NRR-DRMAPEm Resource

From: Hon, Andrew
Sent: Wednesday, May 29, 2019 3:12 PM
To: Williams, Gordon Robert (grwilliams1@tva.gov) (grwilliams1@tva.gov); Wells, Russell Douglas
Cc: Shoop, Undine
Subject: Request for additional information - Sequoyah Nuclear Plant, Units 1 and 2, Request for Alternative to 18-ISI-1 EPID: L-2019-LLR-0006

By letter dated January 30, 2019 (Agencywide Documents and Access Management System (ADAMS) Accession No. ML19031C848), Tennessee Valley Authority (TVA, the licensee) requested an alternative in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2) to the requirements of American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) at Sequoyah Nuclear Plant Units 1 and 2. Specifically, the licensee submitted for the U. S. Nuclear Regulatory Commission (NRC) review and approval Proposed Alternative 18-ISI-1 to modify examination schedules in upper head penetration housing welds. The NRC staff is reviewing your submittal and has determined that additional information is required to complete the review. The proposed questions were discussed by telephone with your team on May 20, 2019. Your team confirmed that the request for additional information (RAI) was understood, it does not contain the proprietary information, and agreed to provide a response by June 21, 2019.

REGULATORY BASIS

Title 10 of the *Code of Federal Regulations* (10 CFR)

- 50.55a(z)(2)

  Hardship without a compensating increase in quality and safety. Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety…

- 50.55a(g)(4)(ii)

  Applicable ISI Code: Successive 120-month intervals. Inservice examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the ASME Code incorporated by reference in paragraph (a) of this section 12 months before the start of the 120-month inspection interval (or the optional ASME Code Cases listed in NRC Regulatory Guide 1.147, when using ASME BPV Code, Section XI, or NRC Regulatory Guide 1.192, when using the ASME OM Code, as incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section), subject to the conditions listed in paragraph (b) of this section.

REQUESTS FOR ADDITIONAL INFORMATION

1. The licensee specified the dates of the fourth inservice inspection (ISI) interval (i.e., present through April 30, 2025). However, the licensee does not specify the dates of the fifth and sixth intervals. The dates of the intervals are important for specifying the time period for which a proposed alternative may be granted. Please provide the dates for the fifth and sixth ISI intervals.

2. The licensee is requesting an alternative for three consecutive ISI intervals, spanning approximately 21 years of operating service. 10 CFR 50.55a(g)(4)(ii) requires that licensees update their ISI programs to

reflect the latest edition of ASME Code Section XI incorporated by reference in 10 CFR 50.55a at the time corresponding to 12 months prior to the start of the next ISI interval. This means that ISI requirements evolve over time. Over 30 years of operation, plant-specific or fleet-wide operating experience may necessitate revising ISI requirements in order to provide reasonable assurance of the public health and safety. Primary water stress corrosion cracking (PWSCC), in particular, is known to be slower at cold-leg temperatures. Therefore, the absence of cracking at cold-leg temperature locations (such as those mentioned in 18-ISI-1) is not indicative of future performance. Please describe how (a) evolving ISI requirements in the ASME Code and (b) future operating experience will be accounted for over the 30-year period over which the alternative is proposed.

3. The licensee's basis for a hardship relies on the fact that multiple deployments of remote examination tooling within one interval results in unnecessary accumulation of radiological exposure to personnel. Aligning the exam schedules of the upper head injection, control rod drive, and incore instrumentation housing welds with the Code Case N-729-4, Table 1, Item No. B.20 exams of the upper head results in decreased radiological exposure. However, Note 8 of Table 1 of Code Case N-729-4 states that if found flaws are attributed to PWSCC, then the reinspection interval is changed to each refueling outage. Similarly, Note 5 of Table 1 of N-770-2 updates the required exam frequency in the case that a planar surface flaw is detected. Therefore, the licensee's basis for hardship is at risk, due to the possibility that a flaw attributable to PWSCC is found during an exam. Please explain or update TVA's basis for hardship in light of this discussion.

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. Please note that if you do not respond to this request by the agreed-upon date or provide an acceptable alternate date, we may deny your application for amendment under the provisions of Title 10 of the *Code of Federal Regulations*, Section 2.108. If circumstances result in the need to revise the agreed upon response date, please contact me.

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