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10 CFR 50.90

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October 29, 2025

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Nine Mile Point Nuclear Station, Unit 2
Renewed Facility Operating License No. NPF-69
NRC Docket No. 50-410

Subject: Response to Request for Additional Information for License Amendment Request to Revise Technical Specification 3.3.6.1-1 and Add New Technical Specification 3.7.7, "Main Steam Line (MSL) Area Temperature

References:

1. Letter from W. Para (Constellation Energy Generation, LLC) to U.S. Nuclear Regulatory Commission, License Amendment Request to Revise Technical Specification 3.3.6.1-1 and Add New Technical Specification 3.7.7, "Main Steam Line (MSL) Area Temperature, dated July 18, 2025 (ML25199A162)
2. Letter from R. Guzman, Senior Project Manager, U.S. Nuclear Regulatory Commission, " Nine Mile Point Unit 2-Request for Additional Information, Re: LAR to Revise TSs 3.3.6.1 and Add New TS 3.7.7 re: Main Steam Line Area Temperature (EPID L-2025-LLA-0110), dated September 29, 2025 (ML25272A050)

By letter dated July 18, 2025 (Reference 1), Constellation Energy Generation, LLC (CEG) requested a change the Nine Mile Point Nuclear Station, Unit 2 (NMP2) Technical Specifications (TS) 3.3.6.1 to remove Trip Function 1.e, "Main Steam Line Tunnel Temperature - High," Trip Function 1.f, "Main Steam Line Tunnel Differential Temperature – High," and Trip Function 1.g, "Main Steam Line Tunnel Lead Enclosure Temperature – High," and inserting the word "Deleted" in Table 3.3.6.1-1 for each deleted Trip Function. In addition, the proposed change adds a new TS LCO 3.7.7, "Main Steam Line (MSL) Area Temperature." The new LCO 3.7.7 requires the MSL area maximum temperatures be maintained less than or equal to the limits as specified in new Table 3.7.7-1.

On September 16, 2025, the NRC Senior Project Manager for NMP2 emailed to CEG a draft Request for Additional Information (RAI) question in support of the NRCs review. On September 25, 2025, a clarification call was conducted with the NRC to ensure understanding of the draft RAI question. On September 29, 2025, the NRC Senior Project Manager issued the final RAI question to CEG (Reference 2).

The attachment to this letter contains the NRC's RAI question immediately followed by CEG's response.

The additional information provided in this submittal does not affect the conclusion that the proposed license amendment does not involve a significant hazards consideration. This additional information also does not affect the conclusion that neither an environmental impact statement nor an environmental assessment need be prepared in support of the proposed amendment.

This letter contains no new regulatory commitments.

Should you have any questions concerning this submittal, please contact Ron Reynolds at 267-533-5698.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 29th day of October 2025.

Respectfully,

Knowles, Justin W

Digitally signed by Knowles, Justin W
Date: 2025.10.29 13:52:58 -04'00'

Justin W. Knowles
Senior Manager - Licensing
Constellation Energy Generation, LLC

Attachment:

Request for Additional Information and CEG Response

cc: USNRC Region I, Regional Administrator w/attachment
USNRC Senior Resident Inspector, NMP "
USNRC Project Manager, NMP "

Bcc:

Corporate Executive Distribution
NMP Sr. Leadership Team Distribution
Corporate Licensing East Distribution
NMP RAM
NMP Reg. Assurance Engineer (A. Sweeting)
NMP Engineering (Dan Morley)

ATTACHMENT

Nine Mile Point Nuclear Station, Unit 2
Renewed Facility Operating License No. NPF-69
Docket No. 50-410

Request for Additional Information and CEG Response

Introduction

By letter dated July 18, 2025 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML25199A162), Constellation Energy Generation, LLC (CEG, the licensee) submitted a license amendment request (LAR) for Nine Mile Point Nuclear Station, Unit No. 2 (NMP2). The proposed amendment would revise the technical specifications (TS) to eliminate the requirement for automatic main steam line (MSL) isolation based on the temperature in the area around the MSL. In lieu of automatic isolation, a new specification is proposed that would require manual action when the MSL area temperature is above the limit. Specifically, the proposed amendment would revise TS Limiting Condition for Operation (LCO) 3.3.6.1, Table 3.3.6.1-1, by deleting Trip Function 1.e, "Main Steam Line Tunnel Temperature – High," Trip Function 1.f, "Main Steam Line Tunnel Differential Temperature – High," and Trip Function 1.g, "Main Steam Line Tunnel Lead Enclosure Temperature – High," and inserting the word "Deleted" in Table 3.3.6.1-1, "Primary Containment Isolation Instrumentation," for each deleted Trip Function. The proposed change adds a new TS LCO 3.7.7, "Main Steam Line (MSL) Area Temperature," to require MSL area maximum temperatures to be maintained less than or equal to the limits specified in new Table 3.7.7-1. The proposed change also adds a new corresponding surveillance requirement to require verification that the MSL area temperatures are maintained in accordance with Table 3.7.7-1 on a frequency controlled by the Surveillance Frequency Control Program.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information provided in the submittal and has determined that additional information as requested in the below is needed to complete its review.

