Entergy

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J.E. Pollock
Site Vice President

NL-10-123

December 10, 2010

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

SUBJECT: Unit 3 Program for Maintenance of Irradiated Fuel and Preliminary Decommissioning Cost Analysis in accordance with 10 CFR 50.54 (bb) and 10 CFR 50.75(f)(3)
Docket Nos. 50-286
License Nos. DPR-64

Dear Sir or Madam:

Pursuant to 10 CFR 50.54(bb) licensees of nuclear power plants that are within five years of the expiration of the reactor operating license shall submit to the NRC the program by which the licensee intends to manage and provide funding for the management of all irradiated fuel at the reactor facility following permanent cessation of operation of the reactor until title to the irradiated fuel and possession of the fuel is transferred to the U. S. Department of Energy for ultimate disposal. The Program for Maintenance of Irradiated Fuel at the IPEC Unit 3 is included as Attachment 2.

Pursuant to 10 CFR 50.75(f)(3), licensees of nuclear power plants that are within five years of the expiration of the reactor operating license shall submit a preliminary decommissioning cost estimate to the NRC. The preliminary decommissioning cost analysis for the IPEC Unit 3 are included as Enclosure 1.

Additionally it should be noted that IP3 has submitted an application for License Renewal pursuant to 10 CFR 54. IP3 operating license is scheduled to expire on December 12, 2015. Based on this, Entergy requests that the NRC schedule the review of this information following a final decision on the License Renewal application.

In accordance with 10 CFR 50.91(b), a copy of this application, with the associated attachments, is being provided to the designated New York State official.

New commitments contained in this submittal are provided in Attachment 1. Should you have any questions concerning this submittal, please contact Mr. Robert Walpole at 914-734-6710.

A001
A128
NRR

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the 10 day of December, 2010.

Sincerely,

JEP/mb

Attachments:
1. List of Regulatory Commitments
2. 10 CFR 50.54(bb) Program for Maintenance of Irradiated Fuel

Enclosure:
1. Preliminary Decommissioning Cost Analysis for the Indian Point Energy Center, Unit 3

cc: Mr. Samuel J. Collins, Regional Administrator, NRC Region 1
Mr. John P. Boska, Senior Project Manager, NRC NRR DORL
NRC Resident Inspectors Office, Indian Point 2 & 3
Mr. Paul Eddy, NYS Department of Public Service
Mr. Francis J. Murray, Jr., President and CEO, NYSERDA
Mr. L. Jager Smith, P.E.

Attachment 1 TO NL-10-123

List of Regulatory Commitments

ENTERGY NUCLEAR OPERATIONS, INC
INDIAN POINT NUCLEAR GENERATING UNIT 3
DOCKET NO. 50-286

List of Commitments

Commitment Number	Commitments	Due Date
NL-10-123	Provide additional funding of $55.634 million to trust fund for spent fuel management	June 30, 2023

Attachment 2 TO NL-10-123

10 CFR 50.54(bb) Program for Maintenance of Irradiated Fuel

ENTERGY NUCLEAR OPERATIONS, INC
INDIAN POINT NUCLEAR GENERATING UNIT 3
DOCKET NO. 50-286

1. Background and Introduction

Entergy Nuclear Indian Point 3, LLC and Entergy Nuclear Operations, Inc. (collectively herein, "Entergy") are seeking renewal of the operating license for the Indian Point Energy Center, Unit 3 (IP-3), currently set to expire at midnight on December 12, 2015. However, pursuant to 10 CFR 50.54(bb), licensees of nuclear power plants that are within five years of the expiration of the reactor operating license shall submit written notification to the Nuclear Regulatory Commission (NRC) for its review and preliminary approval of the program by which the licensee intends to manage and provide funding for the management of all irradiated fuel at the reactor following permanent cessation of operation of the reactor until title to the irradiated fuel and possession of the fuel is transferred to the U.S. Department of Energy (DOE) for ultimate disposal. Since Entergy has submitted an application for License Renewal pursuant to 10 CFR 54, Entergy requests that the NRC schedule the review of this information following a final decision on the License Renewal application.

