



CONNECTICUT YANKEE ATOMIC POWER COMPANY

HADDAM NECK PLANT PLANT
362 INJUN HOLLOW ROAD • EAST HAMPTON, CT 06424-3099

December 10, 2021

CY-21-015

Re: 10 CFR 72.4 and 10 CFR 72.30

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

Connecticut Yankee Atomic Power Company
Haddam Neck Plant Independent Spent Fuel Storage Installation
NRC License No. DPR-61 (NRC Docket No. 50-213)

72-39

Subject: Three-Year Update to the Independent Spent Fuel Storage Installation
Decommissioning Funding Plan

Pursuant to the requirements of 10 CFR 72.30(c) and 10 CFR 72.4, Connecticut Yankee Atomic Power Company (CYAPCO) is providing the three-year update to the Independent Spent Fuel Storage Installation (ISFSI) Decommissioning Funding Plan (DFP). Enclosure 1 updates the Haddam Neck Plant (HNP) ISFSI decommissioning cost estimate and the cost estimate for the management of irradiated fuel and Greater than Class C Waste submitted with the previous HNP ISFSI DFP on December 10, 2018 (Reference 1). It includes adjustments to account for changes in costs, a modified assumption regarding the amount of material that would be shipped offsite as low-level radioactive waste (modified to align with other industry precedent), and a modified contingency factor (increased from 10% to 25%). The update does not include any adjustments for additional radiological contamination, because the extent of radioactive contamination at the HNP ISFSI remains unchanged.

10 CFR 72.30(c) defines specific events that must be considered in the subsequent updates. Since the submittal of the updated Decommissioning Funding Plan for the ISFSI in December 2018:

1. No spills of radioactive material producing additional residual radioactivity in onsite subsurface material have occurred.
2. Facility modifications that affected the ISFSI, including those that were implemented within the licensed area, were assessed for impact.
3. There were no changes in authorized possession limits.
4. No active decommissioning has occurred, thus, there have not been any actual remediation costs that exceed the previous cost estimate.

In addition, CYAPCO complies with the requirements of 10 CFR 72.30(b)(1) through (b)(6), as follows.

10 CFR 72.30(b)(1) requires the licensee to provide "information on how reasonable assurance will be provided that funds will be available to decommission the ISFSI." CYAPCO has

NM55026
NM55

established an account within its Nuclear Decommissioning Trust (NDT) entitled, "ISFSI Radiological Decom," that segregates the funds for decommissioning of the ISFSI from the larger balance of funds for ongoing management of irradiated fuel and GTCC waste held in the NDT. Currently, the trust has sufficient funds to meet the revised DCE for the HNP ISFSI.

10 CFR 72.30(b)(2) requires the licensee to provide a detailed cost estimate for decommissioning. Enclosure 1 provides a revised DCE for the HNP ISFSI that:

1. Utilizes an independent contractor to perform the decommissioning activities in accordance with 10 CFR 72.30(b)(2)(i);
2. Includes an adequate contingency factor in accordance with 10 CFR 72.30(b)(2)(ii); and
3. Includes the cost of meeting the criteria for unrestricted release in accordance with 10 CFR 72.30(b)(2)(iii).

In addition, the revised HNP ISFSI DCE specifically considered the effects of the events described in 10 CFR 72.30(c) on the costs of decommissioning and the extent of contamination. The revised HNP ISFSI DCE estimates the total cost to decommission the HNP ISFSI to be \$6.9 million in 2021 dollars for radiological decommissioning and \$11.5 million in 2021 dollars for ISFSI site restoration that includes the additional costs for non-radiological decommissioning and site restoration costs.

10 CFR 72.30(b)(3) requires the licensee to identify and justify the key assumptions contained in the DCE. Enclosure 1 provides the revised DCE for the HNP ISFSI, including the key assumptions and the justification for their use.

10 CFR 72.30(b)(4) requires the licensee to provide a description of the method of assuring funds for decommissioning from 10 CFR 72.30(e), including means for adjusting cost estimates and associated funding levels periodically over the life of the facility. CYAPCO will periodically reassess the decommissioning cost estimate in accordance with 10 CFR 72.30(c). On a periodic basis, CYAPCO will submit rate cases to Federal Energy Regulatory Commission (FERC) that will include revised cost estimates for decommissioning and the management of irradiated fuel and GTCC waste. If necessary, additional funds may be recovered from the purchasers.

