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Mandy K. Halter
Director, Nuclear Licensing

10 CFR 50.12
10 CFR 50.82

November 16, 2018

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

SUBJECT: Request for Exemption from 10 CFR 50.82(a)(8)(i)(A)
Pilgrim Nuclear Power Station

Docket No. 50-293
Renewed License No. DPR-35

LETTER NUMBER: 2.18.069

REFERENCES:

1. Letter, Entergy Nuclear Operations, Inc. to USNRC, "Notification of Permanent Cessation of Power Operations," 2.15.080, dated November 10, 2015 (ML15328A053)

2. Letter, Entergy Nuclear Operations, Inc. to USNRC, "Update to Spent Fuel Management Plan Pursuant to 10 CFR 50.54(bb)," 2.18.071, dated November 16, 2018

3. Letter, Entergy Nuclear Operations, Inc. to USNRC, "Pilgrim Nuclear Power Station Post-Shutdown Decommissioning Activities Report," 2.18.070, dated November 16, 2018

Dear Sir or Madam:

Pursuant to 10 CFR 50.12, Entergy Nuclear Operations, Inc. (ENOI), on behalf of itself and Entergy Nuclear Generation Company (ENGC), requests an exemption from 10 CFR 50.82(a)(8)(i)(A) for Pilgrim Nuclear Power Station (PNPS) to allow use of a portion of the funds from the PNPS nuclear decommissioning trust (NDT) for the management of spent fuel and site restoration activities, consistent with the PNPS Updated Spent Fuel Management Plan and the PNPS Post-Shutdown Decommissioning Activities Report (PSDAR).

On November 10, 2015, ENOI informed the NRC that PNPS will permanently cease power operations no later than June 1, 2019 (Reference 1). Subsequently, by separate letters dated November 16, 2018 (References 2 and 3), ENOI submitted an update to the PNPS Spent Fuel Management Plan (pursuant to 10 CFR 50.54(bb)) and a PSDAR (pursuant to 10 CFR 50.82(a)(4)(i)).

The PNPS Site-Specific Decommissioning Cost Estimate, provided as Attachment 1 to the PSDAR (Reference 3), identifies the estimated annual expenditures for radiological decommissioning, spent fuel management, and site restoration activities. As demonstrated in the cash flow analysis provided in Attachment 1 to this letter, the NDT contains more than sufficient amounts needed to cover all of the estimated costs of license termination, spent fuel management, and site restoration activities at PNPS. However, 10 CFR 50.82(a)(8)(i)(A) states that decommissioning trust funds may be used by licensees if the withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2. The definition of "decommission" in 10 CFR 50.2 does not include activities related to spent fuel management or site restoration. Therefore, an exemption from 10 CFR 50.82(a)(8)(i)(A) is needed to allow ENGC to use NDT funds for spent fuel management and site restoration activities.

The requested exemption from 10 CFR 50.82(a)(8)(i)(A) is permissible under 10 CFR 50.12, because it will not present an undue risk to the public health and safety, and application of the regulations in this particular circumstance is not necessary to achieve the underlying purpose of the rule. In addition, application of 10 CFR 50.82(a)(8)(i)(A), which would result in restricting the use of the NDT, is not necessary to ensure adequate funding for radiological decommissioning of PNPS. Application of the rule would impose an unnecessary burden on ENOI and ENGC to provide additional, unnecessary funding for spent fuel management and site restoration activities.

ENOI requests approval of this exemption request by May 31, 2019. As discussed in the PNPS Updated Spent Fuel Management Plan and PSDAR, ENOI plans to begin spent fuel management activities shortly after the reactor is defueled. In addition, ENOI intends to conduct certain site restoration activities prior to the termination of the NRC license. The exemption is needed in order to allow ENOI to use a portion of the NDT funds for these spent fuel management and site restoration activities.

The exemption request is provided in the attachment to this letter.

This letter contains no new regulatory commitments.

Should you have any questions concerning this letter or require additional information, please contact Mr. Peter J. Miner at (508) 830-7127.

Sincerely,

Mandy K. Halter

MKH/shr

Attachment: 1. Pilgrim Nuclear Power Station Request for Exemption from 10 CFR 50.82(a)(8)(i)(A)

cc:

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NRC Resident Inspector
Pilgrim Nuclear Power Station

Attachment 1

Letter 2.18.069

Pilgrim Nuclear Power Station

Request for Exemption from 10 CFR 50.82(a)(8)(i)(A)

Pilgrim Nuclear Power Station
Request for Exemption from 10 CFR 50.82(a)(8)(i)(A)

I. Description

Pursuant to 10 CFR 50.12, Entergy Nuclear Operations, Inc. (ENOI), on behalf of itself and Entergy Nuclear Generation Company (ENGC), requests an exemption from 10 CFR 50.82(a)(8)(i)(A) for Pilgrim Nuclear Power Station (PNPS) to allow use of a portion of the funds from the PNPS nuclear decommissioning trust (NDT) for the management of spent fuel and site restoration, consistent with the PNPS updated Spent Fuel Management Plan and Post-Shutdown Decommissioning Activities Report (PSDAR).

On November 10, 2015, ENOI informed the NRC that PNPS will permanently cease power operations no later than June 1, 2019 (Reference 1). Subsequently, by separate letters dated November 16, 2018 (References 2 and 3), ENOI submitted an update to the PNPS Spent Fuel Management Plan (pursuant to 10 CFR 50.54(bb)) and a PSDAR (pursuant to 10 CFR 50.82(a)(4)(i)).

