



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

June 23, 2025

Mr. Edward Casulli
Site Vice President
Susquehanna Nuclear, LLC
769 Salem Boulevard
NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND
2 - REGULATORY AUDIT PLAN IN SUPPORT OF LICENSE AMENDMENT
REQUEST TO REVISE TECHNICAL SPECIFICATIONS FOR REACTOR
VESSEL WATER LEVEL 3 AND LEVEL 8 ALLOWABLE VALUES
(EPID L-2025-LLA-0020)

Dear Mr. Casulli:

By letter PLA-8144 dated January 29, 2025 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML25029A032), Susquehanna Nuclear, LLC (the licensee) requested to amend Renewed Facility Operating License Nos. NPF-14 and NPF-22 for Susquehanna Steam Electric Station, Units 1 and 2. The licensee requested to revise the technical specifications related to the Reactor Vessel Water Level – Low, Level 3, and Reactor Vessel Water Level – High, Level 8 allowable values.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's application and determined that a regulatory audit would assist in the timely completion of the review. The NRC staff will conduct a regulatory audit to support its review in accordance with the enclosed audit plan. A regulatory audit is a planned activity that includes the examination and evaluation of primarily non-docketed information.

The NRC staff will conduct the audit to increase its understanding of the application and identify information that will require docketing to support the NRC staff's regulatory findings. The NRC staff will conduct the audit virtually from approximately June 25, 2025, through July 25, 2025.

E. Casulli

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Please direct any inquiries to Thomas Buffone at (301) 415-1136 or by email to Thomas.Buffone@nrc.gov.

Sincerely,

/RA/

Audrey Klett, Senior Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure:
Audit Plan

cc: Listserv

**REGULATORY AUDIT PLAN
IN SUPPORT OF LICENSE AMENDMENT REQUEST TO REVISE
TECHNICAL SPECIFICATIONS FOR REACTOR VESSEL
WATER LEVEL 3 AND LEVEL 8 ALLOWABLE VALUES
SUSQUEHANNA NUCLEAR, LLC
SUSQUEHANNA STEAM ELECTRIC STATIONS, UNITS 1 AND 2
DOCKET NOS. 50-387 AND 50-388**

1.0 BACKGROUND

By letter PLA-8144 (Reference 1), Susquehanna Nuclear, LLC (the licensee) submitted a license amendment request (LAR) proposing changes to instrumentation allowable values (AVs) for Reactor Vessel Water Level – Low, Level 3 and High, Level 8 in the technical specifications (TS) for the Susquehanna Steam Electric Station, Units 1 and 2 (Susquehanna). The proposed amendment would modify the Reactor Vessel Water Level – Low, Level 3 AV for TS 3.3.1.1, “Reactor Protection System (RPS) Instrumentation,” TS 3.3.5.1, “Emergency Core Cooling System (ECCS) Instrumentation,” TS 3.3.5.2, “Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation,” and TS 3.3.6.1, “Primary Containment Isolation Instrumentation.” The proposed amendment would also modify the Reactor Vessel Water Level High, Level 8 AV for TS 3.3.5.1 and TS 3.3.5.3, “Reactor Core Isolation Cooling (RCIC) System Instrumentation.”

2.0 REGULATORY AUDIT BASIS

A regulatory audit is a planned license- or regulation-related activity that includes the examination and evaluation of information of primarily non-docketed information. U.S. Nuclear Regulatory Commission (NRC) staff conducts an audit to gain understanding, verify information, and identify information that will require docketing to support the basis of a licensing or regulatory decision. An audit helps the NRC staff with understanding the licensee’s proposed changes, conducting its review, and gaining insights on the licensee’s processes and procedures related to the proposed changes.

The NRC staff will conduct this audit per Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-111, “Regulatory Audits” (Reference 2), with exceptions noted within this audit plan. The NRC staff will perform the audit to support its evaluation of whether the licensee’s request can be approved per Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.90, “Application for amendment of license, construction permit, or early site permit.” The NRC staff will use the NRR Office Instruction LIC-115, “Processing Requests for Additional Information” (Reference 3), to request information needed to make a licensing or regulatory decision.