CYAPCO has successfully litigated several breaches of contract damages claims against the Department of Energy (DOE) for failure to begin the removal of spent nuclear fuel (SNF) and GTCC waste from the site in 1998. Additional damages claims against the DOE relating to the government's breach of contract are expected to continue as long as the irradiated fuel and GTCC waste remain on site.

Annually, CYAPCO submits the reports required by 10 CFR 50.75(f)(2), 10 CFR 50.82(a)(8)(v) and 10 CFR 50.82(a)(8)(vii) to establish how it satisfies the obligations defined in those regulations regarding the assurance of decommissioning funding and the status of funding for the management of irradiated fuel.

10 CFR 72.30(b)(5) requires the licensee to define the volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the criteria for license

termination. No subsurface material is assumed to require remediation regarding radionuclides. This is justified because:

1. The ISFSI area was confirmed to be clean of radiological contaminants prior to the construction of the ISFSI;
2. The ISFSI area will be maintained clean of loose radiological contaminants during the storage period;
3. The irradiated fuel and GTCC waste are stored in sealed canisters;
4. Nuclear activation of a limited number of the Vertical Concrete Casks (VCCs) and VCCs liners are anticipated; the activation products will remain fixed during the storage period; and
5. If contamination of subsurface occurs during decommissioning activities, the contamination is expected to remain below the decommissioning criteria of 25 millirem per year Total Effective Dose Equivalent.

In addition, the site will meet the remediation standards established by the State of Connecticut.

10 CFR 72.30(b)(6) requires a certification that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning. Enclosure 2 provides the certification of financial assurance.

In addition, Enclosure 3 provides an estimate of the total costs associated with the HNP ISFSI for the management of irradiated fuel and GTCC waste at the HNP ISFSI through 2036.

A summary of the revised DCE and the cost estimate for the management of irradiated fuel and GTCC waste at the HNP ISFSI will be incorporated into the Post-Shutdown Decommissioning Activities Report (PSDAR) and the License Termination Plan (LTP) in calendar year 2022.

If you have any questions, please do not hesitate to contact me at (508) 612-3322.

Respectfully,



Timothy Conry
Treasurer

Enclosures:

1. Decommissioning Study of the Connecticut Yankee Independent Spent Fuel Storage Installation
2. Certification of Financial Assurance
3. Total Costs Associated with the HNP ISFSI, including Cost Estimate for Managing Irradiated Fuel and GTCC Waste

Reference:

1. Letter from C. Pizzella (CYAPCO) to Document Control Desk (NRC), Independent Spent Fuel Storage Installation Decommissioning Funding Plan, dated December 10, 2018 (CY-18-021)

cc: D. Lew, NRC Region I Administrator
T. Dimitriadis, Chief, Decommissioning Branch, NRC, Region 1
J. McKirgan, Chief, Storage and Transportation Licensing Branch, Division of Fuel Management, Office of Nuclear Material Safety and Safeguards
J. Semancik, Director, CT DEEP, Radiation Division
M. Firsick, CT DEEP, Radiation Division

ENCLOSURE 1 TO CY-21-015
DECOMMISSIONING STUDY OF THE CONNECTICUT YANKEE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

10 CFR 72.30 ISFSI Decommissioning Cost Estimate

1. Background and Introduction

The Nuclear Regulatory Commission (NRC) issued its final rule on Decommissioning Planning on June 17, 2011,^[1] with the rule becoming effective on December 17, 2012. Subpart 72.30, "Financial assurance and recordkeeping for decommissioning," requires that each holder of, or applicant for, a license under this part must submit for NRC review and approval a decommissioning funding plan that contains information on how reasonable assurance will be provided that funds will be available to decommission the Independent Spent Fuel Storage Installation (ISFSI).

In accordance with the rule, this letter provides a detailed cost estimate for decommissioning the Connecticut Yankee (CY) Independent Spent Fuel Storage Installation (ISFSI) in an amount reflecting:

1. The work is performed by an independent contractor;
2. An adequate contingency factor; and
3. Release of the facility and dry storage systems for unrestricted use, as specified in 10 CFR Part 20.1402

This letter also provides:

1. Identification of the key assumptions contained in the cost estimate; and
2. The volume of onsite subsurface material containing residual radioactivity, if any, that will require remediation to meet the criteria for license termination.

