SGs following the recently completed operating cycle of 0.74 effective full power years. At the time of the call, the licensee was almost finished with eddy current exams but still had some additional SG inspections (e.g., SG 4 foreign object search and retrieval) to complete.
- The licensee provided an overview of the design of its SGs during the call. The Watts Bar, Unit 2, Westinghouse Model D3 SGs were fabricated in the early 1970s. Each SG has 4,674 mill-annealed Alloy 600 tubes that have a nominal outer diameter of 0.75 inches and nominal wall thickness of 0.043 inches. The tubes are supported by drilled carbon steel tube support plates (TSPs) and were hard roll expanded for the full depth of the tubesheet. The licensee stated that some tubes were pulled prior to operation to aid loose parts retrieval efforts.
- The licensee stated that there was no primary-to-secondary leakage observed during the recently completed operating cycle, no secondary side pressure tests were performed, and no in-situ pressure tests or tube pulls were planned.
- The licensee stated that there were two deviations taken to the industry guidelines. One was related to the Water Chemistry guidelines for high ionic impurities at startup, due to the long shutdown during the operating cycle. This deviation was closed at the time of the call. The other deviation was due to the performance of preservice inspections prior to hydrostatic tests instead of after the hydrostatic tests. This deviation was to be closed after the outage.
- The licensee provided the scope of its inspections, which included:
  - 100 percent full-length bobbin
  - +Point™ inspections of U-bends in rows 1-4
  - Special interest inspections for non-resolved bobbin indications
  - 100 percent hot leg (HL) top of tubesheet
  - 50 percent X-probe up to the sixth TSP (just above the preheater inlet) on cold leg (CL) side for loose parts
  - +Point™ or X-probe of dents/dings  $\geq 5$  volts (HL to top CL TSP)

- 20 percent +Point™ or X-probe of dents/dings  $\geq$  2 volts
  - Channel head inspections
  - Foreign object search and retrieval (FOSAR)
  - Sludge lancing
  - Steam drum inspections
- The licensee stated that tube wear from anti-vibration bars was the only form of degradation detected. The maximum depth was 15 percent through-wall for all indications.
  - The licensee stated that in-situ pressure tests and tube pulls were not performed.
  - Regarding loose parts, the licensee stated that X-probe inspections, FOSAR, and sludge lancing were performed. The licensee stated that one loose part was not removed from the SGs and tubes surrounding it would be plugged. There were no wear indications associated with loose parts. The licensee also stated that while sludge lancing is typically performed prior to FOSAR, it performed some FOSAR prior to sludge lancing. The licensee removed 24.5, 22.5, 27.5, and 35 pounds of sludge from SGs 1, 2, 3, and 4, respectively.

The NRC staff did not identify any issues that required followup action at this time; however, the NRC staff asked to be notified in the event that any unusual conditions were detected during the remainder of the outage.

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 RE: FALL 2017 STEAM GENERATOR INSPECTIONS (EPID L-2017-LRO-0050)  
 DATED DECEMBER 19, 2017

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**ADAMS Accession No.: ML17339A090**

\*by memorandum

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