Regulatory Basis

The regulation in Title 10 of the Code of Federal Regulations (10 CFR) Section 50.49 requires that electrical equipment important to safety be capable of performing their safety functions under all postulated environmental conditions, including temperature, for the entire qualified life of the equipment. The qualification process must demonstrate, prior to installation and continually during operation, that systems, structures, and components (SSCs) important to safety will function as required under the most limiting environmental conditions of normal operation, anticipated operational occurrences, and accident scenarios. If plant environmental conditions change—such as those resulting from a revised operating temperature profile—licensees must reassess and, if necessary, update their qualification documentation and analyses to ensure continued compliance with 10CFR 50.49. This includes considering cumulative exposure and the effects of aging, not only initial type-testing.

When SSCs important to safety operate in environments and/or for durations not fully covered by their qualification basis, there is an increased risk of unexpected failure mechanisms emerging—especially during accident conditions, where multiple severe stresses (temperature, pressure, radiation, etc.) may act simultaneously. Extended or even intermittent operation above a temperature setpoint threshold without automatic isolation may inadvertently expose SSCs important to safety to conditions exceeding their original qualification, leading to undetected age-related or installation-induced degradation manifesting as failures under stress. Operating above a temperature threshold may also affect determination of environmental qualification zones (i.e., result in adding or expanding an environmental qualification zone due to changes in initial condition assumptions).

Request for Additional Information

The NRC staff notes that depending on the timing to complete the post-threshold engineering reviews of qualified SSCs, there is potential for prolonged exposure to elevated temperatures that can significantly degrade materials and components, potentially affecting mechanical strength, electrical insulation, and sealing performance, thereby shortening the qualified life and potentially impacting the functional capability of SSCs requiring qualification.

As stated in the LAR,

> Removing the automatic isolation function and adding a reactor shutdown requirement on high MSL Area temperature will have no adverse effect on equipment qualification.

The staff requests the licensee to provide justification as to how the stated determination was reached and explain how environmental qualification zones have been or would be assessed when/if temperatures exceed the temperature threshold. Additionally, provide the supporting rationale for the timely identification and remediation of qualification issues to ensure the continued qualification of equipment, including possible adverse impacts on material integrity, functional performance, and qualified life due to sustained high temperatures.

CEG Response to RAI:

The NMP2 Environmental Qualification (EQ) Program, in accordance with 10 CFR 50.49, environmental qualification of electric equipment important to safety for nuclear power plants, defines the interfaces between the site EQ engineer and other site departments to ensure required EQ equipment is properly installed and maintained. Pursuant to 10 CFR 50.49, CEG implements an Environmental Qualification (EQ) program under Procedure CC-AA-203, "Environmental Qualification Program," Revision 18. The Environmental Qualification Program Basis Document identifies specific plant areas as EQ Environmental Zones and details their subsequent environmental parameters. These parameter sets consist of normal and accident conditions including temperature, radiation, humidity, water and chemical spray, pressure, and submergence are based upon design calculations that are updated with historical data and operating experience.

EQ concerns will be managed through the NMP2 station EQ procedures in conjunction with the Corrective Action Program (CAP). NMP2 Procedure N2-OSP-LOG-S001, "Shift Checks," Revision 42, specifically monitors Main Steam Line (MSL) Tunnel area temperatures and requires generation of an Issue Report (IR) and evaluation of EQ upon exceeding temperature limits. Additionally, if temperatures rise above the normal operating threshold, an annunciator will alarm in the Main Control Room. The temperature requiring EQ Engineering review is below the limit specified in the new proposed LCO. If elevated temperatures within the MSL Tunnel area reach the condition for entry into the new proposed MSL Area Temperature LCO, CEG Procedure PI-AA-120, "Issue Identification and Screening Process," Revision 13, will also initiate an evaluation which considers equipment performance and impacts. Therefore, impacts to EQ will be identified and managed in accordance with EQ procedures.

The automatic MSL Isolation on MST Area Temperature is not assumed as the initiating event in any of the calculations that are inputs to the EQ program. As such, the change from an automatic isolation to a manual action and procedurally required evaluation does not have an adverse impact on the EQ program. The NMP2 MST expected normal operating temperatures are not changed because of this license amendment request. For higher-than-expected temperature readings in the NMP2 MST, the CAP process will be used to initiate an engineering assessment of the qualified life of the EQ equipment located within the respective EQ Environmental Zone.

No previously unidentified EQ zones will be created as a result of this proposed change. All affected EQ zones are currently managed within the scope of the existing program.