

**From:** Green, Kimberly  
**Sent:** Thursday, April 1, 2021 7:30 AM  
**To:** Wells, Russell Douglas  
**Cc:** Haeg, Luke  
**Subject:** Request for Additional Information Regarding TVA's Request to Revise Technical Specification 5.7.2.19, "Containment Leakage Rate Testing Program" (EPID L-2020-LLA-0223)  
**Attachments:** CILRT RAI.pdf

Dear Mr. Wells,

By letter dated October 2, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20276A092), the Tennessee Valley Authority (TVA) submitted a license amendment request (LAR) to the U.S. Nuclear Regulatory Commission (NRC) for an amendment to the operating licenses for the Watts Bar Nuclear Plant (Watts Bar), Units 1 and 2. The proposed changes would revise the Watts Bar, Units 1 and 2, Technical Specifications 5.7.2.19, "Containment Leakage Rate Testing Program," by adopting Nuclear Energy Institute 94-01, Revision 3-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," as the implementation document for the performance-based Option B of 10 CFR Part 50, Appendix J. The proposed changes would also use a bounding value of 15.0 pounds per square inch gauge for Pa instead of the calculated Pa value as defined 10 CFR 50, Appendix J, Option B, Section II. In a letter dated December 15, 2020 (ADAMS Accession No. ML20350B799), TVA submitted a supplement to the LAR to provide the results of confirmatory tests recommended in Kalsi Engineering Report No. 3960C (Revision 0), "Evaluation of Higher Test Pressure on Leakage for Watts Bar."

The 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 via email on March 18, 2021. At your request, a clarification call was held on March 31, 2021, to clarify the NRC staff's request. As a result of the call, it was determined that no revision to the draft RAI was necessary.

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 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

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**From:** Green, Kimberly

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"Haeg, Luke" <Lucas.Haeg@nrc.gov>  
Tracking Status: None  
"Wells, Russell Douglas" <rdwells0@tva.gov>  
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REQUEST FOR ADDITIONAL INFORMATION  
TENNESSEE VALLEY AUTHORITY  
WATTS BAR NUCLEAR PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-390 AND 50-391  
APPLICATION TO MODIFY TECHNICAL SPECIFICATIONS 5.7.2.19  
CONTAINMENT LEAKAGE RATE TESTING PROGRAM

INTRODUCTION

By letter dated October 2, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20276A092), the Tennessee Valley Authority (TVA, licensee) submitted a license amendment request (LAR) to the U.S. Nuclear Regulatory Commission (NRC) for an amendment to the operating licenses for the Watts Bar Nuclear Plant (Watts Bar), Units 1 and 2. The proposed change would revise the Watts Bar, Units 1 and 2, Technical Specifications (TS) 5.7.2.19, "Containment Leakage Rate Testing Program," by adopting Nuclear Energy Institute (NEI) 94-01, Revision 3-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," as the implementation document for the performance-based Option B of 10 CFR Part 50, Appendix J. The proposed change would also extend the Type A containment integrated leak rate testing (CILRT) interval from 10 years to 15 years and the Type C local leak rate testing (LLRT) intervals from 60 months to 75 months. Additionally, TVA requested to use a bounding value of 15.0 pounds per square inch gauge (psig) for  $P_a$  instead of the calculated  $P_a$  value as defined 10 CFR 50, Appendix J, Option B, Section II.

In a letter dated December 15, 2020 (ADAMS Accession No. ML20350B799), TVA submitted a supplement to its LAR to provide the results of confirmatory tests recommended in Kalsi Engineering Report No. 3960C (Revision 0), "Evaluation of Higher Test Pressure on Leakage for Watts Bar."

REGULATORY BASIS

Option B, "Performance-Based Requirements" of Appendix J, "Primary Containment Leakage Testing for Water-Cooled Power Reactors," to Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR), requires, in part, for Type B and C tests, that "The performance-based testing program must contain...when establishing test intervals...comparison to previous test results to examine the performance history of the overall containment system to limit leakage."

INFORMATION REQUESTED

The Kalsi Engineering report includes Type B and C LLRT history tables for valves in various groups at Watts Bar, Units 1 and 2. These tables are:

- Table 1-2, "Unit 1 and 2 LLRT Leakage History," in Attachment 1, "Local Leak Rate Test Leakage Evaluation at Watts Bar for MOV Gate Valves;"
- Table 1-2, "Leakage History," in Attachment 2, "Local Leak Rate Test Leakage Evaluation at Watts Bar for MOV/AOV Plug Valves;"

- Table 1-2, "Unit 1 and Unit 2 LLRT Leakage History," in Attachment 3, "Local Leak Rate Test Leakage Evaluation at Watts Bar for Swing Check Valves;"
- Table 1-2, "Leakage History of Valves in Unit 1 and 2," in Attachment 4, "Local Leak Rate Test Leakage Evaluation at Watts Bar for Lift/Piston Check Valves;" and
- Table 1-2, "Unit 1 and Unit 2 LLRT Leakage History," in Attachment 5, "Local Leak Rate Test Leakage Evaluation at Watts Bar for AOV Globe Valves."

In these tables, several valves were reported to have "unfavorable" leakage history. Section 4.2, "Leakage History Summary," of the main body of the Kalsi Engineering report states that "Some valves show unacceptable leakage history, but it is assumed that corrective actions are performed to restore leakage to acceptable levels (see Assumption 5.2)." Assumption 5.2 states, "For all valves it is assumed that the tested leakage at normal LLRT DP is acceptable. This assumption is reasonable since corrective actions are required if leakage exceeds acceptance criteria and does not require verification." However, there was no discussion of the evaluation or resolution of "unfavorable" or "unacceptable" leakage history in the LAR that supports the Kalsi Engineering report assumption that corrective actions were taken to address leakage history. Briefly describe the activities performed to address the "unfavorable" or "unacceptable" LLRT leakage history with respect to the tables above.