The PNPS Site-Specific Decommissioning Cost Estimate, provided as Attachment 1 to the PSDAR (Reference 3), identifies the estimated annual expenditures for radiological decommissioning, spent fuel management, and site restoration activities. As demonstrated in the cash flow analysis provided in Table 4 below, the NDT contains more than sufficient amounts needed to cover all of the estimated costs of license termination, spent fuel management, and site restoration activities at PNPS. However, 10 CFR 50.82(a)(8)(i)(A) states that decommissioning trust funds may be used by licensees if the withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2. The definition of “decommission” in 10 CFR 50.2 does not include activities associated with spent fuel management or site restoration. Accordingly, 10 CFR 50.82(a)(8)(i)(A) would prohibit the use of PNPS NDT funds for activities related to spent fuel management and site restoration prior to termination of the 10 CFR Part 50 license.

Because the PNPS PSDAR and updated Spent Fuel Management Plan describe activities associated with spent fuel management and site restoration that must be accomplished prior to completion of radiological decommissioning, ENOI is requesting an exemption from 10 CFR 50.82(a)(8)(i)(A) to allow ENGC to withdraw and use NDT funds for spent fuel management and site restoration activities. Given that the NDT contains more than sufficient funds needed to complete all radiological decommissioning, spent fuel management, and site restoration activities, granting the exemption would not present an undue risk to the public health and safety or prevent decommissioning from being completed as planned.

II. Background

As described in the PNPS PSDAR, ENGC has decided to use the SAFSTOR method of decommissioning, which defers completion of radiological decommissioning until after a storage period, thus delaying (absent an exemption) the availability of excess funds in the NDT for spent fuel management and site restoration activities. The PSDAR includes a site-specific decommissioning cost estimate (provided as Attachment 1 to the PSDAR), which estimates the cost of radiological decommissioning, spent fuel management, and site restoration. Tables 3.2a, 3.2b, and 3.2c of the DCE (Reference 3, Attachment 1) set forth the estimated annual expenditures for license termination, spent fuel management, and site restoration respectively. For convenience, those tables are reproduced below as Tables 1, 2, and 3. Table 4 below is an

annual cash flow analysis demonstrating that, with credited earnings during the SAFSTOR period, the NDT contains more than sufficient funds needed to cover the cost of radiological decommissioning, spent fuel management, and site restoration activities.

Table 1 - License Termination Expenditures
(thousands, 2018 dollars)

Year	Labor	Equip. & Materials	Energy	Waste Disposal	Other	Total
2018	0	0	0	0	19,142	19,142
2019	45,256	1,040	1,409	276	52,043	100,024
2020	22,178	1,040	1,572	539	36,245	61,574
2021	13,526	454	1,157	323	30,572	46,032
2022	13,526	454	1,157	323	28,339	43,799
2023	2,276	130	524	7	11,579	14,516
2024	2,282	130	525	7	3,953	6,897
2025	2,276	130	524	7	3,322	6,259
2026	2,276	130	524	7	2,947	5,884
2027	2,276	130	524	7	2,947	5,884
2028	2,282	130	525	7	2,953	5,897
2029	2,276	130	524	7	2,947	5,884
2030	2,276	130	524	7	2,947	5,884
2031	2,276	130	524	7	2,947	5,884
2032	2,282	130	525	7	2,953	5,897
2033	2,276	130	524	7	2,947	5,884
2034	2,276	130	524	7	2,947	5,884
2035	2,276	130	524	7	2,947	5,884
2036	2,282	130	525	7	2,953	5,897
2037	2,276	130	524	7	2,947	5,884
2038	2,276	130	524	7	2,947	5,884
2039	2,276	130	524	7	2,947	5,884
2040	2,282	130	525	7	2,953	5,897
2041	2,276	130	524	7	2,947	5,884
2042	2,276	130	524	7	2,947	5,884
2043	2,276	130	524	7	2,947	5,884
2044	2,282	130	525	7	2,953	5,897
2045	2,276	130	524	7	2,947	5,884
2046	2,276	130	524	7	2,947	5,884
2047	2,276	130	524	7	2,947	5,884
2048	2,282	130	525	7	2,953	5,897
2049	2,276	130	524	7	2,947	5,884
2050	2,276	130	524	7	2,947	5,884
2051	2,276	130	524	7	2,947	5,884
2052	2,282	130	525	7	2,953	5,897
2053	2,276	130	524	7	2,947	5,884

Table 1 - License Termination Expenditures (continued)
(thousands, 2018 dollars)

Year	Labor	Equip. & Materials	Energy	Waste Disposal	Other	Total
2054	2,276	130	524	7	2,947	5,884
2055	2,276	130	524	7	2,947	5,884
2056	2,282	130	525	7	2,953	5,897
2057	2,276	130	524	7	2,947	5,884
2058	2,276	130	524	7	2,947	5,884
2059	2,276	130	524	7	2,947	5,884
2060	2,282	130	525	7	2,953	5,897
2061	2,276	130	524	7	2,947	5,884
2062	2,276	130	524	7	2,947	5,884
2063	1,663	298	216	6	2,514	4,697
2064	1,668	298	217	6	2,521	4,710
2065	1,663	298	216	6	2,514	4,697
2066	1,663	298	216	6	2,514	4,697
2067	1,663	298	216	6	2,514	4,697
2068	1,668	298	217	6	2,521	4,710
2069	1,663	298	216	6	2,514	4,697
2070	1,663	298	216	6	2,514	4,697
2071	1,663	298	216	6	2,514	4,697
2072	1,668	298	217	6	2,521	4,710
2073	22,411	1,183	1,324	21	3,694	28,634
2074	38,252	8,293	2,154	5,384	7,668	61,751
2075	47,682	24,256	2,053	68,469	17,586	160,046
2076	63,341	15,092	1,775	41,144	16,992	138,344
2077	66,082	10,159	1,621	26,451	16,606	120,920
2078	56,725	7,373	1,230	17,765	13,112	96,205
2079	15,548	693	178	12	2,457	18,888
2080	137	0	0	0	0	137
Total	**512,400**	**78,223**	**38,769**	**161,050**	**397,552**	**1,187,994**