2. Spent Fuel Management Strategy

Completion of the decommissioning process is dependent upon the DOE's ability to remove spent fuel from the site in a timely manner. DOE's repository program assumes that spent fuel allocations will be accepted for disposal from the nation's commercial nuclear plants, with limited exceptions, in the order (the "queue") in which it was discharged from the reactor. Entergy's current spent fuel management plan for the IP-3 spent fuel is based in general upon: 1) a 2020 start date for DOE initiating transfer of commercial spent fuel to a federal facility and 2) expectations for spent fuel receipt by the DOE for the IP-3 fuel. The Company projects that the IP-3 fuel could be completely removed from the site as early as 2047, based on an oldest fuel first priority, the DOE achieving an annual rate of transfer (3,000 metric tons of uranium per year) as reflected in DOE's latest Acceptance Priority Ranking and Annual Capacity Report dated June 2004 (DOE/RW-0567), and a transfer of approximately 30 additional MTUs in 2047, should IP-3 require refueling in 2015 prior to the cessation of operations.

The assumed 2020 DOE start date is nominally based on the last position stated by the DOE. On July 15, 2008, the then-Director of the DOE's Office of Civilian Radioactive Waste Management testified before Congress that DOE "could be ready to begin accepting spent nuclear fuel by 2020," but his statement was based on continued program funding (Reference 1). The current administration has cut the budget for the geological repository program, but the administration has also appointed a Blue Ribbon Commission on America's Nuclear Future to make recommendations for a new plan for nuclear waste disposal. That Commission's charter includes a requirement that the Commission consider "options for safe storage of used nuclear fuel while final disposition pathways are selected and deployed." Entergy believes that one or more monitored retrievable storage facilities could be put into place following a Blue Ribbon Commission recommendation for the same, within a relatively short time frame, at least by 2020. For example, a facility such as that licensed by the NRC to Private Fuel Storage could be

used by the DOE to store fuel until a final disposition is determined. In any event, at this time, there is no basis for the use of another proposed start date for DOE performance. The NRC requires (in 10 CFR 50.54(bb)) that licensees establish a program to manage and provide funding for the caretaking of all irradiated fuel at the reactor site until title of the fuel is transferred to the DOE. Interim storage of the IP-3 spent fuel, until the DOE takes receipt, will be in the IP-3 fuel handling building's storage pool, the IP-2 fuel handling storage pool, and/or at an Independent Spent Fuel Storage Installation (ISFSI).

IP-3 is projected to generate 1,683 spent fuel assemblies through the end of its currently licensed operations in 2015. An ISFSI has been constructed to support plant operations within the owner controlled area. The ISFSI is operated under the site's general license. The current plan is that the IP-3 spent fuel will be put into on-site dry storage on either the existing ISFSI (space permitting), or to a new ISFSI pending delivery of the fuel to DOE. Article IV.B of Entergy's contract with the DOE for spent fuel disposal requires the DOE to bring a cask "suitable for use at the [IP-3] site." To date, the DOE has failed to provide casks, or even to identify what casks suitable for IP-3 it will provide. Because of this failure of DOE, for ease of planning, Entergy will assume only for the purpose of this plan that the assemblies stored in the IP-3 fuel handling building's spent fuel storage pool at the time of shutdown will be transferred to the IP-2 fuel storage pool and moved into storage casks on the ISFSI pads by 2023. From there, they will be loaded into DOE-supplied transport cask systems for transport to DOE's site. This is the approach Entergy will take to transfer fuel from IP-3 to the ISFSI in mitigation of DOE's breach, so Entergy believes this plan would be workable for transfer of fuel to DOE. The use of this assumption in this plan should not be construed by the DOE or any other party as a statement that Entergy believes this approach would or should be used when DOE ultimately performs its obligations under the contract to bring a cask suitable to IP-3. Entergy advances this plan only because the DOE has not identified its cask system, and the system's attributes, including but not limited to its weight, fuel capacity, and loading and handling requirements.

