

CNRO2022-00002

10 CFR 50.75(f)(1)
10 CFR 50.82(a)(8)(v)

March 28, 2022

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

Subject: Decommissioning Funding Status Report per 10 CFR §50.75(f)(1) and
10 CFR 50.82(a)(8)(v) -- Entergy Nuclear Operations, Inc.

Big Rock Point Nuclear Plant
NRC Docket No. 50-155
License No. DPR-6

Palisades Nuclear Power Plant
NRC Docket No. 50-255
License No. DPR-20

10 CFR 50.75(f)(1) requires each power reactor licensee to report to the NRC by March 31, 1999, and every two years thereafter with certain exceptions, on the status of its decommissioning funding for each reactor, or share of a reactor, that it owns. Additionally, any licensee for a plant that is within 5 years of the projected end of its operation, or where conditions have changed such that it will close within 5 years (before the end of its licensed life), or that has already closed (before the end of its licensed life), or that is involved in a merger, or an acquisition shall submit this report annually. 10 CFR 50.82(a)(8)(v) requires licensees of shutdown sites to report to the NRC annually, by March 31, on the status of decommissioning financial assurance for those sites. On behalf of Entergy Nuclear Palisades, LLC (Palisades and Big Rock Point), Entergy Nuclear Operations, Inc. (ENOI) hereby submits the information requested for power reactors operated by ENOI. The reports provided in Enclosures 1 through 3 for the licensed facilities addressed by this filing, were prepared in accordance with NUREG-1307 (Reference 1) and NRC Regulatory Issue Summary 2001-07 (Reference 2). The Minimum Funding Assurance calculation worksheets, (not required for this filing) derived from Datasheet 4 of LIC-205, Rev. 6 (Reference 3), are provided in Enclosure 4 for the convenience of the reviewer.

The estimated minimum decommissioning fund values were determined using the NRC's methodology in NUREG-1307, Rev. 18 (Reference 1).

The trust fund amount reported for Palisades in the response to item 3 represents the market value of decommissioning trust funds as of December 31, 2021 net of any material current income tax liability on realized gains, interest, dividends and other income of the trusts. The

trusts for the following plant had estimated balances on its 2021 tax liabilities (already deducted from the trust fund balances shown below), as follows (in thousands):

Palisades \$ 550

In accordance with guidance provided by the NRC Staff in April 2014 requests for additional information (Accession No. ML14120A273) that "future 10 CFR 50.75(f) reports should clearly delineate estimated reactor and Independent Spent Fuel Storage Installation (ISFSI) decommissioning costs," the information in Enclosures 1 and 3 includes line item 2 identifying the ISFSI decommissioning obligation, from the most recent 10 CFR 72.30 filing. This obligation is also accounted for in the Excess/Shortfall calculations for Palisades in Enclosure 4.

The aforementioned worksheets, using the December 31, 2021 trust fund balances and parent guarantee amount, indicate that all of the plants covered by this submittal met or exceeded the NRC's funding requirements. Accordingly, the licensees conclude that no further action is required at this time to demonstrate adequate funding assurance for decommissioning the plants covered by this submittal.

There are no new commitments made in this letter. Should you have any questions or require additional information, please contact me at 601-368-5102.

Respectfully,



Phil Couture

PC/ljs/chm

- Enclosures:
- 1) ENOI Status of Decommissioning Funding – Palisades
For Year Ending December 31, 2021 - 10 CFR 50.75(f)(1)
 - 2) ENOI Calculation of Minimum Amount – Palisades
For Year Ending December 31, 2021 - 10 CFR 50.75(f)(1)
 - 3) ENOI Status of Decommissioning Funding – Big Rock Point
For Year Ending December 31, 2021 - 10 CFR 50.75(f)(1)
 - 4) ENOI Minimum Financial Assurance Calculation Worksheet

- References:
- 1) NUREG-1307, "Report on Waste Burial Charges," Revision 18, Dated
January 2021
 - 2) NRC Regulatory Issue Summary (RIS) 2001-07, Rev. 1, "10 CFR 50.75
Reports and Recordkeeping for Decommissioning Planning," Dated
January 8, 2009
 - 3) NRC LIC-205, Rev. 6, Procedures for NRC's Independent Analysis of
Decommissioning Funding Assurance for Operating Nuclear Power
Reactors and Power Reactors in Decommissioning, Date April 10, 2017

cc: NRC Region III Regional Administrator
NRC Project Manager, Palisades
NRC Sr. Resident Inspector, Palisades

State of Michigan

Enclosure 1

CNRO2022-00002

**ENOI Status of Decommissioning Funding – Palisades
For Year Ending December 31, 2021 - 10 CFR 50.75(f)(1)**

**ENOI Status of Decommissioning Funding – Palisades
For Year Ending December 31, 2021 - 10 CFR 50.75(f)(1)**

Plant Name:	Palisades Nuclear Plant	
1. Minimum Financial Assurance (MFA) estimated per 10 CFR 50.75(b) and (c) (2021\$)		\$503.75 million ^[Note 1]
2. ISFSI Obligation as of 12/31/21		\$8.85 million ^[Note 2]
3. Decommissioning Trust Fund Total as of 12/31/21		\$576.26 million
4. A schedule of the annual amounts remaining to be collected		None
5. Assumptions used in determining rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections		2% annual real rate of return per 10 CFR 50.75(e)(1)(i)
6. Any contracts upon which the licensee is relying pursuant to 10 CFR 50.75(e)(1)(v)		None
7. Modifications occurring to a licensee's current method of providing financial assurance since the last submitted report		None
8. Any material changes to trust agreements		None

Note 1: Calculation of the NRC Minimum Amount is provided in Enclosure 4

Note 2: From Entergy's Decommissioning Funding Plans (10 CFR 72.30) dated December 15, 2021 (Accession No. ML21349A374).