Table 2 - Spent Fuel Management Expenditures

(thousands, 2018 dollars)

Year	Labor	Equip. & Materials	Energy	Waste Disposal	Other	Total
2018	4,033	12,100	0	0	0	16,133
2019	11,838	35,513	0	0	12,665	60,016
2020	12,611	28,315	0	0	13,768	54,694
2021	12,272	24,230	0	0	12,396	48,898
2022	12,272	24,230	0	0	12,396	48,898
2023	4,188	0	0	0	8,694	12,882
2024	4,200	0	0	0	122	4,322
2025	4,188	0	0	0	122	4,310
2026	4,188	0	0	0	122	4,310
2027	4,188	0	0	0	122	4,310
2028	4,200	0	0	0	122	4,322
2029	4,188	0	0	0	122	4,310
2030	4,188	0	0	0	122	4,310
2031	4,274	259	0	0	122	4,655
2032	4,501	906	0	0	122	5,529
2033	4,188	0	0	0	122	4,310
2034	4,231	129	0	0	122	4,482
2035	4,361	518	0	0	122	5,000
2036	4,329	388	0	0	122	4,839
2037	4,188	0	0	0	122	4,310
2038	4,317	388	0	0	122	4,827
2039	4,188	0	0	0	122	4,310
2040	4,200	0	0	0	122	4,322
2041	4,317	388	0	0	122	4,827
2042	4,274	259	0	0	122	4,655
2043	4,274	259	0	0	122	4,655
2044	4,200	0	0	0	122	4,322
2045	4,317	388	0	0	122	4,827
2046	4,188	0	0	0	122	4,310
2047	4,274	259	0	0	122	4,655
2048	4,286	259	0	0	122	4,667
2049	4,317	388	0	0	122	4,827
2050	4,188	0	0	0	122	4,310
2051	4,274	259	0	0	122	4,655
2052	4,286	259	0	0	122	4,667
2053	4,188	0	0	0	122	4,310
2054	4,274	259	0	0	122	4,655
2055	4,274	259	0	0	122	4,655
2056	4,200	0	0	0	122	4,322
2057	4,274	259	0	0	122	4,655
2058	4,188	0	0	0	122	4,310

Table 2 - Spent Fuel Management Expenditures (continued)
(thousands, 2018 dollars)

Year	Labor	Equip. & Materials	Energy	Waste Disposal	Other	Total
2059	4,274	259	0	0	122	4,655
2060	4,329	388	0	0	122	4,839
2061	4,188	0	0	0	122	4,310
2062	4,576	1,164	0	0	122	5,862
2063	0	0	0	0	0	0
2064	0	0	0	0	0	0
2065	0	0	0	0	0	0
2066	0	0	0	0	0	0
2067	0	0	0	0	0	0
2068	0	0	0	0	0	0
2069	0	0	0	0	0	0
2070	0	0	0	0	0	0
2071	0	0	0	0	0	0
2072	0	0	0	0	0	0
2073	0	0	0	0	0	0
2074	0	0	0	0	0	0
2075	0	0	0	0	0	0
2076	0	0	0	0	0	0
2077	0	0	0	0	0	0
2078	0	0	0	0	0	0
2079	0	0	0	0	0	0
2080	0	0	0	0	0	0
Total	**223,294**	**132,279**	**0**	**0**	**64,677**	**420,250**

Table 3 – Site Restoration Expenditures
(thousands, 2018 dollars)

Year	Labor	Equip. & Materials	Energy	Waste Disposal	Other	Total
2018-72	0	0	0	0	0	0
2073	325	0	0	0	0	325
2074	712	2	0	0	0	713
2075	236	25	0	0	0	261
2076	328	11	0	0	0	339
2077	376	3	0	0	0	379
2078	252	2	0	0	0	254
2079	12,690	4,079	127	0	2,939	19,836
2080	19,772	6,356	198	0	4,580	30,907
Total	**34,691**	**10,478**	**326**	**0**	**7,519**	**53,014**

Table 4 - Annual Cash Flow Analysis

Pilgrim Nuclear Power Station - SAFSTOR Methodology

Annual Cash Flow Analysis - Total License Termination, Spent Fuel Management, and Site Restoration Costs

(In Thousands, 2018 Dollars)

	Date	Amount
Total Trust Fund Balance as of	10/31/2018	$ 1,051,722
Start of Decommissioning	06/01/2019	
Decommissioning Funds value at Calculation Date	10/31/2018	$ 1,051,722
Total Estimated Costs at Calculation Date	10/31/2018	$ 1,661,258

0.000%	Cost Escalation Rate	Start of Decom to end of Decom - Assumes 0.0% Decom cost escalation rate
2.000%	Fund Earnings Rate	Start of Decom to end of Decom - Assumes 2.0% Earnings Rate

Pilgrim Nuclear Power Station - SAFSTOR Methodology

Annual Cash Flow Analysis - Total License Termination, Spent Fuel Management, and Site Restoration Costs

(In Thousands in 2018 Dollars)

