

RS-25-031

10 CFR 50.82(a)(7)
10 CFR 50.54(bb)

March 31, 2025

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001Three Mile Island Nuclear Station, Unit 1
Renewed Facility Operating License No. DPR-50
NRC Docket No. 50-289Subject: Proposed PSDAR and IFMP Revisions in Support of Potential Reauthorization of
Power Operations for Three Mile Island, Unit 1

In Reference 1, Exelon Generation Company, LLC (EGC) submitted to the NRC its certification that it had decided to permanently cease power operations at Three Mile Island, Unit 1 (TMI-1) on or about September 30, 2019. Prior to cessation of operations at TMI-1, in accordance with 10 CFR 50.82(a)(4)(i), EGC submitted the TMI-1 Post-Shutdown Decommissioning Activities Report (PSDAR) (Reference 2) and Site-Specific Decommissioning Cost Estimate (DCE) (Reference 3). The NRC documented its review of the TMI-1 PSDAR and DCE in Reference 4. Additionally, in accordance with 10 CFR 50.54(bb), EGC submitted the updated TMI-1 Irradiated Fuel Management Plan (IFMP) (Reference 5).¹ The NRC documented its review of the updated IFMP in Reference 6. EGC shut down TMI-1 on September 20, 2019, intending that shutdown to be permanent. In Reference 7, pursuant to 10 CFR 50.82(a)(1)(ii) and 10 CFR 50.4(b)(9), EGC submitted its certification that all fuel had been permanently removed from the TMI-1 Reactor Vessel and placed in the Spent Fuel Pool (SFP) as of September 26, 2019.

In Reference 8, the NRC issued Amendment No. 297 to the TMI-1 Renewed Facility Operating License (RFOL), revising the RFOL and associated technical specifications (TSs) to Permanently Defueled TSs (PDTs) consistent with the permanent cessation of reactor operations and permanent defueling of the reactor. As described in the PSDAR and IFMP, Constellation Energy Generation, LLC (CEG) completed movement of the fuel from the SFP to the Independent Spent Fuel Storage Installation (ISFSI). On April 19, 2022, the NRC issued Amendment No. 304 to the RFOL for the ISFSI-Only PDTs (Reference 9), and the plant entered a period of dormancy consistent with the SAFSTOR scenario in the PSDAR.

Due to changes in market conditions, on September 20, 2024, CEG announced the potential restart of TMI-1 and its intent to change TMI-1's name to the Christopher M. Crane Clean Energy Center (Crane Clean Energy Center or CCEC).² CEG subsequently held a public meeting with the NRC on October 25, 2024, to introduce its technical approach and regulatory activities intended to support potential NRC reauthorization of power operations (Reference 10). In Reference 11, CEG submitted a letter to the NRC proposing a regulatory path consistent with Inspection Manual Chapter 2562,

¹ In Reference 5, the "...program by which the licensee intends to manage and provide funding for the management of all irradiated fuel at the reactor following permanent cessation of operation of the reactor until title to the irradiated fuel and possession of the fuel is transferred to the Secretary of Energy..." required by 10 CFR 50.54(bb) is titled the "TMI-1 Spent Fuel Management Plan" (SFMP). Prior to the NRC issuing the renewed operating license for TMI-1, a preliminary SFMP was submitted to the NRC on April 17, 2009 (ML091130429) to fulfill the 10 CFR 50.54(bb) requirement to submit an SFMP 5 years before expiration of the operating license, which was set to expire in 2014.

² Constellation Press Release: Constellation to Launch Crane Clean Energy Center, Restoring Jobs and Carbon-Free Power to The Grid, <https://www.constellationenergy.com/newsroom/2024/Constellation-to-Launch-Crane-Clean-Energy-Center-Restoring-Jobs-and-Carbon-Free-Power-to-The-Grid.html>

"Light-Water Reactor Inspection Program for Restart of Reactor Facilities Following Permanent Cessation of Power Operations." In Reference 12, CEG submitted a request for exemption from certain termination of license requirements of 10 CFR 50.82, formally initiating the regulatory process for potential NRC approval to restart.

As part of the proposed regulatory path, CEG stated its intent to submit a revised PSDAR and IFMP to the NRC in March 2025 (Reference 11). After further review of 10 CFR 50.82(a)(7), which requires licensees to notify the NRC "before performing any decommissioning activity inconsistent with, or making any significant schedule change from, those actions and schedules described in the PSDAR, including changes that significantly increase the decommissioning cost," CEG has determined that submitting a revised PSDAR (including the DCE) is not necessary. CEG continues to perform routine activities described in PSDAR Section 2.1.2, "Dormancy," which include security, preventive and corrective maintenance on security systems, area lighting, general maintenance of buildings, freeze protection heating, ventilation of buildings for periodic habitability, routine radiological inspections of contaminated structures, maintenance of structural integrity, and a site environmental and radiation monitoring program.

