Theo Edwards

From: Theo Edwards
Sent: Friday, May 30, 2025 2:00 PM
To: Smith, Derek
Cc: Audrey Klett
Subject: L-2024-LLA-0148 Susquehanna LAR Final RAIs
Attachments: L-2024-LLA-0148 Susquehanna LAR Final RAIs.docx

Hey Derek,

Attached is a copy of the final list of RAIs. As discussed in the clarification call because we issued these to you today, we have moved the licensee's response date to June 30. If there are any questions regarding these requests, please let me or Audrey know.

Best regards,

Theo Edwards, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation
U.S Nuclear Regulatory Commission
ph: 301-415-1721

REQUEST FOR ADDITIONAL INFORMATION (RAI)
SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2
DOCKET NOS. 05000387 and 05000388
EPID NO. L-2024-LLA-0148

By application dated November 1, 2024 (Agencywide Documents Access and Management System Accession No. ML24306A122), Susquehanna Nuclear, LLC (the licensee) submitted a license amendment request (LAR) for the Susquehanna Steam Electric Station, Units 1 and 2 (Susquehanna) to revise the Technical Specifications (TS) for the primary containment leakage rate testing program by extending testing intervals and frequencies, replacing references, and deleting obsolete information. The U.S. Nuclear Regulatory Commission (NRC) staff determined that it needs additional information to complete its review. The NRC staff provided the licensee with a draft RAI on May 20, 2025. On May 29, 2025, NRC staff and the licensee held a clarification call. NRC staff deleted draft RAI-2 (and renumbered the remaining RAIs) after that discussion, as shown in red tracked changes below. As discussed with Mr. Derek Smith of the licensee's staff on May 29, 2025, the NRC staff is requesting the licensee to respond to the RAI on or by June 30, 2025.

RAI-1

Regulatory Basis:

The NRC regulations in 10 CFR Part 50, Section 54, "Conditions of licenses," paragraph (o) require primary reactor containments for water-cooled power reactors to be subject to the requirements of 10 CFR Part 50, Appendix J, which specifies containment leakage testing requirements, including the types required to ensure the leak-tight integrity of the primary reactor containment and systems and components which penetrate the containment. In addition, Appendix J to 10 CFR Part 50 discusses leakage rate acceptance criteria, test methodology, frequency of testing, and reporting requirements for each type of test.

Issue:

In its LAR, the licensee requested to modify Technical Specification 5.5.12, "Primary Containment Leakage Rate Testing Program," to allow, in part, the following changes:

- adopting an extension of the containment isolation valve leakage rate testing (Type C) frequency from the 60 months currently permitted by 10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," Option B, to 75 months for Type C leakage rate testing of selected components, in accordance with NEI 94-01, Revision 3-A (ML12221A202).
- adopting a more conservative allowable test interval extension of nine months, for Type A, Type B and Type C leakage rate tests in accordance with NEI 94-01, Revision 3-A

Section 3.4.7, "Type B and Type C Tested Components on Extended Intervals," of attachment 1 to the LAR states for both Unit 1 and Unit 2, "Of the 52 Type B tested components, 48 are eligible for an extended interval, and 84.62% of the eligible components are on an extended interval." However, 84.62% of 48 eligible components gives components that are on an extended interval as 40.62, which seems incorrect because it is not an integer.

Request:

Provide confirmation that the Type B and Type C components in each unit that are on extended intervals have been properly identified and provide the numbers of Type B and Type C components in each unit that are on extended intervals.

~~**RAI-2**~~

~~Regulatory Basis:~~

~~ASME Section XI, Table IWE-2500-1 (E-A), Item E1.30, "Moisture Barriers," requires inspection of 100% of moisture barriers during each inspection period. Footnote (4) to Item E1.30 sates, "Examination shall include moisture barrier materials intended to prevent intrusion of moisture against inaccessible areas of the pressure retaining metal containment shell or liner at concrete-to-metal interfaces and at metal-to-metal interfaces which are not seal-welded. Containment moisture barrier materials include caulking, flashing, and other sealants used for this application."~~

~~Issue:~~

~~Section 3.5.5 of attachment 1 of the LAR states, in part, that RIS 2016-07, "Containment Shell or Liner Moistures Barrier Inspection" (ML16068A436), is applicable to Susquehanna; however, Susquehanna does not have any moisture barriers that meet the definition as provided in the RIS and ASME Section XI, Subsection IWE.~~
~~Section 3.8.1.1.1 of the Susquehanna Updated Final Safety Analysis Report (ML23291A105 states, "The drywell floor is a reinforced concrete slab structurally connected to the containment wall as shown on Dwg. Section 3.8.1.1.1 of the Susquehanna Updated Final Safety Analysis Report (ML23291A105) states, "The drywell floor is a reinforced concrete slab structurally connected to the containment wall as shown on Dwg. C-284, Sh. 1." The staff understands that the description of the containment drywell floor slab connection to the containment wall matches the condition described in ASME, Section XI, Figure IWE-2500-1, where an internal concrete interfaces with the containment liner.~~

~~Request:~~

~~Provide operating experience documentation to demonstrate that areas at concrete-to-liner interfaces susceptible to moisture accumulation are fully inspected.~~

RAI-2

Regulatory Basis:

10 CFR 50.55a(b)(2)(ix)(A) and 10 CFR 50.55a(b)(2)(viii)(E) state that for Class MC and CC applications, the following apply to inaccessible areas.

