



RS-21-074

10 CFR 72.30(b)

July 15, 2021

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Director – Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety and Safeguards
Washington, DC 20555-0001

Three Mile Island Nuclear Station, Unit 1
Renewed Facility Operating License No. DPR-50
NRC Docket Nos. 50-289 and 72-077

Subject: Proposed Independent Spent Fuel Storage Installation (ISFSI) Decommissioning
Funding Plan for Three Mile Island Nuclear Station, Unit 1

In accordance with 10 CFR 72.30, "Financial assurance and recordkeeping for decommissioning," Exelon Generation Company, LLC (EGC) is submitting the proposed ISFSI decommissioning funding plan for Three Mile Island Nuclear Station, Unit 1.

This submittal is subdivided as follows:

- Attachment 1 provides a description of the proposed ISFSI decommissioning funding plan.
- Attachment 2 provides details of the ISFSI decommissioning funding estimate.

There are no regulatory commitments contained within this letter. Should you have any questions concerning this letter please contact me at (630) 657-2823.

Respectfully,

A handwritten signature in black ink that reads "Patrick R. Simpson". The signature is fluid and cursive, with a long horizontal line extending from the end.

Patrick R. Simpson
Sr. Manager – Licensing

cc: Regional Administrator – NRC Region I

Attachments:

1. Proposed ISFSI Decommissioning Funding Plan for Three Mile Island Nuclear Station, Unit 1
2. ISFSI Decommissioning Funding Estimate for Three Mile Island Nuclear Station, Unit 1

ATTACHMENT 1

Proposed ISFSI Decommissioning Funding Plan for Three Mile Island Nuclear Station,
Unit 1

ATTACHMENT 1
Proposed ISFSI Decommissioning Funding Plan for Three Mile Island Nuclear Station, Unit 1

- 1.0 SUMMARY DESCRIPTION
- 2.0 DETAILED DESCRIPTION
 - 2.1 Reasonable Assurance of Funds Availability
 - 2.2 Detailed Cost Estimate
 - 2.3 Assumptions
 - 2.4 Method of Assurance
 - 2.5 Volume of Subsurface Residual Radioactivity Requiring Remediation
 - 2.6 Certification of Financial Assurance
- 3.0 REFERENCES

ATTACHMENT 1

Proposed ISFSI Decommissioning Funding Plan for Three Mile Island Nuclear Station, Unit 1

1.0 SUMMARY DESCRIPTION

Exelon Generation Company, LLC (EGC) maintains decommissioning cost estimates (DCEs) for each of its nuclear units, which are periodically updated. Embedded in the DCEs maintained by EGC are the costs associated with decommissioning the Independent Spent Fuel Storage Installations (ISFSIs) co-located at the sites. The funding plan for decommissioning the ISFSI at Three Mile Island, Unit 1 has never been provided to the NRC because Three Mile Island, Unit 1 did not have an ISFSI and was not subject to 10 CFR 72. As early as October 8, 2021, Three Mile Island, Unit 1 will begin using an ISFSI. This submittal is consistent with NRC guidance that general licensees submit a decommissioning funding plan to the NRC no later than the date that the general licensee first uses a spent fuel storage cask to store spent fuel (Reference 1). EGC provides the following information from its cost estimate to support its decommissioning funding plan for the Three Mile Island Nuclear Station, Unit 1 (TMI) ISFSI in accordance with the requirements of 10 CFR 72.30.¹

EGC notes that radiological decommissioning costs for ISFSIs typically consist of the costs associated with removing and disposing of small volumes of neutron-activated concrete and certain structural steel components. No impact is expected upon soil and groundwater at TMI during the storage periods contemplated in the cost estimate. EGC also notes that induced radioactivity at the TMI ISFSI is not expected to result in residual radioactivity in excess of 25 mRem/year in an unrestricted release scenario, were no action to be taken to remediate the site.

However, since EGC anticipates that there may be small, but measurable amounts of induced radioactivity present and release of this material from TMI will require it to be disposed of at a NRC licensed radioactive waste disposal facility; EGC has included these costs in its cost estimate.

