Maine Yankee

321 Old Ferry Road, Wiscasset, Maine 04578

December 10, 2021
OMY-21-013
Re: 10 CFR 72.4 and 10 CFR 72.30

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

Maine Yankee Atomic Power Company
Maine Yankee Independent Spent Fuel Storage Installation
NRC License No. DPR-36 (NRC Docket No. 50-309) 72-30

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 70.4, Maine Yankee Atomic Power Company (Maine Yankee) is providing the three-year update to the Independent Spent Fuel Storage Installation (ISFSI) Decommissioning Funding Plan (DFP). Enclosure 1 updates the Maine Yankee ISFSI decommissioning cost estimate and the cost estimate for the management of irradiated fuel and Greater than Class C Waste submitted with the previous Maine Yankee 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 Maine Yankee 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 2015:

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, Maine Yankee 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." Maine Yankee has

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established accounts within its Nuclear Decommissioning Trust (NDT) entitled, "ISFSI Rad Coho" and "ISFSI Rad Mellon," that segregate 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 Maine Yankee 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 Maine Yankee 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 Maine Yankee 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 Maine Yankee ISFSI DCE estimates the total cost to decommission the Maine Yankee ISFSI to be $7.3 million in 2021 dollars for radiological decommissioning and $12.5 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 Maine Yankee 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. Maine Yankee will periodically reassess the decommissioning cost estimate in accordance with 10 CFR 72.30(c). On a periodic basis, Maine Yankee 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.

Maine Yankee 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, Maine Yankee 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 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 Maine.

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 Maine Yankee ISFSI for the management of irradiated fuel and GTCC waste at the Maine Yankee ISFSI through 2036.

A summary of the revised DCE and the cost estimate for the management of irradiated fuel and GTCC waste at the Maine Yankee 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 Maine Yankee Independent Spent Fuel Storage Installation

2. Certification of Financial Assurance

3. Total Costs Associated with the Maine Yankee ISFSI, including Cost Estimate for Managing Irradiated Fuel and GTCC Waste

Reference:

1. Letter from C. Pizzella (Maine Yankee) to Document Control Desk (NRC), Independent Spent Fuel Storage Installation Decommissioning Funding Plan, dated December 10, 2018 (OMY-18-030)

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. Hyland, State of Maine

ENCLOSURE 1 TO OMY-21-013
DECOMMISSIONING STUDY OF THE MAINE 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 Maine Yankee (MY) 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

Maine Yankee (MY) was successfully decommissioned between 1997 and 2005. During decommissioning all 1,434 spent fuel assemblies were transferred from the spent fuel pool to 60 spent fuel storage casks. In addition, 4 GTCC casks containing segmented sections of the reactor internals are stored on the spent fuel storage pad. The ISFSI is operated under a Part 50 General License.

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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

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 Maine release criteria.

4. ISFSI Description

The MY ISFSI is located on approximately 11 acres of the site. The ISFSI consists of 60 dry storage casks containing 1,434 spent nuclear fuel assemblies used during operations. The NAC-UMS fuel storage and transport canister system was chosen by MY and is licensed by the NRC for both storage and transportation. The NAC-UMS system consists of a multi-purpose spent fuel storage canister and a vertical concrete and steel overpack. Each vertical concrete cask has a two-and-a-half-inch steel liner surrounded by approximately 28 inches of reinforced concrete. Construction of the concrete storage pad and vertical concrete and steel storage was completed during decommissioning. Transferring the spent fuel from the spent fuel pool to the storage casks was completed in March of 2004.

In addition to the 60 spent fuel storage casks there are 4 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 UMS 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 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

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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 ..."

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, 10 of the 60 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 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. MY, 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 a local landfill.

- ISFSI Pad
- Remaining Overpacks
- Fencing
- ISFSI support systems
- Security operations building (SOB)
- Miscellaneous pads
- Miscellaneous structures
- Nuisance fence
- Buried utilities
- Road in licensed area
- SOB electrical service
- Vehicle barriers

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

Contingency has been added 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%.

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.

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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

(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), MY'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 Pads – 16 Total (dimensions are for each pad)	31	31	No

ISFSI Overpack

Item	Value	Notes (all dimensions are nominal)
MY-UMS		
Overall Height (inches)	225.9	Dimensions are nominal
Overall Diameter (inches)	136.0	Dimensions are nominal
Inside Diameter (inches)	74.5	Dimensions are nominal
Inner Liner Thickness (inches)	2.50	Dimensions are nominal
Quantity (total)	64	60 spent fuel + 4 GTCC
Quantity (with residual radioactivity)	10	
Total Surface Area of overpack interior with Residual Radioactivity (square feet)	3,918	
Low-Level Radioactive Waste (cubic feet)	50,817	
Low-Level Radioactive Waste (packaged density)	50	

