> 10 CFR 50.75 10 CFR 50.82

March 31, 2021

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

> Oyster Creek Nuclear Generating Station Renewed Facility Operating License No. DPR-16 NRC Docket No. 50-219 and 72-15

Pilgrim Nuclear Power Station Renewed Facility License No. DPR-35 NRC Docket Nos. 50-293 and 72-1044

- SUBJECT: Holtec Decommissioning International Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations
- REFERENCE: 1. Letter, Holtec Decommissioning International, LLC to US NRC, "Notification of Revised Post-Shutdown Decommissioning Activities Report and Revised Site-Specific Decommissioning Cost Estimate for Oyster Creek Nuclear Generating Station," September 28, 2018 (ML18275A116)
  - Letter, Holtec Decommissioning International, LLC to US NRC, "Notification of Revised Post-Shutdown Decommissioning Activities Report and Revised Site-Specific Decommissioning Cost Estimate for Pilgrim Nuclear Power Station," November 16, 2018 (ML18320A040)
  - 3. Letter, Holtec Decommissioning International, LLC to US NRC, "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations," March 31, 2020 (ML20091M858)

In accordance with 10 CFR 50.75(f)(1), 10 CFR 50.82(a)(8)(v), 10 CFR 50.82(a)(8)(vi), and 10,CFR 50.82(a)(8)(vii), Holtec Decommissioning International, LLC (HDI) is submitting the annual status of decommissioning funding, status of funding for managing irradiated fuel, and the financial assurance report for Oyster Creek Nuclear Generating Station (Oyster Creek) and Pilgrim Nuclear Power Station (Pilgrim). The annual decommissioning funding assurance reports for Oyster Creek and Pilgrim Sites are provided in Enclosures 1 and 2 to this letter. Attachment 1 to this letter provides the methodology used to calculate the formula cost amount per 10 CFR 50.75(c).

The initial HDI Site-Specific Decommissioning Cost Estimates for Oyster Creek and Pilgrim, included in the revised Post-Shutdown Decommissioning Activities Reports (References 1 and 2 respectively) were based on the "DECON" method for decommissioning and were

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submitted in 2018. Subsequent to these initial decommissioning cost estimates, HDI prepared and submitted the annual report providing the decommissioning funding, irradiated fuel management funding, and financial assurance status through December 31, 2019 for Oyster Creek and Pilgrim (Reference 3).

Enclosure 1 and Enclosure 2 to this letter, provide the Annual Decommissioning Funding, Irradiated Fuel Management Status and Financial Assurance Report for Oyster Creek and Pilgrim, respectively. The estimates provided in Enclosure 1 and 2, using the December 31, 2020 trust fund balances, indicate Oyster Creek and Pilgrim have met the NRC's funding requirements. Accordingly, HDI concludes that no further action is required at this time to demonstrate adequate funding assurance for decommissioning the Oyster Creek and Pilgrim sites.

There are no regulatory commitments contained within this letter.

If you should require any further information, please contact me at (856) 797-0900 x 3813.

Sincerely,

Andrea L. Sterdis Vice President, Regulatory and Environmental Affairs Holtec Decommissioning International, LLC

ALS/mjg



### Enclosures:

- (1) Annual Decommissioning Funding Assurance and Spent Fuel Management Report for Oyster Creek Nuclear Generating Station
- (2) Annual Decommissioning Funding Assurance and Spent Fuel Management Report for Pilgrim Nuclear Power Station

Attachment:

(1) Methodology Used to Calculate the Formula Cost Amount per 10 CFR 50.75(c)

cc:

USNRC Regional Administrator, Region I USNRC Project Manager, NMSS Oyster Creek USNRC Project Manager, NMSS – Pilgrim Nuclear Power Station Assistant Commissioner, Air Quality, Energy and Sustainability, NJ DEP Assistant Director Radiation Protection Element, NJ Bureau of Nuclear Engineering Commonwealth of Massachusetts, Executive Office of Environmental Affairs Commonwealth of Massachusetts, Department of Public Health Commonwealth of Massachusetts, Department of Environmental Protection Commonwealth of Massachusetts, Director, Massachusetts Emergency Management Agency



## Enclosure 1

Holtec Decommissioning International Oyster Creek Nuclear Generating Station Annual Decommissioning Funding and Spent Fuel Management Status and Financial Assurance Report As of December 31, 2020

