



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

January 31, 2023

Mr. David P. Rhoades  
Senior Vice President  
Constellation Energy Generation, LLC  
President and Chief Nuclear Officer  
4300 Winfield Rd  
Warrenville, IL 60555

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNIT 1 – AUDIT PLAN IN SUPPORT OF REVIEW OF LICENSE AMENDMENT REQUESTS REGARDING TSTF-505, REVISION 2, “PROVIDE RISK-INFORMED EXTENDED COMPLETION TIMES – RITSTF INITIATIVE 4B” AND TITLE 10 OF THE *CODE OF FEDERAL REGULATIONS* 50.69, “RISK-INFORMED CATEGORIZATION AND TREATMENT OF STRUCTURES, SYSTEMS AND COMPONENTS FOR NUCLEAR POWER REACTORS” (EPID L-2022-LLA-0185 AND EPID L-2022-LLA-0186)

Dear Mr. Rhoades:

By letters dated December 15, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML22349A108 and ML22349A521), Constellation Energy Generation, LLC (Constellation) submitted two license amendment requests (LARs) for Nine Mile Point Nuclear Station, Unit 1 (NMP1). In its LARs, Constellation requested to amend license DPR-63 to adopt Technical Specifications Task Force (TSTF) Traveler 505 (TSTF-505), “Provide Risk-informed Extended Completion Times, RITSTF Initiative 4b,” and the provisions of 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.”

During the initial review of the LARs, the U.S. Nuclear Regulatory Commission (NRC) staff identified several items that require further clarification and detailed explanations. The NRC staff will conduct a regulatory audit to support its review of the LARs 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 audit will be conducted to increase the NRC staff’s understanding of the LARs and identify information that will require docketing to support the NRC staff’s regulatory findings.

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 combined audit will be conducted using video and teleconferencing and secure, online portal. The audit plan and supporting materials are enclosed.

D. Rhoades

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If you have any questions, please contact me by telephone at 301-415-1030 or by email to [Richard.Guzman@nrc.gov](mailto:Richard.Guzman@nrc.gov).

Sincerely,

*/RA/*

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

Docket No. 50-220

Enclosure:  
Audit Plan

cc: Listserv



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

REGULATORY AUDIT PLAN

REGARDING LICENSE AMENDMENT REQUESTS TO ADOPT

RISK INFORMED COMPLETION TIMES - TSTF-505 AND 10 CFR 50.69

CONSTELLATION ENERGY GENERATION, LLC

NINE MILE POINT NUCLEAR STATION, UNIT 1

DOCKET NO. 50-220

1.0 BACKGROUND

By letters dated December 15, 2022, Constellation Energy Generation, LLC (Constellation) submitted two license amendment requests (LARs) for Nine Mile Point Nuclear Station, Unit 1 (NMP1) (References 1 and **Error! Reference source not found.**). Reference 1 would modify the NMP1 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" (Reference 3). Reference **Error! Reference source not found.** 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 Nuclear Regulatory Commission's (NRC's) Office of Nuclear Reactor Regulation (NRR) has initiated its review of the LAR in accordance with NRR Office Instruction (OI) LIC-101, "License Amendment Review Procedures" (Reference 4).

2.0 REGULATORY AUDIT BASES

A regulatory audit is a planned license- or regulation-related activity that includes the examination and evaluation of 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 OI LIC-111, "Regulatory Audits," with exceptions noted within this audit plan (Reference 5).

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 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” (Reference 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 Constellation.

### 3.0 SCOPE

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 implements TSTF-505 and 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” (Reference 7).
- Understand how the licensee’s proposed program implements 10 CFR 50.69, SSC Categorization to NRC-endorsed guidance in NEI 00-04, Revision 0, “SSC Categorization Guideline” (Reference 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” (Reference 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” (Reference 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, including the licensee assessments of internal events (including internal flooding) and fire PRAs. The NRC will also audit the licensee’s quantification of risk from significant external events, whether the licensee uses PRA or bounding methods, treatment of uncertainties, and the licensee’s evaluation of defense-in-depth. In addition, the audit team will request to discuss these topics with Constellation’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 (e.g., methodology, process information, and calculations) to be audited 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 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 portal by sending an email to the NRC licensing project manager.

