



Entergy Operations, Inc.
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, New York 10601

John F. McCann
Director
Nuclear Safety & Licensing

ENOC-09-00024

August 13, 2009

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

SUBJECT: Decommissioning Funding Assurance Plans

Indian Point Nuclear Generating Unit 2
Docket: 50-247 License: DPR-26

Palisades Nuclear Plant
Docket: 50-255 License: DPR-20

Vermont Yankee Nuclear Power Station
Docket: 50-271 License: DPR-28

References:

1. Entergy letter ENOC-09-00007; "Status of Decommissioning Funding for Plants Operated by Entergy Nuclear Operations, Inc for the Year Ending December 31, 2008," dated March 30, 2009 (ML090920576).
2. NRC letter dated June 18, 2009, regarding Status of Decommissioning Funding Assurance for Indian Point Unit 2 (ML091630533).
3. NRC letter dated June 18, 2009, regarding Status of Decommissioning Funding Assurance for Palisades Nuclear Plant (ML091550675).
4. NRC letter dated June 18, 2009, regarding Status of Decommissioning Funding Assurance for Vermont Yankee Nuclear Power Station (ML091550583).
5. Entergy letter ENOC 09-00022, "Status of Decommissioning Funding Assurance" dated July 6, 2009 (ML091960058).
6. Entergy letter NL-09-068, "Reply to Request for Additional Information Regarding Decommissioning Cost Estimate and Irradiated Fuel Management" dated July 15, 2009 (ML092050204).

Dear Sir or Madam:

Entergy Nuclear Operations, Inc. (Entergy) submitted the biennial report of decommissioning funding status in Reference 1. NRC requested follow up telephone conference calls in References 2, 3, and 4 regarding the decommissioning funding status for the subject plants.

A001
NRR

Entergy letter dated July 6, 2009, Reference 5, confirmed the agreed upon date of August 13, 2009 for Entergy to submit the plans for addressing the current funding status to NRC.

The Attachment 1 Plan for Decommissioning Funding Adjustment for Entergy Nuclear Indian Point Unit 2 (ENIP2) shows that when the July 31, 2009 DTF balance is escalated at the allowable rate and compared against the annual figures for the SAFSTOR period studied in Attachment 1, that an approximately \$47.1 million surplus exists at the end of the decommissioning project. Accordingly, ENIP2 concludes that no further action is required at this time to demonstrate adequate funding assurance for decommissioning Indian Point 2.

The Attachment 2 Plan for Decommissioning Funding Adjustment for Palisades Nuclear Plant shows that the increase in trust funds between December 31, 2008 and July 31, 2009, has eliminated any shortfall in the decommissioning funding when compared against the NRC minimum, indicating that there is presently reasonable assurance that funds will be available for the decommissioning process. Accordingly, Entergy Nuclear Palisades (ENP) concludes that no further action is required at this time to demonstrate adequate funding assurance for decommissioning Palisades.

Per the Attachment 3 Plan for Decommissioning Funding Adjustment for Entergy Nuclear Vermont Yankee (ENVY), to address the deficit reflected in Table 1, ENVY plans to put in place a financial assurance mechanism or combination of mechanisms acceptable to the NRC and allowed under 10 CFR 50.75(e)(1) by December 31, 2009, to provide the additional funding necessary to demonstrate adequate funding assurance for decommissioning of Vermont Yankee.

This letter contains one new commitment as documented in Attachment 4. If you have any questions, please contact Mr. Brian Ford at 601-368-5766.