Year	Column 1 50.75 License Termination Cost	Column 2 50.54 (bb) Spent Fuel Management Cost	Column 3 Site Restoration	Column 4 Total Cost	Column 5 Beginning of Year Trust Fund Balance	Column 6 Withdraw	Column 7 Contribute	Column 8 Balance for Earnings Calculation	Column 9 Trust Fund Earnings	Column 10 Year Ending Trust Fund Balance
2018	19,142	16,133	0	35,275	1,051,722	0	0	1,051,722	3,506	1,055,228
2019	100,024	60,016	0	160,040	1,055,228	195,315	0	859,913	17,198	877,112
2020	61,574	54,694	0	116,268	877,112	116,268	0	760,844	15,217	776,061
2021	46,032	48,898	0	94,930	776,061	94,930	0	681,131	13,623	694,753
2022	43,799	48,898	0	92,697	694,753	92,697	0	602,056	12,041	614,097
2023	14,516	12,882	0	27,398	614,097	27,398	0	586,699	11,734	598,433
2024	6,897	4,322	0	11,219	598,433	11,219	0	587,214	11,744	598,958
2025	6,259	4,310	0	10,569	598,958	10,569	0	588,390	11,768	600,158
2026	5,884	4,310	0	10,194	600,158	10,194	0	589,964	11,799	601,763
2027	5,884	4,310	0	10,194	601,763	10,194	0	591,570	11,831	603,401
2028	5,897	4,322	0	10,219	603,401	10,219	0	593,182	11,864	605,046
2029	5,884	4,310	0	10,194	605,046	10,194	0	594,852	11,897	606,749
2030	5,884	4,310	0	10,194	606,749	10,194	0	596,556	11,931	608,487

Year	Column 1 50.75 License Termination Cost	Column 2 50.54 (bb) Spent Fuel Management Cost	Column 3 Site Restoration	Column 4 Total Cost	Column 5 Beginning of Year Trust Fund Balance	Column 6 Withdraw	Column 7 Contribute	Column 8 Balance for Earnings Calculation	Column 9 Trust Fund Earnings	Column 10 Year Ending Trust Fund Balance
2031	5,884	4,655	0	10,539	608,487	10,539	0	597,948	11,959	609,907
2032	5,897	5,529	0	11,427	609,907	11,427	0	598,481	11,970	610,450
2033	5,884	4,310	0	10,194	610,450	10,194	0	600,257	12,005	612,262
2034	5,884	4,482	0	10,366	612,262	10,366	0	601,896	12,038	613,934
2035	5,884	5,000	0	10,884	613,934	10,884	0	603,050	12,061	615,111
2036	5,897	4,839	0	10,737	615,111	10,737	0	604,375	12,087	616,462
2037	5,884	4,310	0	10,194	616,462	10,194	0	606,268	12,125	618,394
2038	5,884	4,827	0	10,711	618,394	10,711	0	607,683	12,154	619,837
2039	5,884	4,310	0	10,194	619,837	10,194	0	609,643	12,193	621,836
2040	5,897	4,322	0	10,219	621,836	10,219	0	611,617	12,232	623,849
2041	5,884	4,827	0	10,711	623,849	10,711	0	613,138	12,263	625,401
2042	5,884	4,655	0	10,539	625,401	10,539	0	614,862	12,297	627,159
2043	5,884	4,655	0	10,539	627,159	10,539	0	616,621	12,332	628,953
2044	5,897	4,322	0	10,219	628,953	10,219	0	618,734	12,375	631,109
2045	5,884	4,827	0	10,711	631,109	10,711	0	620,398	12,408	632,806
2046	5,884	4,310	0	10,194	632,806	10,194	0	622,612	12,452	635,065
2047	5,884	4,655	0	10,539	635,065	10,539	0	624,526	12,491	637,017
2048	5,897	4,667	0	10,564	637,017	10,564	0	626,452	12,529	638,981
2049	5,884	4,827	0	10,711	638,981	10,711	0	628,270	12,565	640,836
2050	5,884	4,310	0	10,194	640,836	10,194	0	630,642	12,613	643,255
2051	5,884	4,655	0	10,539	643,255	10,539	0	632,717	12,654	645,371
2052	5,897	4,667	0	10,564	645,371	10,564	0	634,807	12,696	647,503
2053	5,884	4,310	0	10,194	647,503	10,194	0	637,309	12,746	650,056
2054	5,884	4,655	0	10,539	650,056	10,539	0	639,517	12,790	652,307
2055	5,884	4,655	0	10,539	652,307	10,539	0	641,769	12,835	654,604
2056	5,897	4,322	0	10,219	654,604	10,219	0	644,385	12,888	657,273
2057	5,884	4,655	0	10,539	657,273	10,539	0	646,734	12,935	659,669
2058	5,884	4,310	0	10,194	659,669	10,194	0	649,476	12,990	662,465
2059	5,884	4,655	0	10,539	662,465	10,539	0	651,927	13,039	664,965
2060	5,897	4,839	0	10,737	664,965	10,737	0	654,228	13,085	667,313
2061	5,884	4,310	0	10,194	667,313	10,194	0	657,119	13,142	670,262
2062	5,884	5,862	0	11,746	670,262	11,746	0	658,516	13,170	671,686

Year	Column 1 50.75 License Termination Cost	Column 2 50.54 (bb) Spent Fuel Management Cost	Column 3 Site Restoration	Column 4 Total Cost	Column 5 Beginning of Year Trust Fund Balance	Column 6 Withdraw	Column 7 Contribute	Column 8 Balance for Earnings Calculation	Column 9 Trust Fund Earnings	Column 10 Year Ending Trust Fund Balance
2063	4,697	0	0	4,697	671,686	4,697	0	666,989	13,340	680,329
2064	4,710	0	0	4,710	680,329	4,710	0	675,619	13,512	689,131
2065	4,697	0	0	4,697	689,131	4,697	0	684,434	13,689	698,122
2066	4,697	0	0	4,697	698,122	4,697	0	693,425	13,869	707,294
2067	4,697	0	0	4,697	707,294	4,697	0	702,596	14,052	716,648
2068	4,710	0	0	4,710	716,648	4,710	0	711,938	14,239	726,177
2069	4,697	0	0	4,697	726,177	4,697	0	721,480	14,430	735,909
2070	4,697	0	0	4,697	735,909	4,697	0	731,212	14,624	745,836
2071	4,697	0	0	4,697	745,836	4,697	0	741,139	14,823	755,962
2072	4,710	0	0	4,710	755,962	4,710	0	751,252	15,025	766,277
2073	28,634	0	325	28,959	766,277	28,959	0	737,318	14,746	752,065
2074	61,751	0	713	62,464	752,065	62,464	0	689,601	13,792	703,393
2075	160,046	0	261	160,307	703,393	160,307	0	543,086	10,862	553,947
2076	138,344	0	339	138,683	553,947	138,683	0	415,264	8,305	423,570
2077	120,920	0	379	121,298	423,570	121,298	0	302,271	6,045	308,317
2078	96,205	0	254	96,460	308,317	96,460	0	211,857	4,237	216,094
2079	18,888	0	19,836	38,724	216,094	38,724	0	177,371	3,547	180,918
2080	137	0	30,907	31,044	180,918	31,044	0	149,874	2,997	152,872
Total	**1,187,994**	**420,250**	**53,014**	**1,661,258**		**1,661,258**	**0**	**38,996,799**	**762,407**	**152,872**