CEG expects that if the resumption of power operations is authorized, the NRC would consider the decommissioning plans described in the PSDAR to no longer be applicable to TMI-1 in its operating plant condition, and that future notifications per 10 CFR 50.82(a)(7) would not be required while under the operating reactor license basis.

CEG has also reviewed the March 2023 IFMP and did not identify any significant changes in the proposed waste management program as described in the initial notification that would warrant a revision to the IFMP at this time. CEG will continue to comply with existing NRC licensing requirements for the ISFSI until transfer of the spent fuel to the Department of Energy is complete.

There are no regulatory commitments contained in this letter.

For questions related to this submittal, please contact Hannah Pell, Regulatory Specialist, Crane Clean Energy Center, at hannah.pell@constellation.com.

Respectfully,

Moore,
Dennis M



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cc: NRC Regional Administrator – Region I
NRC Director, NRR – DORL
NRC Deputy Director, NRR – DORL
NRC Project Manager, NRR-DORL – Three Mile Island, Unit 1
NRC Project Manager, NMSS – Three Mile Island, Unit 1
Director, Bureau of Radiation Protection – PA Dept of Environmental Protection
Chairman, Board of County Commissioners of Dauphin County
Chairman, Board of Supervisors of Londonderry Township

References:

1. Letter RA-17-058 from Exelon Generation Company to U.S. Nuclear Regulatory Commission, "Certification of Permanent Cessation of Power Operations for Three Mile Island Nuclear Station, Unit 1," dated June 20, 2017 (ML17171A151).
2. Letter TM-19-025 from Exelon Generation Company to U.S. Nuclear Regulatory Commission, "Three Mile Island Nuclear Station, Unit 1 – Post-Shutdown Decommissioning Activities Report," dated April 5, 2019 (ML19095A041).
3. Letter TM-19-024 from Exelon Generation Company to U.S. Nuclear Regulatory Commission, "Site-Specific Decommissioning Cost Estimate for Three Mile Island Nuclear Station, Unit 1," dated April 5, 2019 (ML19095A010). Updated by Letter TMI-23-004 from Constellation Energy Generation to U.S. Nuclear Regulatory Commission, "Updated Site-Specific Decommissioning Cost Estimate for Three Mile Island Nuclear Station, Unit 1" dated March 21, 2023 (ML23080A210).
4. Letter from U.S. Nuclear Regulatory Commission to Exelon Generation Company, "Three Mile Island Nuclear Station, Unit 1 – Review of Post-Shutdown Decommissioning Activities Report (EPID L-2019-LLL-0012 and EPID L-2019-LLL-0014)," dated May 6, 2020 (ML20055F744).
5. Letter TM-19-023 from Exelon Generation Company to U.S. Nuclear Regulatory Commission, "Spent Fuel Management Plan for Three Mile Island Nuclear Station – Unit 1," dated April 5, 2019 (ML19095A009). Superseded by Letter TMI-23-005 from Constellation Energy Generation to U.S. Nuclear Regulatory Commission, "Updated Spent Fuel Management Plan for Three Mile Island Nuclear Station – Unit 1," dated March 21, 2023 (ML23080A211).
6. Letter from U.S. Nuclear Regulatory Commission to Exelon Generation Company, "Three Mile Island Nuclear Station, Unit 1 - Safety Evaluation Re: Spent Fuel Management Plan (EPID L-2019-LLL-0013)," dated March 11, 2020 (ML20065J476).
7. Letter TM-19-095 from Exelon Generation Company to U.S. Nuclear Regulatory Commission, "Certification of Permanent Removal of Fuel from the Reactor Vessel for Three Mile Island Nuclear Station, Unit 1," dated September 26, 2019 (ML19269E480).
8. Letter from U.S. Nuclear Regulatory Commission to Exelon Generation Company, "Three Mile Island Nuclear Station, Unit 1 – Issuance of Amendment No. 297 Re: Defueled Technical Specifications and Revised License Conditions (EPID L-2018-LLA-0204)," dated August 29, 2019 (ML19211D317).
9. U.S. Nuclear Regulatory Commission, "Three Mile Island Unit 1 Issuance of Amendment 304 to Revise License Conditions and the Permanently Defueled Technical Specifications to Align Rqts for Permanent Removal of Spent Fuel from the Spent Fuel Pool," dated April 19, 2022 (ML22081A229).
10. Constellation Energy Generation, "Three Mile Island Nuclear Station, Unit 1 - Slides for October 25, 2024, Meeting on Crane Clean Energy Center Regulatory Path to Restoring the Operating Reactor License Basis," dated October 22, 2024 (ML24296B213).
11. Letter RS-24-121 from Constellation Energy Generation to U.S. Nuclear Regulatory Commission, "Regulatory Path to Reauthorize Power Operations," dated November 4, 2024 (ML24310A104).
12. Letter RS-24-124 from Constellation Energy Generation to U.S. Nuclear Regulatory Commission, "Request for Exemption from Certain Termination of License Requirements of 10 CFR 50.82," dated November 19, 2024 (ML24324A048).