

## NRR-PMDAEm Resource

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**From:** Schaaf, Robert  
**Sent:** Wednesday, April 19, 2017 4:17 PM  
**To:** Wells, Russell Douglas  
**Cc:** Arent, Gordon; Hulvey, Kimberly Dawn; Beasley, Benjamin; Shoop, Undine; Dennig, Robert; Whitman, Jennifer; Saba, Farideh  
**Subject:** Watts Bar Acceptance Review Draft Supplemental Information Request - LAR to Revise Technical Specification 3.6.15 Shield Building (CAC Nos. MF9393 and MF9394)  
**Attachments:** MF9393 - Draft Supplemental Information Needed for WBN TS LAR for Shield Building Note B.pdf

By letter dated March 6, 2017 (Agencywide Documents Access and Management System Accession No. ML17065A301), the Tennessee Valley Authority (TVA) requested amendments to the technical specifications (TS) for Facility Operating License Nos. NPF-90 and NPF-96 for the Watts Bar Nuclear Plant, Units 1 and 2. TVA requested changes to TS 3.6.15, "Shield Building."

To complete its acceptance review, the NRC staff has prepared a supplemental information request. Please see the attached for the staff's draft information request.

Per Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-109, Revision 2, "Acceptance Review Procedures," dated January 16, 2017, (ADAMS Accession No. ML16144A521), Enclosure 2, "Guide for Performing Acceptance Reviews," Section 4.1, "Discussion of Information Insufficiencies with the Licensee," a conference call should be arranged no more than 5 working days from this notification to discuss the information required to supplement the application. The licensee may supplement the application no more than 13 working days following the call. If the information responsive to the NRC staff's request is not received in that time frame, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application.

If you have any questions, please contact me at (301) 415-6020.

Regards,

*Robert G. Schaaf*

Robert G. Schaaf  
Senior Project Manager, Watts Bar/Bellefonte

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SUPPLEMENTAL INFORMATION NEEDED  
LICENSE AMENDMENT REQUEST REGARDING  
TECHNICAL SPECIFICATION 3.6.15, "SHIELD BUILDING"  
TENNESSEE VALLEY AUTHORITY  
WATTS BAR NUCLEAR PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-390 AND 50-391

By letter dated March 6 2017, (Agencywide Documents Access and Management System Accession Number ML17065A301), the Tennessee Valley Authority (TVA), the licensee, submitted a license amendment request (LAR) that proposed changes to the Watts Bar Nuclear Plant (WBN), Units 1 and 2, technical specifications (TSs). The proposed TS amendment revises the WBN Unit 1 and WBN Unit 2 TS 3.6.15, "Shield Building," Condition B and the associated Bases. Specifically, the TVA proposes to revise TS 3.6.15 by relocating the Condition B Note to Surveillance Requirement 3.6.15.1 and deleting the expired footnotes associated with the WBN Unit 1 TS 3.6.15, Condition B Note.

The Nuclear Regulatory Commission (NRC) staff performed an acceptance review of the LAR in accordance with Office of Nuclear Reactor Regulation Office Instruction LIC-109, "Acceptance Review Procedures," and determined that it is unacceptable for review with opportunity to supplement because it is missing a significant analysis and, therefore, is lacking completeness of scope. The following information should be included in the licensee's supplement to the LAR to allow the NRC staff to begin its review.

Please note that the following requests for information might be answered by information already contained in the radiological accident analysis calculations performed by the licensee.

**ARCB-ISSUE-1**

In the LAR the licensee proposes a revision and relocation of a Note in TS Limiting Condition of Operation (LCO) 3.6.15, "Shield Building." The revised Note states, "Not required to be met for 1 hour during ventilation operations, required annulus entries, or Auxiliary Building isolations" and is added to Surveillance Requirement 3.6.15 to "Verify annulus negative pressure is equal to or more negative than -5 inches water gauge with respect to the atmosphere."

Section 3.2.4 of the LAR states:

The proposed changes allow the Shield Building annulus to be degraded for a limited period of time (i.e., one hour). However, the probability of a design basis event occurring during this time is low. When the Shield Building annulus is open, as permitted by the changes proposed in this license amendment request, administrative controls would be in place to ensure that the integrity of the pressure boundaries could be rapidly restored. Therefore, the plant and the

operators would maintain the ability to mitigate design basis events and none of the fission product barriers would be affected by this change.

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.36 requires the TS be derived from the analyses and evaluation included in the safety analysis report. Per the Bases for TS 3.6.15, the design basis for the Shield Building is a LOCA [Loss of Coolant Accident] and maintaining its operability ensures that the release of radioactive material from the containment atmosphere is restricted to those leakage paths and associated leakage rates assumed in the accident analysis.

Section 15.5.3 of the WBN Updated Final Safety Analysis Report (UFSAR) contains the analysis of the environmental consequences of a postulated LOCA. This analysis assumes that activity leaking to the Shield Building is released to the environment without being filtered for the first 114 seconds, after which it is filtered through Emergency Gas Treatment System. Section 15.5.3 also states that the results of the LOCA demonstrate that the amounts of radioactivity released to the environment in the event of a LOCA do not result in doses which exceed the reference values specified in a 10 CFR 100.

The proposed LCO note to Surveillance Requirement 3.6.15, described above, does not appear to be consistent with the environmental consequences of a LOCA licensing basis for WBN, which assumes the Shield Building boundary is established with a negative 0.25 inch water gauge internal pressure within 114 seconds after the occurrence of a LOCA. The proposed note allows the Shield Building boundary to be opened for one hour while operating in Modes 1-4 when a LOCA could occur. In addition its use is unlimited. Finally, the NRC's reasonable assurance of adequate protection cannot be based solely on the probability of the accident occurring.

The proposed change creates a direct pathway to the outside atmosphere that will affect the ability of the annulus vacuum control subsystem to maintain the required annulus negative pressure under normal operation conditions and the air cleanup subsystem to reach required negative pressure in the timeframe assumed in the current accident analyses under post-accident conditions. Furthermore, the administrative controls mentioned in the LAR are not defined in the proposed TS or the proposed TS Bases for WBN TS 3.6.15.

The NRC staff notes that in a similar request which added the expired footnotes proposed to be deleted ("Watts Bar Nuclear Plant, Unit 1 – Issuance of Amendment Regarding Temporary Use of Penetrations in Shield Building Dome During Modes 1-4 (TAC No. MC6569)," dated January 6, 2006 – ADAMS Accession No. ML060050378) TVA's LAR provided a much more detailed justification that included a calculation of the impact of the proposed change on offsite and control room doses, the impact on mission doses, the proposed credit for operator actions, and assessments for tornado protection, unplanned releases, etc. The proposed LAR does not provide similar information.

Therefore, for the proposed change to allow Surveillance Requirement 3.6.15.1 not to be met for 1 hour during ventilating and required annulus entries the NRC staff requests TVA to provide the following:

- A proposed change to TS 3.6.15 that is consistent with the NRC-approved design basis as reflected in the UFSAR Section 15.5.3, "Environmental Consequences of a LOCA" analysis, or
- Explain how the dose reference values of 10 CFR 100 and the dose criterion of GDC 19 of 10 CFR 50 Appendix A are met using the proposed administrative controls. Provide the results of this analysis, the inputs, assumptions, methodology and technical basis for the analysis, and,
- Explain what administrative controls will be used to ensure that the integrity of the pressure boundaries can be restored so that the LOCA analysis results meet the dose reference values in 10 CFR 100 and the dose criterion in GDC 19, and in what document(s) they are located.

DRAFT