

January 21, 2010

MEMORANDUM TO: Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Richard B. Ennis, Senior Project Manager */ra/*
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NO. 1,
DRAFT REQUEST FOR ADDITIONAL INFORMATION
(TAC NO. ME2258)

The attached draft request for information (RAI) was transmitted on January 21, 2010, to Mr. Jeff Keenan of PSEG Nuclear LLC (the licensee). This information was transmitted to facilitate an upcoming conference call in order to clarify the licensee's amendment request for Salem Nuclear Generating Station (Salem), Unit No. 1, dated September 21, 2009. The proposed amendment would revise Technical Specification 6.8.4.f, "Primary Containment Leakage Rate Testing Program," to allow a one-time extension of the containment Type A integrated leakage rate test interval from 10 to 15 years.

This memorandum and the attachment do not convey or represent an NRC staff position regarding the licensee's request.

Docket No. 50-272

Attachment: Draft RAI

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DRAFT REQUEST FOR ADDITIONAL INFORMATION
REGARDING PROPOSED LICENSE AMENDMENT
ONE-TIME EXTENSION OF THE TYPE A TEST INTERVAL
SALEM NUCLEAR GENERATING STATION, UNIT NO. 1
DOCKET NO. 50-272

By letter dated September 21, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML092730362), PSEG Nuclear LLC (the licensee) submitted an amendment request for Salem Nuclear Generating Station (Salem), Unit No. 1. The proposed amendment would revise Technical Specification (TS) 6.8.4.f, "Primary Containment Leakage Rate Testing Program," to allow a one-time extension of the containment Type A integrated leakage rate test (ILRT) interval from 10 to 15 years.

The Nuclear Regulatory Commission staff has reviewed the information the licensee provided that supports the proposed amendment and would like to discuss the following issues to clarify the submittal.

Containment and Ventilation Branch (SCVB) Request for Additional Information (RAI) Questions

1. The second and third paragraphs on page 11 of Attachment 1 to the application dated September 21, 2009, discusses notifications processed during the first and second IWE examination campaigns for Salem Unit No. 1 related to coating degradation on containment penetrations and on the metal containment liner. Both paragraphs state that "[e]ngineering evaluations were performed on noted areas of degradation and all areas were found acceptable." Please describe the engineering evaluations performed and the acceptance criteria used for accepting the degraded coatings.
2. Please identify any bellows used on penetrations through containment pressure-retaining boundaries. Provide information on their location; and inspection, testing and operating experience with regard to detection of leakage through the penetration bellows.
3. Please provide information of instances, if any, during implementation of the IWE/IWL containment inservice inspection (CISI) program, for Salem Unit No. 1, where existence of, or potential for, degradation conditions in inaccessible areas of the containment structure and metallic liner were identified and evaluated based on conditions found in accessible areas as required by 10 CFR 50.55a(b)(2)(viii)(E) and 10 CFR 50.55a(b)(2)(ix)(A). If there were any instances of such conditions, please discuss the findings and actions taken.
4. Page 12 of Attachment 1 to the application dated September 21, 2009, under the heading "Schedule and Method for Appendix J Visual Examination (RG 1.163, Regulatory Position C.3)," describes the requirements of Appendix J to 10 CFR Part 50 and the guidance in Regulatory Guide (RG) 1.163 for visual examination. It is not explicitly stated that these requirements and guidance were met for the most recent (Spring 2007) examination. Please discuss whether the station procedure used for the recent examination (SH.RA-ST.ZZ-0106), and also to be used for the scheduled examinations, is in accordance with the requirements in Appendix J to 10 CFR Part 50 and the guidance in RG 1.163.

5. Please discuss whether the periodic inspections of Service Level 1 coatings inside containment is consistent with the guidance in RG 1.54, "Service Level I, II, and III Protective Coatings Applied to Nuclear Power Plants," Revision 1, dated July 2000.

PRA Licensing Branch (APLA) RAI Questions

1. The assessment of corrosion-induced leakage of the steel liner in Section 4.4 of Attachment 3 to the application dated September 21, 2009, was based on two observed corrosion events (at North Anna 2 and Brunswick Unit 2) considered in the Calvert Cliffs corrosion analysis. There have been additional instances of liner corrosion that are relevant to this assessment, including a recent finding at Beaver Valley Unit 1 (LER 2009-003-00, ADAMS Accession No. ML091740056). Provide a more complete accounting of all observed corrosion events relevant to the Salem Unit No. 1 containment, and an evaluation of the impact on risk results when all relevant corrosion events are included in the risk assessment.
2. Section A.2.3 of Appendix A to Attachment 3 to the application dated September 21, 2009, states that results of a March 2008, formal peer review of the Salem probabilistic risk assessment (PRA) indicated that a number of supporting requirements were "Not Met" or only met "Category I." Table A.2-1 in Attachment 3 describes only the eight "key" findings from the March 2008 PRA peer review and an assessment of each finding's impact on the application. Provide a description and evaluation of the impact on the ILRT extension request of all the 2008 peer review items that are "Not Met."

The remaining questions refer to entries in Table A.2-1 in Attachment 3 on key findings from the Salem PRA 2008 peer review:

3. The fourth issue is that the Initiating Events Notebook indicates that in the Salem Generating Station Experience and Trip Review, there was potentially inadequate consideration of (1) events other than at-power operation, and (2) events during controlled shutdown, which could result in the exclusion of valid initiating events. The impact of this issue is assessed as "non-significant" because a review of non-power events was included. Clarify whether this review of non-power events was completed (but not documented) for the PRA, or whether this review was completed for the current application of extending the Type A ILRT interval.
4. The fifth issue involves the screening of internal flood scenarios (non-high frequency) without development of flood rate, source, and operator actions. The impact of this issue is assessed as "no impact." In PSEG's severe accident mitigation alternative (SAMA) analysis supporting its August 18, 2009, license renewal application for Salem, floods are shown to be the fourth leading initiator contributing to core damage frequency (CDF) and large early release frequency (LERF). Describe the approach used, and basis for, screening internal flood scenarios.
5. The impact of the sixth issue involving station blackout (SBO) accident sequence success paths is assessed as "non-significant," due to the "very small" likelihood of relevant sequences. In PSEG's SAMA analysis supporting its August 18, 2009, license renewal application for Salem, Loss of Offsite Power is shown as a dominant initiator contributing to CDF and LERF. Provide an order of magnitude estimate of the frequency of SBO sequences, with and without successful offsite power recovery.

6. The description of the eighth issue related to data included sources of uncertainty not being discussed in the analysis. The impact of this issue is assessed as “no impact” due to the issues being related to documentation only, but it is not clear whether sources of uncertainty were considered. Clarify whether and how sources of uncertainty were considered.