(9 pages including cover page)

#### Holtec Decommissioning International Oyster Creek Nuclear Generating Station Annual Decommissioning Funding and Spent Fuel Management Status and Financial Assurance Report As of December 31, 2020

As required by 10 CFR 50.75(f) and 50.82(a)(8), Holtec Decommissioning International (HDI) reports the following information for Oyster Creek Nuclear Generating Station:

### A. Formula Cost Amount per 10 CFR 50.75(c)

Pursuant to 10 CFR 50.75(c), the 2021 estimated NRC formula cost is \$627,041,568. HDI does not use this calculation for any decommissioning cost estimates or evaluations.

### B. Current Decommissioning Cost Estimate

The required minimum funding assurance amount for Oyster Creek as of December 31, 2020 is based on the site-specific Decommissioning Cost Estimate (DCE) developed in accordance with 10 CFR 50.82(a) and included in the HDI revised Post-Shutdown Decommissioning Activities Report (Reference 1) as amended in the annual decommissioning funding and spent fuel management status report for 2019 (Reference 2). Additional reporting requirements are documented on Table 1 of this Enclosure. Table 1 provides HDI revised total estimate information as required by 10 CFR 50.82. The revised total estimate to complete decommissioning for the Oyster Creek site is **\$615M** (in 2020 dollars). Of that total cost estimate, the revised estimate for license termination expenses is **\$333M**, the current separate estimate of spent fuel management costs is **\$246M** and the current separate estimate for site restoration costs is **\$37M**.

### C. Current Decommissioning Fund Balance

The Oyster Creek Nuclear Decommissioning Trust (NDT) fund balance as of December 31, 2020 was \$713M. This amount represents the market value of the NDT fund as of December 31, 2020 net of any material current income tax liability on realized gains, interest, dividends, and other income of the trust. No additional amounts remain to be collected. The trust fund amount is the total available for decommissioning including costs of license termination decommissioning, spent fuel management, and site restoration activities. The total is provided because HDI received an exemption from 10 CFR 50.82(a)(8)(i)(A) to allow the Oyster Creek Trust fund to be used for site irradiated fuel management and site restoration costs (Reference 3).

D. Assumptions Used Regarding Rates of Escalation for Decommissioning Costs, Earnings on Funds, and Other Factors Used in Funding Projections

HDI has assumed a 2% real rate of return as allowed by 10 CFR 50.75(e)(1)(i).

### E. Rates used to Inflate Decommissioning Costs

The estimates in the 2018 HDI Oyster Creek Revised PSDAR/Decommissioning Cost Estimate (DCE) (Reference 1) were provided in 2018 dollars. The estimates provided in Table 1 of this Enclosure have been inflated to 2020 dollars. The Bureau of Labor Statistics data provided the basis for the decommissioning cost estimate inflation rate forecast. Decommissioning costs are inflated using a weighted average of BLS indices for Labor, Energy, Consumer Price Index, Materials, and Equipment. For Burial inflation factor, HDI utilized NUREG-1307, Revision 18. HDI has used a factor of 1.01 to calculate the inflation to 2020 dollars. This is conservative as it does not credit the fixed price contracts.

### F. Current ISFSI Decommissioning Cost

The current detailed site-specific Independent Spent Fuel Storage Installation (ISFSI) decommissioning cost estimate is \$4.054M (2020 dollars). The ISFSI estimated costs are based on the estimated costs provided in the HDI Revised PSDAR/DCE (Reference 1) and amended in Reference 2 which were inflated using published inflation indices as previously discussed in item (E).

### G. Decommissioning Financial Assurance

Financial assurance for decommissioning is provided by the prepayment method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(i) and 10 CFR 72.30(e)(1) as approved by NRC in their approval of the license transfer to Oyster Creek Environmental Protection (OCEP) and HDI.

## H. Changes in the Decommissioning Funding Plan Trust Agreement No change.

Please refer to Tables 1 and 2 of this Enclosure for additional required reporting data. Table 2 provides a cash flow analysis using the revised decommissioning cost estimates developed by HDI. This cash flow analysis demonstrates that the Oyster Creek decommissioning trust fund is sufficiently funded to cover costs as estimated for the license termination, spent fuel management and site restoration activities necessary to complete safe and compliant decommissioning of the site.