Enclosure 2

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**ENOI Calculation of Minimum Amount – Palisades
For Year Ending December 31, 2021 - 10 CFR 50.75(f)(1)**

**ENOI Calculation of Minimum Amount – Palisades
For Year Ending December 31, 2021 - 10 CFR 50.75(f)(1)**

Entergy Nuclear Palisades LLC.: 100% ownership interest
Plant Location: Covert, Michigan
Reactor Type: Pressure Water Reactor (“PWR”)
Power Level: < 3,400 MWt (2565 MWt)
PWR Base Year 1986\$: \$97,572,000
Labor Region: Midwest
Waste Burial Facility: Generic Disposal Site

10CFR50.75(c)(2) Escalation Factor Formula:

$$0.65(L) + 0.13(E) + 0.22(B)$$

	<u>Factor</u>
L=Labor (Midwest)	3.03 ¹
E=Energy (PWR)	2.93 ²
B=Waste Burial-Vendor (PWR)	12.793 ³

PWR Escalation Factor:

$$0.65(L) + 0.13(E) + 0.22(B) = 5.1628$$

1986 PWR Base Year \$ Escalated:

$$\$97,572,000 * \text{Factor} = \$503,746,250$$

(Note – Numbers may not sum due to rounding)

¹ Bureau of Labor Statistics, Series Report ID: CIU201000000230i (4th Quarter 2021)

² Bureau of Labor Statistics, Series Report ID: wpu0543 and wpu0573 (December 2021) (Preliminary)

³ Nuclear Regulatory Commission: NUREG-1307 Revision 18, Table 2-1 (2021)

Enclosure 3

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**ENOI Status of Decommissioning Funding – Big Rock Point
For Year Ending December 31, 2021 - 10 CFR 50.75(f)(1)**

**ENOI Status of Decommissioning Funding – Big Rock Point
For Year Ending December 31, 2021 - 10 CFR 50.75(f)(1)**

Plant Name:	Big Rock Point ISFSI
1. Amount of decommissioning funds required from most recent estimate (2021\$).	\$2.79 million ^{Note 1}
2. Decommissioning Funding Assurance Method.	Parent Guarantee (\$5 million)
3. A schedule of the annual amounts remaining to be collected	None
4. Assumptions used in determining rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections	Escalation rate: n/a Rate of earnings: n/a
5. Any contracts upon which the licensee is relying pursuant to 10 CFR 50.75(e)(1)(v)	None
6. Modifications occurring to a licensee's current method of providing financial assurance since the last submitted report	None
7. Any material changes to trust agreements	None

Note 1: From Entergy's Decommissioning Funding Plans (10 CFR 72.30) dated December 15, 2021 (Accession No. ML21349A374).

Enclosure 4

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ENOI Minimum Financial Assurance Calculation Worksheet

ENOI Minimum Financial Assurance Calculation Worksheet

Plant name: Palisades Nuclear Plant

Year of Biennial: Month 12 Day 31 Year 2021
Termination of Operation: 5 31 2022

	MWth	1986\$	ECI	Base Lx		Lx	Px	Fx		Ex		Bx
PWR	2565	\$97,572,000	145.5	2.08	0.65	3.03	2.203	3.939	0.13	2.93	0.22	12.793

NRC Minimum: \$503,746,250 **Site Specific:**

Licensee:	% Owned:	Amount of NRC Minimum/Site Specific:	Amount in Trust Fund:
Entergy	100.00%	\$503,746,250	\$576,256,723

Step 1: Earnings Credit:

Trust Fund Balance:	Real Rate of Return per	Years Left in License	Total Real Rate of	Total Earnings:	
\$576,256,723	2%	0.42	1.00829	\$581,031,141	Total Earnings = Trust Fund balance x (1+RRR)^Years left in license

Step 2:

Accumulation:

Value of Annuity per year	Real Rate of Return per	Years of Annuity:	Total Annuity:
\$0	2%	0	\$0

Step 3:

Decom Period:

Total Earnings:	Real Rate of Return per	Decom Period:	Total Real Rate of	Total Earnings for Decom:	
\$581,031,141	2%	7	0.14869	\$43,195,502	Total Earnings for Decom = (1/2) x Total Earnings x [(1+RRR)^Decom period - 1]

Total of Steps 1- 3:	
\$624,226,643	Total = Total Earnings + Total Earnings for Decom

Excess (Shortfall)	\$ 120,480,393	to NRC minimum
	Less (8,849,000)	Less ISFSI
	-	Parent Co Guaranty
	\$ 111,631,393	Total Excess Financial Assurance