Sincerely,



JFM / LAE

Attachments

1. Entergy Nuclear Indian Point 2, LLC Indian Point Energy Center, Unit 2, Plan for Decommissioning Funding Adjustment
2. Entergy Palisades, LLC Palisades Nuclear Plant, Plan for Decommissioning Funding Adjustment
3. Entergy Nuclear Vermont Yankee, LLC Vermont Yankee Nuclear Power Station, Plan for Decommissioning Funding Adjustment
4. Regulatory Commitments

Enclosure Copy of Enclosure 2 to October 23, 2008 submittal (NL-08-144)

cc: next page

cc:

NRC Regional Administrator, Region I
NRC Regional Administrator, Region III
NRC NRR Project Manager, Indian Point 2
NRC NRR Project Manager, Palisades
NRC NRR Project Manager, Vermont Yankee
NRC Resident Inspector's Office, Indian Point 2
NRC Resident Inspector's Office, Palisades
NRC Resident Inspector's Office, Vermont Yankee
NYS Department of Public Service
NYSERDA
Michigan Department of Environmental Quality
Vermont Department of Public Service
Mr. L. Jager Smith, P.E.

ENTERGY NUCLEAR INDIAN POINT 2, LLC
INDIAN POINT ENERGY CENTER, UNIT 2
PLAN FOR DECOMMISSIONING FUNDING ADJUSTMENT

On March 30, 2009, Entergy Nuclear Indian Point 2, LLC (ENIP2) submitted its biennial filing for Indian Point Energy Center, Unit 2 (Indian Point 2), pursuant to 10 CFR 50.75(f) (Accession No. ML090920576). On June 18, 2009, the Nuclear Regulatory Commission (NRC) staff sent ENIP2 a letter advising ENIP2 of the need for a telephone conference to discuss the NRC staff's calculations regarding Indian Point 2's decommissioning funding assurance (Accession No. ML091630533). The telephone conference was held on June 29, 2009. On July 22, 2009, another call was held with the NRC staff that resulted in some of the funding requirement figures being changed, and those changes are reflected in this communication. Also in the staff's letter of June 18, 2009, the staff indicated that if ENIP2 is determined to have a projected decommissioning funding shortfall, it will need to submit a plan to describe how and when the licensee intends to make adjustments to financial assurance mechanisms. This communication addresses the indicated shortfall.

According to the NRC staff's calculations, the staff has concluded that the NRC minimum amount for the 2009 report period for Indian Point Unit 2 is \$407,219,844. The staff likewise concluded that the available escalated funding to meet that obligation is \$363,279,341, based on the December 31, 2008 Indian Point Unit 2 decommissioning trust fund balances. The difference in these figures is \$43,940,503. ENIP2 has determined that use of a SAFSTOR analysis shows that there is presently reasonable assurance that adequate funds will be available for the decommissioning process in compliance with NRC decommissioning funding assurance rules.

Pursuant to 10 CFR 50.75(e)(1)(i), "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." ENIP2 understands that a facility specific analysis may be used for demonstrating the adequacy of decommissioning funds, provided that "the 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) as the basis for justifying a higher than minimum funding level." (Regulatory Guide 1.159, section 1.1.1; Draft Regulatory Guide-1229, section 1.1.1.) ENIP2 also understands that NRC should be provided the analysis, and that the analysis should include data for each year of the analysis.

On October 23, 2008, ENIP2 submitted a site specific decommissioning cost estimate to the NRC in conjunction with its preliminary decommissioning cost estimate and spent fuel management plan under 10 CFR 50.75(f)(3) and 10 CFR 50.54(bb) (Accession No. ML083040378, as supplemented by ENIP2's reply to RAIs on July 15, 2009 (Accession No. ML092050204). That submittal contained separate site-specific decommissioning cost estimates for Indian Point 1 and Indian Point 2. The Indian Point 2 site-specific decommissioning cost estimate that was submitted as Enclosure 2 to the October 23, 2008 submittal is provided herewith as an Enclosure. The Indian Point 2 site-specific estimate is based on a period of safe storage that is specifically described in the estimate, namely storage until 2064, at which time the plant will be decommissioned and the site released for

alternative use without restriction. Table 4 in the Indian Point 2 site-specific estimate (page 31 of 38) provides the annual license termination phase expenditures for Indian Point 2 in 2007 dollars. Table 1 below escalates those 2007 dollar figures to 2008 dollars using escalation values obtained from data provided by IHS Global Insight. The decommissioning trust fund (DTF) ending balance is escalated each year by the 2% real growth figure allowed pursuant to 10 CFR 50.75(e)(1)(i).¹