3.0 REGULATORY AUDIT SCOPE AND METHODOLOGY

The NRC staff’s goals of the audit are the following:

- Gain a better understanding of the detailed calculations, analyses, and bases underlying the LAR and confirm the staff’s understanding of the LAR.
- Gain a better understanding of plant design features and their implications for the LAR.
- 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 requests for additional information per NRR Office Instruction LIC-115.

4.0 INFORMATION AND OTHER MATERIAL NECESSARY FOR THE AUDIT

The NRC staff will request information (e.g., methodology, process information, and calculations) and interviews throughout the audit period. The NRC staff's initial audit questions and discussion topics are listed in the attachment to this audit plan. The NRC's licensing project manager will email any additional audit questions or requests as supplements to this audit plan so that the licensee can better prepare for audit discussions with NRC staff. The NRC staff requests the licensee to have the requested audit information listed in the audit items list to be readily available and accessible for the NRC staff's review via a Web-based portal. Any information accessed through the licensee's portal will not be held or retained in any way by NRC staff. The NRC staff will schedule audit meetings with the licensee as needed.

5.0 TEAM ASSIGNMENTS

The audit team will consist of the following NRC staff:

- Audrey Klett, Plant Licensing Branch 1 (LPL1)
- Thomas Buffone, LPL1
- Fredrick O'Brien, Instrumentation and Controls Branch (EICB)
- David Nold, Containment and Plant Systems Branch (SCPB)
- Angelo Stubbs, SCPB
- Jo Ambrosini, Nuclear Systems Performance Branch (SNSB)
- Thomas Scarbrough, Mechanical Engineering and Inservice Testing Branch (EMIB)
- Tarico Sweat, Technical Specifications Branch (STSB)

6.0 LOGISTICS

To support the schedule established when the NRC staff accepted the LAR for technical review, audit activities will be performed remotely and virtually using Microsoft Teams, teleconference, and any Web-based portals or meeting spaces created by the licensee. NRC information requests and communications with licensee staff will be coordinated through the NRC's licensing project manager.

The audit will occur June 25, 2025, through July 25, 2025. If requested, the audit team will conduct a telephone conference with the licensee for the purposes of introducing the team, discussing the scope of the audit, and describing the information to be made available on the internet portal.

The audit team will also confirm with the licensee if the information made available on the online portal contains any sensitive or proprietary information. The audit team may request that the licensee and its representatives answer any audit team questions during the audit related to information provided on the portal at a mutually agreeable day and time by telephone conference or Microsoft Teams meetings. The NRC will work with the licensee to schedule additional audit meetings to discuss information needs and questions arising from the NRC's review of the audited information.

The NRC staff requests the licensee to have the information referenced in section 4.0 of this audit plan available and accessible for the NRC staff's review via an internet-based 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's licensing project manager will inform the licensee via routine communications when the NRC staff no longer needs access to the portal. The NRC staff requests the licensee to notify the NRC's licensing project manager when an audit item is added to its portal.

The NRC staff does not foresee the need for an onsite visit or in-person discussions between the NRC and licensee staff to discuss information to be provided on the portal at this time. However, if the need for a such a meeting is identified in the future, the audit plan will be revised and the schedule for the audit will be adjusted accordingly. The NRC project manager will coordinate any changes to the audit schedule and location with the licensee.

7.0 SPECIAL REQUESTS

The NRC requests access to requested documents and information through a Web-based portal that allows the NRC staff to access documents over the Internet. The following conditions associated with the online portal must be maintained while the NRC staff and contractors have access to the online portal:

- The online portal will be password-protected. A separate password will be assigned to each member of the NRC staff and NRC contractors participating in the audit.
- The online portal will prevent the NRC participants from printing, saving, downloading, or collecting any information directly from the online portal.
- Conditions of use of the online portal will be displayed on the login screen and will require acknowledgment by each user.

Username and password information should be provided directly to members of the NRC staff and contractors. The NRC licensing project manager will provide the licensee names and contact information of the NRC staff and contractors participating in the audit. All other communications should be coordinated through the NRC project manager.

8.0 DELIVERABLES

The NRC staff will develop any requests for additional information (RAIs), as needed, via NRR Office Instruction LIC-115 and issue such RAIs separately from audit-related correspondence. The NRC staff will issue an audit summary report before completing its review of the LAR.