2.0 DETAILED DESCRIPTION

2.1 Reasonable Assurance of Funds Availability

EGC maintains two separate decommissioning trust funds (DTF) for TMI for the purpose of radiological decommissioning, a tax qualified fund (Qualified Trust) and a non-tax qualified fund (Non-Qualified Trust). As of December 31, 2020, the DTF for TMI has a total balance of \$742,497,467

¹ "Site-Specific Decommissioning Cost Estimate for Three Mile Island Nuclear Station, Unit 1" Submitted April 5, 2019, Ascension ML19095A010

ATTACHMENT 1

Proposed ISFSI Decommissioning Funding Plan for Three Mile Island Nuclear Station, Unit 1

2.2 Detailed Cost Estimate

Attachment 2 provides an excerpt from EGC's TMI DCE detailing the costs of ISFSI decommissioning in 2020 dollars. Attachment 2 shows the cost for an independent contractor to perform all decommissioning activities, with an adequate contingency factor, to meet the 10 CFR 20.1402 criteria for unrestricted use. Contingency has been added at an overall rate of 25%. This is consistent with the evaluation criteria referenced by the NRC in NUREG-1757 (Reference 3).

2.3 Assumptions

EGC has made the following assumptions within the DCE with respect to ISFSI decommissioning:

1. Decommissioning costs in Attachment 2 are escalated from 2018 dollars to 2020 dollars using a unit specific escalation rate consistent with that used for the plant cost estimate.
2. All values in Attachment 2 are at ownership share. The ownership share for EGC of TMI is 100%.
3. Costs are expected to be incurred beginning in the year after which DOE has accepted all spent fuel from TMI for disposal. For the purposes of the cost estimate, the transfer of the TMI spent fuel to the DOE is assumed to be completed in 2035.²

2.4 Method of Assurance

In accordance with 10 CFR 72.30(b)(4), Table 1 describes the method of assuring funds for ISFSI decommissioning, from 10 CFR 72.30(e). EGC periodically updates the cost estimate associated with the site-specific assurance method and adjusts the funding levels, as necessary, in accordance with 10 CFR 50.75.

2.5 Volume of Subsurface Residual Radioactivity Requiring Remediation

EGC has not identified any onsite, subsurface material containing residual radioactivity at the ISFSI.

2.6 Certification of Financial Assurance

In accordance with 10 CFR 72.30(b), financial assurance, for decommissioning, has been provided in an amount that meets the requirements of 10 CFR 50.75(b). As demonstrated in Table 1, this provides the requisite financial assurance for the ISFSI decommissioning cost.

² "Spent Fuel Management Plan for Three Mile Island Nuclear Station – Unit 1" Submitted April 5, 2019, Ascension ML19095A009

ATTACHMENT 1

Proposed ISFSI Decommissioning Funding Plan for Three Mile Island Nuclear Station, Unit 1

3.0 REFERENCES

1. Letter from U.S. NRC to Pamela B. Cowan, "Clarification Regarding the Timing of Submittal of a Decommissioning Funding Plan per Title 10 of the Code of Federal Regulations Section 72.30(b) for Future Independent Spent Fuel Storage Installations," dated August 21, 2013
2. Letter from Patrick R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations," dated February 24, 2021
3. "Consolidated Decommissioning Guidance, Financial Assurance, Recordkeeping, and Timeliness," U.S. NRC Office of Nuclear Material Safety and Safeguards, NUREG-1757, Vol. 3, Rev 1, February 2012

ATTACHMENT 1
Proposed ISFSI Decommissioning Funding Plan for Three Mile Island Nuclear Station, Unit 1

TABLE 1
Three Mile Island Nuclear Power Station, Unit 1 ISFSI Decommissioning Financial Assurance
Summary