The decommissioning trust funds for Indian Point 2 have increased since December 31, 2008, as of July 31, 2009. The July 31, 2009 decommissioning trust fund balance for Indian Point 2 is \$326,963,974, compared to the December 31, 2008 balance of \$312,390,000. Table 1 below uses the July 31, 2009 Indian Point 2 decommissioning trust fund balance in lieu of the December 31, 2008 balance, and has escalated the funds during the balance of the first year reported below for only 5 months, as compared to the full year. The analysis in Table 1 indicates that there is now a \$47.1 million surplus in 2073 in decommissioning trust funds at the end of radiological decommissioning of Indian Point 2.

TABLE 1
SAFSTOR ANALYSIS FOR INDIAN POINT 2

	NRC License Termination Cost, \$ Millions		Ending DTF Balance
	2007\$ Unit 2 Radiological	2008\$ Unit 2 Radiological	
2008			326.964
2009			329.689
2010			336.282
2011			343.008
2012			349.868
2013	11.164	11.637	345.228
2014	49.271	51.257	300.876
2015	25.307	26.287	280.606
2016	3.711	3.879	282.339
2017	3.701	3.868	284.118
2018	3.701	3.868	285.932
2019	3.701	3.868	287.783
2020	3.711	3.879	289.660
2021	3.688	3.855	291.598
2022	3.676	3.842	293.588
2023	3.676	3.842	295.617
2024	3.686	3.853	297.677
2025	3.676	3.842	299.788
2026	3.676	3.842	301.941
2027	3.676	3.842	304.138
2028	3.686	3.853	306.368

¹ As indicated in the following paragraph, the fund balance as of July 31, 2009 is only escalated for a 5-month period at 2%, or 0.8333% for the year, to account for the use of the July 31, 2009 trust fund balance.

Table 1 Continued

2029	3.676	3.842	308.653
2030	3.676	3.842	310.983
2031	3.676	3.842	313.361
2032	3.686	3.853	315.775
2033	3.676	3.842	318.248
2034	3.676	3.842	320.771
2035	3.676	3.842	323.344
2036	3.686	3.853	325.958
2037	3.676	3.842	328.635
2038	3.676	3.842	331.365
2039	3.676	3.842	334.150
2040	3.686	3.853	336.980
2041	3.676	3.842	339.877
2042	3.676	3.842	342.832
2043	3.676	3.842	345.847
2044	3.686	3.853	348.911
2045	3.675	3.842	352.047
2046	3.668	3.834	355.253
2047	3.668	3.834	358.524
2048	3.678	3.845	361.850
2049	3.668	3.834	365.252
2050	3.668	3.834	368.723
2051	3.668	3.834	372.263
2052	3.678	3.845	375.863
2053	3.668	3.834	379.546
2054	3.668	3.834	383.303
2055	3.668	3.834	387.134
2056	3.678	3.845	391.032
2057	3.668	3.834	395.018
2058	3.668	3.834	399.084
2059	3.668	3.834	403.231
2060	3.678	3.845	407.451
2061	3.668	3.834	411.766
2062	3.668	3.834	416.167
2063	3.668	3.834	420.655
2064	24.751	25.806	403.263
2065	55.625	57.823	353.505
2066	168.560	174.284	186.291
2067	71.834	74.458	115.559
2068	25.113	26.059	91.811
2069	6.046	6.262	87.385
2070	6.046	6.262	82.871
2071	6.046	6.262	78.266
2072	6.547	6.780	73.052
2073	26.485	27.426	47.086
	659.351	685.161	

As can be seen from the information provided in Table 1 above, the required funding for SAFSTOR decommissioning, \$685.2 million, is greater than the NRC formula amount per 10 CFR 50.75(b) and (c) of \$407.2 million, therefore, the site-specific analysis complies with the requirement from Regulatory Guide 1.159 section 1.1.1 previously discussed. Additionally, ENIP2 is providing the supporting documentation for the SAFSTOR analysis in the form of the site-specific decommissioning report, and that report provides annual figures for the entire analysis.