9.0 REFERENCES

1. Letter from E. Casulli to the U.S. Nuclear Regulatory Commission, "Susquehanna Steam Electric Station Proposed Amendment to Licenses NPF-14 and NPF-22: Revise Reactor Vessel Water Level 3 and Level 8 Allowable Value," January 29, 2025 (ML25029A032)
2. U.S. Nuclear Regulatory Commission, NRR Office Instruction LIC-111, Revision 2, "Regulatory Audits," December 30, 2024 (ML24309A281)
3. U.S. Nuclear Regulatory Commission, NRR Office Instruction LIC-115, Revision 1, "Processing Requests for Additional Information," August 5, 2021 (ML21141A238)

LIST OF AUDIT REQUESTS

ITEM No.	AUDIT REQUEST
1	<p>Provide licensee calculations supporting the technical specifications (TS) Reactor Vessel Water Level (RVWL) - Low, Level 3 & High, Level 8 new allowable values (AV), as proposed in Section 3 of Attachment 1 to the license amendment request (LAR), for the following instrument functions: Reactor Protection System (RPS) [TS Table 3.3.1.1-1, Function 4], Emergency Core Cooling System (ECCS) [Table 3.3.5.1.-1, Functions 3.c, 4.d and 5.d], Reactor Pressure Vessel (RPV) Water Inventory Control [TS Table 3.3.5.2-1, Function 3.a], Primary Containment Isolation [TS Table 3.3.6.1-1, Functions 2.a, 6.b, and 7.a], and Reactor Core Isolation Cooling System [TS Table 3.3.5.3-1, Function 2]. The calculations should include: (1) The uncertainties associated with these functions, (2) the expected drift between surveillances, (3) and the as-found and as-left tolerance acceptance values to be applied during TS surveillances.</p> <p>Alternatively, the licensee may provide a full setpoint uncertainty calculation.</p>
2	<p>Provide documentation showing that (1) the analytical limits for L3 and L8 correspond with the analytical limit values stated in the and (2) those analytical limits are the values utilized in the safety analysis.</p> <p>The calculations mentioned in Section 3.1 of Attachment 1 to the LAR should provide (1) above, and either the reload safety analyses (Updated Final Safety Analysis Report (UFSAR) references 15C.1.2-1, 15D.1.2-1, or equivalent) or the input documents provided to the vendor to support reload safety analysis generation should be able to provide (2) above since the information is not readily available in the UFSAR.</p>
3	<p>TS Table 3.3.5.1-1 (Function 3.c) and Table 3.3.5.3-1 (Function 2) state that L8 RVWL trips are also relied upon to trip the feedwater pumps and main turbine in the event of a feedwater controller failure to maximum demand (UFSAR Section 15.1.2, TS 3.3.2.2). The TS and TS Bases indicate different numbers of instrumentation channels for the TS 3.3.5.1 and TS 3.3.5.3 L8 trips versus the TS 3.3.2.2 L8 trips; however, the TS Bases and UFSAR do not appear to contain sufficient detail to confirm or deny that those trip channels utilize different level instruments, reference legs, and/or variable legs.</p> <p>Provide documentation to confirm the feedwater pump and main turbine trips are unaffected by this proposed change.</p>

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ADAMS Accession No: ML25162A064 ***via eConcurrence** **NRR-106**

OFFICE	NRR/DORL/LPL1/PM	NRR/DORL/LPL1/PM	NRR/DORL/LPL1/LA
NAME	TBuffone	AKlett	KEntz
DATE	6/11/2025	6/11/2025	6/11/2025
OFFICE	NRR/DORL/EIPB/BC	NRR/DSS/SNSB/BC	NRR/DSS/SCP/BC
NAME	FSacko	NDiFrancesco	MValentin
DATE	6/12/2025	6/11/2025	6/11/2025
OFFICE	NRR/DSS/STSB/BC	NRR/DEX/EMIB/BC	NRR/DORL/LPL1/BC
NAME	SMehta (Kwest for)	SBailey	HGonzalez
DATE	6/16/2025	6/11/2025	6/23/2025
OFFICE	NRR/DORL/LPL1/PM		
NAME	AKlett		
DATE	6/23/2025		

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