From:	Green, Kimberly
Sent:	Tuesday, August 25, 2020 3:53 PM
То:	Wells, Russell Douglas
Cc:	Shoop, Undine
Subject:	Audit Plan Related to Review of the Watts Bar Nuclear Plant, Units 1 and 2, License Amendment Request for One-Time Revision to TS 3.7.11 for CREATCS Chiller Replacement (EPID L-2020-LLA-0114)
Attachments:	Audit Plan.pdf
Follow Up Flag:	Follow up
Flag Status:	Flagged

Dear Mr. Wells,

By application dated May 19, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20140A342), pursuant to Section 50.90 of Title 10 of the *Code of Federal Regulations*, Tennessee Valley Authority (TVA) submitted a License Amendment Request (LAR) for the Watts Bar Nuclear Plant (WBN), Units 1 and 2. The proposed amendments would revise WBN Units 1 and 2 Technical Specification 3.7.11, "Control Room Emergency Air Temperature Control System (CREATCS)," to add a one-time footnote for the Completion Time for Required Action A.1 to allow one CREATCS train to be inoperable for up to 60 days while performing modifications to the CREATCS chillers, and also add a one-time footnote for the Completion Time for Required Action E.1 to allow delayed entry into TS Limiting Condition for Operation 3.0.3 for up to four days in the event that both CREATCS trains are inoperable during the modifications to the CREATCS chillers.

The US Nuclear Regulatory Commission staff is reviewing the proposed amendments and has determined that a regulatory audit is necessary to complete its review.

Attached, please find an audit plan containing the basis, scope, audit staff, logistics, and deliverable for this audit.

If you have any questions, please let me know.

Regards, Kim Green Hearing Identifier:NRR_DRMAEmail Number:758

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AUDIT PLAN BY THE OFFICE OF NUCLEAR REACTOR REGULATION

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-390 AND 50-391

CONTROL ROOM EMERGENCY AIR TEMPERATURE CONTROL SYSTEM

COMPLETION TIME EXTENSION

EPID L-2020-LLA-0114

1.0 BACKGROUND

By letter dated May 19, 2020, (Reference 1) Tennessee Valley Authority (TVA) submitted a license amendment request (LAR) for the Watts Bar Nuclear Plant Units 1 and 2 (WBN). The proposed amendments would revise WBN Units 1 and 2 Technical Specification (TS) 3.7.11, "Control Room Emergency Air Temperature Control System (CREATCS)," to allow a one-time change to the Completion Time for Required Action A.1 to allow one CREATCS train to be inoperable for up to 60 days while performing modifications to the CREATCS chillers. The proposed amendment also adds a one-time change in a footnote to the Completion Time for Required Action TS Limiting Condition for Operation 3.0.3 for up to four days in the event that both CREATCS trains are inoperable during the modifications to the CREATCS chillers. These one-time TS changes are limited to the time that the CREATCS modifications are being performed between the timeframe of May 1, 2021 to October 1, 2022.

The staff of the Office of Nuclear Reactor Regulation (NRR) in the U.S. Nuclear Regulatory Commission (NRC) has initiated a review of the submittal in accordance with NRR Office Instruction LIC-101, "License Amendment Review Procedures" (Reference 2).

The NRC staff has determined that a regulatory audit of LAR should be conducted in accordance with NRR Office Instruction LIC-111, Revision 1, "Regulatory Audits" (Reference 3). The audit will enable the staff to gain a better understanding of the licensee's proposed temporary plant modifications along with the calculations and plant procedures that support the replacement of the CREATCS chillers. Additionally, the audit is intended to avoid unnecessary burden on TVA by preventing the generation of requests for additional information (RAIs) when that information is not needed to make a safety determination. Furthermore, interaction to clarify what information is needed should avoid RAI responses that do not fulfill the staff's needs. In this way, follow-up requests should be minimized.

2.0 AUDIT BASES

The following is a list of the bases for conduct of the regulatory audit.