The foregoing SAFSTOR analysis shows that when the July 31, 2009 DTF balance is escalated at the allowable rate and compared against the annual figures for the SAFSTOR period studied in Attachment 1, that an approximately \$47.1 million surplus exists at the end of the decommissioning project. Accordingly, ENIP2 concludes that no further action is required at this time to demonstrate adequate funding assurance for decommissioning Indian Point 2.

ENTERGY NUCLEAR PALISADES, LLC
PALISADES NUCLEAR PLANT
PLAN FOR DECOMMISSIONING FUNDING ADJUSTMENT

On March 30, 2009, Entergy Nuclear Palisades, LLC (ENP) submitted its biennial filing for the Palisades Nuclear Plant (Palisades), pursuant to 10 CFR 50.75(f) (Accession No. ML090920576). On June 18, 2009 the Nuclear Regulatory Commission (NRC) staff sent ENP a letter advising ENP of a telephone conference to discuss the NRC staff's calculations regarding Palisades' decommissioning funding assurance (Accession No. ML091550675). The telephone conference was held on June 29, 2009. On July 22, 2009, another call was held with the NRC staff that resulted in some of the funding requirement figures being changed, and those changes are reflected in this communication. Also in the staff's letter of June 18, 2009, the staff indicated that if ENP is determined to have a projected decommissioning funding shortfall, it will need to submit a plan to describe how and when the licensee intends to make adjustments to financial assurance mechanisms. This communication addresses the indicated shortfall.

According to the NRC staff's calculations, the staff has concluded that the NRC minimum amount for the 2009 report period for Palisades is \$376,574,286. The staff likewise concluded that the available escalated funding to meet that obligation is \$365,064,227, based on the December 31, 2008 Palisades decommissioning trust fund balances. The difference in these figures is \$11,510,059.

The decommissioning trust funds for Palisades have increased since December 31, 2008, as of July 31, 2009. The July 31, 2009 decommissioning trust fund balance for Palisades is \$230,766,009, compared to the December 31, 2008 balance of \$218,800,000. Table 1 below replicates the calculation sheet provided to ENP by the NRC, and uses the July 31, 2009 Palisades decommissioning trust fund balance in lieu of the December 31, 2008 balance, and has escalated the funds during the balance of the first year reported below for only 5 months, as compared to the full year. The analysis in Table 1 indicates that there is now a \$4,041,547 surplus in the decommissioning trust funds over the NRC minimum.

ENP has determined that the increase in trust funds between December 31, 2008 and July 31, 2009 has eliminated any shortfall in the decommissioning funding when compared against the NRC minimum, indicating that there is presently reasonable assurance that funds will be available for the decommissioning process. Accordingly, ENP concludes that no further action is required at this time to demonstrate adequate funding assurance for decommissioning Palisades.

TABLE 1

Plant name:

Palisades Nuclear Plant

	Month	Day	Year
Year of Biennial:	7	31	2009
Termination of Operation:	3	24	2031

	<u>MWth</u>	<u>1986\$</u>	ECI	Base Lx		<u>Lx</u>	Px	Fx		<u>Ex</u>		<u>Bx</u>
PWR	2565	\$97,572,000	107.6	2.08	0.65	2.24	1.649	1.988	0.13	1.791	0.22	9.872

NRC Mimimum: \$376,574,286

Licensee:	% Owned:	Amount of NRC Minimum/Site Specific:	Amount in Trust Fund:
Entergy	100.00%	\$376,574,286	\$230,766,009

**Step 1:
Earnings Credit:**

Trust Fund Balance:	Real Rate of Return per year	Years Left in License	Total Real Rate of Return:	Total Earnings:
\$230,766,009	2%	21.65	1.53523	\$354,277,816

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 year	Years of Annuity:	Total Annuity:
\$0	2%	0	\$0

Step 3:

