

UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

April 14, 2025

David Sharbaugh Site Vice President PSEG Nuclear PO Box 236 Hancocks Bridge, NJ 08038-0221

SUBJECT: SALEM GENERATING STATION, UNITS 1 AND 2 - REGULATORY AUDIT PLAN IN SUPPORT OF LICENSE AMENDMENT REQUESTS TO ADOPT TSTF-505, REVISION 2, "PROVIDE RISK-INFORMED EXTENDED COMPLETION TIMES - RITSTF INITIATIVE 4B,"AND 10 CFR 50.69, " RISK-INFORMED CATEGORIZATION AND TREATMENT OF STRUCTURES, SYSTEMS AND COMPONENTS FOR NUCLEAR POWER REACTORS," (EPID L-2025-LLA-0021 AND EPID L-2025-LLA-0022)

Dear David Sharbaugh:

By letters dated January 31, 2025 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML25031A416 and ML25031A371), PSEG Nuclear LLC submitted license amendment requests (LARs) to amend the licenses for Salem Generating Station, Units 1 and 2, Renewed Facility Operating License Nos. DPR-70 and DPR-75, respectively. The proposed LARs would adopt Technical Specifications Task Force Traveler 505 (TSTF-505), Revision 2, "Provide Risk-informed Extended Completion Times, RITSTF Initiative 4b" and adopt the provisions of Title 10 of the *Code of Federal Regulations*, Section 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors."

The U.S. Nuclear Regulatory Commission (NRC) staff has identified the need for a regulatory audit to examine the licensee's non-docketed information with the intent to gain understanding, to verify information, or to identify information that will require docketing to support the basis of the licensing or regulatory decision.

Based on the commonalities between the LARs and subsequent overlap in technical content and review personnel, the NRC will conduct a combined audit that addresses both LARs. The NRC staff will conduct the combined audit virtually via Teams using a licensee-established electronic portal available to NRC staff. The audit will begin within two weeks of the date of this audit plan through October 23, 2025, with formal audit meetings to be scheduled during this period, as needed. The detailed audit plan and requested supporting materials are enclosed with this letter. Sincerely,

/**RA**/

Richard Guzman, Senior Project Manager Plant Licensing Branch 1 Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

Enclosures: 1. Audit Plan 2. Audit Requests

cc: Listserv



UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

REGULATORY AUDIT PLAN

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

TO SUPPORT THE REVIEW OF LICENSE AMENDMENT REQUESTS

TO ADOPT RISK INFORMED COMPLETION TIMES - TSTF-505

AND 10 CFR 50.69 RISK-INFORMED CATEGORIZATION OF SSCs

PSEG NUCLEAR LLC

SALEM GENERATING NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-272 AND 50-311

1.0 BACKGROUND

By letters dated January 31, 2025 [1] and [2], PSEG Nuclear LLC (the licensee) submitted license amendment requests (LARs) for Salem Generating Station, Units 1 and 2 (Salem). would modify the Salem technical specifications (TSs) to permit the use of Risk-Informed Completion Times (RICTs) in accordance with Technical Specifications Task Force (TSTF)-505, Revision 2, "Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b" [3]. proposes the addition of a license condition that allows implementation of the provisions in Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors."

The staff from the U.S. Nuclear Regulatory Commission's (NRC's) Office of Nuclear Reactor Regulation (NRR) has initiated its review of the LARs in accordance with NRR Office Instruction LIC-101," License Amendment Review Procedures" [4].

2.0 REGULATORY AUDIT BASES

A regulatory audit is a planned license, or regulation-related activity that includes the examination and evaluation of the licensee's non-docketed information that provides the technical basis for the LAR. An audit is conducted to gain understanding, to verify information, and to identify information that will require docketing to support the basis of a licensing or regulatory decision. An audit will assist the NRC staff in efficiently conducting its review and gaining insights to the licensee's processes and procedures. Information that the NRC staff

relies upon to make the safety determination must be submitted on the docket. This audit will be conducted in accordance with NRR LIC-111, "Regulatory Audits" [5], with exceptions noted within this audit plan.