LAR dated May 19, 2020

General Design Criterion (GDC) 2 of Appendix A to Part 50 of the Title 10 of the *Code of Federal Regulations* (10 CFR), "Design bases for protection against natural phenomena"

GDC 4, "Environmental and dynamic effects design bases"

GDC 19, "Control room"

The following sections of the NRC's NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition":

- Section 3.4.1, "Internal Flood Protection for Onsite Equipment Failures (Reference 4)
- Section 3.6.1, "Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside Containment" (Reference 5)
- Section 3.7.2, "Seismic System Analysis" (Reference 6)
- Section 6.4, "Control Room Habitability System" (Reference 7)
- Section 9.4.1, "Control Room Area Ventilation System" (Reference 8).
- Branch Technical Position 3-3, "Protection Against Postulated Piping Failures in Fluid Systems Outside Containment" (Reference 9)

Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors" (Reference 10)

Regulatory Guide 1.78, Revision 1, "Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release" (Reference 11)

3.0 OBJECTIVES

The objectives of the audit are:

- Gain a better understanding of the calculations, analyses, operating procedures and bases underlying the LAR and confirm the staff's understanding of the LAR.
- Gain a better understanding of relevant plant design features and their implications for the LAR.
- Learn whether the proposed temporary modification configuration challenges designbasis functions or adversely affects the capability or capacity of plant equipment or plant structures (e.g., control room envelope) to perform these functions.
- Identify supplemental information that will need to be submitted on the docket to support the NRC staff's findings.
- Identify issues that may become requests for additional information (RAIs).

4.0 AUDIT SCOPE AND DOCUMENTS NEEDED

The audit will be conducted remotely as a virtual audit over several weeks using internet access as described in Section 6.0 with several days scheduled for questions and discussion.

The areas of focus for the regulatory audit are:

- The proposed routing of temporary chiller hoses within control building to determine if there's any impact on safety-related equipment in vicinity of hoses
- The calculation performed to verify the capability of the temporary chilled water system to maintain MCR temperature below 80°F during normal plant power operations
- The CRE penetration that will accommodate the supply and return valves for the temporary chilled water hoses
- Whether the operation of the temporary chilled water skid will pose any new threats to MCR habitability or prevent access to remote shutdown panel areas of the power block
- The analysis performed for the heatup of the MCR and surrounding areas
- The capacity of the temporary chiller skid's fuel oil storage tank
- Whether any of the temporary chiller system cooling water hoses being connected to the "A" air handling unit is within the MCR habitability zone
- The seismic implications of having the 2 ½" supply and return hoses connected to the two isolation valves at the two CRE/Control Building boundary penetrations

The staff's audit will include the following documents:

- 1. Any evaluation of the impact of hose failures in the areas where the temporary hoses are to be routed, including any justification for how the safety-related equipment in the vicinity of the pipes are protected and/or designed to remain operational following a hose failure, and identification of key assumptions and sources of uncertainty for the application.
- Calculations and any supporting documentation that verify the capability of the temporary chilled water system to maintain the main control room (MCR) temperature below 80°F during normal plant power operations
- 3. WBN Control Room Habitability Program and supporting documentation (e.g., maintenance of CRE integrity operating procedures, CRE maximum hole equivalent calculations, etc.)
- 4. Most recent surveillance test results for SR 3.7.10.4
- 5. Plant procedures pertaining to control of temporary modifications
- 6. Drawings that show the existing penetrations that will be used to route the temporary chiller hoses
- 7. WBN chemical control procedures
- 8. Temporary chilled water skid's operating procedure(s)
- 9. Plant layout drawings that depict: (a) the emergency and normal fresh air intakes for the CRE, (b) the location of the Control Building (i.e., MCRHZ) penetration, (c) all remote shutdown panel areas in the power block, and (d) approximate positioning of the skid with respect to these subject areas
- 10. The analysis and supporting documents for the heatup of the MCR and surrounding areas to support the one-hour frequency for temperature monitoring
- 11. Documentation regarding the temporary chiller skid's diesel generator fuel oil storage capacity
- 12. Operating procedure for the temporary chiller skid's diesel generator (i.e., pertaining to manual startup and operation) along with any vendor information (e.g., technical manuals)

- 13. Documentation that supports the statement that the MCR Habitability Zone is unaffected by the temporary chilled water system, e.g., plant drawings
- 14. Relevant seismic analyses for each penetration planned to be used for the temporary chiller
- 15. Any other documentation that TVA determines to be responsive to the NRC staff's information requests above