Decom Period:

Total Earnings:	Real Rate of Return per year	Decom Period:	Total Real Rate of Return:	Total Earnings for Decom:
\$354,277,816	2%	7	0.14869	\$26,338,017

Total Earnings for Decom = (1/2) x Total Earnings x [(1+RRR)^Decom period - 1]

Total of Steps 1 - 3:
\$380,615,833

Total = Total Earnings + Total Earnings for Decom

ENTERGY NUCLEAR VERMONT YANKEE, LLC
VERMONT YANKEE NUCLEAR POWER STATION
PLAN FOR DECOMMISSIONING FUNDING ADJUSTMENT

On March 30, 2009 Entergy Nuclear Vermont Yankee, LLC (ENVY) submitted its biennial filing for the Vermont Yankee Nuclear Power Station (Vermont Yankee), pursuant to 10 CFR 50.75(f) (Accession No. ML090920576). On June 18, 2009 the Nuclear Regulatory Commission (NRC) staff sent ENVY a letter advising ENVY of a telephone conference to discuss the NRC staff's calculations regarding Vermont Yankee's decommissioning funding assurance (Accession No. ML091550583). The telephone conference was held on June 29, 2009. On July 22, 2009, another call was held with the NRC staff that resulted in some of the funding requirement figures being changed, and those changes are reflected in this communication. Also in the staff's letter, the staff indicated that if ENVY is determined to have a projected decommissioning funding shortfall, it will need to submit a plan to describe how and when the licensee intends to make adjustments to financial assurance mechanisms. This communication includes the licensee's plan to address any shortfall.

According to the NRC staff's calculations, the staff has concluded that the NRC minimum amount for the 2009 report period for Vermont Yankee is \$513,385,033. The staff likewise concluded that the available escalated funding to meet that obligation is \$425,993,159, based on the December 31, 2008 Vermont Yankee decommissioning trust fund balances. The difference in these figures is \$87,391,874.

The decommissioning trust funds for Vermont Yankee have increased since December 31, 2008, as of July 31, 2009. The July 31, 2009 decommissioning trust fund balance for Vermont Yankee is \$402,169,338, compared to the December 31, 2008 balance of \$372,010,000. Table 1 below replicates the calculation sheet provided to ENVY by the NRC, and uses the July 31, 2009 Vermont Yankee decommissioning trust fund balance in lieu of the December 31, 2008 balance, and has escalated the funds during the balance of the first year reported below for only 5 months, as compared to the full year. The analysis in Table 1 indicates that there is now a \$58,134,967 nominal deficit in the decommissioning trust funds over the NRC minimum.

To address the deficit reflected in Table 1, ENVY plans to put in place a financial assurance mechanism or combination of mechanisms acceptable to the NRC and allowed under 10 CFR 50.75(e)(1) by December 31, 2009, to provide the additional funding necessary to demonstrate adequate funding assurance for decommissioning of Vermont Yankee. Based on the July 31, 2009 Vermont Yankee decommissioning trust fund balances, combined with the proposed additional financial assurance, the decommissioning funding for Vermont Yankee provides reasonable assurance that adequate funds will be available for decommissioning of the plant, consistent with the use of a combination of methods as described in the NRC regulations at 10 CFR 50.75(e)(1)(iv).

ENVY plans to provide a financial assurance mechanism in an amount calculated using the present value method consistent with the methodology used in the NRC safety evaluations that approved: 1) the transfer of the Millstone Nuclear Power Station, Unit Nos. 1, 2 and 3 to Dominion Nuclear Connecticut, Inc. dated March 9, 2001 (Accession No. ML010160314); 2) the transfer of the operating licenses for the Nine Mile Point Nuclear Station Unit Nos. 1 and 2 to Nine Mile Point Nuclear Station, LLC, dated June 22, 2001 (Accession No. 011520030); and 3) the transfer of the operating licenses for the Beaver Valley Nuclear Power Station

Units Nos. 1 and 2, the Davis Besse Nuclear Power Station, and the Perry Nuclear Power Plant, to the extent held by certain subsidiaries of FirstEnergy Corp., to the FirstEnergy Nuclear Generation Corp., dated December 16, 2005 (Accession No. ML053460182).