This plan assumes that over the next 24 years, the IP-3 MPCs are periodically off-loaded into DOE transport casks such that all IP-3 canisters are removed from the site by the year 2047. The Company's analysis conservatively assumes, for purposes only of this report, that the Company does not employ DOE spent fuel disposal contract allowances for up to 20% additional fuel designation for shipment to DOE each year.

In the event that IP-3 does cease operations in 2015, Entergy will continue to comply with existing NRC licensing requirements, including the operation and maintenance of the systems and structures needed to support continued operation of the spent fuel pool and ISFSIs, as necessary, under the decommissioning scenario ultimately selected. In addition, Entergy will also comply with applicable license termination requirements in accordance with 10 CFR 50.82 with respect to plant shutdown and post-shutdown activities including seeking such NRC approvals and on such schedules as necessary to satisfy these requirements consistent with the continued storage of irradiated fuel.

3. Cost Considerations

The total costs to decommission IP-3 are delineated in the "Preliminary Decommissioning Cost Analysis" (Reference 2). In this document, decommissioning costs are allocated into the three major categories of license termination, spent fuel management and site restoration. The allocations are reproduced in Table 1 (Summary of Major Cost Contributors). All costs are reported in 2010 nominal dollars.

The timing of the spent fuel management expenditures ($227.954 million) is shown in Table 2. The expenditures include direct costs (e.g., for construction of a second ISFSI, handling, packaging, storing and transferring the spent fuel) as well as indirect costs such as program management and oversight, security, pool and ISFSI operating costs, fees, insurance, etc., projected to be incurred over the post-operations storage period.

The significant contributors to the direct cost of IP-3 spent fuel management are identified in Table 3. As shown, costs are included for the construction of the second ISFSI, procurement of MPCs, as well as the loading and transfer activities associated with transferring the spent fuel from the pools to the ISFSI pads, and the eventual transfer of the fuel at the ISFSIs to the DOE. The direct cost of $121.110 million is a subset of the $227.954 million shown in Table 2. The timing of the direct spent fuel management expenditures ($121.110 million) is shown in Table 4.

It must also be noted that these figures will vary based on actual DOE performance, including the actual cask provisions and requirements that DOE settles upon. At this time, DOE has not identified any transport casks or requirements. Therefore, there is considerable uncertainty as to the actual costs that may have to be incurred; and uncertainty as to whether the DOE will agree to bear certain of those costs. Major scheduling milestones are identified in Table 5.

At shutdown, the IP-3 spent fuel pool is expected to contain freshly discharged assemblies from the most recent refueling cycles. It is assumed for purposes of this cost estimate that IP-3 will not transfer spent fuel directly from its pool to the ISFSI. As such, in accordance with the proposed changes to the operating licenses and technical specifications for IP-2 and IP-3 (Reference 3), the IP-3 assemblies are planned to be transferred in a specially designed, lightweight shielded transfer canister to the IP-2 spent fuel pit. The transfer would occur over an eight year period following the permanent cessation of IP-3 operations. Once in the IP-2 spent fuel pit, the IP-3 spent fuel will be moved into MPCs and placed out on one of the ISFSIs. It is assumed that this time period (eight years) is sufficient to meet the decay heat requirements for dry storage.

To support decommissioning operations, Entergy anticipates loading 41 MPCs with the IP-3 assemblies stored in the IP-2 fuel building's spent fuel pool. The MPCs will then be placed in storage casks at the ISFSI(s). The decommissioning scenario assumes that the existing ISFSI will need to be supplemented with capacity from a new ISFSI to accommodate the spent fuel remaining in the IP-3 pool at shutdown.

In the absence of identifiable DOE cask requirements, for purposes of this plan only, the design and capacity of the MPCs is based upon the commercial dry cask storage system already in use at Indian Point (Holtec HI-STORM). The Holtec multi-purpose canister has a capacity of 32 fuel assemblies at a unit cost of approximately $675,000. An additional cost of $400,000 is allocated for the concrete storage overpack. It should be noted that Entergy's contract with the DOE requires DOE to provide transport casks to Entergy, but for present purposes, this estimate conservatively includes those costs.
An average unit cost of approximately $425,000 was estimated for the labor and equipment to load, seal and transfer each MPC from the IP-2 storage pool to the ISFSI. A unit cost of approximately $75,000 was estimated for the final transfer of the MPC at the ISFSI into a DOE transport cask. It is not known what the loading, sealing and transport costs will be for actual DOE-supplied equipment, because DOE has not identified that equipment. It is assumed, for purposes of this plan only, that DOE will accept the Holtec MPCs, and will not require offloading of the fuel to the DOE-supplied equipment.