The staff acknowledges and will observe appropriate handling and protection of proprietary information made available for the audit. The NRC staff will not remove non-docketed information from the audit site or web portal.

## 5.0 AUDIT TEAM

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

**Table 1: NRC Audit Team Composition**

Name	E-mail	LAR		Review Area (Organization)
		50.69	RICT	
Richard Guzman <sup>(1)</sup>	<a href="mailto:Richard.Guzman@nrc.gov">Richard.Guzman@nrc.gov</a>	X	X	Plant Licensing Branch LPLI (LPL1)
Todd Hilsmeier <sup>(2) (3)</sup>	<a href="mailto:Todd.Hilsmeier@nrc.gov">Todd.Hilsmeier@nrc.gov</a>		X	PRA Licensing Branch A (APLA)
Jigar Patel <sup>(2)</sup>	<a href="mailto:Jigar.Patel@nrc.gov">Jigar.Patel@nrc.gov</a>	X		
Mihaela Biro	<a href="mailto:Mihaela.Biro@nrc.gov">Mihaela.Biro@nrc.gov</a>	X	X	
Daniel Ju <sup>(3)</sup>	<a href="mailto:Daniel.Ju@nrc.gov">Daniel.Ju@nrc.gov</a>	X		PRA Licensing Branch B (APLB)
Stacey Rosenberg	<a href="mailto:Stacey.Rosenberg@nrc.gov">Stacey.Rosenberg@nrc.gov</a>	X	X	PRA Licensing Branch C (APLC)
De (Wesley) Wu	<a href="mailto:De.Wu@nrc.gov">De.Wu@nrc.gov</a>	X	X	
Stephen Wyman	<a href="mailto:Stephen.Wyman@nrc.gov">Stephen.Wyman@nrc.gov</a>		X	Electrical Engineering Branch (EEEB)
Vijay Goel	<a href="mailto:Vijay.Goel@nrc.gov">Vijay.Goel@nrc.gov</a>		X	
Hari Kodali	<a href="mailto:Hari.Kodali@nrc.gov">Hari.Kodali@nrc.gov</a>	X		
Ming Li	<a href="mailto:Ming.Li@nrc.gov">Ming.Li@nrc.gov</a>	X	X	Instrumentation and Controls Branch (EICB)
Norbert Carte	<a href="mailto:Norbert.Carte@nrc.gov">Norbert.Carte@nrc.gov</a>		X	
Gurjendra Bedi	<a href="mailto:Gurjendra.Bedi@nrc.gov">Gurjendra.Bedi@nrc.gov</a>	X	X	Mechanical Engineering and Inservice Testing Branch (EMIB)
Michael Benson	<a href="mailto:Michael.Benson@nrc.gov">Michael.Benson@nrc.gov</a>	X		Vessels and Internals Branch (NVIB)
Stephen Cumblidge	<a href="mailto:Stephen.Cumblidge@nrc.gov">Stephen.Cumblidge@nrc.gov</a>	X		Piping and Head Penetrations (NPHP)
Raul Hernandez	<a href="mailto:Raul.Hernandez@nrc.gov">Raul.Hernandez@nrc.gov</a>	X	X	Containment and Plant Systems Branch (SCPB)
David Nold	<a href="mailto:David.Nold@nrc.gov">David.Nold@nrc.gov</a>	X	X	
Syed Haider	<a href="mailto:Syed.Haider@nrc.gov">Syed.Haider@nrc.gov</a>	X		Nuclear Systems Performance Branch (SNSB)
Fred Forsaty	<a href="mailto:Fred.Forsaty@nrc.gov">Fred.Forsaty@nrc.gov</a>		X	
Andrea Russell	<a href="mailto:Andrea.Russell@nrc.gov">Andrea.Russell@nrc.gov</a>		X	Technical Specifications Branch (STSB)
Khadijah West	<a href="mailto:Khadijah.West@nrc.gov">Khadijah.West@nrc.gov</a>		X	
Steve Short <sup>(4)</sup>	<a href="mailto:Steve.Short@pnnl.gov">Steve.Short@pnnl.gov</a>	X	X	Pacific Northwest National Laboratory (PNNL)
Mark Wilk <sup>(4)</sup>	<a href="mailto:mark.wilk@pnnl.gov">mark.wilk@pnnl.gov</a>		X	
Garill Coles <sup>(4)</sup>	<a href="mailto:Garill.Coles@pnnl.gov">Garill.Coles@pnnl.gov</a>	X		

