



GPU Nuclear, Inc.
Three Mile Island
Nuclear Station
Route 441 South
Post Office Box 480
Middletown, PA 17057-0480
Tel 717-948-8481

March 18, 2020
TMI-20-003

10 CFR 50.75
10 CFR 50.82

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT:
Three Mile Island Nuclear Station, Unit 2
Docket No. 50-320, License No. DPR-73
Decommissioning Funding Status Report for the Three Mile Island Nuclear
Station, Unit 2

Pursuant to 10 CFR 50.75 and 10 CFR 50.82, GPU Nuclear, Inc. is hereby submitting the following three reports to the Nuclear Regulatory Commission (NRC) for Three Mile Island Nuclear Station, Unit 2 for the year ending December 31, 2019. Attachment 1 provides a decommissioning funding status report based on the NRC formula described in 10 CFR 50.75(c). Attachment 2 provides a decommissioning funding status report based upon a site-specific decommissioning cost estimate (DCE). Attachment 3 contains a financial assurance status report as required by 10 CFR 50.82(a)(8)(v).

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Michael Casey, GPU Nuclear Responsible Engineer TMI-2 at (330) 472-8589.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregory H. Halnon".

Gregory H. Halnon
President and Chief Nuclear Officer
GPU Nuclear, Inc.

Three Mile Island Nuclear Station, Unit 2
TMI-20-003
Page 2

Attachments:

1. Three Mile Island Nuclear Station, Unit 2 Decommissioning Funding Status Report – NRC Formula
2. Three Mile Island Nuclear Station, Unit 2 Decommissioning Funding Status Report – Site-Specific Decommissioning Cost Estimate
3. Three Mile Island Nuclear Station, Unit 2 Financial Assurance Status Report

cc: NRC Region I Administrator
NRC Project Manager

Attachment 1
TMI-20-003

Three Mile Island Nuclear Station, Unit 2 Decommissioning Funding
Status Report – NRC Formula
Page 1 of 3

This report reflects the FirstEnergy Corp. subsidiary ownership interests in the Three Mile Island Nuclear Station, Unit 2 as of December 31, 2019.

1. The minimum decommissioning fund estimate, pursuant to 10 CFR 50.75(b) and (c) (see Schedule 1):

Metropolitan Edison Company	\$253,900,951
Pennsylvania Electric Company	126,950,476
Jersey Central Power & Light Company	126,950,476
FirstEnergy Corp. Consolidated	<u>\$507,801,902</u>

2. The amount accumulated in external trust funds:

	After Tax
Metropolitan Edison Company	\$416,484,439
Pennsylvania Electric Company	223,146,819
Jersey Central Power & Light Company	259,856,169
FirstEnergy Corp. Consolidated	<u>\$899,487,427</u>

3. There are no longer any funds being collected from the ratepayers.
4. The assumptions used regarding escalation in decommissioning cost, rates of earnings on decommissioning funds, and rates of other factors used in funding projections:

Consolidated Ownership Interest in Unit	100%
Estimated Net Investment Rate	2.00%
Year of Site Restoration Completion	2053

Three Mile Island Nuclear Station, Unit 2 transitions from a Post-Defueling Monitored Storage status to decommissioning in 2040.

5. There are no contracts upon which the owners/licensees are relying pursuant to 10 CFR 50.75(e)(1)(v).
6. There are no modifications to the licensee's current method of providing financial assurance since the last submitted report.

7. There were no amendments to the trust agreements for the above-mentioned owners of Three Mile Island Nuclear Station, Unit 2.
8. Mathematical rounding was performed during the development of the supporting calculations.