Operation of the IP-3 spent fuel pool is discontinued in 2023 once the fuel has been transferred to dry storage. ISFSI operations continue until such time that the DOE is able to complete the transfer of the fuel from all three units from the site (currently anticipated to be in 2047 for IP-3).

4. ISFSI Decommissioning

With the spent fuel removed from the site, the ISFSIs are available for decommissioning. It is assumed that once the MPCs containing the spent fuel assemblies have been removed, any required decontamination is performed on the storage modules, and the license for the facility terminated, the modules can be dismantled using conventional techniques for the demolition of reinforced concrete. The concrete storage pads can then be removed and the area regraded. The cost estimated to decontaminate any activated overpacks to the extent necessary to release the facilities for conventional demolition is estimated at $1.1 million. Conventional demolition of the remaining overpacks and pads and restoration of the affected area of the site is estimated at $1.9 million.

5. Plan for Funding Spent Fuel Management

As of October 31, 2010, the trust fund balance for IP-3 was approximately $486.4 million. The decommissioning liability is currently retained, and the trust fund held, by the New York Power Authority (NYPA). This analysis assumes that NYPA will exercise its option to transfer the liability along with the decommissioning trust fund for IP-3 to Entergy on December 12, 2015, in accordance with the terms of the decommissioning agreement for IP-3 between Entergy and NYPA.

Pursuant to the Decommissioning Agreement for Indian Point 3 between Entergy and NYPA, NYPA may terminate its obligation to decommission IP-3 by transferring to Entergy the lesser of the available trust fund balance or an "Inflation Adjusted Cost Amount," (IACA), or may contract with Entergy Nuclear, Inc. for decommissioning at an

equivalent fixed price (Reference 4). The IACA starts at $564 million as of 2000, and increases over time. Between 2000 and 2015, the IACA escalates based on increases in the NRC minimum value calculated pursuant to 10 CFR §50.75(c). The growth for that figure for IP-3 averaged approximately 3.1% between 2000 and the end of 2009. Entergy estimates that as of the end of 2009, the IACA was approximately $695 million, and if the average continues, the value would be approximately $716 million at the end of 2010. Pursuant to the Decommissioning Agreement, the IACA escalates at 6.5% per annum beginning in 2015. The IACA is substantially above the available trust fund balance, and may reasonably be assumed to remain so. Accordingly, for purposes of this analysis, Entergy assumes that NYPA will either transfer the available trust fund balance to Entergy for decommissioning, or will retain Entergy for the decommissioning project at a cost equivalent to the trust fund balance (the results being the same in either case). Although Entergy assumes here that the funds transfer would occur on December 12, 2015, the actual date of the transfer will not affect the outcome, because Entergy escalates the trust fund balance (to which it will have access under the Decommissioning Agreement) at the 2% real growth rate allowed by 10 CFR §50.75(e)(1)(i) regardless of whether the funds are being held by NYPA, or whether the funds have been transferred to Entergy.

As shown in Reference 2, the cost to decommission IP-3 is estimated at approximately $1,141.9 million (in 2010 dollars). The estimate is based upon a scenario under which the unit would cease operating in 2015 and be placed in safe-storage until decommissioning operations commence on the adjoining units. Decommissioning of all three units would be complete no later than 60 years after cessation of permanent operations of IP-2, i.e., in year 2073 (Reference 5).

Approximately 73% of the total or $836.445 million is estimated to be required to terminate the operating license and 20% of the total or $227.954 million to manage the spent fuel until such time that it can be transferred to the DOE (the remaining 7% is associated with site restoration activities).