The NRC staff will perform the audit to support its evaluation of whether the licensee's requests can be approved per 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit." The NRC staff's review will be informed by Standard Review Plan Section 19.2, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis" [6]. The audit will assist the NRC staff with understanding the licensee's proposed programs for implementing RICTs for certain TSs and categorizing structures systems and components (SSCs) based on their risk significance. Further, due to the overlaps in technical matter and personnel reviewing the two LARs, the NRC staff determined that a combined audit would permit the most efficient use of resources for the NRC and the licensee.

3.0 <u>SCOPE</u>

The audit team will view the documentation and calculations that provide the technical support for the LARs. The scope of the NRC staff's audit will focus on the following subjects:

- Understand how the licensee's proposed program conforms to NRC-endorsed guidance in the Nuclear Energy Institute (NEI) report NEI 06-09, Revision 0-A, "Risk-Informed Technical Specification Initiative 4b, Risk-Managed Technical Specification Guidelines" [7].
- Understand how the licensee's proposed program conforms to NRC-endorsed guidance in NEI 00-04, Revision 0, "10 CFR 50.69 SSC Categorization Guideline" [8], as endorsed by Regulatory Guide 1.201, Revision 1, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance" [9].
- Gain a better understanding of the detailed calculations, analyses, and bases underlying the LARs and confirm the staff's understanding of the LARs.
- Gain a better understanding of plant design features and their implications for the LARs.
- Identify any information needed to enable the staff's evaluation of the technical acceptability of the probabilistic risk assessment (PRA) used for these applications.
- Identify any information needed to enable the staff's evaluation of whether the proposed changes challenge design-basis functions or adversely affect the capability or capacity of plant equipment to perform design-basis functions.
- Identify questions and requests that may become formal requests for additional information (RAIs) per NRR Office Instruction LIC-115, "Processing Requests for Additional Information" [10].

The NRC staff will audit the PRA methods that the licensee would use to: (1) categorize SSCs based on their risk significance, and (2) determine the risk impact from which the revised completion times for TSTF-505 would be obtained. This will include the licensee's assessment of internal events (including internal flooding) and fire as well as the treatment of uncertainties

and evaluation of defense in depth. The NRC will also audit the licensee's quantification of risk from significant external events, whether the licensee uses PRA or bounding methods. In addition, the audit team will discuss these topics with the licensee's subject matter experts.

4.0 INFORMATION AND OTHER MATERIAL NECESSARY FOR THE REGULATORY AUDIT

The NRC staff will request information and interviews throughout the audit period. The NRC staff will use an "audit items list" to identify the information to be audited (e.g., methodology, process information, and calculations) and the subjects of requested interviews and meetings.

The NRC staff requests the licensee to have the information referenced in the attachment of this audit plan available and accessible for the NRC staff's review via a web-based electronic portal within two weeks of the date of this audit plan. The NRC staff requests that any supplemental information requested be available and accessible for the NRC staff's review within one week of the date of the NRC's notification to the licensee of the new requests. The NRC staff requests the licensee to notify the review team when an audit item is added to its electronic portal by sending an email to the NRC project manager.

The staff acknowledges and will observe appropriate handling and protection of proprietary information made available for the audit. Any information accessed through the licensee's portal will not be held or retained in any way by NRC staff.