2. Spent Fuel Management Strategy

Connecticut Yankee (CY) was successfully decommissioned between 1998 and 2007. During decommissioning all 1,019 spent fuel assemblies were transferred from the spent fuel pool to 40 spent fuel storage casks. In addition, 3 GTCC casks containing segmented sections of the reactor internals are stored on the spent fuel storage pad. There are also two spent fuel transfer casks stored on the pad. The fuel transfer casks are assumed to remain on-site until

¹ U.S. Code of Federal Regulations, Title 10, Parts 20, 30, 40, 50, 70 and 72 "Decommissioning Planning," Nuclear Regulatory Commission, Federal Register Volume 76, Number 117 (p 35512 et seq.), June 17, 2011

decommissioning and the disposition of which is included in this estimate. The ISFSI is operated under a Part 50 General License.

Completion of the ISFSI decommissioning process is dependent upon the DOE's ability to remove spent fuel from the site. 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.^[2]

3. ISFSI Decommissioning Strategy

At the conclusion of the DOE spent fuel transfer process the ISFSI will be promptly decommissioned (similar to the power reactor DECON alternative) by removing and disposing of residual radioactivity and verifying that remaining materials satisfy NRC and the State of Connecticut release criteria.

4. ISFSI Description

The CY ISFSI is located on approximately 5 acres of the 525 acre site. The ISFSI consists of 40 dry storage casks containing 1,019 spent nuclear fuel assemblies used during operations. The NAC-MPC fuel storage and transport canister system was chosen by CY and is licensed by the NRC for both storage and transportation. The NAC-MPC system consists of a multi-purpose spent fuel storage canister and a vertical concrete and steel overpack. Each vertical concrete cask has a three-and-a-half inch steel liner surrounded by 21 inches of reinforced concrete. Construction of the concrete storage pad and vertical concrete and steel storage was completed in 2002. Transferring the spent fuel from the spent fuel pool to the storage casks was completed in March of 2005.

In addition to the 40 spent fuel storage casks there are 3 casks containing segmented sections of the reactor internals classified as Greater than Class C waste. The storage overpacks used for the GTCC canisters are not expected to have any interior contamination or residual activation and can be reused or disposed of by conventional means after a final status survey. The multi-purpose canisters will be transferred directly to the DOE. After removal of the MPC canisters, the overpacks will be surveyed and any found to have residual radioactivity due to some minor level of neutron-induced activation as a result

² U.S. Code of Federal Regulations, Title 10, Part 961.11, Article IV – Responsibilities of the Parties, B. DOE Responsibilities, 5.(a) ... DOE shall issue an annual acceptance priority ranking for receipt of SNF and/or HLW at the DOE repository. This priority ranking shall be based on the age of SNF and/or HLW as calculated from the date of discharge of such materials from the civilian nuclear power reactor. The oldest fuel or waste will have the highest priority for acceptance, except as ..."

of the long-term storage of the spent fuel will be removed as activated. The cost to dispose of residual radioactivity, and verify that the remaining facility and surrounding environs meet the NRC's radiological limits established for unrestricted use, form the basis of the ISFSI decommissioning estimate.

Table 1 provides the significant quantities and physical dimensions used as the basis in developing the ISFSI decommissioning estimate.

5. Key Assumptions / Estimating Approach

The decommissioning estimate is based on the configuration of the ISFSI expected after all spent fuel and GTCC material has been removed from the site. The configuration of the ISFSI is based on the assumptions associated with DOE's spent fuel acceptance, as previously described.

TLG does not expect the overpacks to have any interior or exterior radioactive surface contamination. Any neutron activation of the steel and concrete is expected to be extremely small. This assumption is adopted for this analysis.

The decommissioning estimate is based on the premise that the inner steel liners of some of the concrete and steel overpacks will contain low levels of neutron-induced residual radioactivity that would necessitate remediation at the time of decommissioning. As an allowance, 7 of the 40 overpacks are assumed to be affected, i.e., contain residual radioactivity. This is conservative, because the fuel had decayed in the spent fuel pool for a few years prior to being placed into dry storage. The overpacks will be segmented and packaged for disposal as low-level radioactive waste.