The decommissioning funding plan is shown in Table 6. To demonstrate the adequacy of the existing funds to cover both license termination and spent fuel management, the fund balance going forward is escalated at 2% per year. In year 2023, Entergy Nuclear Indian Point 3, LLC deposits an additional $55.6 million (or $43.0 million in 2010 dollars) into the decommissioning fund. The results of this analysis demonstrate that the balance in the decommissioning trust, with the additional deposit, is adequate to fund both the license termination and spent fuel management costs.

Although the decommissioning trust fund is for radiological decommissioning cost only, to the extent that the trust fund balance exceeds costs required for radiological decommissioning, these funds would be available to address costs incurred by the licensee including spent fuel management costs. The licensee acknowledges the need for an exemption pursuant to 10 CFR 50.12(a) to use radiological decommissioning trust funds for anything beyond decommissioning activities as defined in 10 CFR 50.2.

It should be noted that the projected expenditures for spent fuel management identified in the decommissioning cost analysis do not consider the outcome of the litigation (including compensation for damages) with the DOE with regards to the delays incurred by Entergy in the timely removal of the spent fuel from the site. Entergy views the extended spent fuel management costs to be damages that should be paid by the government because of the Department of Energy's breach of the spent fuel disposal contract. In addition, this analysis assumes no license renewal, which is another conservatism.

6. References

1. Statement of Edward F. Sproat, III, Director Office of Civilian Radioactive Waste Management, U.S. Department of Energy, Before the Subcommittee on Energy and Air Quality Committee on Energy and Commerce U.S. House of Representatives, July 15, 2008.

2. "Preliminary Decommissioning Cost Analysis for the Indian Point Energy Center, Unit 3," No. Document E11-1583-006, TLG Services, Inc., November 2010.

3. Entergy Letter NL-09-076, dated July 08, 2009 (Accession No. ML091940177), "Application for Unit 2 Operating License Condition Change and Units 2 and 3 Technical Specification Changes to Add Inter-Unit Spent Fuel Transfer Requirements."

4. Decommissioning Agreement (Indian Point 3) between Power Authority of the State of New York, Entergy Nuclear Indian Point 3, LLC, and Entergy Nuclear, Inc., dated November 21, 2000.

5. Entergy Letter NL-08-144, dated October 27, 2008, "Unit 1 & 2 program for Maintenance of Irradiated Fuel and Preliminary Decommissioning Cost Analysis in accordance with 10 CFR 50.54 (bb) and 10 CFR 50.75(f)(3).

Table 1
Summary of Major Cost Contributors
(thousands, 2010 dollars)

	License Termination	Spent Fuel Management	Site Restoration	Total
Decontamination	15,315	-	-	15,315
Removal	126,758	1,960	37,996	166,715
Packaging	24,991	10	-	25,001
Transportation	61,929	46	-	61,975
Waste Disposal	151,520	59	-	151,579
Off-site Waste Processing	36,095	-	-	36,095
Program Management [1]	224,824	44,029	38,063	306,915
Corporate A&G	28,428	-	-	28,428
Site O&M	20,770	1,104	-	21,874
Spent Fuel (Direct Costs) [2]	-	176,008	-	176,008
Spent Fuel Pool Isolation	7,652	-	-	7,652
Insurance and Regulatory Fees	48,689	761	-	49,450
Energy	34,060	2,291	1,401	37,752
Radiological Surveys	19,778	-	-	19,778
Property Taxes	-	-	-	-
Miscellaneous Equipment	16,542	-	5	16,547
Environmental Monitoring	19,096	1,687	-	20,782
Total	836,445	227,954	77,465	1,141,864

[1] Includes security and engineering

[2] Includes capital costs for the construction of a second ISFSI, multi-purpose dry storage containers and storage overpacks, packaging and handling (transfer from IP-3 pool to IP-2 pool and then to ISFSI, ISFSI to DOE transfer)

Table 2
Schedule of Annual Expenditures
Spent Fuel Management Allocation
(thousands, 2010 dollars)