5.0 AUDIT TEAM

The following table identifies the NRC audit team members, including contractors, and their respective focus areas:

		LAR			
Namo	F-mail	RICT	50.69	Review Area (Organization)	
Name				Review Area (organization)	
Rich Guzman ⁽¹⁾	Richard.Guzman@nrc.gov	x	x	Plant Licensing Branch LPL1	
April Pulvirenti ^{(2) (3)}	April Pulvirenti@prc.gov	X			
David McClain ⁽²⁾	David McClain@nrc.gov		x	PRA Licensing Branch A (APLA)	
Jeff Circle	Jeff.Circle@nrc.gov	Х	X		
Charles Moulton	Charles.Moulton@nrc.gov	X			
Jay Robinson	Jay.Robinson@nrc.gov	Х		PRA Licensing Branch B (APLB)	
Keith Tetter	Keith.Tetter@nrc.gov	Х	Х	PRA Licensing Branch C (APLC)	
Michael Swim	Michael.Swim@nrc.gov	Х	Х	FRA LICENSING BIANCING (AFEC)	
Edmund Kleeh	Edmund.Kleeh@nrc.gov	Х		Electrical Engineering Branch	
Khoi Nguyen	Khoi.Nguyen@nrc.gov	Х	Х	(EEEB)	
Hosung Ahn	Hosung.Ahn@nrc.gov	Х	Х		
Jason White	Jason.White@nrc.gov	Х	Х	External Hazarda Branch (EVHP)	
Rosalynn Wang	Rosalynn.Wang@nrc.gov	Х		External Hazards Branch (EXHB)	
Sarah Tabatabai	Sarah.Tabatabai@nrc.gov	Х			
Jason English	Jason.English@nrc.gov	Х		Instrumentation and Controls	
Ming Li	Ming.Li@nrc.gov	Х	Х	Branch (EICB)	
Gurjendra Bedi	Gurjendra.Bedi@nrc.gov	Х	Х	Mechanical Engineering and	
Thomas Scarbrough	Thomas.Scarbrough@nrc.gov	Х	Х	Inservice Testing Branch (EMIB)	
Amitava Ghosh	Amitava.Ghosh@nrc.gov	х		Structural, Civil, and Geotechnical Branch (ESEB)	
Cory Parker	Cory.Parker@nrc.gov		х	Vessels and Internals Branch (NVIB)	
Stephen Cumblidge	Stephen.Cumblidge@nrc.gov		х	Piping and Head Penetrations (NPHP)	
Angelo Stubbs	Angelo.Stubbs@nrc.gov	Х	Х	Containment and Plant Systems	
Brian Lee	Brian.Lee@nrc.gov	Х	Х	Branch (SCPB)	
Jo Ambrosini	Josephine.Ambrosini@nrc.gov	Х	Х	Nuclear Systems Performance	
Logan Gaul	Logan.Gaul@nrc.gov	Х	Х	Branch (SNSB)	
Andrea Russell	Andrea.Russell@nrc.gov	х		Technical Specifications Branch (STSB)	
Mark Wilk (4)	Mark.Wilk@pnnl.gov	Х		Regific Northwoot National	
Steve Short (4)	Steve.Short@pnnl.gov	х		Laboratory (PNNL)	

Table 1: NRC Audit Team Composition

Notes:

(1) NRR Division of Operating Reactor Licensing (DORL) Project Manager

(2) Technical Lead

(3) Contracting Officer Representative

(4) NRC Contractor

6.0 LOGISTICS

The audit will be conducted using a secure, online electronic portal, established by the licensee to present supporting documentation and calculations and by interviews with the licensee's subject matter experts, virtually. The audit will begin within two weeks of the date of this audit plan and last through October 23, 2025.

The NRC's project manager will inform the licensee of the entrance and exit meeting dates when they are established. The NRC project manager will coordinate with the licensee to set dates and times to discuss information needs and questions arising from the NRC's review of the audited items. The NRC staff may change and/or add audit dates and times when deemed necessary. Audit meeting agenda and questions will be sent in advance of the audit meeting.

7.0 SPECIAL REQUESTS

The following conditions associated with the online web-based electronic portal should be maintained while the NRC staff and contractors on the audit team have access to the online portal:

- The online electronic portal will be password-protected, and separate passwords will be assigned to each member of the audit team.
- The online web-based electronic portal will be sufficiently secure to prevent the NRC staff and contractors from printing, saving, downloading, or collecting any information from the web portal.
- Conditions of use of the online electronic portal will be displayed on the login screen and will require acknowledgment by each user.

