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7590-01-P

NUCLEAR REGULATORY COMMISSION

[Docket No. 50-289; NRC-2019-0199]

Exelon Generation Company LLC; Three Mile Island Nuclear Station Unit 1

AGENCY: Nuclear Regulatory Commission.

ACTION: Exemptions; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has issued exemptions in response to an April 12, 2019, request from Exelon Generation Company, LLC (Exelon, the licensee). One exemption permits the use of the Three Mile Island Nuclear Station, Unit 1 (TMI-1) Decommissioning Trust Fund (DTF) for spent fuel management activities based on the TMI-1 post-shutdown decommissioning activities report (PSDAR) and site-specific decommissioning cost estimate (DCE). The other exemption permits the licensee to make withdrawals from the DTF for spent fuel management activities without prior notification of the NRC.

DATES: The exemptions were issued on October 16, 2019.

ADDRESSES: Please refer to Docket ID **NRC-2019-0199** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID **NRC-2019-0199**. Address questions about NRC docket IDs in Regulations.gov to Jennifer Borges; telephone: 301-287-9127; e-mail: Jennifer.Borges@nrc.gov. For technical questions, contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public

Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Justin C. Poole, Office of Nuclear Reactor Regulation; U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-2048; e-mail: Justin.Poole@nrc.gov.

SUPPLEMENTARY INFORMATION: The text of the exemptions are attached.

Dated at Rockville, Maryland, this 17th day of October, 2019.

For the Nuclear Regulatory Commission.

Justin C. Poole,
Project Manager,
Plant Licensing Branch I,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.

Attachment – Exemptions.

NUCLEAR REGULATORY COMMISSION

Docket No. 50-289

Exelon Generation Company, LLC

Three Mile Island Nuclear Station, Unit 1

Exemptions

I. Background.

Exelon Generation Company, LLC (Exelon, the licensee) is the holder of Renewed Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit 1 (TMI-1). The facility is located in Dauphin County, Pennsylvania.

By letter dated June 20, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17171A151), Exelon submitted a certification in accordance with Section 50.82(a)(1)(i) of Title 10 of the *Code of Federal Regulations* (10 CFR), stating its determination to permanently cease operations at TMI-1 no later than September 30, 2019. By letter dated September 26, 2019 (ADAMS Accession No. ML19269E480), Exelon submitted to the NRC a certification in accordance with 10 CFR 50.82(a)(1)(ii), stating that as of September 26, 2019, all fuel had been permanently removed from the TMI-1 reactor vessel. By separate letters dated April 5, 2019 (ADAMS Accession Nos. ML19095A009, ML19095A010, and ML19095A041), Exelon submitted the TMI-1 spent fuel management plan (SFMP), site-specific decommissioning cost estimate (DCE), and post-shutdown decommissioning activities report (PSDAR), respectively.

II. Request/Action.

By letter dated April 12, 2019 (ADAMS Accession No. ML19102A085), Exelon submitted a request for exemptions from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv). The requested exemption from 10 CFR 50.82(a)(8)(i)(A) would permit Exelon to use funds from the TMI-1 Decommissioning Trust Fund (DTF) for spent fuel management activities in accordance with the TMI-1 site-specific DCE. The exemption from 10 CFR 50.75(h)(1)(iv) would also permit Exelon to make these withdrawals without prior notification of the NRC, similar to withdrawals for decommissioning activities made in accordance with 10 CFR 50.82(a)(8).

The 10 CFR 50.82(a)(8)(i)(A) requirement restricts the use of DTF withdrawals to expenses for legitimate decommissioning activities consistent with the definition of decommissioning that appears in 10 CFR 50.2. The definition of “decommission” in 10 CFR 50.2 reads as follows:

> 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 activities. Therefore, an exemption from 10 CFR 50.82(a)(8)(i)(A) is needed to allow Exelon to use funds from the DTF for spent fuel management activities. The requirements of 10 CFR 50.75(h)(1)(iv) also restrict the use of DTF disbursements (other than for ordinary and incidental expenses) to decommissioning expenses until final radiological decommissioning is completed. Therefore, partial exemptions from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) are needed to allow Exelon to use funds from the TMI-1 DTF for spent fuel management activities in accordance with the TMI-1 site-specific DCE.