It is not expected that there will be any residual contamination to be left on the concrete ISFSI pad. It would be expected that this assumption would be confirmed as a result of good radiological practice of surveying potentially impacted areas after each spent fuel transfer campaign. It is assumed for this analysis that the ISFSI pad will not be contaminated. As such, only verification surveys are included for the pad in the decommissioning estimate. An allowance is also included for surveying any transfer equipment.

The decommissioning estimate assumes that some residual contamination may be present within the NAC transfer casks. For purposes of this estimate, the transfer casks are shipped for controlled disposal as low-level radioactive waste.

The subsurface material of the ISFSI site is not expected to contain any significant residual radioactivity that will require remediation to meet the criteria for license termination.

Decommissioning is assumed to be performed by an independent contractor. As such, essentially all labor, equipment, and material costs are based on national averages, i.e., costs from national publications such as RSMeans Building Construction Cost Data (adjusted for regional variations), and laboratory service costs are based on vendor price lists. Those craft labor positions are expected to be provided locally. CY, as licensee, will oversee the site activities.

The Utility oversight staff is assumed to be similar in size and configuration as it is currently.

The following buildings are disposed of as clean waste in local landfill.

- ISFSI Pad
- Remaining Overpacks
- Fencing
- Asphalt paving
- Emergency electrical enclosure
- ISFSI support systems
- Conduit and wire from the SAS to pad
- Diesel generator
- Emergency operations facility
- Power supply (buried) to security alarm station
- Remove security fence, light towers, access road
- Remove road inside licensed area
- Remove vehicle barriers
- Security alarm station (SAS)
- Septic system
- ISFSI support building
- Vehicle barrier 1 (steel)
- Vehicle barrier 2 (steel)

Costs are reported in 2021 dollars. Costs do not include Connecticut sales tax.

Contingency has been added to the ISFSI Decontamination costs at an overall rate of 25%. This is consistent with the contingency evaluation criteria referenced by the NRC in NUREG-1757.^[3] Contingency has been added to the Site Restoration costs at a rate of 25%.

³ "Consolidated Decommissioning Guidance, Financial Assurance, Recordkeeping, and Timeliness," U.S. Nuclear Regulatory Commission's Office of Federal and State Materials and Environmental Management Programs, NUREG-1757, Volume 3, Revision 1, February 2012

The estimate is limited to costs necessary to terminate the ISFSI's NRC license and meet the §20.1402 criteria for unrestricted use. Disposition of released material and structures is outside the scope of the estimate.

The effects, if any, since the last submittal of the ISFSI decommissioning funding plan of the following events listed in 10 CFR 72.30(c)(1)-(4) have been specifically considered in the decommissioning cost estimate:

- (1) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material: There have been no spills at the ISFSI.
- (2) Facility modifications: There have been no facility modifications in the past three years that affect the decommissioning cost estimate.
- (3) Changes in authorized possession limits: There are no changes in authorized possession limits that affect the decommissioning cost estimate.
- (4) Actual remediation costs that exceed the previous cost estimate: No actual remediation costs have been incurred, so no actual remediation costs exceed the previous cost estimate.

6. Cost Estimate

The estimated cost to decommission the ISFSI and release the facility for unrestricted use is provided in Table 2. The cost has been organized into four phases, including:

- An initial planning phase - empty overpacks are characterized and the specifications and work procedures for the decontamination (liner removal) developed.
- The remediation phase - residual radioactivity is removed, packaged in certified waste containers, transported to the low-level waste site, and disposed of at low-level waste.
- The license termination phase - license termination surveys, independent surveys are completed, and an application for license termination submitted.
- Site restoration - While not required by the NRC this estimate includes the cost to remove and dispose of all non-contaminated structures. A list of all structures included in this estimate is provided in Table 3.

In addition to the direct costs associated with a contractor providing the decommissioning services, the estimate also contains costs for the NRC (and

NRC contractor), CY's oversight staff, site security (industrial), and other site operating costs.

For estimating purposes, it should be conservatively assumed that all expenditures will be incurred in the year following all spent fuel removal.