Year	Labor	Equip & Materials	Energy	Burial	Other	Yearly Totals
2015	327	981	0	0	141	1,449
2016	5,726	17,179	0	0	2,572	25,477
2017	4,851	7,496	193	0	2,836	15,376
2018	7,602	10,053	350	0	3,054	21,059
2019	7,602	10,053	350	0	3,054	21,059
2020	7,623	10,081	351	0	3,062	21,117
2021	7,602	10,053	350	0	3,054	21,059
2022	7,602	10,053	350	0	3,054	21,059
2023	7,584	10,027	349	0	3,049	21,008
2024	744	203	0	0	1,408	2,355
2025	742	203	0	0	1,404	2,349
2026	742	203	0	0	1,404	2,349
2027	742	203	0	0	1,404	2,349
2028	744	203	0	0	1,408	2,355
2029	742	203	0	0	1,404	2,349
2030	742	203	0	0	1,404	2,349
2031	742	203	0	0	1,404	2,349
2032	744	203	0	0	1,408	2,355
2033	742	203	0	0	1,404	2,349
2034	742	203	0	0	1,404	2,349
2035	742	203	0	0	1,404	2,349
2036	744	203	0	0	1,408	2,355
2037	742	203	0	0	1,404	2,349
2038	742	203	0	0	1,404	2,349
2039	742	203	0	0	1,404	2,349
2040	744	203	0	0	1,408	2,355
2041	742	203	0	0	1,404	2,349
2042	742	203	0	0	1,404	2,349
2043	742	203	0	0	1,404	2,349
2044	744	203	0	0	1,408	2,355
2045	742	203	0	0	1,404	2,349
2046	742	203	0	0	1,404	2,349

Table 2
Schedule of Annual Expenditures
Spent Fuel Management Allocation
(thousands, 2010 dollars)

Year	Labor	Equip & Materials	Energy	Burial	Other	Yearly Totals
2047	707	193	0	0	1,339	2,240
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
2058	0	0	0	0	0	0
2059	0	0	0	0	0	0
2060	0	0	0	0	0	0
2061	0	0	0	0	0	0
2062	0	0	0	0	0	0
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	1	17	0	15	234	267
2068	4	52	0	45	697	797
2069	99	28	0	0	2	129
2070	368	105	0	0	7	480
2071	368	105	0	0	7	480
2072	369	106	0	0	7	481
2073	271	78	0	0	5	354
Total	75,784	91,324	2,291	59	58,496	227,954

Table 3
Significant Cost Contributors
(thousands, 2010 dollars)

Spent Fuel Management - Direct Expenditures	Cost [1]
Spent Fuel Transfer Facility [2]	$ 2,060
ISFSI Construction (for 35 Casks)	$ 13,340
Transfer Costs from IP-3 Pool to IP-2 Pool (170 transfers)	$ 29,180
Capital Costs for ISFSI MPCs and Overpacks	$ 50,686
TAD Loading and Transfer Costs from IP-2 Pool to DOE	$ 1,464
MPC Loading and Transfer Costs from IP-2 Pool to ISFSIs	$ 20,004
MPC Transfer Costs from ISFSIs to DOE	$ 4,377
Total	$ 121,110

[1] Contingency has been added to all costs (15%)

[2] Cost shared with IP-2

Table 4
Estimated Expenditures for Spent Fuel Packaging, Storage and Canister Transfer *
(thousands, 2010 dollars)