5.0 TEAM AND REVIEW ASSIGNMENTS

The audit will be conducted by the following NRC staff:

Kimberly Green, Project Manager Brian Wittick, SCPB Branch Chief Matthew Hamm - STSB, Technical Reviewer Raul Hernandez-Figueroa – SCPB, Technical Reviewer David Nold – SCPB, Technical Reviewer

6.0 LOGISTICS

The audit will begin one week after the requested documents are made available to the NRC staff through September 25, 2020, through remote online access (e.g., electronic portal, ePortal, electronic reading room) established by TVA. Sessions for discussion of audit questions will be scheduled for early September, using a mutually acceptable platform. These sessions are expected to occur over several days, but it will be extended if necessary. Online access to the documents should be terminated one week after the conclusion of the audit.

The NRC requests access to the documents identified in Section 4.0 through an online portal that allows the NRC staff to access documents via the internet. The following conditions associated with the online portal must be maintained while NRC staff have access to the online portal:

- The online portal will be password-protected. A separate password will be assigned to each member of the NRC staff participating in the audit.
- The online portal will prevent the NRC participants from printing, saving, downloading, or collecting any information directly from the online portal.
- Conditions of use of the online portal will be displayed on the login screen and will require acknowledgment by each user.

Username and password information should be provided directly to members of the NRC staff. The NRC project manager will provide TVA the names and contact information of the NRC staff who will be participating in the audit. All other communications should be coordinated through the NRC project manager.

7.0 <u>DELIVERABLES</u>

An audit summary will be prepared within 90 days of the completion of the audit. If the NRC staff identifies information during the audit that is needed to support its regulatory decision, the staff will issue RAIs by separate correspondence.

8.0 <u>REFERENCES</u>

- 1. Letter from James Barstow Tennessee Valley Authority to the U.S. Nuclear Regulatory Commission, "Application to Modify the Watts Bar Nuclear Plant Unit 1 and Unit 2 Technical Specifications for Main Control Room Chiller Completion Time Extension (WBN-TS-18-16)" dated March 19, 2020, Agencywide Documents Access and Management System (ADAMS) Accession No. ML20140A342.
- 2. U.S. Nuclear Regulatory Commission, NRR Office Instruction LIC-101, Revision 5, "License Amendment Review Procedures," dated January 9, 2017, ADAMS Accession No. ML16061A451.
- 3. U.S. Nuclear Regulatory Commission, NRR Office Instruction LIC-111, Revision 1, "Regulatory Audits," dated October 31, 2019, ADAMS Accession No. ML19226A274.
- 4. U.S. Nuclear Regulatory Commission, Standard Review Plan (NUREG-0800) Section 3.4.1, "Internal Flood Protection for Onsite Equipment Failures," ADAMS Accession No. ML070550043.
- 5. U.S. Nuclear Regulatory Commission, Standard Review Plan (NUREG-0800) Section 3.6.1, "Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside Containment," ADAMS Accession No. ML070550032.
- U.S. Nuclear Regulatory Commission, Standard Review Plan (NUREG-0800) Section 3.7.2, "Seismic System Analysis," September 2013, ADAMS Accession No. ML13198A223.
- U.S. Nuclear Regulatory Commission, Standard Review Plan (NUREG-0800) Section 6.4, "Control Room Habitability System," March 2007, ADAMS Accession No. ML070550069.
- 8. U.S. Nuclear Regulatory Commission, Standard Review Plan (NUREG-0800) Section 9.4.1, "Control Room Area Ventilation System," March 2007, ADAMS Accession No. ML070550045.
- 9. U.S. Nuclear Regulatory Commission, Standard Review Plan (NUREG-0800) Branch Technical Position 3-3, "Protection Against Postulated Piping Failures in Fluid Systems Outside Containment," March 2007, ADAMS Accession No. ML070800027.
- 10. U.S. Nuclear Regulatory Commission Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," May 2003, ADAMS Accession No. ML031490664.
- 11. U.S. Nuclear Regulatory Commission Regulatory Guide 1.78, "Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release," Revision 1, December 2001, ADAMS Accession No. ML013100014.