

**From:** Green, Kimberly  
**Sent:** Monday, March 22, 2021 4:04 PM  
**To:** Wells, Russell Douglas  
**Subject:** Draft Request for Additional Information Regarding TVA's Generic Letter 95-05 90-Day Report for Watts Bar Unit 2 (EPID L-2021-LRO-0003)  
**Attachments:** Watts Bar 2 GL 95-05 Draft RAI.pdf

Dear Mr. Wells:

By letter dated February 11, 2021 (Agencywide Documents Access and Management System Accession No. ML21042B342), Tennessee Valley Authority (TVA) submitted the Watts Bar Unit 2 Refueling Outage 3 Generic Letter 95-05 Voltage-Based Alternate Repair Criteria Final Report.

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing your submittal and has identified areas where additional information is needed to complete its review. Attached, please find a draft request for additional information (RAI).

The draft RAI is being sent to ensure that the request is understandable and the basis for the request is clear. This email and the attachment do not convey or represent an NRC staff position regarding TVA's request.

Please let me know if TVA needs a call to clarify the NRC staff's request.

Regards,  
Kim Green  
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**Created By:** Kimberly.Green@nrc.gov

**Recipients:**  
"Wells, Russell Douglas" <rdwells0@tva.gov>  
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DRAFT REQUEST FOR ADDITIONAL INFORMATION  
REGARDING REFUELING OUTAGE 3 GENERIC LETTER 95-05  
VOLTAGE-BASED ALTERNATE REPAIR CRITERIA FINAL REPORT  
WATTS BAR NUCLEAR PLANT, UNIT 2  
TENNESSEE VALLEY AUTHORITY  
DOCKET NO. 50-391

By letter dated February 11, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21042B342), Tennessee Valley Authority (TVA, the licensee) submitted the fall 2020 Generic Letter (GL) 95-05 Voltage-Based Alternate Repair Criteria (ARC) Steam Generator (SG) Report for Watts Bar Nuclear Plant (Watts Bar), Unit 2. The SG tube inspections were performed during the third refueling outage (U2R3). When the voltage-based ARC methodology is applied during an inspection of the SGs performed in accordance with Technical Specification (TS) 5.7.2.12, "Steam Generator (SG) Program," TS 5.9.9, "Steam Generator Tube Inspection Report," requires that a report be submitted within 90 days after the initial entry into hot shutdown (MODE 4) following completion of the inspection. TS 5.7.2.12 requires that an SG Program be established and implemented to ensure SG tube integrity is maintained.

To complete its review of the GL 95-05 final report, the U.S. Nuclear Regulatory Commission (NRC) staff requests the following additional information:

1. Section 3.2, "Voltage Growth Rates," of the GL 95-05 final report describes how the voltage growth rates were determined in both the preliminary and GL 95-05 report operational assessments (OAs) using indications identified in successive inspections. It states, "For the U2R3 preliminary GL 95-05 OA evaluation, there were a total of 155 growth data points used for all four SGs combined." According to Tables 3-11 through 3-14, 964 indications were identified in successive inspections and used to determine growth rates.
  - a. Describe the historical data review (lookback) processes performed in the GL 95-05 final report to determine when the second refueling outage (U2R2) indication was present and how the voltage was determined to calculate a growth rate.
  - b. Explain the large difference in the number of repeat indications from U2R2 to U2R3 between the GL 95-05 final report and the preliminary OA.
  - c. During U2R2, a total of 193 distorted support indications (DSIs) were reported. During U2R3, using the GL 95-05 methodology, a total of 1240 DSIs were reported, including indications exceeding the upper voltage repair limit (DSVs), with 1041 indications returned to service. Table 7-2 "Operational Assessment Leak and Burst Results for EOC-4a," projects a total of 1854 indications. Discuss how the number of new indications during the current operating cycle (Cycle 4a) was projected for each SG.
2. Section 2.b.2(2) of GL 95-05 states that voltage growth rates should only be evaluated for those intersections at which bobbin indications can be identified at two successive

inspections, except if an indication changes from non-detectable to a relatively high voltage (e.g., 2.0 volts). Table 3-16, Figure 3-6, and Figure 3-7 of the GL 95-05 final report indicate newly detected indications with relatively high voltage were used in the growth rate distributions, but this is not stated in the description in Section 3.2 of how growth rates were determined. Clarify if the Table 3-16 indications shown as 0.00 Vpp (volts peak-to-peak) in U2R2 were used in determining voltage growth rates and if there were any exceptions taken to the high voltage growth indications.

3. Describe the strategy used in supplemental testing of bobbin probe DSIs with a +Point™ rotating probe compared to the guidance in Section 3.b of GL 95-05. In addition, identify any exceptions to the guidance in Section 3.b of GL 95-05.
4. According to Section 3.1, "U2R3 Inspection Results," all DSIs with a bobbin probe voltage amplitude greater than or equal to 0.75 volts were tested with a +Point™ probe. Tables 3-2 through 3-5 show that additional +Point™ inspections were performed on DSIs with bobbin probe voltage less than 0.75 volts. Clarify the criteria used to select DSI indications less than 0.75 volts for +Point™ probe inspection.
5. During the November 17, 2020, public meeting (ADAMS Accession No. ML20337A040) discussing the Watts Bar 2 outside diameter stress corrosion cracking (ODSCC) at tube support plates, TVA stated that preliminary results showed that Unit 2 could operate for 240 days if a probability of detection (POD) of 1 was applied to all ODSCC indications in the scope of GL 95-05 equal to or greater than 3.2 volts. Using a POD of 0.95 (indications greater than or equal to 6 volts) and 0.9 (for indications between 3.2 and 6.0 volts), the GL 95-05 final report (Table 7-2) indicates that operation for 285 days will meet the acceptance criteria. Discuss any differences in the preliminary and final evaluations that resulted in the different calculated operating times.