

**From:** Green, Kimberly  
**Sent:** Monday, July 12, 2021 9:09 AM  
**To:** Wells, Russell Douglas  
**Subject:** Request for Additional Information Regarding TVA's Request to Revise the Watts Bar Nuclear Plant, Unit 2 Technical Specifications Related to Steam Generator Inspection/Repair Program Provisions (EPID L-2021-LLA-0043)  
**Attachments:** Final RAI.pdf

Dear Mr. Wells,

By letter dated March 11, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21070A432), Tennessee Valley Authority (TVA) requested changes to the Technical Specifications (TS) for Watts Bar Nuclear Plant, Unit 2. The proposed changes would revise TS 3.4.17, "Steam Generator (SG) Tube Integrity," TS 5.7.2.12, "Steam Generator (SG) Program," and TS 5.9.9, "Steam Generator Tube Inspection Report," to remove certain requirements that will no longer apply following installation of the replacement SGs. The proposed changes also include the adoption of Technical Specifications Task Force Technical Change Traveler 510, Revision 2, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection," for Alloy 690 thermally treated tubing.

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.

A draft request for additional information (RAI) was previously transmitted to you by email dated July 2, 2021. At your request, a clarification call was held on July 8, 2021, to clarify the NRC staff's draft RAI. As a result of that call, it was determined that no changes were needed to the draft RAI.

As agreed during the call, a response to the attached RAI is requested within 30 days from the date of this email.

The NRC staff considers that timely responses to RAIs 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 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](mailto: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

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**From:** Green, Kimberly

**Created By:** Kimberly.Green@nrc.gov

**Recipients:**

"Wells, Russell Douglas" <rdwells0@tva.gov>

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REQUEST FOR ADDITIONAL INFORMATION

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-391

TECHNICAL SPECIFICATIONS CHANGES RELATED TO STEAM GENERATOR

INSPECTION/REPAIR PROGRAM PROVISIONS

INTRODUCTION

By letter dated March 11, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21070A432), Tennessee Valley Authority (the licensee) submitted a license amendment request (LAR) to modify the technical specifications (TSs) for steam generator (SG) tube inspection and repair for Watts Bar Nuclear Plant (Watts Bar), Unit 2. The changes are proposed due to the planned SG replacement. The request includes deletion of TS criteria not applicable to the replacement steam generators (RSGs). The request also includes TS revisions based on the tube material of the RSGs and consistency with Technical Specification Task Force (TSTF) Technical Change Traveler 510 (TSTF-510), Revision 2, "Revision to Steam Generator Program Inspection Frequencies and Tube Sample Selection."

Section 182.a of the Atomic Energy Act requires nuclear power plant operating licenses to include TSs as part of any license. In 10 CFR 50.36, "Technical specifications," the U.S. Nuclear Regulatory Commission's (NRC's) regulatory requirements related to the content of the TSs are established. The TSs for all current pressurized-water reactor licensees require that an SG program be established and implemented to ensure that SG tube integrity is maintained. Programs established by the licensee, including the SG program, are listed in the administrative controls section of the TSs to operate the facility in a safe manner.

INFORMATION REQUESTED

Steam generator inspection requirements in plant-specific TSs depend, in part, on the SG design details. Section 3.1 of the enclosure to the LAR states the RSGs are Westinghouse Model 68AXP with thermally treated Alloy 690 tube material, essentially the same as the Watts Bar, Unit 1, RSGs, and it references a design description for Watts Bar, Unit 1. Because relevant design details may not be the same for both plants, and since not all of the relevant details are included in the reference (e.g., tube support structure material), the NRC staff requests the following information to complete its review.

Provide a description of the Watts Bar, Unit 2, RSGs, including the following information: (i) the tubesheet thickness (with and without the cladding); (ii) the method used to expand the tubes into the tubesheet and the extent of expansion; (iii) the extent to which some tube rows were stress relieved following bending; (iv) the bend radius of the smallest radius tube bends; (v) the horizontal tube support structure size and shape, material of construction, and hole configuration (including the flow distribution baffle, if any); (vi) the U-bend support structure size and shape, material of construction and the depth of penetration of the supports; (vii) the tube

pitch (e.g., 1.0 triangular); and (viii) the tube and steam generator fabricator. In addition, provide a tubesheet map and a schematic of the steam generator showing the tube support naming convention.