ENVY has determined that a present value sum of \$51,356,612, when added to the available funding, will result in total available funding equal to the NRC minimum amount. Therefore, it is the licensee's plan to put in place a financial assurance mechanism acceptable to the NRC and in accordance with 10 CFR §50.75(e)(1) in an amount equal to or greater than the aforementioned present value sum, based on the July 31, 2009 decommissioning trust fund balance. ENVY plans that such mechanism will be put in place by December 31, 2009.

ENVY expects that the operating license for Vermont Yankee will be renewed by the NRC in late 2009 or early 2010. If the Vermont Yankee license is renewed, ENVY expects that any shortfall in decommissioning funding will be diminished or eliminated. In that event, ENVY expects that it will be appropriate to reevaluate any potential shortfall.

By letter dated July 30, 2007, as supplemented on October 31, 2007, ENVY requested NRC consent to the transfer of the Vermont Yankee license to a new company, Enexus Energy Corporation (Enexus). The NRC approved the license transfer in orders dated July 28, 2008. At such point in time that the license transfer to Enexus occurs, ENVY expects that the aforementioned additional financial assurance mechanism, assuming it has not been otherwise canceled or replaced, will be canceled and replaced with other financial assurance from Enexus, such assurance to be acceptable to the NRC and in accordance with the provisions of 10 CFR §50.75(e)(1).

TABLE 1**Plant name:****Vermont Yankee Power Station**

	Month	Day	Year
Year of Biennial:	7	31	2009
Termination of Operation:	3	21	2012

	<u>MWth</u>	<u>1986\$</u>	ECI	Base Lx		<u>Lx</u>	Px	Fx		<u>Ex</u>		<u>Bx</u>
BWR	1912	\$121,208,000	109.5	2.16	0.65	2.37	1.649	1.988	0.13	1.805	0.22	11.198

NRC Mimimum:**\$513,385,033**

<u>Licensee:</u>	<u>% Owned:</u>	<u>Amount of NRC Minimum/Site Specific:</u>	<u>Amount in Trust Fund:</u>
Entergy	100.00%	\$513,385,033	\$402,169,338

Step 1:**Earnings Credit:**

<u>Trust Fund Balance:</u>	<u>Real Rate of Return per year</u>	<u>Years Left in License</u>	<u>Total Real Rate of Return:</u>	<u>Total Earnings:</u>
\$402,169,338	2%	2.64	1.05365	\$423,747,478

Total Earnings = Trust Fund balance x (1+RRR)^Years left in license**Step 2:****Accumulation:**

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

Step 3:**Decom Period:**

<u>Total Earnings:</u>	<u>Real Rate of Return per year</u>	<u>Decom Period:</u>	<u>Total Real Rate of Return:</u>	<u>Total Earnings for Decom:</u>
\$423,747,478	2%	7	0.14869	\$31,502,588

Total Earnings for Decom = (1/2) x Total Earnings x [(1+RRR)^Decom period - 1]

<u>Total of Steps 1 - 3:</u>
\$455,250,066

Total = Total Earnings + Total Earnings for Decom

Regulatory Commitments

This table identifies actions discussed in this letter for which Entergy commits to perform. Any other actions discussed in this submittal are described for the NRC's information and are not commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
1. To address the deficit reflected in Table 1, ENVY plans to put in place a financial assurance mechanism or combination of mechanisms acceptable to the NRC and allowed under 10 CFR 50.75(e)(1) by December 31, 2009, to provide the additional funding necessary to demonstrate adequate funding assurance for decommissioning of Vermont Yankee.	x		December 31, 2009.

ENOC-09-00024
Enclosure

Copy of Enclosure 2 to NL-08-144
Preliminary Decommissioning Cost Analysis
for the
Indian Point Energy Center, Unit 2

October 2008