Schedule 1
FIRSTENERGY CORP.
Calculation of Minimum Financial Assurance Amount
December 31, 2019
THREE MILE ISLAND NUCLEAR STATION, UNIT 2

Pennsylvania Regions

Labor (L) = Northeast
Energy (E) = National
Waste Burial (B) = Generic

For PWR Unit

	Adjustment Factor	Ratio	Escalation Factor ¹
L =	3.04	0.65	1.976
E =	2.348	0.13	0.305
B =	12.853	0.22	2.828
 PWR Escalation Factor =			 5.109

Base Amount for PWR between 1200 MWt and 3400 MWt = (\$75 + 0.0088P) million
(P = power level in megawatts thermal = 2772)

(\$75 + 0.0088(2772)) million = \$99,393,600

Escalated Amount for unit ¹ =			
99,393,600	x	5.109	=
			<u>\$507,801,902</u>

<u>Owner/Licensee¹</u>	<u>Ownership</u>	
Pennsylvania Electric Company	25%	\$126,950,476
Jersey Central Power & Light Company	25%	\$126,950,476
Metropolitan Edison Company	<u>50%</u>	<u>\$253,900,951</u>
FirstEnergy Corp. Consolidated	100%	<u><u>\$507,801,902</u></u>

Note 1: Mathematical rounding was performed during the development of the supporting calculations.

Attachment 2
TMI-20-003

Three Mile Island Nuclear Station, Unit 2 Decommissioning Funding
Status Report – Site-Specific Decommissioning Cost Estimate
Page 1 of 4

1. Decommissioning funds estimated to be required pursuant to 10 CFR 50.75(b) and (c) are based upon a site-specific decommissioning cost study, *2018 Decommissioning Cost Estimate for FirstEnergy, Three Mile Island, Unit 2*, dated December 12, 2018:

NRC License Termination	\$1,353,638,075
-------------------------	-----------------

2. The amount accumulated in external trust funds as of December 31, 2019:

	After Tax
Metropolitan Edison Company	\$416,484,439
Pennsylvania Electric Company	223,146,819
Jersey Central Power & Light Company	259,856,169
FirstEnergy Corp. Consolidated	<u>\$899,487,427</u>

3. There are no longer any funds being collected from the ratepayers.
4. The assumptions used regarding escalation in decommissioning cost, rates of earnings on decommissioning funds, and rates of other factors used in funding projections:

Consolidated Ownership Interest in Unit	100%
Estimated Rate of Escalation in Decommissioning Costs	0.00%
Estimated After-Tax Rate of Return	2.00%
Year of Site Restoration Completion	2053

Three Mile Island Nuclear Station, Unit 2 transitions from a Post-Defueling Monitored Storage status to decommissioning in 2040.

All costs are based on a site-specific decommissioning cost study, *2018 Decommissioning Cost Estimate for FirstEnergy, Three Mile Island, Unit 2*, dated December 12, 2018, then escalated to 2019 dollars using an escalation factor of 2.78% as documented in *Escalation Analysis for Three Mile Island Unit 2*, dated February 2015.

5. There are no contracts upon which the owners/licensees are relying pursuant to 10 CFR 50.75(e)(1)(v).
6. There are no modifications to the licensee's current method of providing financial assurance since the last submitted report.

7. There were no amendments to the trust agreements for the above-mentioned owners of Three Mile Island Nuclear Station, Unit 2.

8. Site-Specific Cost Analysis Assumptions

10 CFR 50.75(e)(1)(i), states, in part, that:

A licensee that has prepaid funds based on a site-specific estimate under 50.75(b)(1) of this section may take credit for projected earnings on the prepaid decommissioning trust funds, using up to a 2 percent annual real rate of return from the time of future funds' collection through the projected decommissioning period, provided that the site-specific estimate is based on a period of safe storage that is specifically described in the estimate.

In accordance with Regulatory Guide 1.159, Revision 2, *Assuring the Availability of Funds for Decommissioning Nuclear Reactors*, a facility specific analysis may be used to demonstrate the adequacy of decommissioning funds, provided that:

NRC-required cost estimate for decommissioning costs, as defined in 10 CFR 50.2, is equal to or greater than the amount stated in the formulas in 10 CFR 50.75(c)(1) and (2).