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

Exelon to use funds from the TMI-1 DTF for spent fuel management activities at TMI-1 without prior NRC notification.

III. Discussion.

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50: (1) when 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; and (2) when any of the special circumstances listed in 10 CFR 50.12(a)(2) are present. These special circumstances include, among other things:

(a) Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule; and

(b) 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.

A. Authorized by Law

The requested exemptions from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) would allow Exelon to use a portion of the funds from the TMI-1 DTF for spent fuel management 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 stated above, 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, as explained below, that there is reasonable assurance of adequate funding for radiological decommissioning because the licensee's use of the DTF for activities associated with spent fuel management will not negatively impact the availability of funding for radiological decommissioning. Accordingly, the exemptions are authorized by law because granting the licensee's proposed exemptions will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations.

B. 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. As explained in further detail in Section D below, based on the NRC staff's review of Exelon's site-specific DCE and the staff's independent cash flow analysis provided in the enclosed Table 1, "NRC Cash Flow Analysis of TMI-1 Decommissioning Trust Funds and Associated Costs, including Spent Fuel Management," the NRC staff finds that the use of the TMI-1 DTF for spent fuel management activities at TMI-1 will not adversely impact Exelon's ability to terminate the TMI-1 license (i.e., complete radiological decommissioning) as planned, consistent with the schedule and costs contained in the PSDAR.

Furthermore, an exemption from 10 CFR 50.75(h)(1)(iv) to allow the licensee to make withdrawals from the DTF for spent fuel management activities without prior written notification to the NRC will not affect the sufficiency of funds in the DTF to accomplish radiological decommissioning because such withdrawals are still 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 DTF in the proposed manner. Thus, the probability of postulated accidents is not increased. Also, based on the above, 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. Therefore, the requested exemptions will not present an undue risk to the public health and safety.

C. Consistent with the Common Defense and Security

The requested exemptions would allow Exelon to use funds from the TMI-1 DTF for spent fuel management activities at TMI-1. Spent fuel management under 10 CFR 50.54(bb) is an integral part of the planned decommissioning and license termination process and will not adversely affect Exelon's ability to physically secure the site or protect special nuclear material. This change to enable the use of a portion of the funds from the DTF for spent fuel management activities has no relation to security issues. Therefore, the common defense and security is not impacted by the requested exemptions.

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 restricts 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 spent fuel management activities, until final radiological decommissioning at TMI-1 has been completed.

The April 1, 2019, annual report on the status of decommissioning funding for TMI-1 (ADAMS Accession No. ML19091A140), and the PSDAR both report a DTF balance of $669.6 million as of December 31, 2018. The cash flow analysis in Table 2 of the April 12, 2019, application is based on a beginning DTF balance of $662.9 million as of December 31, 2018. The licensee stated that the beginning DTF balance was adjusted to account for 2017 and 2018 site radiological decommissioning planning and 2018 spent fuel management planning costs that would be reimbursed if the exemptions were granted. The Exelon analysis in the TMI-1 site-specific DCE, PSDAR, and exemption requests project the total radiological decommissioning cost of TMI-1 to be approximately $1 billion in 2018 dollars and the spent fuel management costs to be $158.6 million in 2018 dollars. This amounts to total estimated costs of approximately $1.16 billion for decommissioning and spent fuel management, with license termination occurring in 2081.

The NRC staff performed an independent cash flow analysis of the DTF over the 60 year SAFSTOR period (assuming an annual real rate of return of two percent, as allowed by 10 CFR 50.75(e)(1)(ii)) and determined the projected earnings of the DTF. The results of the staff's analysis are presented in the enclosed Table 1. In its analysis, the NRC staff used the lesser opening DTF balance of $662.9 million as a conservative estimate that reflects less money available to cover radiological decommissioning and spent fuel management costs.

