NRR-DMPSPEm Resource

From: Saba, Farideh
Sent: Tuesday, July 17, 2018 5:50 PM
To: Wells, Russell Douglas
Cc: Schrull, Edward Dustin; Jordan, Natreon; Stattel, Richard; Venkataraman, Booma
Subject: Request for Additional Information Regarding Watts Bar Unit 1 Extension of Surveillance Requirement Intervals (EPID L-2018-LLA-0187)
Attachments: WB1 Surveillance Extension RAI.docx

Importance: High

Russel,

By letter dated July 8, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML180189A001), the Tennessee Valley Authority (TVA) requested to extend Technical Specification (TS) Surveillance Requirements (SRs) 3.3.1.5, 3.3.2.2, and 3.3.6.2 by revising the Watts Bar Nuclear Plant (WBN), Unit 1, TS SR 3.0.2 and certain SRs in Table SR 3.0.2-1.

The U.S. Nuclear Regulatory Commission (NRC) staff has determined that additional information, as described in the below request for additional information (RAI), is required for the staff to complete its review of extension of surveillance requirement intervals for WBN Unit 1.

Draft RAI was sent to you and a clarification call was held on JULY 17, 2018, to confirm your understanding of the information that the NRC staff needs to complete the review. As we agreed during this call, please submit TVA's responses to the NRC RAI by July 24, 2018.

Thanks,

Farideh

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Options
Priority: High
Return Notification: No
Reply Requested: Yes
Sensitivity: Normal
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REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST TO

EXTED SURVEILLANCE REQUIREMENT INTERVALS

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-390

The regulatory requirements and guidance which the U.S. Nuclear Regulatory Commission (NRC) staff is considering in its review of the application include the following:

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 establishes the fundamental regulatory requirements with respect to the domestic licensing of nuclear production and utilization facilities. Specifically, Appendix A, “General Design Criteria for Nuclear Power Plants,” to 10 CFR Part 50 provides, in part, the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety.

GDC 21, "Protection System Reliability and Testability," requires that the system be designed for high functional reliability and in service testability, with redundancy and independence sufficient to preclude loss of the protection function from a single failure and preservation of minimum redundancy despite removal from service of any component or channel.

GDC 22, "Protection System Independence," requires that the system be designed so that natural phenomena, operating, maintenance, testing and postulated accident conditions do not result in loss of the protection function.

In order to complete its evaluation for acceptability of extension of surveillance requirement interval for reactor trip system and engineered safety feature actuation system safety functions, the NRC staff will need to verify the basis for the licensee’s determination that the existing fault is limited to the SSPS Train B test circuitry and does not affect the functionality of the associated safety systems. Though past performance history data was provided by TVA, the NRC staff notes that this performance is based on a period of operation during which the current anomaly (fault) was not present. Once the NRC staff confirms the basis for system operability, an evaluation of the effects of continued operation during the extended surveillance period will be performed.

RAI-1 The licensee stated in its LAR that troubleshooting, post maintenance testing, an independent Westinghouse review, and “engineering judgement” were used to determine that the cause of the unexpected opening of reactor trip breaker (RTB) train B

was an anomaly associated with the solid state protection system (SSPS) train B test circuitry when aligned to the intermediate range trip circuits of the universal logic board. However, no documentation of the specific results of these troubleshooting activities was provided, nor was there any technical description regarding how it was concluded that the problem has been isolated to within the test portion of the circuitry. The NRC staff requests the licensee submit additional information on the specific results of the aforementioned activities. This information will be used as a basis for the staff being able to have reasonable assurance that the operability determination was properly made.

RAI -2 Section 2.3 of the LAR states that conditions which result in a spurious RTB B opening are repeatable and are present only when test switches are aligned to perform testing of the intermediate range trip functions. The LAR also states; “Testing was performed that verified all logic functions work as designed, indicating that SSPS Train B is capable of performing its safety function.” If trip functions can be verified in this manner, then it is unclear why extension of surveillance test interval is needed for functions that are not impacted by the spurious failure (i.e. functions not related to intermediate range requirements). The NRC staff requests the licensee submit explain why tests of safety functions cannot be performed within the required surveillance interval.

RAI-3 The LAR states that “the risk associated with performing the repairs of the test circuitry and completing the SI while at power or continuing troubleshooting and testing, is deemed unacceptable.” To complete its evaluation of the requested surveillance extension, the NRC staff must review and evaluate the risks associated with test performance and compare them with the risks associated with extending the surveillance intervals. To support this evaluation, the NRC staff requests the licensee to submit additional information pertaining to qualitative and quantitative risk assessment related to performing surveillance testing.