

From: Green, Kimberly
Sent: Tuesday, February 15, 2022 7:09 AM
To: Wells, Russell Douglas
Subject: Request for Confirmation of Information Regarding the Watts Bar Nuclear Plant, Unit 2, Cycle 4 Mid-Cycle Outage Generic Letter 95-05 Final Report
Attachments: Final RCI.docx

Dear Mr. Wells,

By letter dated December 16, 2021 (Agencywide Documents Access and Management System Accession No. ML21350A209), the Tennessee Valley Authority submitted the fall 2021 Generic Letter (GL) 95-05 Voltage-Based Alternate Repair Criteria Steam Generator Report for Watts Bar Nuclear Plant (Watts Bar), Unit 2.

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing the submittal and has identified areas for which it would like to confirm its understanding of the information provided so that it may complete its review. A draft request for confirmation of information (RCI) was previously transmitted to you by email dated February 9, 2022. Based on TVA's review of the draft RCI, you stated that a clarification call was unnecessary.

A response to the attached RCI is requested within 30 days from the date of this email.

The NRC staff considers that timely responses to RCIs will help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources. If you have any questions or if circumstances result in the need to revise the requested response date, please contact me at (301) 415-1627 or via email at Kimberly.Green@nrc.gov.

Sincerely,
Kimberly J. Green, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Hearing Identifier: NRR_DRMA
Email Number: 1523

Mail Envelope Properties (DM6PR09MB546260D754FD0D63AF8431328F349)

Subject: Request for Confirmation of Information Regarding the Watts Bar Nuclear Plant,
Unit 2, Cycle 4 Mid-Cycle Outage Generic Letter 95-05 Final Report
Sent Date: 2/15/2022 7:09:12 AM
Received Date: 2/15/2022 7:09:00 AM
From: Green, Kimberly

Created By: Kimberly.Green@nrc.gov

Recipients:
"Wells, Russell Douglas" <rdwells0@tva.gov>
Tracking Status: None

Post Office: DM6PR09MB5462.namprd09.prod.outlook.com

Files	Size	Date & Time
MESSAGE	1452	2/15/2022 7:09:00 AM
Final RCI.docx	40595	

Options
Priority: Normal
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:

REQUEST FOR CONFIRMATION OF INFORMATION

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-391

CYCLE 4 MID-CYCLE OUTAGE

GENERIC LETTER 95-05 VOLTAGE-BASED ALTERNATE REPAIR CRITERIA

FINAL REPORT

INTRODUCTION

By letter dated December 16, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21350A209), the Tennessee Valley Authority (TVA, the licensee) submitted the fall 2021 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 Cycle 4 mid-cycle outage (F214).

In Title 10 of the *Code of Federal Regulations* Section 50.36, "Technical specifications," the NRC regulatory requirements related to the content of the technical specifications (TSs) are established. Watts Bar, Unit 2, TS 5.7.2.12, "Steam Generator (SG) Program," requires that an SG Program be established and implemented to ensure SG tube integrity is maintained. When the voltage-based ARC methodology is applied during an inspection of the SGs performed in accordance with TS 5.7.2.12, 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.

To complete its review of the F214 GL 95-05 report, the U.S. Nuclear Regulatory Commission (NRC) staff requests that you submit confirmation that the staff's understanding described below is correct, or provide the corrected information:

1. Based on the review of Section 3.1 on page 3-1, rotating probe inspections in F214 were performed on dent indications with a bobbin probe voltage greater than or equal to 2 volts, which exceeds the minimum criterion in GL 95-05 (Attachment 1, Section 3.b.3) to use a rotating probe to inspect dent indications with a bobbin probe voltage greater than 5 volts.
2. Based on the review of Section 3.1 on page 3-1 and 3-2, rotating probe inspections in F214 were performed on distorted support indications (DSIs) with a bobbin probe voltage greater than the lower repair limit of 1.0 volt, according to the criterion in GL 95-05 (Attachment 1, Section 3.b.1) for 0.75-inch diameter tubes. The inspection criterion in F214 meets but does not exceed the GL 95-05 criterion as stated on page 3-2.
3. Based on the discussion in Sections 3.2 and 6.4, the "limiting Cycle 4b operating temperatures" shown in Table 3-2 are assumed values selected for conservatism in the projected growth rates. Based on the discussion in Section 6.4, the Cycle 4b operating temperature is lower than the Table 3-2 assumed temperatures.

4. Based on the discussion in Section 3.2, the operating temperature in Cycles 4a and 4b is lower than in Cycle 3, but the “limiting Cycle 4b operating temperature” values in Table 3-2 are higher than Cycle 3 for conservatism in the growth rate correction factor. These temperature values and the doubling of the activation energy relative to the previous GL 95-05 operational assessment (from 30 to 60 kilocalories per mol) are used to increase the value of the calculated temperature correction factor. This is conservative because the correction factor was used to adjust the observed Cycle 4a voltage growth rates upward as part of determining the bounding growth rate to use in the Cycle 4b operational assessment (OA).
5. Based on the discussion in Section 3.2, the terms “OA growth rate adjustment,” growth correction factor,” and “Growth Adjustment Factor,” are used to refer to the same thing - the effect of temperature on growth as expressed by Equation 3-1.
6. Based on the discussion in Section 3.2, the temperature Growth Adjustment Factor calculated according to Equation 3-1 was applied to the Cycle 4a growth rates for each SG and then compared to Cycle 3 growth rates to identify the bounding growth rate for use in the Cycle 4b OA. The phrase, “Cycle 4a bounding temperature adjusted growth rate” in the first paragraph on page 3-5 refers to the highest temperature-adjusted Cycle 4a growth rate among the four SGs.