The site-specific radiological decommissioning cost estimate is \$1,353,638,075, which is greater than the 10 CFR 50.75(c) cost estimate of \$507,801,902. The analysis assumes a 2 percent yearly rate of return. The analysis also assumes a period of safe storage. The cash flows were contained in a decommissioning cost estimate that was prepared for Three Mile Island Nuclear Station, Unit 2. The cash flow analysis assumes the yearly expenses are incurred at the beginning of year.

Schedule 1 provides the site-specific analysis. The analysis values are in 2019 dollars. The analysis is based on TMI-2 transitioning from Post-Defueling Monitored Storage status to decommissioning in 2040 and includes expenditures for license termination costs only.

9. Mathematical rounding was performed during the development of the supporting calculations.

10. References:

- A. *2018 Decommissioning Cost Estimate for FirstEnergy, Three Mile Island, Unit 2*, dated December 12, 2018 (Accession No ML19087A153)
- B. *Escalation Analysis for Three Mile Island Unit 2, 2013 Site-specific Decommissioning Cost Estimate*, February 2015 (Accession No. ML15086A337)

Schedule 1

FIRSTENERGY CORP.
Funding Analysis
December 31, 2019
THREE MILE ISLAND NUCLEAR STATION, UNIT 2

	After-Tax
Estimated Net Investment Rate	2.00%
Estimated Escalation Rate	0.00%
Estimated After-Tax Rate of Return	<u>2.00%</u>
Qualified Trust Balance on December 31, 2019	899,487,427 After-Tax
Non-Qualified Trust Balance on December 31, 2019	<u>-</u>
Total	<u>899,487,427</u>

Year	Beginning Balance	Deposits	Earnings	Withdrawal ^{1,2,3}	Ending Balance
2019	899,487,427	-	-	-	899,487,427
2020	899,487,427	-	17,918,187	(3,578,084)	913,827,530
2021	913,827,530	-	18,204,989	(3,578,084)	928,454,435
2022	928,454,435	-	18,497,527	(3,578,084)	943,373,877
2023	943,373,877	-	18,795,916	(3,578,084)	958,591,709
2024	958,591,709	-	19,100,273	(3,578,084)	974,113,898
2025	974,113,898	-	19,410,716	(3,578,084)	989,946,530
2026	989,946,530	-	19,727,369	(3,578,084)	1,006,095,814
2027	1,006,095,814	-	20,050,355	(3,578,084)	1,022,568,085
2028	1,022,568,085	-	20,379,800	(3,578,084)	1,039,369,801
2029	1,039,369,801	-	20,715,834	(3,578,084)	1,056,507,551
2030	1,056,507,551	-	21,058,589	(3,578,084)	1,073,988,056
2031	1,073,988,056	-	21,408,199	(3,578,084)	1,091,818,172
2032	1,091,818,172	-	21,764,802	(3,578,084)	1,110,004,889
2033	1,110,004,889	-	22,128,536	(3,578,084)	1,128,555,341
2034	1,128,555,341	-	22,499,545	(3,578,084)	1,147,476,802
2035	1,147,476,802	-	22,877,974	(3,578,084)	1,166,776,692
2036	1,166,776,692	-	23,263,972	(3,578,084)	1,186,462,580
2037	1,186,462,580	-	23,623,692	(5,278,004)	1,204,808,268
2038	1,204,808,268	-	23,962,039	(6,706,312)	1,222,063,996
2039	1,222,063,996	-	24,307,154	(6,706,312)	1,239,664,838
2040	1,239,664,838	-	24,437,628	(17,783,426)	1,246,319,040
2041	1,246,319,040	-	23,877,509	(52,443,613)	1,217,752,935
2042	1,217,752,935	-	21,976,858	(118,910,032)	1,120,819,761
2043	1,120,819,761	-	20,000,716	(120,783,957)	1,020,036,520