Year	Fuel Transfer Facility	ISFSI Construction	IP-3 Pool to IP-2 Pool Transfer	MPCs and Overpacks	IP-2 Pool to DOE Loading and Transfer	IP-2 Pool to ISFSI Loading and Transfer	ISFSI to DOE Transfer	Total
2015	-	-	-	-	-	-	-	-
2016	-	4,447	3,647	12,363	-	4,879	-	25,336
2017	-	4,447	3,647	12,363	-	4,879	-	25,336
2018	-	4,447	3,647	4,945	-	1,952	-	14,991
2019	-	-	3,647	3,709	-	1,464	-	8,820
2020	-	-	3,647	3,709	-	1,464	-	8,820
2021	-	-	3,647	3,709	-	1,464	-	8,820
2022	-	-	3,647	3,709	-	1,464	-	8,820
2023	-	-	3,647	6,181	1,464	2,439	-	13,732
2024	2,060	-	-	-	-	-	172	2,231
2025	-	-	-	-	-	-	172	172
2026	-	-	-	-	-	-	257	257
2027	-	-	-	-	-	-	172	172
2028	-	-	-	-	-	-	172	172
2029	-	-	-	-	-	-	172	172
2030	-	-	-	-	-	-	257	257
2031	-	-	-	-	-	-	-	-
2032	-	-	-	-	-	-	-	-
2033	-	-	-	-	-	-	-	-
2034	-	-	-	-	-	-	172	172
2035	-	-	-	-	-	-	257	257
2036	-	-	-	-	-	-	-	-
2037	-	-	-	-	-	-	172	172
2038	-	-	-	-	-	-	257	257
2039	-	-	-	-	-	-	-	-
2040	-	-	-	-	-	-	257	257
2041	-	-	-	-	-	-	257	257
2042	-	-	-	-	-	-	-	-
2043	-	-	-	-	-	-	257	257
2044	-	-	-	-	-	-	257	257
2045	-	-	-	-	-	-	257	257
2046	-	-	-	-	-	-	86	86
2047	-	-	-	-	-	-	772	772
Total	2,060	13,340	29,180	50,686	1,464	20,004	4,377	121,110

* A 15% contingency factor has been applied to all spent fuel related costs

Table 5
Indian Point Energy Center, Unit 3
Projected Schedule and Milestones

Major Milestones and Fuel-Related Events	
Currently scheduled cessation of plant operations	December 2015
Second ISFSI available	2018
First MPC transferred post-shutdown from pool to ISFSI	2016
Last MPC transferred post-shutdown from pool to ISFSI	2023
End of wet storage pool operations	2023
DOE begins to receive commercial spent fuel	2020
First IP-3 fuel assembly removed from site	2023
Last IP-3 fuel assembly leaves site	2047
Last year of ISFSI operations [1]	2047
ISFSI decommissioned [2]	2067 - 2068
ISFSI demolition [2]	2069 - 2072

[1] ISFSIs operational until Indian Point 3 fuel transfer complete

[2] ISFSIs decontaminated and dismantled in conjunction with decommissioning of the three nuclear units on site

Table 6
Decommissioning Funding Plan
2015 Shutdown and SAFSTOR

Basis Year		2010				
Fund Balance		$486.380	(millions)	(as of 10/31/2010)		
Annual Escalation		0.00%				
Annual Earnings		2.00%				
	A	B	C	D	E	F
Year	50.75 License Termination Cost (millions)	50.54(bb) Spent Fuel Management Cost (millions)	Total License Termination and Spent Fuel Management Cost (millions)	Total Cost Escalated at 0% (millions)	Contributions to Trust Fund (millions)	Decommissioning Trust Fund Escalated at 2% (minus expenses) (millions)
2010	0	0	0	0		486.380
2011	0	0	0	0		496.108
2012	0	0	0	0		506.030
2013	0	0	0	0		516.151
2014	0	0	0	0		526.474
2015	2.490	1.449	3.940	3.940		533.064
2016	47.191	25.477	72.669	72.669		471.056
2017	37.490	15.376	52.866	52.866		427.612
2018	3.466	21.059	24.526	24.526		411.638
2019	3.466	21.059	24.526	24.526		395.345
2020	3.476	21.117	24.593	24.593		378.659
2021	3.466	21.059	24.526	24.526		361.707
2022	3.466	21.059	24.526	24.526		344.415
2023	3.466	21.008	24.474	24.474	55.634	382.463
2024	3.460	2.355	5.815	5.815		384.297
2025	3.450	2.349	5.799	5.799		386.184
2026	3.450	2.349	5.799	5.799		388.108
2027	3.450	2.349	5.799	5.799		390.071
2028	3.460	2.355	5.815	5.815		392.057
2029	3.450	2.349	5.799	5.799		394.099
2030	3.450	2.349	5.799	5.799		396.181
2031	3.450	2.349	5.799	5.799		398.306
2032	3.460	2.355	5.815	5.815		400.457
2033	3.450	2.349	5.799	5.799		402.666