Table 4 Definitions:

Column 1: **50.75 License Termination Cost**

Reflects the total annual License Termination costs in 2018 dollars at a 0.0% escalation rate

Column 2: **50.54 (bb) Spent Fuel Management Cost**

Reflects the total annual Spent Fuel Management costs in 2018 dollars at a 0.0% escalation rat

Column 3: **Site Restoration Cost**

Reflects the total annual Site Restoration costs in 2018 dollars at a 0.0% escalation rate

Column 4: **Total Cost**

Reflects the total annual License Termination costs plus total annual Spent Fuel Management costs plus total annual Site Restoration costs, all in 2018 dollars at a 0.0% escalation rate (Column 1 + Column 2 + Column 3)

Column 5: **Beginning of Year Trust Fund Balance**

Reflects the beginning of year Trust Fund balance in 2018 dollars at a 0.0% escalation rate and 2.0% Fund Earnings

Column 6: **Withdraw**

Reflects the annual expenditures from the Trust Fund in 2018 dollars at a 0.0% escalation rate (equals Column 4)

Column 7: **Contribute**

Reflects the annual contributions to the Trust Fund in 2018 dollars at a 0.0% escalation rate

Column 8: **Balance for Earnings Calculation**

Reflects the Trust Fund balance in 2018 dollars used to calculate the Trust Fund Earnings (Column 5 – Column 6)

Column 9: **Trust Fund Earnings**

Reflects earnings on funds remaining in the Trust Fund. A 2.0% earnings rate is used over a 0.0% cost escalation rate. The annual 2.0% earnings are calculated on the balance after the annual expenditures are removed (Column 8 * 2.0%).

Column 10: **Year Ending Trust Fund Balance**

Reflects the end of year Trust Fund balance after all projected earnings are added and all projected expenditures are deducted for year-end, specified at a 0.0% escalation rate and 2.0% fund earnings in 2018 dollars (Column 5 – Column 6 + Column 9)

Although this cash flow analysis demonstrates that with projected earnings, the NDT is sufficient to cover the estimated costs not only of radiological decommissioning but also spent fuel management and site restoration, 10 CFR 50.82(a)(8)(i)(A) prohibits the use of NDT funds for such activities. 10 CFR 50.82(a)(8)(i) states (in part) that decommissioning trust funds may be used by licensees if the "withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in Section 50.2." 10 CFR 50.2 defines "decommission" as:

> Decommission means 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.

NRC staff guidance regarding the regulations discussed above indicates that decommissioning activities do not include spent fuel management or site restoration. (*See, e.g.*, NUREG-1713, Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors, at 2 ("Other activities related to facility deactivation and site closure, including operation of the spent fuel storage pool, construction and operation of an independent spent fuel storage installation (ISFSI)... are not included in the NRC definition of decommissioning." (Reference 4)).

III. Adjusting Cost Estimates and Funding Levels

10 CFR 50.82(a)(8)(iv) states:

> For decommissioning activities that delay completion of decommissioning by including a period of storage or surveillance, the licensee shall provide a means of adjusting cost estimates and associated funding levels over the storage or surveillance period.

As discussed in the PNPS PSDAR, ENOI plans to maintain PNPS in a safe storage condition for an extended period prior to completion of radiological decommissioning. This will allow radioactive decay to occur, thereby reducing the quantity of contamination and radioactivity that must be disposed of during the decontamination and dismantlement process as well as reducing the associated occupational exposure.

ENOI intends to address the requirements of 10 CFR 50.82(a)(8)(iv) with respect to the decommissioning cost estimates and funding levels for PNPS as discussed below.

A. Means of Adjusting Cost Estimates

> A site-specific decommissioning cost estimate for PNPS was submitted as Attachment 1 to the PNPS PSDAR (Reference 3). 10 CFR 50.82(a)(8)(iv) states that, "For decommissioning activities that delay completion of decommissioning by including a period of storage or surveillance, the licensee shall provide a means of adjusting cost estimates and associated funding levels over the storage or surveillance period." The discussion on the means of adjusting cost estimates is provided in Section 4.1 of the PSDAR and is reproduced below for convenience:

> The PNPS SAFSTOR schedule and the associated site-specific cost estimate summarized in Tables 2.1 and 2.2 and detailed in the DCE (Attachment 1) is reported in 2018 dollars using up-to-date 2018 pricing. ENOI will update the PNPS DCE as required by procedure and regulation. In calculating projected earnings, ENGC will apply a compounded 2% real rate of return on the trust fund per 10 CFR 50.75(e). In accordance with 10 CFR 50.82(a)(8)(v)-(vii), ENOI will provide annual reports projecting the cost to complete decommissioning and spent fuel management costs.