Table 1
Significant Quantities and Physical Dimensions

ISFSI Pad

Item	Length (ft)	Width (ft)	Residual Radioactivity
ISFSI Pad (dimensions are for current pad)	228	70	No
Concrete Paved Road	284	18	No

ISFSI Overpack

Item	Value	Notes (all dimensions are nominal)
CY-MPC		
Overall Height (inches)	190.6	Dimensions are nominal
Overall Diameter (inches)	128.0	Dimensions are nominal
Inside Diameter (inches)	79.0	Dimensions are nominal
Inner Liner Thickness (inches)	3.50	Dimensions are nominal
Quantity (total)	43	40 spent fuel + 3 GTCC
Quantity (with residual radioactivity)	7	Equivalent to the number of DSCs used to store last complete core offload
Total Surface Area of overpack interior with Residual Radioactivity (square feet)	2,300	
Low-Level Radioactive Waste (cubic feet)	26,372	
Low-Level Radioactive Waste (packaged density)	54	

Other Potentially Impacted Items

Item	Value	Notes
Transfer Casks	2	No residual radioactivity

Table 2
ISFSI Decommissioning Costs and Waste Volumes
 (Thousands of 2021 Dollars)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (cubic feet)	Craft Manhours	Oversight and Contractor Manhours
Decommissioning Contractor									
Planning (characterization, specs and procedures)	-	-	-	-	219	219	-	-	1,000
Decontamination (activated liner and concrete removal)	221	192	-	338	-	750	26,372	28,124	-
License Termination (radiological surveys)	-	-	-	-	1,117	1,117	-	7,245	-
Subtotal	221	192	-	338	1,336	2,087	26,372	35,370	1,000
Supporting Costs									
NRC and NRC Contractor Fees and Costs	-	-	-	-	292	292	-	-	1,153
Insurance	-	-	-	-	193	193	-	-	-
Property taxes	-	-	-	-	496	496	-	-	-
NRC Fees	-	-	-	-	254	254	-	-	-
Site O&M Cost	-	-	-	-	553	553	-	-	-
Security Staff Cost	-	-	-	-	164	164	-	-	11,625

Table 2 (continued)
ISFSI Decommissioning Costs and Waste Volumes
(Thousands of 2021 Dollars)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (cubic feet)	Craft Manhours	Oversight and Contractor Manhours
DOC Staff Cost	-	-	-	-	522	522	-	-	4,787
Utility Staff Cost	-	-	-	-	957	957	-	-	5,471
Subtotal	-	-	-	-	3,431	3,431	-	-	12,778
ISFSI Decontamination Total (w/o contingency)	221	192	-	338	4,768	5,518	26,372	35,370	13,778
ISFSI Decontamination Total (with 25% contingency)	276	240	-	422	5,960	6,898	-	-	-
ISFSI Site Restoration									
Asbestos removal	233	0.2	-	4	-	238	537	1,567	-
Building removal - Inside fence									
Fencing (linear foot)	8	-	-	-	-	8	-	96	-
Remove asphalt paving	24	-	-	-	-	24	-	216	-
ISFSI Cask & Pad Demolition and Removal	782	-	-	-	169	951	-	-	-
Emergency electrical enclosure	4	-	-	-	-	4	-	50	-
ISFSI support systems	71	-	-	-	-	71	-	908	-
Building removal - Outside fence									
Conduit and wire from the SAS to pad	1	-	-	-	-	1	-	5	-

Table 2 (continued)
ISFSI Decommissioning Costs and Waste Volumes
(Thousands of 2021 Dollars)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (cubic feet)	Craft Manhours	Oversight and Contractor Manhours
Diesel Generator	0.3	-	-	-	-	0.3	-	1	
Emergency operations facility	363	-	-	-	-	363	-	2,357	
Power to the Security alarm station	0	-	-	-	-	0	-	2	
Security fence, light towers, access road	16	-	-	-	-	16	-	141	
Remove road inside licensed area	15	-	-	-	-	15	-	71	
Remove vehicle barriers	1	-	-	-	-	1	-	4	
Security alarm station	17	-	-	-	-	17	-	166	
Septic system	0	-	-	-	-	0	-	2	
ISFSI support building	37	-	-	-	-	37	-	252	
Vehicle barrier 1 (steel)	8	-	-	-	-	8	-	90	
Vehicle barrier 2 (steel)	5	-	-	-	-	5	-	54	
Construction debris	-	-	-	-	32	32	-	-	
Site restoration	6	-	-	-	-	6	-	25	
Subtotal	1,593	0.2	-	4	201	1,798	537	6,006	-
Supporting Costs									
NRC and NRC Contractor Fees and Costs	-	-	-	-	26	26	-	-	160

