

**NUCLEAR REGULATORY COMMISSION**

**Docket No. 50-289**

**Constellation Energy Generation, LLC**

**Three Mile Island Station, Unit 1**

**Exemption**

**I. Background**

TMI-1 is a single unit Babcock & Wilcox Pressurized Water Reactor. CEG is the holder of Renewed Facility Operating License (RFOL) No. DPR-50 for TMI-1. On February 1, 2022, CEG notified the NRC that Exelon Generation Company, LLC (Exelon) officially changed its name to Constellation Energy Generation, LLC. By letter dated June 20, 2017, per Section 50.82(a)(1)(i) of title 10 of the *Code of Federal Regulations* (10 CFR), Exelon certified to the NRC that it planned to permanently cease power operations at TMI-1 on or about September 30, 2019. TMI-1 subsequently permanently ceased power operations on September 20, 2019. By letter dated September 26, 2019, pursuant to 10 CFR 50.82(a)(1)(ii), Exelon certified to the NRC that all fuel had been permanently removed from the TMI-1 reactor vessel and placed in the spent fuel pool as of September 26, 2019. Accordingly, pursuant to 10 CFR 50.82(a)(2), the TMI-1 RFOL no longer authorizes operation of the reactor or emplacement or retention of fuel in the reactor vessel.

By letter dated April 5, 2019, Exelon provided to the NRC a Post-Shutdown Decommissioning Activities Report (PSDAR) for TMI-1. The PSDAR reflected the use of a safe storage condition (SAFSTOR), thereby reflecting plans to complete decommissioning within a 60-year period after the permanent cessation of operations. The PSDAR referenced a site-specific decommissioning cost estimate (DCE) and an updated Spent Fuel Management Plan (SFMP). The staff's review of the PSDAR and SFMP concluded that Exelon demonstrated

reasonable assurance that funding will be available to decommission TMI-1 pursuant to the SAFSTOR method and that the activities and associated costs of the TMI-1 SFMP appear reasonable. Exelon previously received an exemption from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) that allows use of the TMI-1 DTF for spent fuel management at TMI-1.

## **II. Request/Action**

By letter dated May 20, 2021, the licensee, pursuant to 10 CFR 50.12, “Specific exemptions,” submitted a request for exemption from the specific requirements of 10 CFR 50.82(a)(8)(i)(A) and 50.75(h)(1)(iv). The exemptions from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) would permit CEG to make withdrawals from the TMI-1 DTF for site restoration activities at TMI-1. The exemption from 10 CFR 50.75(h)(1)(iv) would also permit the licensee to make these withdrawals without prior notification to the NRC, similar to withdrawals for decommissioning activities made in accordance with 10 CFR 50.82(a)(8).

The funds within the TMI-1 DTF were collected in compliance with the 10 CFR 50.75, “Reporting and recordkeeping for decommissioning planning,” financial requirements while TMI-1 was operating. The exemption request included a cash-flow analysis reflecting the balance of funds within the DTF throughout the decommissioning period, ending the year of license termination in 2081. The requirements of 10 CFR 50.82(a)(8)(i)(A) restrict the use of DTF withdrawals to expenses related to legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2, “Definitions.” The definition of “decommission” in 10 CFR 50.2 is: to remove a facility or site safely from service and reduce residual radioactivity to a level that permits— (1) Release of the property for unrestricted use and termination of the license; or (2) Release of the property under restricted conditions and termination of the license. This definition does not include activities associated with spent fuel management and site restoration activities. The requirements of 10 CFR 50.75(h)(1)(iv) also restrict the use of DTF

disbursements (other than for ordinary administrative costs and other incidental expenses of the fund in connection with the operation of the fund) to decommissioning expenses until final radiological decommissioning is completed. Therefore, an exemption from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) is needed to allow CEG to use funds from the TMI-1 DTF for site restoration activities at TMI-1.

The requirements of 10 CFR 50.75(h)(1)(iv) further provide that, except for withdrawals being made under 10 CFR 50.82(a)(8) or for payments of ordinary administrative costs and other incidental expenses of the fund in connection with the operation of the fund, no disbursement may be made from the DTF without written notice to the NRC at least 30 working days in advance. Therefore, an exemption from 10 CFR 50.75(h)(1)(iv) is also needed to allow CEG to use funds from the TMI-1 DTF for site restoration activities at TMI-1 without prior NRC notification.