B. Means of Adjusting Associated Funding Levels

The means of adjusting funding levels over the storage period is provided in Section 4.2 of the PSDAR and is reproduced below for convenience:

> During the SAFSTOR period, the site-specific DCE will be periodically updated in compliance with ENOI procedures and applicable regulatory requirements. In accordance with 10 CFR 50.82(a)(8)(v), decommissioning funding assurance will be reviewed and reported to the NRC annually during the SAFSTOR period. The latest site specific DCE adjusted for inflation, in accordance with applicable regulatory requirements, will be used to demonstrate funding assurance. In addition, actual radiological and spent fuel management expenses will be included in the annual report in accordance with the applicable regulatory requirements.
>
> If the funding assurance demonstration shows the [NDT] is not sufficient, then an alternate funding mechanism allowed by 10 CFR 50.75(e) and the guidance provided in Regulatory Guide 1.159 (Reference 5) will be put in place.

It should be noted that the current cash flow analysis projects an excess of approximately $152.87 million upon completion of decommissioning, spent fuel management and site restoration, and is conservative in that it provides no credit for the recovery from the Department of Energy (DOE) of spent fuel management costs for which DOE is liable.

IV. Precedent

The requested exemption is consistent with those approved for Kewaunee Power Station (Reference 5), Zion Nuclear Power Station, Units 1 and 2 (Reference 6), San Onofre Nuclear Generating Station, Units 2 and 3 (Reference 7), Vermont Yankee Nuclear Power Station (Reference 8), and Oyster Creek Nuclear Generating Station (Reference 9).

V. Justification for Exemption and Special Circumstances

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 the regulations of Part 50 which 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. 10 CFR 50.12 also states that the Commission will not consider granting an exemption unless special circumstances are present.

As discussed below, this exemption request satisfies the provisions of 10 CFR 50.12.

A. The exemption is authorized by law

The proposed exemption from 10 CFR 50.82(a)(8)(i)(A) would allow ENGC to use a portion of the funds from the NDT for spent fuel management and site restoration activities, consistent with the PNPS updated Spent Fuel Management Plan and PSDAR. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50. The proposed exemptions would not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

B. The exemption will not present an undue risk to public health and safety

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) is to provide reasonable assurance that adequate funds will be available to complete decommissioning within 60 years of a power reactor's cessation of operations. Based on the DCE and the cash flow analysis provided in Table 4 above, the use of a portion of the NDT for spent fuel management and site restoration activities will not adversely impact ENOI's ability to terminate the PNPS license (i.e., complete radiological decommissioning) within 60 years, consistent with the schedule and costs contained in the PNPS updated Spent Fuel Management Plan and PSDAR.

No new accident precursors are created by using the NDT for spent fuel management and site restoration activities. Thus, the probability of postulated accidents is not increased. Nor will the use of NDT funds for spent fuel management and site restoration activities result in an increase in the consequences of postulated accidents, any changes in the types or amounts of effluents that may be released offsite, or any increase in occupational or public radiation exposure. Therefore, the exemption will not present an undue risk to the public health and safety.

C. The exemption is consistent with the common defense and security

As noted above, the proposed exemption would allow ENGC to use a portion of NDT funds for spent fuel management and site restoration, consistent with the PNPS updated Spent Fuel Management Plan and PSDAR. Spent fuel management and site restoration are integral parts of the planned PNPS decommissioning process as discussed in the PNPS PSDAR, and use of NDT funds for these activities will not adversely affect ENOI's ability to physically secure the site or protect special nuclear material. Nor would the exemption alter the scope of, or availability of sufficient funding for, the PNPS Security Plan. Therefore, the proposed exemption is consistent with the common defense and security.

D. Special Circumstances

Pursuant to 10 CFR 50.12(a)(2), the NRC will not consider granting an exemption to its regulations unless special circumstances are present. Special circumstances are present as discussed below.

1. 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. (10 CFR 50.12(a)(2)(ii))

The underlying purpose of 10 CFR 50.82(a)(8)(i)(A) is to provide reasonable assurance that adequate funds will be available to complete decommissioning within 60 years of a power reactor's cessation of operations. Strict application of the rule would prohibit withdrawal of funds from the NDT for activities associated with spent fuel management and site restoration until the PNPS operating license has been terminated. However, the cash flow analysis in Table 4 demonstrates that more than adequate funds are available in the PNPS NDT to complete license termination, spent fuel management, and site restoration activities; it projects that the NDT will contain approximately $152.87 million after the license is terminated in 2080 (using a 0.0% escalation rate and a 2.0% annual fund growth rate on remaining funds). Given this projected surplus of funds (even assuming use of the NDT for spent fuel management and site restoration activities), the application of 10 CFR 50.82(a)(8)(i)(A) in these circumstances is not necessary to achieve the underlying purpose of the rule. Accordingly, the special circumstances of 10 CFR 50.12(a)(2)(ii) are present.

2. 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. (10 CFR 50.12(a)(2)(iii))

The NRC did not intend to prevent the use of NDT funds solely because they are commingled, and to do so would create an unnecessary financial burden on licensees without any corresponding safety benefit. The NRC does not preclude the use of funds from the NDT in excess of those needed for radiological decommissioning for other purposes, such as spent fuel management or site restoration. Rather, the NRC has stated that funding for non-decommissioning activities may be commingled with funding for decommissioning activities in the NDT, provided that the licensee is able to identify and account for the radiological decommissioning funds separately from the funds set aside for spent fuel management (*see* NRC Regulatory Issue Summary 2001-07, Rev. 1, "10 CFR 50.75 Reporting and Recordkeeping for Decommissioning Planning," dated January 8, 2009 (Reference 10), and Regulatory Guide 1.184, Rev. 1, "Decommissioning of Nuclear Power Reactors," (Reference 11)). The adequacy of the NDT to cover the cost of activities associated with decommissioning, spent fuel management, and site restoration activities is supported by the cash flow analysis in Table 4.