Table 6 (continued)
Decommissioning Funding Plan
2015 Shutdown and SAFSTOR

Basis Year		2010				
Fund Balance		$486.380	(millions)	(as of 10/31/2010)		
Annual Escalation		0.00%				
Annual Earnings		2.00%				
	A	B	C	D	E	F
Year	50.75 License Termination Cost (millions)	50.54(bb) Spent Fuel Management Cost (millions)	Total License Termination and Spent Fuel Management Cost (millions)	Total Cost Escalated at 0% (millions)	Contributions to Trust Fund (millions)	Decommissioning Trust Fund Escalated at 2% (minus expenses) (millions)
2034	3.450	2.349	5.799	5.799		404.920
2035	3.450	2.349	5.799	5.799		407.219
2036	3.460	2.355	5.815	5.815		409.548
2037	3.450	2.349	5.799	5.799		411.940
2038	3.450	2.349	5.799	5.799		414.380
2039	3.450	2.349	5.799	5.799		416.868
2040	3.460	2.355	5.815	5.815		419.390
2041	3.450	2.349	5.799	5.799		421.978
2042	3.450	2.349	5.799	5.799		424.619
2043	3.450	2.349	5.799	5.799		427.312
2044	3.460	2.355	5.815	5.815		430.043
2045	3.450	2.349	5.799	5.799		432.844
2046	3.450	2.349	5.799	5.799		435.702
2047	3.450	2.240	5.690	5.690		438.726
2048	3.460	0.000	3.460	3.460		444.040
2049	3.450	0.000	3.450	3.450		449.471
2050	3.450	0.000	3.450	3.450		455.010
2051	3.450	0.000	3.450	3.450		460.659
2052	3.460	0.000	3.460	3.460		466.413
2053	3.450	0.000	3.450	3.450		472.291
2054	3.450	0.000	3.450	3.450		478.286
2055	3.450	0.000	3.450	3.450		484.401
2056	3.460	0.000	3.460	3.460		490.629
2057	3.450	0.000	3.450	3.450		496.991

Table 6 (continued)
Decommissioning Funding Plan
2015 Shutdown and SAFSTOR

Basis Year		2010				
Fund Balance		$486.380	(millions)	(as of 10/31/2010)		
Annual Escalation		0.00%				
Annual Earnings		2.00%				
	A	B	C	D	E	F
Year	50.75 License Termination Cost (millions)	50.54(bb) Spent Fuel Management Cost (millions)	Total License Termination and Spent Fuel Management Cost (millions)	Total Cost Escalated at 0% (millions)	Contributions to Trust Fund (millions)	Decommissioning Trust Fund Escalated at 2% (minus expenses) (millions)
2058	3.450	0.000	3.450	3.450		503.481
2059	3.450	0.000	3.450	3.450		510.100
2060	3.460	0.000	3.460	3.460		516.842
2061	3.450	0.000	3.450	3.450		523.729
2062	3.450	0.000	3.450	3.450		530.753
2063	3.450	0.000	3.450	3.450		537.917
2064	3.460	0.000	3.460	3.460		545.216
2065	23.419	0.000	23.419	23.419		532.701
2066	83.467	0.000	83.467	83.467		459.887
2067	206.738	0.267	207.005	207.005		262.080
2068	114.077	0.797	114.874	114.874		152.448
2069	39.020	0.129	39.149	39.149		116.348
2070	32.134	0.480	32.614	32.614		86.061
2071	32.134	0.480	32.614	32.614		55.169
2072	32.222	0.481	32.703	32.703		23.569
2073	23.682	0.354	24.036	24.036		0.01
Total	836.445	227.954		1064.399		

Calculations:

Column C = A + B
Column D = (C)*(1+0%)^(current year – 2010) or for 0%, D = C
Column F = (Previous year's fund balance) * (1 + .02) + E (contributions to the trust fund) – D (current year's decommissioning expenditures)

ENCLOSURE 1 TO NL-10-123

Preliminary Decommissioning Cost Analysis for the Indian Point Energy Center, Unit 3

ENTERGY NUCLEAR OPERATIONS, INC
INDIAN POINT NUCLEAR GENERATING UNIT 3
DOCKET NO. 50-286