The licensee has concluded that 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) would prohibit use of DTFs for activities related to site restoration prior to completion of radiological decommissioning. The licensee anticipates maintaining TMI-1 in SAFSTOR for an extended period prior to completion of radiological decommissioning. This will allow radioactive decay to occur, thereby reducing the quantity of contamination and radioactivity that must be disposed of during the decontamination and dismantlement process as well as reducing the associated occupational exposure. Exemptions from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) are requested to allow the licensee to withdraw and use funds from the DTF for site restoration activities. The exemptions would cover all site restoration activities at TMI-1.

### **III. Discussion**

#### **A. The Exemption is Authorized by Law**

The requested exemption from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) would allow CEG to use a portion of the funds from the TMI-1 DTF for site restoration activities at TMI-1 without prior notice to the NRC in the same manner that withdrawals are made under 10 CFR 50.82(a)(8) for decommissioning activities. As previously stated, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50 when the exemptions are authorized by law. The NRC staff has determined that granting CEG's proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

#### **B. The Exemption Presents no Undue Risk to Public Health and Safety**

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) is to provide reasonable assurance that adequate funds will be available for the radiological decommissioning of power reactors. Based on schedules, costs, and funding contained in the PSDAR, DCE, SFMP, and exemption request, and the NRC staff's independent review of this information, use of a portion of the TMI-1 DTF for site restoration activities at TMI-1 will not adversely impact the licensee's ability to complete radiological decommissioning within 60 years and terminate the TMI-1 license.

Furthermore, an exemption from 10 CFR 50.75(h)(1)(iv) to allow the licensee to make withdrawals from the TMI-1 DTF for site restoration activities at TMI-1 without prior written notification to the NRC will not affect the sufficiency of funds in the DTF to accomplish radiological decommissioning because such withdrawals remain constrained by the provisions of 10 CFR 50.82(a)(8)(i)(B)-(C) and are reviewable under the annual reporting requirements of 10 CFR 50.82(a)(8)(v)-(vii).

There are no new accident precursors created by using the TMI-1 DTF in the proposed manner. Thus, the probability of postulated accidents is not increased. Also, the consequences of postulated accidents are not increased. No changes are being made in the types or amounts of effluents that may be released offsite. There is no significant increase in occupational or public radiation exposure. The requested exemption would not diminish the effectiveness of other regulations that ensure the available funding for decommissioning, including 10 CFR 50.82(a)(6), which prohibits licensees from performing any decommissioning activities that could foreclose unrestricted release of the site, result in significant environmental impacts not previously reviewed, or result in there no longer being reasonable assurance that adequate funds will be available for decommissioning. Therefore, the requested exemption will not present an undue risk to the public health and safety.

**C. The Exemption is Consistent with the Common Defense and Security**

The requested exemption would allow the licensee to use funds from the TMI-1 DTF for site restoration activities at TMI-1. This change to enable the use of a portion of the funds from the DTF for site restoration activities has no relation to security issues. Therefore, the common defense and security is not impacted by the requested exemption.

**D. Special Circumstances**

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the regulation.

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv), which restrict withdrawals from DTFs to expenses for radiological decommissioning activities, is to provide reasonable assurance that adequate funds will be available for radiological

decommissioning of power reactors and license termination. Strict application of these requirements would prohibit the withdrawal of funds from the TMI-1 DTF for activities other than radiological decommissioning activities at TMI-1, such as for site restoration activities, until final radiological decommissioning at TMI-1 has been completed.

However, the NRC staff's review of the exemption request, including consideration of the information in the PSDAR, DCE, SFMP, and the annual DTF certification reports and the staff's independent analysis, found that reasonable assurance exists that adequate funds will be available in the TMI-1 DTF to complete decommissioning and terminate the TMI-1 license, with excess funding available to pay for site restoration activities within the scope of the exemption request.