As shown in the enclosed Table 1, the NRC staff confirmed that the current funds in the DTF and projected earnings are expected to be available and sufficient to complete all NRC required radiological decommissioning activities at TMI-1, and also to pay for spent fuel management activities. Therefore, the NRC staff finds that Exelon 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 activities. Consequently, 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 spent fuel management activities, is not necessary to achieve the underlying purpose of the rule; thus, special circumstances are present supporting approval of the exemption requests.

In its submittal, Exelon also requested exemption from the requirement of 10 CFR 50.75(h)(1)(iv) concerning prior written notification to the NRC of withdrawals from the DTF to fund activities other than radiological decommissioning. The underlying purpose of notifying the NRC prior to withdrawal of funds from the DTF is to provide 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 DTF to accomplish radiological decommissioning.

By granting the exemptions 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 submittal dated April 12, 2019, are authorized. As stated previously, the NRC staff has determined that there are sufficient funds in the DTF to complete radiological decommissioning activities as well as to conduct spent fuel management activities consistent with the PSDAR, site-specific DCE, and the April 12, 2019, exemption requests. 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 managing spent fuel. 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 two-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 this exemption to 10 CFR 50.75(h)(1)(iv) to allow the licensee to make withdrawals from the DTF to cover authorized expenses for spent fuel management activities 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 stated that the DTF contains funds in excess of the estimated costs of radiological decommissioning and that these excess funds are needed for spent fuel management activities. Preventing access to those excess funds in the DTF because spent fuel management activities are not associated with radiological decommissioning would create an unnecessary financial burden without any corresponding safety benefit. The adequacy of the DTF to cover the cost of activities associated with radiological decommissioning and pay for costs associated with spent fuel management is supported by the staff's independent cash flow analysis in the enclosed Table 1. If the licensee cannot use its DTF for spent fuel management, it would need to obtain additional funding that would not be recoverable from the DTF, or the licensee 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.

Since 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 Exelon to use a portion of the TMI-1 DTF for spent fuel management activities without prior NRC notification, and since 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, the special circumstances required by 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 October 16, 2019 (84 FR 55342).

IV. Conclusions.

In consideration of the above, the NRC staff finds that the proposed exemptions confirm the adequacy of funding in the TMI-1 DTF to complete radiological decommissioning of the site and to terminate the license and also to cover estimated spent fuel management activities.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants Exelon exemptions from the requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) to allow them to use of a portion of the funds from the TMI-1 DTF for spent fuel management activities, without prior NRC notification, consistent with the PSDAR and site-specific DCE dated April 5, 2019.

The exemptions are effective upon issuance.

Dated at Rockville, Maryland, this 16th day of October, 2019.

For the Nuclear Regulatory Commission.

/RA/

Craig G. Erlanger, Director,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.

Table 1 - NRC Cash Flow Analysis of TMI-1 Decommissioning Trust Funds and Associated Costs, including Spent Fuel Management
(thousands of constant 2018 dollars)