The licensee should provide username and password information directly to the NRC staff and contractors on the audit team, listed above. The NRC project manager will provide the licensee the names and contact information of the NRC staff and contractors who are added to the audit team. All other communications should be coordinated with the NRC project manager. The NRC's project manager will inform the licensee via routine communications when the NRC staff no longer needs access to the electronic portal.

No data accessed by the audit team members will be retained by the NRC following the conclusion of the audit.

8.0 <u>DELIVERABLES</u>

The NRC staff will develop any RAIs, as needed, in accordance with NRR LIC-115 [10] and issue such RAIs separate from audit-related correspondence. The NRC staff will issue an audit summary report within approximately 90 days after the end of the audit and prior to completing its safety evaluations of the LARs.

9.0 <u>REFERENCES</u>

- [1] Sharbough, David, PSEG Nuclear, Salem Generating Station, Units 1 and 2 letter to U.S. Nuclear Regulatory Commission, License Amendment Request - Revise Salem Generating Station Technical Specifications to Adopt Risk Informed Completion Times TSTF-505-A, Revision 2, "Provide Risk-Informed Extended Completion Times - RITSTF-Initiative 4b" and TSTF-591-A, Revision 0, "Revise the Risk Informed Completion Time (RICT) Program," January 31, 2025 (ML25031A416).
- [2] Sharbough, David, PSEG Nuclear, Salem Generating Station, Units 1 and 2 letter to U.S. Nuclear Regulatory Commission, Application to Adopt 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power

Reactors," January 31, 2025 (ML25031A371).

- [3] Technical Specifications Task Force (TSTF) A Joint Owners Group Activity, TSTF Comments on Draft Safety Evaluation for Traveler TSTF 505, "Provide Risk-Informed Extended Completion Times" and Submittal of TSTF-505, Revision 2 July 2, 2018 (ML18183A493).
- [4] U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, LIC-101, Revision 6, "License Amendment Review Procedures" July 31, 2020 (ML19248C539).
- [5] U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, LIC-111, Revision 2, "Regulatory Audits" December 30, 2024 (ML24309A281).
- [6] U.S. Nuclear Regulatory Commission, NUREG-0800 Standard Review Plan: Section 19.2, Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance, June 19, 2007 (ML071700658).
- [7] Nuclear Energy Institute (NEI), NEI 06-09, Revision 0-A, Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines -Industry Guidance Document, October 12, 2012 (ML122860402).
- [8] Nuclear Energy Institute (NEI), NEI 00-04, Revision 0, "10 CFR 50.69 SSC Categorization Guideline," July 2005 (ML052910035).
- [9] U.S. Nuclear Regulatory Commission, Revision 1 of Regulatory Guide 1.201, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance," April 28, 2006 (ML061090627).
- [10] U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, LIC-115, Revision 1, "Processing Requests for Additional Information," August 5, 2021 (ML21141A238).