The staff's cash-flow analysis projects that the TMI-1 DTF will contain approximately \$253.7 million at the end of license termination activities in 2081 (using a 2 percent real rate of return as allowed by 10 CFR 50.75(e)(1)(ii)), considering its use for payment of spent fuel management throughout the 60-year decommissioning period (as approved by a previous exemption) and its use for the site restoration activities within the scope of the current exemption request. This analysis aligns with the cash-flow analysis provided by the licensee in its exemption request.

As presented in Table 2 of the exemption request, the beginning DTF balance was the December 31, 2020, DTF value (\$742,497k) less the 2020 site radiological decommissioning costs (\$14,663k) and the 2018, 2019, and 2020 spent fuel management costs (\$54,673k) that were not yet reimbursed as of December 31, 2020. The staff's cash-flow analysis estimates that the licensee projected costs for radiological decommissioning to be approximately \$977.5

million, costs for spent fuel management to be approximately \$160.1 million, and cost for site restoration activities to be approximately \$92.8 million, all in 2020 dollars. This amounts to total estimated costs of approximately \$1.23 billion for radiological decommissioning, spent fuel management, and site restoration activities with license termination occurring in 2081. In its analysis, the NRC staff assumed a 2 percent annual real rate of return on the DTF balance, less annual costs, resulting in a positive DTF balance of approximately \$253.7 million at the time of license termination.

Therefore, the NRC staff finds that the licensee has provided reasonable assurance that adequate funds will be available for the radiological decommissioning of TMI-1, even with the disbursement of funds from the DTF for spent fuel management (previously approved) and site restoration activities (currently requested). Accordingly, the NRC staff concludes that application of the requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv), that funds from the DTF only be used for radiological decommissioning activities and not for site restoration activities, is not necessary to achieve the underlying purpose of the rule. Thus, special circumstances are present supporting approval of the exemption request.

In its submittal, the licensee also requested exemption from the requirement of 10 CFR 50.75(h)(1)(iv) concerning prior written notification to the NRC of withdrawals from DTFs for activities other than radiological decommissioning. The underlying purpose of notifying the NRC prior to such withdrawals of funds from DTFs is to provide an opportunity for NRC intervention, when deemed necessary, if the withdrawals are for expenses other than those authorized by 10 CFR 50.75(h)(1)(iv) and 10 CFR 50.82(a)(8) that could result in there being insufficient funds in the DTFs to accomplish radiological decommissioning.

By granting the exemption to 10 CFR 50.75(h)(1)(iv) and 10 CFR 50.82(a)(8)(i)(A), the NRC staff considers that withdrawals consistent with the licensee's exemption request are authorized. As stated previously, the NRC staff determined that there are sufficient funds in the TMI-1 DTF to complete radiological decommissioning activities, as well as to conduct spent fuel management (previously approved) and site restoration activities (currently requested), consistent with the TMI-1 PSDAR, DCE, SFMP and May 20, 2021, exemption request. Pursuant to the requirements in 10 CFR 50.82(a)(8)(v) and (vii), licensees are required to monitor and annually report to the NRC the status of the DTF and the licensee's funding for spent fuel management. These reports provide the NRC staff with awareness of, and the ability to take action on, any actual or potential funding deficiencies. Additionally, 10 CFR 50.82(a)(8)(vi) requires that the annual financial assurance status report must include additional financial assurance to cover the estimated cost of completion if the sum of the balance of any remaining decommissioning funds, plus earnings on such funds calculated at not greater than a 2-percent real rate of return, together with the amount provided by other financial assurance methods being relied upon, does not cover the estimated cost to complete the decommissioning. The requested exemption would not allow the withdrawal of funds from the DTF for any other purpose that is not currently authorized in the regulations without prior notification to the NRC. Therefore, the granting of the exemption to 10 CFR 50.75(h)(1)(iv) to allow the licensee to make withdrawals from the TMI-1 DTF to cover authorized expenses for site restoration activities at TMI-1 without prior written notification to the NRC will still meet the underlying purpose of the regulation.