Year	Opening DTF Balance	License Termination Costs	Spent Fuel Management Costs	Interest 2%	EOY Trust Fund Value
2019	$662,953	$20,490	$27,477	$12,300	$627,286
2020	$627,286	$66,516	$30,973	$10,596	$540,393
2021	$540,393	$45,645	$25,395	$9,387	$478,740
2022	$478,740	$38,025	$14,963	$8,515	$434,267
2023	$434,267	$10,088	$123	$8,481	$432,537
2024	$432,537	$9,099	$1,139	$8,446	$430,745
2025	$430,745	$6,057	$4,152	$8,411	$428,947
2026	$428,947	$6,057	$4,152	$8,375	$427,112
2027	$427,112	$6,057	$4,152	$8,338	$425,241
2028	$425,241	$6,073	$4,163	$8,300	$423,305
2029	$423,305	$6,057	$4,152	$8,262	$421,358
2030	$421,358	$6,057	$4,152	$8,223	$419,372
2031	$419,372	$6,057	$4,152	$8,183	$417,347
2032	$417,347	$6,073	$4,163	$8,142	$415,253
2033	$415,253	$6,057	$4,152	$8,101	$413,145
2034	$413,145	$6,052	$7,385	$7,994	$407,702
2035	$407,702	$6,040	$13,784	$7,758	$395,635
2036	$395,635	$5,702	$0	$7,799	$397,732
2037	$397,732	$5,686	$0	$7,841	$399,887
2038	$399,887	$5,686	$0	$7,884	$402,085
2039	$402,085	$5,686	$0	$7,928	$404,327
2040	$404,327	$5,702	$0	$7,973	$406,598
2041	$406,598	$5,686	$0	$8,018	$408,930
2042	$408,930	$5,686	$0	$8,065	$411,309
2043	$411,309	$5,686	$0	$8,112	$413,735
2044	$413,735	$5,702	$0	$8,161	$416,194
2045	$416,194	$5,686	$0	$8,210	$418,718
2046	$418,718	$5,686	$0	$8,261	$421,293
2047	$421,293	$5,686	$0	$8,312	$423,919
2048	$423,919	$5,702	$0	$8,364	$426,581
2049	$426,581	$5,686	$0	$8,418	$429,313
2050	$429,313	$5,686	$0	$8,473	$432,099
2051	$432,099	$5,686	$0	$8,528	$434,942
2052	$434,942	$5,702	$0	$8,585	$437,825
2053	$437,825	$5,686	$0	$8,643	$440,781
2054	$440,781	$5,686	$0	$8,702	$443,797
2055	$443,797	$5,686	$0	$8,762	$446,873
2056	$446,873	$5,702	$0	$8,823	$449,995

2057	**$449,995**	**$5,686**	**$0**	**$8,886**	**$453,195**
2058	**$453,195**	**$5,686**	**$0**	**$8,950**	**$456,459**
2059	**$456,459**	**$5,686**	**$0**	**$9,015**	**$459,789**
2060	**$459,789**	**$5,702**	**$0**	**$9,082**	**$463,168**
2061	**$463,168**	**$5,686**	**$0**	**$9,150**	**$466,632**
2062	**$466,632**	**$5,686**	**$0**	**$9,219**	**$470,165**
2063	**$470,165**	**$5,886**	**$0**	**$9,286**	**$473,565**
2064	**$473,565**	**$5,702**	**$0**	**$9,357**	**$477,220**
2065	**$477,220**	**$5,686**	**$0**	**$9,431**	**$480,965**
2066	**$480,965**	**$5,686**	**$0**	**$9,506**	**$484,784**
2067	**$484,784**	**$5,686**	**$0**	**$9,582**	**$488,680**
2068	**$488,680**	**$5,702**	**$0**	**$9,660**	**$492,638**
2069	**$492,638**	**$5,686**	**$0**	**$9,739**	**$496,691**
2070	**$496,691**	**$5,886**	**$0**	**$9,816**	**$500,621**
2071	**$500,621**	**$5,686**	**$0**	**$9,899**	**$504,833**
2072	**$504,833**	**$5,702**	**$0**	**$9,983**	**$509,114**
2073	**$509,114**	**$24,709**	**$0**	**$9,688**	**$494,093**
2074	**$494,093**	**$61,226**	**$0**	**$8,657**	**$441,524**
2075	**$441,524**	**$150,301**	**$0**	**$5,824**	**$297,048**
2076	**$297,048**	**$113,681**	**$0**	**$3,667**	**$187,034**
2077	**$187,034**	**$75,862**	**$0**	**$2,223**	**$113,396**
2078	**$113,396**	**$75,687**	**$0**	**$754**	**$38,463**
2079	**$38,463**	**$32,813**	**$0**	**$113**	**$5,763**
2080	**$5,763**	**$133**	**$0**	**$113**	**$5,743**
2081	**$5,743**	**$95**	**$0**	**$113**	**$5,760**
TOTAL		**$1,001,949**	**$158,629**		

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