Year	Beginning Balance	Deposits	Earnings	Withdrawal ^{1,2,3,4}	Ending Balance
2044	1,020,036,520	-	16,929,487	(173,562,182)	863,403,824
2045	863,403,824	-	13,795,101	(173,648,756)	703,550,170
2046	703,550,170	-	10,621,790	(172,460,694)	541,711,265
2047	541,711,265	-	9,860,006	(48,710,956)	502,860,316
2048	502,860,316	-	9,031,742	(51,273,222)	460,618,835
2049	460,618,835	-	7,589,460	(81,145,827)	387,062,469
2050	387,062,469	-	6,312,818	(71,421,589)	321,953,697
2051	321,953,697	-	5,004,887	(71,709,357)	255,249,227
2052	255,249,227	-	3,630,945	(73,701,996)	185,178,175
2053	185,178,175	-	2,943,495	(38,003,419)	150,118,251
2054 ⁵	150,118,251	-	2,831,145	(8,560,991)	144,388,406
				(1,353,638,075)	

(1) reflects **Safstor** method from Energy Solutions Scenario 2 Safstor 1, withdrawals assumed to be made in the beginning of the period

(2) There were no funds withdrawn from the decommissioning trust fund for years 2013, 2014, 2015, 2016, and 2017

(3) In 2018 \$312,743.81 was withdrawn from the decommissioning trust fund for Decommissioning Planning, in 2019 \$76,788.96 was withdrawn from the decommissioning trust fund for Decommissioning Planning

(4) Withdrawals based upon a site-specific decommissioning cost study, *2018 Decommissioning Cost Estimate for FirstEnergy, Three Mile Island, Unit 2*, dated December 12, 2018, then escalated to 2019 dollars using an escalation factor of 2.78% as documented in *Escalation Analysis for Three Mile Island Unit 2*, dated February 2015

(5) 2054 costs cover potential unresolved license termination invoices and costs from the previous years.

Three Mile Island Nuclear Station, Unit 2 Financial Assurance Status Report
Page 1 of 1

1. Formal decommissioning has not started at Three Mile Island Nuclear Station, Unit 2. A special disbursement of decommissioning trust funds occurred in 2005 for \$416,400.00. Notification of this use of decommissioning funds was made to the NRC by letter dated February 1, 2005 (Accession No. ML050380143). \$312,743.81 was spent on decommissioning planning activities in 2018 and \$76,788.96 was spent on decommissioning planning activities in 2019.
2. Decommissioning funds estimated to be required are based upon a site-specific decommissioning cost study, *2018 Decommissioning Cost Estimate for FirstEnergy, Three Mile Island, Unit 2*, dated December 12, 2018, then escalated to 2019 dollars using an escalation factor of 2.78% as documented in *Escalation Analysis for Three Mile Island Unit 2*, dated February 2015:

NRC License Termination	\$1,353,638,075
-------------------------	-----------------

As noted on Attachment 2, Schedule 1, *FirstEnergy Corp. Funding Analysis dated December 31, 2019*.

3. The amount accumulated in external trust funds as of December 31, 2019:

	After Tax
Metropolitan Edison Company	\$416,484,439
Pennsylvania Electric Company	223,146,819
Jersey Central Power & Light Company	259,856,169
FirstEnergy Corp. Consolidated	<u>\$899,487,427</u>

4. There are no longer any funds being collected from the ratepayers.
5. There are no modifications to the licensee's current method of providing financial assurance since the last submitted report.
6. There were no amendments to the trust agreements for the above-mentioned owners of Three Mile Island Nuclear Station, Unit 2.
7. Mathematical rounding was performed during the development of the supporting calculations.
8. References:
 - A. *2018 Decommissioning Cost Estimate for FirstEnergy, Three Mile Island, Unit 2*, dated December 12, 2018 (Accession No ML19087A153)
 - B. *Escalation Analysis for Three Mile Island Unit 2, 2013 Site-specific Decommissioning Cost Estimate*, February 2015 (Accession No. ML15086A337)