ITEM	AUDIT REQUEST				
1	Reports cited in Enclosure 2 of the license amendment request (LAR) to adopt Technical Specifications Task Force (TSTF)-505 and Section 3 of the LAR to adopt Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) 50.69 from full-scope and focused-scope peer reviews, self- and gap assessments (including findings, observations, and dispositions), and closure reviews of facts and observations (F&Os).				
2	For the probabilistic risk assessments (PRA) identified under Item #1 above, plant-specific documentation (e.g., uncertainty notebooks) related to:				
	 a. The review of the PRA model assumptions and sources of uncertainty (generic and plant-specific assumptions/uncertainties) for the TSTF-505 and 50.69 LARs. b. Identification of key assumptions and sources of uncertainty for the TSTF-505 and 50.69 LARs. 				
	c. Parametric uncertainty and state-of-knowledge correlation evaluation for the TSTF-505 and 50.69 LARs.				
3	PRA notebooks for the modeling of FLEX equipment and FLEX human error probabilities credited in the PRAs.				
4	PRA notebooks for the modeling of digital control systems, including basis for the representative failure probabilities.				
5	If modeled, PRA notebooks associated with the modeling of open phase condition in electrical switchyards and the open phase isolation system.				
6	Documentation of how shared or cross-tied systems are modeled in the PRA.				
7	Fire PRA notebooks containing the results of the fire PRA, including risk importance measures.				
8	 If not included in #7 above: Fire PRA F&O closure reports Ordered list of top fire scenarios for each unit (i.e., those contributing 1 percent or more of the calculated fire risk) Risk summary (i.e., core damage frequency and large early release frequency) for each fire area for each unit Fire area to physical analysis unit (PAU) crosswalk 				

ITEM	AUDIT REQUEST					
9	 Documents cited in Attachment 4, Other External Hazards Disposition of 10 CF 50.69 LAR Documents cited in Section 3 of Enclosure 4, Seismic Risk Contribution Analysi of the TSTF-505 LAR Documents cited in Section 4 of Enclosure 4, Extreme Winds Analysis of the TSTF-505 LAR 					
	Documents cited in Section 5 of Enclosure 4, External Flooding Assessment of the TSTF-505 LAR					
	 Documents cited in Section 6 of Enclosure 4, Evaluation of Other External Event Challenges and Institute of Electrical and Electronics Engineers Update Results of the TSTF-505 LAR 					
	 PSEG Calculation SA-LAR-024, "External Hazards Assessment for the Salem Nuclear Generating Station," Revision 0, dated December 2024. 					
10	Documentation supporting the example risk-informed completion times (RICT) calculations presented in LAR Enclosure 1, Table E1-2.					
11	Documentation supporting the development of the real-time risk tool and benchmarking it against the PRA. Presentation of an overview of the RICT program procedures, including those for determining risk management actions, a demonstration of the process for calculating RICTs (including use of the configuration risk management program tool).					
12	PRA configuration control and update procedures, including when the PRA is updated (i.e., unscheduled and scheduled PRA updates).					
13	If available, final RICT program procedures (e.g., for risk management actions, PRA functionality determination, and recording limiting conditions for operation). [The licensee may choose (optional) to provide draft RICT program procedures if final procedures are not available.]					
14	Salem Generating Station (Salem), Units 1 and 2, LAR for the TSTF-505 and TSTF- 591, RICT, Enclosure 4, Reference [30], PSEG Calculation SA-LAR-026, "Tornado Missile Risk Assessment for 50.69 and RICT LARs," Revision 0, dated December 2024.					
15	 Single line diagrams of electrical power distribution systems Load lists for safety related loads per division/train Latest TS Basis List of electrical shared SSCs, if any Description of shared-system cross-tie(s) configurations and operation (if applicable) Descriptions of how shared SSCs and cross-tie(s), if any, are modeled in the Salem PRA. 					
16	Other documentation that the licensee determines to be responsive to the NRC staff's information requests.					

SUBJECT: SALEM GENERATING STATION, UNITS 1 AND 2 - REGULATORY AUDIT PLAN IN SUPPORT OF LICENSE AMENDMENT REQUESTS TO ADOPT TSTF-505, REVISION 2, "PROVIDE RISK-INFORMED EXTENDED COMPLETION TIMES - RITSTF INITIATIVE 4B,"AND 10 CFR 50.69, " RISK-INFORMED CATEGORIZATION AND TREATMENT OF STRUCTURES, SYSTEMS AND COMPONENTS FOR NUCLEAR POWER REACTORS," (EPID L-2025-LLA-0021 AND EPID L-2025-LLA-0022) DATED APRIL 14, 2025

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