Table 2 (continued)
ISFSI Decommissioning Costs and Waste Volumes
 (Thousands of 2021 Dollars)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (cubic feet)	Craft Manhours	Oversight and Contractor Manhours
Property taxes	-	-	-	-	248	248	-	-	-
Site O&M Cost	-	-	-	-	277	277	-	-	-
Security Staff Cost	-	-	-	-	82	82	-	-	5,813
DOC Staff Cost	-	-	-	-	261	261	-	-	2,393
Utility Staff Cost	-	-	-	-	478	478	-	-	2,735
Severance	-	-	-	-	508	508	-	-	-
Subtotal	-	-	-	-	1,881	1,881	-	-	11,101
ISFSI Site Restoration Total (w/o contingency)	1,593	0.2	-	4	2,081	3,678	537	6,006	11,101
ISFSI Site Restoration Total (with 25% contingency)	1,991	0.3	-	6	2,602	4,598	-	-	-
Total (w/o contingency)	1,813	192	-	342	6,849	9,197	26,909	41,376	24,880
Total (with contingency)	2,266	240	-	428	8,561	11,496	26,909	41,376	24,880

**Table 3
ISFSI Decommissioning - Structures**

Contaminated Removal	
	Transfer Cask Assembly
	Cask inner liner
	Cask lid
	Cask base & misc. Internal fixtures
	VCC Concrete
Clean Removal	
	Non-activated overpacks
	ISFSI Concrete Pad
	Remove Fencing (linear foot)
	Remove Asphalt Paving
	Emergency Electrical Enclosure
	ISFSI Support systems
	Conduit and Wire SAS to pad
	Diesel Generator
	EOF
	Power to SAS
	Remove Security Fence, towers, access road
	Remove road inside licensed area
	Remove vehicle barriers
	SAS Building
	Septic System
	Support Building ISFSI
	Vehicle barrier 1 (steel)
	Vehicle barrier 2 (steel)

ENCLOSURE 2 TO CY-21-015
CERTIFICATION OF FINANCIAL ASSURANCE

CERTIFICATION OF FINANCIAL ASSURANCE

NRC Licensee:

**Connecticut Yankee Atomic Power Company
Haddam Neck Plant Independent Spent Fuel Storage Installation
NRC No. DPR-61 (NRC Docket No. 50-213)
362 Injun Hollow Road
East Hampton, CT 06424-3099**

Issued to: U.S. Nuclear Regulatory Commission

Certification:


I hereby certify that Connecticut Yankee Atomic Power Company is the licensee for the Haddam Neck Plant (HNP) Independent Spent Fuel Storage Installation (ISFSI) and that I, the undersigned, am authorized to provide this Certification of Financial Assurance with respect to the radiological decommissioning of the HNP ISFSI.

During the operation of this ISFSI, spent nuclear fuel and Greater than Class C waste will be stored at the HNP ISFSI in storage casks licensed under 10 CFR 72. Pursuant to contracts with the Department of Energy the spent fuel and associated casks will ultimately be removed from the ISFSI location, and HNP will dispose of other radiological waste in accordance with NRC regulations, at which time the HNP ISFSI will be decommissioned in accordance with NRC regulations.

I further certify that financial assurance in an amount sufficient to fund HNP ISFSI radiological decommissioning at the time of such decommissioning has been provided, pursuant to 10 CFR 72.30, as described in the letter to which this Certification is attached. That radiological decommissioning funding assurance is premised on a site-specific decommissioning cost estimate and funding methodology described therein, in the amount of:

HNP ISFSI

\$6.9 million (in 2021 dollars, inclusive of contingency)



Timothy Conry
Connecticut Yankee Atomic Power Company
Treasurer
Phone (508) 612-3322

Corporate Seal

Date: December 10, 2021



ENCLOSURE 3 TO CY-21-015
TOTAL COSTS ASSOCIATED WITH THE HNP ISFSI, INCLUDING
COST ESTIMATE FOR MANAGING IRRADIATED FUEL AND GTCC WASTE

Connecticut Yankee Atomic Power Company
Spent Fuel Management and ISFSI Decom Estimate
Represented in 2022 Dollars