(1) The applicant or licensee must evaluate the acceptability of inaccessible areas when conditions exist in accessible areas that could indicate the presence of or could result in degradation to such inaccessible areas.

(2) For each inaccessible area identified for evaluation, the applicant or licensee must provide the following in the ISI Summary Report as required by IWA-6000:

(i) A description of the type and estimated extent of degradation, and the conditions that led to the degradation;

(ii) An evaluation of each area, and the result of the evaluation; and

(iii) A description of necessary corrective actions.

Issue:

NRC Regulatory Guide (RG) 1.163, “Performance-Based Containment Leak-Test Program” (ML23073A154), endorses NEI 94-01, Revision 3-A for implementing Option B in Appendix J to 10 CFR Part 50, subject to the regulatory positions in section C of the RG. Condition 3 in section C of RG 1.163 states, in part,

> The LAR should address the areas of the containment structure potentially subject to degradation... In addition, the LAR should also address such inaccessible degradation-susceptible areas in plant-specific inspections, using viable, commercially available NDE methods (such as boroscopes, guided wave techniques, etc.)....

Sections 3.6.2 and 3.6.3 of attachment 1 to the LAR state that inaccessible degradation-susceptible areas, per provisions of 10 CFR 50.55a(b)(2)(ix)(A) for IWE and 10 CFR 50.55a(b)(2)(viii)(E) for IWL, are within the scope of the in-service inspection program. It is unclear whether inaccessible degradation-susceptible areas were evaluated and, if so, how the conditions were evaluated.

Request:

1. Provide descriptions for how inaccessible areas were evaluated and accepted when conditions exist in accessible areas that could indicate the presence of or could result in degradation to such inaccessible areas.
2. Provide a summary of results of the evaluations for degradation-susceptible inaccessible areas related to Class MC and CC components applicable to the IWE and IWL ISI programs.

RAI-3

Currently, Susquehanna TS 5.5.12, in part states:

> A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide (RG) 1.163, “Performance-Based Containment Leak-Test Program,” dated September 1995.

The licensee proposed change to TS 5.5.12 would state, in part (with changes using strike-out for deleted text and bold-type for added text for clarification purposes):

> A program shall be established, implemented, and maintained to comply with the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in RG 1.163,

Revision 1, “Performance-Based Containment Leak-Test Program,” dated ~~September 1995~~ **June 2023, and NEI 94-01, Revision 3-A, “Industry Guideline for Implementing Performance-Based Option of 10 CFR 50, Appendix J,” dated July 2012** …

As noted above, RG 1.163, Revision 1, was issued in June of 2023. This revision of the RG endorsed the guidance in NEI 94-01, Revision 3-A, issued July 2012, for implementing Option B of Appendix J to 10 CFR Part 50, subject to the regulatory positions listed in Section C of the RG. In the proposed change, the licensee includes the NEI document in the TS markup in addition to citing RG 1.163, Revision 1. The LAR does not appear to provide an explanation as to why the NEI guidance was explicitly included in the TS markup, given that the RG 1.163 endorses the NEI guidance. As such, the rationale for why the licensee cited the NEI document in TS 5.5.12 is not clear to the NRC staff. Providing information that clarifies why the NEI guidance is cited would help to ensure compliance with program requirements that are necessary to ensure operation of the facility in a safe manner. Therefore, the NRC staff requests that the licensee provide information that explains the rationale for citing both the RG and NEI guidance in TS 5.5.12.

For reference, the NRC staff sent a similar RAI to another site (ML25014A344, ML25043A418).

RAI-4

The LAR Section 4.3, “No Significant Hazards Considerations Analysis,” proposed change description appears to suggest that 10 CFR 50, Appendix J, Option B is being replaced with a reference to NEI 94-01, Revision 3-A. This description appears to be an editorial error. The description for the proposed change provided in LAR Section 1, “Summary Description,” appears to be consistent with the proposed TS markups, which retain reference to Appendix J. Therefore, the NRC staff requests that the licensee explain the apparent inconsistency in the proposed change description contained in the LAR and make any changes, as appropriate.

For reference, the NRC staff sent a similar RAI to another site (ML25014A344, ML25043A418).