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)	-	-	-	-	285	285	-	-	1,048
Decontamination (activated liner and concrete removal)	122	261	-	612	-	994	50,817	1,645	-
License Termination (radiological surveys)	-	-	-	-	1,285	1,285	-	8,196	-
Subtotal	**122**	**261**	**-**	**612**	**1,570**	**2,565**	**50,817**	**9,841**	**1,048**
Supporting Costs									
NRC and NRC Contractor Fees and Costs	-	-	-	-	298	298	-	-	1,153
Insurance	-	-	-	-	161	161	-	-	-
Property taxes	-	-	-	-	322	322	-	-	-
NRC Fees	-	-	-	-	247	247	-	-	-
Site O&M Cost	-	-	-	-	558	558	-	-	-
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	-	-	-	-	966	966	-	-	4,787
Subtotal	**-**	**-**	**-**	**-**	**3,239**	**3,239**	**-**	**-**	**12,778**
ISFSI Decontamination Total (w/o contingency)	**122**	**261**	**-**	**612**	**4,809**	**5,804**	**50,817**	**9,841**	**13,826**
ISFSI Decontamination Total (with 25% contingency)	**153**	**326**	**-**	**765**	**6,012**	**7,255**			
ISFSI Site Restoration									
Building removal - Inside fence									
Fencing (linear foot)	6	-	-	-	-	6	-	67	
ISFSI Cask & Pad Demolition and Removal	1,189	-	-	-	325	1,514	-	-	-
ISFSI Support sytems	122	-	-	-	-	122	-	1,552	-
Building removal - Outside fence									
Miscellaneous Pads	19	-	-	-	-	19	-	94	
Miscellaneous structures	104	-	-	-	-	104	-	706	
Nuisance Fence	19	-	-	-	-	19	-	196	
Removal of buried utilities	3	-	-	-	-	3	-	16	
Removal of road in licensed area	35	-	-	-	-	35	-	326	

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
SOB Electrical service	0.3	-	-	-	-	0.3	-	2	
Security Operations Building	303	-	-	-	-	303	-	2,584	
Vehicle Barriers	1	-	-	-	-	1	-	4	
Construction Debris	-	-	-	-	204	204	-	-	
Site Restoration	7	-	-	-	-	7	-	32	
Subtotal	**1,809**	**-**	**-**	**-**	**529**	**2,338**	**-**	**5,579**	**-**
Supporting Costs									
NRC and NRC Contractor Fees and Costs					26	26	-	-	160
Property taxes	-	-	-	-	161	161	-	-	-
Site O&M Cost	-	-	-	-	279	279	-	-	5,813
Security Staff Cost	-	-	-	-	82	82	-	-	2,393
DOC Staff Cost	-	-	-	-	261	261	-	-	2,393
Utility Staff Cost	-	-	-	-	483	483	-	-	-
Severance	-	-	-	-	545	545	-	-	5,813
Subtotal	**-**	**-**	**-**	**-**	**1,837**	**1,837**	**-**	**-**	**16,572**
ISFSI Site Restoration Total (w/o contingency)	**1,809**	**-**	**-**	**-**	**2,367**	**4,176**	**-**	**5,579**	**16,572**
ISFSI Site Restoration Total (with 25% contingency)	**2,261**	**-**	**-**	**-**	**2,958**	**5,219**	**-**	**-**	**-**
Total (w/o contingency)	**1,931**	**261**	**-**	**612**	**7,176**	**9,979**	**50,817**	**15,420**	**30,398**
Total (with contingency)	**2,414**	**326**	**-**	**765**	**8,970**	**12,474**	**50,817**	**15,420**	**30,398**

Table 3
ISFSI Decommissioning – Structures Included

Contaminated Removal	
	Cask inner liner
	Cask lid
	Cask base & misc. Internal fixtures
	VCC concrete
Clean Removal	
	Non-activated overpacks
	ISFSI Concrete Pad
	Remove fencing (linear foot)
	ISFSI support systems
	Miscellaneous pads
	Miscellaneous structures
	Nuisance fence
	Removal of buried utilities
	Removal of road in licensed area
	Security operations building (SOB)
	SOB electrical service
	Vehicle barriers

ENCLOSURE 2 TO OMY-21-013
CERTIFICATION OF FINANCIAL ASSURANCE

CERTIFICATION OF FINANCIAL ASSURANCE

NRC Licensee:

Maine Yankee Atomic Power Company
Maine Yankee Independent Spent Fuel Storage Installation
NRC License No. DPR-36 (NRC Docket No. 72-30)
321 Old Ferry Road
Wiscasset, ME 04578-4922

Issued to: U.S. Nuclear Regulatory Commission

Certification:

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

During the operation of this ISFSI, spent nuclear fuel and Greater than Class C waste will be stored at the Maine Yankee 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 Maine Yankee will dispose of other radiological waste in accordance with NRC regulations, at which time the Maine Yankee ISFSI will be decommissioned in accordance with NRC regulations.