If ENGC cannot use the NDT for spent fuel management and site restoration activities, it would be forced to provide additional funding that would not be reimbursable from the NDT until the PNPS operating license is terminated. To prevent access to the surplus funds in the NDT and require ENGC to provide additional funds for spent fuel management and site restoration would impose an unnecessary and undue burden in excess of that contemplated when the regulation was adopted without any corresponding safety benefit.

Compliance with the rule would result in an 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. Therefore, the special circumstances of 10 CFR 50.12(a)(2)(iii) are present.

VI. Environmental Assessment

A. Environmental Considerations

Pursuant to 10 CFR 51.21, the following environmental considerations are provided.

1. Description of the Action

ENOI requests an exemption on behalf of itself and ENGC from the requirements set forth in 10 CFR 50.82(a)(8)(i)(A) restricting the use of NDT funds. Specifically, the exemption would allow ENGC to use funds from the PNPS NDT for spent fuel management and site restoration activities that are not associated with radiological decommissioning.

2. Need for the Action

An exemption is needed to allow ENGC to access NDT funds, in excess of those funds needed for radiological decommissioning, to fund spent fuel management and site restoration activities, in order to avoid an unnecessary financial burden. As required by 10 CFR 50.82(a)(8)(i)(A), NDT funds may be used by a licensee if the withdrawals are for expenses for legitimate decommissioning activities consistent with the definition of decommissioning in 10 CFR 50.2. This definition addresses radiological decommissioning and does not include activities associated with spent fuel management or site restoration. Therefore, ENGC needs an exemption from 10 CFR 50.82(a)(8)(i)(A) to allow the use of NDT funds for spent fuel management and site restoration activities.

3. Environmental Impacts of the Proposed Action

The proposed action involves an exemption from requirements that are of a financial or administrative nature and that do not have an impact on the environment. There is no decrease in safety associated with the use of the NDT to fund activities associated with spent fuel management and site restoration. After the site-specific Decommissioning Cost Estimate as required by 10 CFR 50.82(a)(8)(iii) is submitted, and until completing its final radiation survey and demonstrating that residual radioactivity has been reduced to a level that permits termination of the PNPS license as required by 10 CFR 50.82(a)(11), ENOI must submit financial assurance status reports to the NRC annually as required by 10 CFR 50.82(a)(8)(v). The report must include, among other things, amounts spent on decommissioning, the remaining trust fund balance, and estimated costs to complete radiological decommissioning. If the remaining NDT balance, plus earnings on such funds calculated at not greater than a 2 percent real rate of return, plus any other financial assurance methods being relied upon, does not cover the estimated costs to complete radiological decommissioning, 10 CFR 50.82(a)(8)(vi) requires that additional financial assurance to cover the estimated costs to complete radiological decommissioning must be provided. These annual reports provide a means for the NRC to monitor the adequacy of the funding available for the radiological decommissioning of PNPS notwithstanding the exemption allowing ENGC to use funds for spent fuel management and site restoration activities from the trust fund.

The proposed action will not significantly increase the probability or consequences of radiological accidents; nor will it have any direct radiological impacts. There will be no change to the types or amounts of radiological effluents that may be released, and therefore, there will be no change in occupational or public radiation exposure from the proposed action. The exemption also will not introduce any materials or chemicals into the plant that could affect the characteristics or types of effluents released offsite. In addition, the method of operation of waste processing systems will not be affected by the exemption. The proposed exemption will not result in changes to the design basis requirements of structures, systems, and components (SSCs) that function to limit or monitor the release of effluents. All the SSCs associated with limiting the release of effluents will continue to be able to perform their functions. Moreover, no changes would be made to plant buildings or the site property from the proposed changes. Accordingly, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed change would have no direct impacts on land use or water resources, including terrestrial and aquatic biota, as it involves no new construction or modification of plant operational systems. There would be no changes to the quality or quantity of nonradiological effluents and no changes to the plant's National Pollutant Discharge Elimination System permit would be needed. In addition, there would be no noticeable effect on socioeconomic conditions in the region, no environment justice impacts, no air quality impacts, and no impacts to historic and cultural resources from the proposed change. Therefore, there are no significant nonradiological environment impacts associated with the proposed action.

Accordingly, ENOI concludes that there are no significant environmental impacts associated with the proposed action.

4. Environmental Impacts of the Alternatives to the Action

As an alternative to the action, the NRC staff could deny the exemption request. Denial of the exemption request would result in ENGC using funds from the NDT only for radiological decommissioning and not for spent fuel management or site restoration activities as described in the exemption request. The environmental impacts of this alternative would be substantively the same as the environmental impacts for granting the exemption request, because there are no potential incremental environmental impacts as a result of granting the exemption request. Therefore, the environmental impacts of the alternative to the action would be the same as those already considered by the above environmental analysis.

5. Alternative Use of Resources

The requested action only involves a change in the source of funds allowed for managing spent fuel and restoring the site, and therefore, does not involve the use of any different resources than those previously considered.

B. Analysis

The request for exemption from 10 CFR 50.82(a)(8)(i)(A) to allow use of NDT funds for spent fuel management and site restoration activities has no adverse impact to the environment. Approval of the exemption request would allow ENGC access to excess

funds in the NDT, based on projected trust fund growth and estimated expenditures, while continuing to demonstrate reasonable assurance of available trust funds to complete radiological decommissioning. The proposed action would not result in an adverse impact to the environment, unexpected expenditures, or other uncertainties or risks. Because the proposed exemption relates solely to the source of funding for spent fuel management and site restoration activities, it does not result in a reduction of reasonable assurance of sufficient funding to complete radiological decommissioning of the PNPS site, and does not significantly affect any of the decommissioning activities or processes previously reviewed. On this basis, the proposed exemption will not have a significant effect on the quality of the human environment.