Unit/ Shutdown Date	Total Trust Fund Assets as of December 31, 2020 (Thousands \$)	Trust Fund Assets Allocated for ISFSI Termination as of December 31, 2020 (Thousands \$)	Annual Contributions	Parent Company Guarantee	Part 72.30 Site Specific Decommissioning Cost, 2020 dollars (Thousands \$)	Method of Assurance
TMI Unit 1 September 20, 2019	\$742,497	\$2,530	\$0	\$0	\$7,695	10 CFR 72.30(e)(1)

ATTACHMENT 1
Proposed ISFSI Decommissioning Funding Plan for Three Mile Island Nuclear Station, Unit 1

The expenditures for the TMI Unit 1 ISFSI license termination are expected to occur based on the following cash flows in Table 2 below, expressed in 2020 thousands of dollars, with a 2% rate of earnings assumed for trust fund earnings. The initial trust fund value in Table 2 represents the amount allocated within the TMI Unit 1 DTF to cover ISFSI decommissioning, the 2021 minimum funding submittal demonstrated that there is more than what is shown below in the DTF after the completion of radiological decommissioning. (Reference 2)

TABLE 2
Three Mile Island Nuclear Power Station, Unit 1 ISFSI Decommissioning Annual Cash Flows

<u>Year</u>	<u>ISFSI Decommissioning Cost 2020 dollars (thousands)</u>	<u>BOY Trust Fund Value (thousands)</u>	<u>BOY Trust Fund Value Less Cost (thousands)</u>	<u>Trust Fund Earnings (thousands)</u>	<u>EOY Trust Fund Value (thousands)</u>
2021	\$-	\$2,530	\$2,530	\$51	\$2,581
2022	\$-	\$2,581	\$2,581	\$52	\$2,632
2023	\$-	\$2,632	\$2,632	\$53	\$2,685
2024	\$-	\$2,685	\$2,685	\$54	\$2,739
2025	\$-	\$2,739	\$2,739	\$55	\$2,794
2026	\$-	\$2,794	\$2,794	\$56	\$2,849
2027	\$-	\$2,849	\$2,849	\$57	\$2,906
2028	\$-	\$2,906	\$2,906	\$58	\$2,965
2029	\$-	\$2,965	\$2,965	\$59	\$3,024
2030	\$-	\$3,024	\$3,024	\$60	\$3,084
2031	\$-	\$3,084	\$3,084	\$62	\$3,146
2032	\$-	\$3,146	\$3,146	\$63	\$3,209
2033	\$-	\$3,209	\$3,209	\$64	\$3,273
2034	\$-	\$3,273	\$3,273	\$65	\$3,339
2035	\$-	\$3,339	\$3,339	\$67	\$3,405
2036	\$-	\$3,405	\$3,405	\$68	\$3,473
2037	\$-	\$3,473	\$3,473	\$69	\$3,543
2038	\$-	\$3,543	\$3,543	\$71	\$3,614
2039	\$-	\$3,614	\$3,614	\$72	\$3,686
2040	\$-	\$3,686	\$3,686	\$74	\$3,760
2041	\$-	\$3,760	\$3,760	\$75	\$3,835
2042	\$-	\$3,835	\$3,835	\$77	\$3,912
2043	\$-	\$3,912	\$3,912	\$78	\$3,990
2044	\$-	\$3,990	\$3,990	\$80	\$4,070
2045	\$-	\$4,070	\$4,070	\$81	\$4,151
2046	\$-	\$4,151	\$4,151	\$83	\$4,234
2047	\$-	\$4,234	\$4,234	\$85	\$4,319
2048	\$-	\$4,319	\$4,319	\$86	\$4,405
2049	\$-	\$4,405	\$4,405	\$88	\$4,493
2050	\$-	\$4,493	\$4,493	\$90	\$4,583
2051	\$-	\$4,583	\$4,583	\$92	\$4,675
2052	\$-	\$4,675	\$4,675	\$93	\$4,768

ATTACHMENT 1

Proposed ISFSI Decommissioning Funding Plan for Three Mile Island Nuclear Station, Unit 1

TABLE 2 (Continued)