I further certify that financial assurance in an amount sufficient to fund Maine Yankee ISFSI radiological decommissioning at the time of such decommissioning has been provided, pursuant to 10 CFR 72.30, as described in Enclosure 1 to 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:

Maine Yankee ISFSI $7.3 million (in 2021 dollars, inclusive of contingency)

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

Corporate Seal

Date December 10, 2021

ENCLOSURE 3 TO OMY-21-013
TOTAL COSTS ASSOCIATED WITH THE HNP ISFSI, INCLUDING COST ESTIMATE FOR MANAGING IRRADIATED FUEL AND GTCC WASTE

Maine Yankee Atomic Power Company
Irradiated Fuel & GTCC Waste Management and ISFSI Decom Estimate
Represented in 2022 Dollars

FERC Summary	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	561,118	531,670	516,402	516,606	628,109	579,922	521,044	507,298	528,284	593,845	511,387	506,202	522,741	519,107	581,550	1,822,073	1,948,131	703,636	12,599,125
Insurance	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	508,359	829,723	9,471,834
Labor - Non-Manual	2,896,851	2,871,056	2,814,347	2,806,806	2,802,258	2,758,677	2,758,677	2,689,611	2,689,611	2,689,611	2,689,611	2,689,611	2,653,607	2,653,607	2,645,530	2,645,530	2,687,529	2,668,953	49,111,482
Labor - Non-Manual Succession Plannin	90,942	-	16,966	-	131,007	-	252,536	-	-	-	50,392	-	-	-	-	-	-	-	541,842
Labor - Security	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	3,287,122	538,445	538,445	53,670,850
Materials & Supplies	166,430	124,970	134,770	307,934	187,753	123,355	176,122	113,770	197,768	219,952	142,200	203,044	158,461	193,460	208,752	292,426	33,434	29,722	3,014,323
Miscellaneous	144,303	144,303	165,841	144,303	144,303	165,841	144,303	144,303	165,841	144,303	144,303	165,841	144,303	144,303	165,841	122,766	122,766	97,997	2,615,767
Outside Services - A&G	640,906	640,906	701,481	640,906	640,906	699,058	640,906	701,481	640,906	640,906	699,058	640,906	640,906	640,906	640,906	640,906	640,906	589,215	11,722,073
Outside Services - Fuel Loading	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,101,445	-	-	3,101,445
Outside Services - IAGE	75,382	75,382	75,382	75,382	775,361	183,071	75,382	75,382	75,382	775,361	129,227	75,382	75,382	75,382	775,361	75,382	129,227	75,382	3,672,197
Outside Services - ISFSI OP's	1,080,480	375,117	556,034	385,885	1,748,152	1,455,238	509,728	450,499	663,723	1,193,553	509,728	378,347	509,728	321,272	1,331,395	224,352	181,276	80,767	11,955,275
Outside Services - Legal	430,756	699,979	161,534	269,223	430,756	511,523	161,534	269,223	430,756	511,523	161,534	269,223	430,756	511,523	161,534	161,534	161,534	1,238,424	6,972,867
Outside Services - NON-RAD D&D of IS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**4,680,406**	-	4,680,406
Outside Services - RAD D&D of ISFSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1,839,657**	**3,736,062**	-	5,574,719
Property Taxes	999,462	999,462	999,462	999,462	999,462	999,462	999,462	999,462	999,462	999,462	999,462	999,462	999,462	999,462	999,462	999,462	501,400	252,369	16,745,165
Regulatory Fees	772,131	777,515	777,515	777,515	777,515	777,515	777,515	777,515	777,515	777,515	777,515	777,515	917,511	917,511	777,515	1,170,580	1,811,330	608,443	15,527,686
Utilities	129,227	129,227	129,227	129,227	129,227	129,227	129,227	129,227	129,227	129,227	129,227	129,227	129,227	129,227	129,227	161,534	215,378	26,922	2,342,237
Grand Total	**11,783,471**	**11,165,069**	**10,844,443**	**10,848,732**	**13,190,292**	**12,178,372**	**10,941,918**	**10,653,253**	**11,093,957**	**12,470,740**	**10,739,125**	**10,630,243**	**10,977,567**	**10,901,243**	**12,212,556**	**17,053,130**	**17,895,183**	**7,740,000**	**213,319,293**
Source 2019 FERC, Escalated in 2022 $																			

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

213,319,293	Grand Total from Above
(4,680,406)	Non-Rad D&D ISFSI
(5,574,719)	Rad D&D ISFSI
203,064,168	Management of Irradiated Fueland GTCC Waste

Note 2: The cost of RAD and NON-RAD D&D of the ISFSI in 2022 dollars as provided in the columns labeled 'Sum of 2037' and 'Sum of 2038' is derived by escalating the value of the cost estimates provided in Enclosure 1 by 2.5%

Note 3: This Summary combines MY's 2019 approved FERC Rate Case with the TLG Services 2021 RAD and NON-Rad ISFSI Decom Cost Estimate.