Notes:

- (1) NRR Division of Operating Reactor Licensing Project Manager
- (2) Technical Lead
- (3) Contracting Officer Representative
- (4) NRC Contractor

## 6.0 LOGISTICS

The audit will be conducted remotely using video and teleconferencing and a secure, online portal, established by the licensee. The audit will begin within two weeks of the date of this audit plan and last through August 4, 2023. The NRC will establish an audit meeting(s) (e.g., a single, multi-day audit meeting; periodic audit meetings throughout the audit period) on mutually agreeable dates and times to discuss information needs and questions arising from the NRC's review of the audited items. The NRC's licensing project manager will inform the licensee of audit meeting dates when they are established, including the date of an audit kick-off meeting.

## 7.0 SPECIAL REQUESTS

The following conditions associated with the online portal must be maintained throughout the duration that the NRC staff and contractors on the audit team have access to the online portal:

- The online portal will be password-protected, and separate passwords will be assigned to the NRC staff and contractors who are on the audit team.
- The online 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 portal will be displayed on the login screen and will require acknowledgment by each user.

Constellation 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 Constellation 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 portal.

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

## 8.0 DELIVERABLES

The NRC staff will develop any RAIs, as needed, in accordance with NRR OI LIC-115 and issue such RAIs separate from audit-related correspondence. The NRC staff will issue an audit summary report within 90 days of the audit exit interview and prior to completing its safety evaluation of the LAR.

## 9.0 REFERENCES

1. Letter from D. T. Gudger, Constellation Energy Generation, LLC, to the U.S. Nuclear Regulatory Commission, "Nine Mile Point Nuclear Station, Unit 1, Renewed Facility Operating License No. DPR-63, NRC Docket No. 50-220, License Amendment Request to Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, 'Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b'," December 15, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22349A108).
2. Letter from D. T. Gudger, Constellation Energy Generation, LLC, to the U.S. Nuclear Regulatory Commission, "Nine Mile Point Nuclear Station, Unit 1, Renewed Facility Operating License No. DPR-63, NRC Docket No. 50-220, Application to Adopt 10 CFR 50.69, 'Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors'," December 15, 2022 (ML22349A521).
3. TSTF-505, Revision 2, "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, NRR Office Instruction LIC-101, Revision 6, "License Amendment Review Procedures," July 31, 2020 (ML19248C539).
5. U.S. Nuclear Regulatory Commission, NRR Office Instruction LIC-111, Revision 1, "Regulatory Audits," October 31, 2019 (ML19226A274).
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 2007 (ML071700658).
7. Nuclear Energy Institute, NEI 06-09, Revision 0-A, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines," November 2006 (ML12286A322).
8. Nuclear Energy Institute, NEI 00-04, Revision 0, "10 CFR 50.69 SSC Categorization Guideline," July 2005 (ML052910035).
9. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.201, Revision 1, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to their Safety Significance," May 2006 (ML061090627).
10. U.S. Nuclear Regulatory Commission, NRR Office Instruction LIC-115, Revision 1, "Processing Requests for Additional Information," August 5, 2021 (ML21141A238).