Three Mile Island Nuclear Power Station, Unit 1 ISFSI Decommissioning Annual Cash Flows

<u>Year</u>	<u>ISFSI Decommissioning Cost 2020 dollars (thousands)</u>	<u>BOY Trust Fund Value (thousands)</u>	<u>BOY Trust Fund Value Less Cost (thousands)</u>	<u>Trust Fund Earnings (thousands)</u>	<u>EOY Trust Fund Value (thousands)</u>
2053	\$-	\$4,768	\$4,768	\$95	\$4,864
2054	\$-	\$4,864	\$4,864	\$97	\$4,961
2055	\$-	\$4,961	\$4,961	\$99	\$5,060
2056	\$-	\$5,060	\$5,060	\$101	\$5,161
2057	\$-	\$5,161	\$5,161	\$103	\$5,265
2058	\$-	\$5,265	\$5,265	\$105	\$5,370
2059	\$-	\$5,370	\$5,370	\$107	\$5,477
2060	\$-	\$5,477	\$5,477	\$110	\$5,587
2061	\$-	\$5,587	\$5,587	\$112	\$5,698
2062	\$-	\$5,698	\$5,698	\$114	\$5,812
2063	\$-	\$5,812	\$5,812	\$116	\$5,929
2064	\$-	\$5,929	\$5,929	\$119	\$6,047
2065	\$-	\$6,047	\$6,047	\$121	\$6,168
2066	\$-	\$6,168	\$6,168	\$123	\$6,292
2067	\$-	\$6,292	\$6,292	\$126	\$6,417
2068	\$-	\$6,417	\$6,417	\$128	\$6,546
2069	\$-	\$6,546	\$6,546	\$131	\$6,677
2070	\$-	\$6,677	\$6,677	\$134	\$6,810
2071	\$-	\$6,810	\$6,810	\$136	\$6,946
2072	\$-	\$6,946	\$6,946	\$139	\$7,085
2073	\$-	\$7,085	\$7,085	\$142	\$7,227
2074	\$-	\$7,227	\$7,227	\$145	\$7,372
2075	\$-	\$7,372	\$7,372	\$147	\$7,519
2076	\$1,652	\$7,519	\$5,867	\$117	\$5,984
2077	\$3,030	\$5,984	\$2,954	\$59	\$3,013
2078	\$3,013	\$3,013	\$-	\$-	\$-

Attachment 2

ISFSI Decommissioning Funding Estimate for Three Mile Island Nuclear Station, Unit 1

Attachment 2
ISFSI Decommissioning Funding Estimate for Three Mile Island Nuclear Station, Unit 1

TMI*

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs**	Burial Volume Class A (ft ³)	Craft Manhours	Oversight and Contractor Manhours
Decommissioning Contractor									
Planning (characterization, specs, and procedures)									
Decontamination (activated HSM disposition)	138	119	834	1,953		3,045	30,626		
License Termination (radiological surveys)					3,112	3,112			
Subtotal	138	119	834	1,953	3,112	6,156	30,626		
Supporting Costs									
NRC and NRC Contractor Fees and Costs									
Insurance									
Property Taxes									
Plant Energy Budget									
Security Staff Cost									
Oversight Staff Cost									
Subtotal									
Total (w/o contingency)	138	119	834	1,953	3,112	6,156	30,626		
Total (w/25% contingency)						7,695			

* Costs in thousands of 2020 dollars

** Total Costs may not add due to rounding

*** TMI selected the SAFSTOR decommissioning option where ISFSI decommissioning will take place during radiological decommissioning of the plant. As a result, the supporting costs are considered radiological decommissioning and were previously reported as such in the TMI Unit 1 PSDAR³ and 2021 annual minimum funding submittal⁴.

³ "Three Mile Island Nuclear Station, Unit 1 – Post-Shutdown Decommissioning Activities Report" Submitted April 5, 2019, Ascension ML19095A041

⁴ "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations" Submitted February 24, 2021, Ascension ML21055A776