Row Labels	Sum of 2022	Sum of 2023	Sum of 2024	Sum of 2025	Sum of 2026	Sum of 2027	Sum of 2028	Sum of 2029	Sum of 2030	Sum of 2031	Sum of 2032	Sum of 2033	Sum of 2034	Sum of 2035	Sum of 2036	Sum of 2037	Sum of 2038	Sum of 2039	Summary 2022 - 2039
Contingency	666,211	674,461	723,835	691,056	655,084	654,138	660,370	710,663	763,645	645,449	778,938	643,242	724,062	647,806	650,542	1,488,994	2,605,007	811,239	15,194,741
GE Morris	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	2,067,630	35,149,710
Insurance	602,648	604,937	602,648	602,648	604,937	602,648	604,937	602,648	604,937	602,648	604,937	602,648	602,648	602,648	604,937	602,648	602,648	602,648	11,372,156
Labor - Non-Manual	2,864,520	2,693,587	2,653,844	2,600,856	2,632,882	2,552,436	2,788,109	2,552,436	2,788,109	2,552,451	2,507,098	2,507,098	2,507,098	2,543,443	2,499,021	2,514,098	2,514,098	2,336,565	46,478,201
Labor - Security	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	3,257,594	53,198,397
Materials & Supplies	121,689	277,838	148,611	123,735	121,689	121,689	121,689	285,376	121,689	132,468	121,689	2,993,756	267,069	121,689	121,689	121,689	43,076	26,922	5,394,037
Miscellaneous	186,841	165,303	165,303	186,841	167,995	167,995	189,533	167,995	167,995	189,533	167,995	167,995	167,995	167,995	167,995	167,995	167,995	167,995	2,997,256
Outside Services - A&G	731,006	769,774	756,852	698,700	698,700	698,700	737,468	756,852	698,700	698,700	737,468	698,700	698,700	677,162	677,162	677,162	677,162	677,162	12,798,125
Outside Services - Fuel Loading	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,315,315	2,055,784	-	4,371,099
Outside Services - IAGE	94,704	152,669	852,648	206,513	152,669	206,513	152,669	852,648	206,513	152,669	152,669	152,669	852,648	206,513	152,669	152,669	77,286	77,286	4,854,621
Outside Services - ISFSI OP's	492,139	325,221	527,676	1,132,889	492,139	360,758	492,139	325,221	2,681,458	325,221	492,139	360,758	492,139	325,221	825,914	253,069	147,534	45,768	10,097,404
Outside Services - Legal	430,756	699,979	161,534	269,223	430,756	572,098	161,534	269,223	430,756	511,523	161,534	269,223	430,756	511,523	161,534	269,223	430,756	1,238,424	7,410,354
Outside Services - LIFT	-	-	807,668	-	-	-	-	807,668	-	-	-	-	807,668	-	-	-	-	807,668	3,230,672
Outside Services - NON-RAD D&D of ISFSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,934,719
Outside Services - RAD D&D of ISFSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,943,063
Property Taxes	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	1,548,569	27,099,953
Regulatory Fees	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	791,515	13,676,511
Utilities	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	134,611	2,423,004
Grand Total	13,990,433	14,163,687	15,200,538	14,512,179	13,756,769	13,736,894	13,867,764	14,923,911	16,036,543	13,554,448	16,357,663	13,506,066	15,205,321	13,603,918	13,661,380	16,378,933	23,209,900	8,923,632	264,592,021
{B} - Source 2019 FERC, Escalated in 2022 \$																			

Note 1: The cost of management of irradiated fuel and GTCC waste is calculated as follows:

\$	264,592,021	Grand Total from Above
\$	(3,934,719)	Non-Rad D&D ISFSI
\$	(4,943,063)	Rad D&D ISFSI
\$	255,714,239	Management of Irradiated Fuel and GTCC Waste

Note 2: The cost of RAD and NON-RAD D&D of the ISFSI in 2022 dollars as provided in the column labeled "Sum of 2038" is derived by escalating the value of the 2021 cost estimates provided in Enclosure 1 by 2.5%.

Note 3: This Summary Combines CY's 2019 Approved FERC Rate Case with the TLG Services 2021 RAD and NON-Rad ISFSI Decom Cost Estimate