ATTACHMENT: AUDIT REQUESTS

ITEM	AUDIT REQUEST
1	Reports of full-scope and focused-scope peer reviews, facts and observations (F&Os) closure reviews for the internal events, internal flooding, and fire probabilistic risk assessments (PRAs) cited in Enclosure 2 of the license amendment request (LAR) to adopt TSTF-505 and Section 3.3 of the LAR to adopt Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) 50.69.
2	Self- and gap-assessments (including findings, observations, and dispositions) performed for the internal events and internal flooding PRAs between Regulatory Guide (RG) 1.200, Revision 1 and RG 1.200, Revision 2.
3	<p>For the internal events, internal flooding, and fire PRAs, plant-specific documentation (e.g., uncertainty notebooks) related to:</p> <ul style="list-style-type: none"> <li>a. The review of the PRA model assumptions and sources of uncertainty (generic and plant-specific assumptions/uncertainties) for the TSTF-505 and 10 CFR 50.69 LARs.</li> <li>b. Identification of key assumptions and sources of uncertainty for the TSTF-505 and 10 CFR 50.69 LARs.</li> <li>c. Parametric uncertainty and state-of-knowledge correlation evaluation for the TSTF-505 and 10 CFR 50.69 LARs.</li> </ul>
4	As applicable, PRA notebook(s) for the modeling of Diverse and Flexible Coping Strategies (FLEX) equipment and FLEX human error probabilities credited in the PRAs.
5	As applicable, PRA notebook(s) pertaining to the modeling of digital control systems, including basis for the representative failure probabilities.
6	If modeled, PRA notebooks associated with the modeling of Open Phase Condition (OPC) in electrical switchyards and the Open Phase Isolation System (OPIS).
7	Documentation of how shared or cross-tied systems are modeled in the PRA.
8	PRA Notebook: N1-PRA-014, Revision 2, "Nine Mile Point Unit 1 Nuclear Station Quantification Notebook," May 2022.
9	Fire PRA notebooks containing the results of the fire PRA, including risk importance measures.
10	<ul style="list-style-type: none"> <li>- Engineering EC Evaluation No. ECP-15-000703, "High Wind Vulnerability Evaluation for Nine Mile Point 1, Revision 0," January 2014.</li> <li>- N1-MISC-015, "External Hazards Assessment for Nine Mile Point Nuclear Station, Unit 1," Revision 0, December 2022.</li> <li>- EPRI 3002003107, High-Wind Risk Assessment Guidelines, Palo Alto, CA: 2015.</li> <li>- S0FLOODF002, NMP1 Flood Water Ingress from Probable Maximum Flood, Revision 9.</li> <li>- N1-SOP-18.1, Special Operating Procedure, Service Water Failure/Low Intake Level, Revision 00600.</li> <li>- N1-SOP-19, Special Operating Procedure, Intake Structure Icing, Revision 00500.</li> <li>- N1-OP-64, Meteorological Monitoring, Rev. 02000.</li> </ul>

ATTACHMENT: AUDIT REQUESTS

<b>ITEM</b>	<b>AUDIT REQUEST</b>
11	Documentation supporting the example risk-informed completion times (RICT) calculations presented in LAR Enclosure 1, Table E1-2.
12	Documentation supporting the development of the real-time risk tool and benchmarking it against the PRA.
13	PRA configuration control and update procedures, including when the PRA is updated (i.e., unscheduled and scheduled PRA updates).
14	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.]
15	Other documentation that the licensee determines to be responsive to the U.S. Nuclear Regulatory Commission staff's information requests.

SUBJECT: NINE MILE POINT NUCLEAR STATION, UNIT 1 – AUDIT PLAN IN SUPPORT OF REVIEW OF LICENSE AMENDMENT REQUESTS REGARDING TSTF-505, REVISION 2, “PROVIDE RISK-INFORMED EXTENDED COMPLETION TIMES – RITSTF INITIATIVE 4B” AND TITLE 10 OF THE *CODE OF FEDERAL REGULATIONS* 50.69, “RISK-INFORMED CATEGORIZATION AND TREATMENT OF STRUCTURES, SYSTEMS AND COMPONENTS FOR NUCLEAR POWER REACTORS” (EPID L-2022-LLA-0185 AND EPID L-2022-LLA-0186) DATED JANUARY 31, 2023

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**ADAMS Accession No. ML23025A386**

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DATE	1/26/2023	1/26/2023	1/26/2023
OFFICE	NRR/DRA/APLC/BC	NRR/DORL/LPL1/BC	NRR/DORL/LPL1/PM
NAME	SVasavada	HGonzález	RGuzman
DATE	1/26/2023	1/30/2023	1/31/2023

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