As a result of the environmental considerations discussed above, ENOI concludes that the proposed exemption is in the public interest in that it allows ENGC to avoid unnecessary and undue costs to cover these expenses from other sources, with no potential incremental environmental impacts.

The proposed change does not require any additional Federal permits, licenses, approvals, or other entitlements.

VII. No Significant Hazards Consideration Determination

ENOI has evaluated the proposed exemption to determine whether or not a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92(c) as discussed below. For the reasons discussed below, ENOI concludes that the proposed exemptions present no significant hazards consideration, and accordingly, a finding of "no significant hazards consideration" is justified.

A. The proposed exemption does not involve a significant increase in the probability or consequences of an accident previously evaluated

The proposed exemption would allow ENGC to withdraw funds from the PNPS NDT to conduct activities associated with spent fuel management and site restoration in accordance with the PNPS PSDAR and updated Spent Fuel Management Plan. The proposed exemption has no effect on plant SSCs and no effect on the capability of any plant SSC to perform its design function. The proposed exemption would not increase the likelihood of the malfunction of any plant SSC. The proposed exemption would have no effect on any of the previously evaluated accidents in the PNPS Updated Safety Analysis Report. Use of funds in the NDT as allowed under the exemption will not affect the probability of occurrence of any previously analyzed accident. The proposed exemption does not change the requirements pertaining to spent fuel management. Therefore, the proposed exemption does not involve a significant increase in the probability or consequences of an accident previously evaluated.

B. The proposed exemption does not create the possibility of a new or different kind of accident from any accident previously evaluated

The proposed exemption does not involve a physical alteration of the plant. No new or different type of equipment will be installed, and there are no physical modifications to existing equipment associated with the proposed exemption. Similarly, the proposed exemption will not physically change any SSCs involved in the mitigation of any accidents. Thus, no new initiators or precursors of a new or different kind of accident are created. Furthermore, the proposed exemption does not create the possibility of a new

accident as a result of new failure modes associated with any equipment or personnel failures. No changes are being made to parameters within which the plant is normally operated, or in the setpoints which initiate protective or mitigative actions, and no new failure modes are being introduced. Therefore, the proposed exemption does not create the possibility of a new or different kind of accident from any accident previously evaluated.

C. The proposed exemption does not involve a significant reduction in a margin of safety

The proposed exemption does not alter the design basis or any safety limits for the plant. Nor does the proposed exemption impact station operation or any plant SSC that is relied upon for accident mitigation. Therefore, the proposed exemption does not involve a significant reduction in a margin of safety.

VIII. Conclusion

The proposed exemption would allow ENGC to use the PNPS NDT for spent fuel management and site restoration activities, as described in the PNPS PSDAR and updated Spent Fuel Management Plan, in addition to license termination activities.

Granting the exemption would be consistent with the purposes underlying NRC decommissioning regulations in that it: (1) would not foreclose release of the site for possible unrestricted use; (2) would not result in significant environmental impacts; and (3) would not undermine the existing and continuing reasonable assurance that adequate funds will be available for decommissioning.

Further, the requested exemption is authorized by law, will not present an undue risk to the public health and safety, is consistent with the common defense and security, and special circumstances are present as set forth in 10 CFR 50.12(a)(2)(ii) and (iii).

IX. References

1. Letter, Entergy Nuclear Operations, Inc. to USNRC, “Notification of Permanent Cessation of Power Operations,” 2.15.080, dated November 10, 2015 (ML15328A053)

2. Letter, Entergy Nuclear Operations, Inc. to USNRC, “Update to Spent Fuel Management Plan Pursuant to 10 CFR 50.54(bb),” 2.18.071, dated November 16, 2018

3. Letter, Entergy Nuclear Operations, Inc. to USNRC, “Pilgrim Nuclear Power Station Post-Shutdown Decommissioning Activities Report,” 2.18.070, dated November 16, 2018

4. NUREG-1713, “Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors,” dated December 2004

5. Letter, NRC to Dominion Energy Kewaunee, Inc., “Kewaunee Power Station - Exemptions from the Requirements of 10 CFR 50, Section 50.82(a)(8)(i)(A) and Section 50.75(h)(1)(iv) (TAC No. MF1438),” dated May 21, 2014 (ML13337A287)

6. Letter, NRC to Zion*Solutions* LLC, “Zion Nuclear Power Station, Units 1 and 2 - Request for Exemption from Certain Decommissioning Trust Fund Requirements of the

Decommissioning Regulations (TAC Nos. J52941 and J52942)," dated July 21, 2014 (ML14030A590)

7. Letter, NRC to Southern California Edison Co., "San Onofre Nuclear Generating Power Station, Units 2 and 3 – Exemptions from the Requirements of 10 CFR Part 50, Sections 50.82(a)(8)(i)(A) and Section 50.75(h)(2) (TAC Nos. MF3544 and MF3545)," dated September 4, 2014 (ML14101A132)

8. Letter, NRC to Entergy Nuclear Operations, Inc., "Vermont Yankee Nuclear Power Station – Exemptions from the Requirements of 10 CFR Part 50, Sections 50.82(a)(8)(i)(A) and Section 50.75(h)(1)(iv) (TAC Nos. MF5575)," dated June 17, 2015 (ML15128A219)

9. Letter, NRC to Exelon Generation Company, LLC, "Oyster Creek Nuclear Generating Station – Exemptions from the Requirements of 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv) (EPID L-2018-LLE-0002)," dated October 19, 2018 (ML182277A025)

10. NRC Regulatory Issue Summary 2001-07, Rev. 1, "10 CFR 50.75 Reporting and Recordkeeping for Decommissioning Planning," dated January 8, 2009 (ML083440158)

11. NRC Regulatory Guide 1.184, Rev 1, "Decommissioning of Nuclear Power Reactors," dated October 2013 (ML13144A840)