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(iii), are present whenever compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated. The licensee states that the DTF contains



funds in excess of the estimated costs of radiological decommissioning and that these excess funds are needed for site restoration activities. Preventing access to those excess funds in DTFs because site restoration activities are not associated with radiological decommissioning would create an unnecessary financial burden without any corresponding safety benefit. The adequacy of the TMI-1 DTF to cover the cost of activities associated with site restoration activities, in addition to radiological decommissioning and spent fuel management (pursuant to a previously approved exemption), is supported by the NRC staff's review as described herein and reflected in Attachment 1 of the exemption request. If the licensee cannot use the TMI-1 DTF for site restoration activities, it would need to obtain additional funding that would not be recoverable from the DTF, or it would have to modify its decommissioning approach and methods. The NRC staff concludes that either outcome would impose an unnecessary and undue burden significantly in excess of that contemplated when 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) were adopted.

The underlying purposes of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) would be achieved by allowing the licensee to use a portion of the TMI-1 DTF for site restoration activities at TMI-1 without prior NRC notification, and compliance with the regulations would result in an undue hardship or other costs that are significantly in excess of those contemplated when the regulations were adopted. Thus, the special circumstances in 10 CFR 50.12(a)(2)(ii) and 10 CFR 50.12(a)(2)(iii) exist and support the approval of the requested exemptions.

#### **E. Environmental Considerations**

In accordance with 10 CFR 51.31(a), the Commission has determined that the granting of the exemptions will not have a significant effect on the quality of the human environment (see Environmental Assessment and Finding of No Significant Impact published in the Federal Register on June 6, 2021 (87 FR 34311)).

#### IV. Conclusions

In consideration of the above, the NRC staff finds that reasonable assurance exists that adequate funds will be available in the TMI-1 DTF to complete radiological decommissioning of the site and to terminate the TMI-1 license, with excess funding available to pay for spent fuel management (previously approved) and site restoration activities within the scope of the exemption request. There is no decrease in safety associated with the DTF being used to fund activities associated with site restoration.

Accordingly, the Commission has determined that, pursuant to 10 CFR 10 CFR 50.12(a), the exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants CEG the exemptions from the requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) to allow CEG to use of a portion of the funds from the TMI-1 DTF for site restoration activities, without prior NRC notification.

The exemptions are effective upon issuance.

#### V. Availability of Documents

The documents identified in the following table are available to interested persons through ADAMS.

DOCUMENT	ADAMS ACCESSION NO.
Three Mile Island Nuclear Station, Unit 1, Request for Exemption from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv), dated May 20, 2021	ML21140A311

Notification of Completion of License Transfer and Request to Continue Processing Pending NRC Actions Previously Requested by Exelon Generation Company, LLC, dated 2/1/2022	ML22032A333
Three Mile Island, Unit 1 - Certification of Permanent Cessation of Power Operations, dated 6/20/2017	ML17171A151
Certification of Permanent Removal of Fuel from the Reactor Vessel for Three Mile Island Nuclear Station, Unit 1, dated 9/26/2019	ML19269E480
Three Mile Island Nuclear Station, Unit 1 - Post-Shutdown Decommissioning Activities Report, dated 4/5/2019	ML19095A041
Site-Specific Decommissioning Cost Estimate for Three Mile Island Nuclear Station, Unit 1, dated 4/5/2019	ML19095A010
Three Mile Island, Unit 1, Submittal of Spent Fuel Management Plan, dated 4/5/2019	ML19095A009
Three Mile Island Nuclear Station, Unit 1 - Exemption from the Requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) (EPID L-2019-LLE-0009), dated 10/16/2019	ML19259A175
Site-Specific Decommissioning Cost Estimate for Three Mile Island Nuclear Station, Unit 1, dated 4/5/2019	ML19095A010
Dresden Nuclear Power Station, Unit 1; Peach Bottom Atomic Power Station, Unit 1; and Three Mile Island Nuclear Station, Unit 1 - Report on Status of Decommissioning Funding for Shutdown Reactors, dated 3/23/22	ML22082A227
Exelon Generation Co, LLC - Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations, dated 2/24/2021	ML21055A776

Dated: June 8, 2022.

For the Nuclear Regulatory Commission.



Signed by Marshall, Jane  
on 06/08/22

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