In addition, HDI has included an updated schedule that reflects the current decommissioning plan. Figure 1 provides the revised schedule. The schedule revisions reflect actual work progress achieved from HDI's acquisition of the site through December 31, 2020. The schedule reflects revisions to the work plan resulting from more detailed project planning, subcontract execution, and optimization since HDI's submittal of the 2019 Annual Decommissioning and Spent Fuel Management Report (Reference 2). The changes reflected on the updated schedule have been reviewed to confirm that there are no significant schedule changes from the schedule submitted in Reference 2. The estimate to complete and cash flow analyses provided in Tables 1 and 2 confirm that these schedule revisions are not significant as defined in 10 CFR 50.82 (a)(7). HDI also has confirmed that the changes to the schedule remain bounded by the environmental evaluation included in the HDI Oyster Creek PSDAR (Reference 1).

### **References:**

- Letter, Holtec Decommissioning International, LLC to US NRC, "Notification of Revised Post-Shutdown Decommissioning Activities Report and Revised Site-Specific Decommissioning Cost Estimate for Oyster Creek Nuclear Generating Station," September 28, 2018 (ML18275A116)
- Letter, Holtec Decommissioning International, LLC to US NRC, "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations," dated March 31, 2020 (ML20091M858)
- Letter from US NRC to Exelon Generation Company, LLC, "Oyster Creek Nuclear Power Station—Issuance of Exemptions from 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(1)(iv)" dated June 20, 2019 (ML19113A204)

Holtec Decommissioning International

Oyster Creek Nuclear Generating Station Annual Decommissioning Financial Assurance and Spent Fuel Management Report

HDI-OC-21-023 and HDI-PIL-21-037 Enclosure 1 Page 4 of 9

		ENCLOSU Table :	RE 1 1				
Holtec Decommissioning International							
DECOMMISSIONING	Uy3			UII			
INTERNATIONAL	Summ	nary Information as o	f December 31, 2	2020			
		10 CFR 50.82(a)	(8)(v)-(vii)				
Decommissioning Trus	t Fund Balance 10 CFR 50.7	5(f)(1) and 10 CFR 50.82(a	)(8)(v)(A)				
Year	Type of Trust	Fund Balance (2020 \$)			Comments		
2020	Decommissioning Trust	\$713M			As of 12/31/2020; net of tax liabilities		
Other Financial Accura	nee Methode Deine Delied I	Inon 10 CED 50 75(f)(1) or		()(D)			
NONE	lince Methous Being Kelleu (	1001110 CFK 50.75(1)(1) at		(V)(D)			
HDI Decommissioning	Expenditures 10 CFR 50.82(	a)(8)(v)(A) Since License T	ransfer				
Year	License Termination	Spent Fuel Mgmt	Site Restoration	Total	Comments		
2019	\$54M	\$8M	\$0M	\$62M	2019 Costs in as-Spent Dollars		
2020	\$105M	\$79M	\$8M	\$192M	2020 Costs in as-Spent Dollars		
Total to Date	\$159M	\$87M	\$8M	\$254M	As-Spent Dollars		
Prior Year Expenditure	Licence To Total HDI Esti	Sport Fuel Mart	a)(8)(V)(B)	Total	Commonts		
2020 Estimated	cont	c71M		6179M	Ectimate in 2010 Dollars		
2020 Estimated	\$105M	\$79M	\$17M	\$178M	Variance due to Project Timing		
	÷100111	<i></i>		<i>\</i>	and Optimization		
Remaining Decommiss	sioning Estimated Cost 10 CF	R 50.82(a)(8)(v)(B) / (vii)(	В)				
Year	License Termination	Spent Fuel Mgmt	Site Restoration	Total	Comments		
2021	\$333M	\$246M	\$37M	\$615M	Estimated in 2020 Dollars		
Decommissioning Crite	eria Upon Which the Estima	te is Based 10 CFR 50.75(f	)(1) and 10 CFR 50.8	2(a)(8)(v)(B	3)		
DECON							
Any Modification to M	lethod of Providing Financia	Assurance 10 CFR 50.75	f)(1) and 10 CFR 50.8	32(a)(8)(v)(	C)		
NONE			.,(_,	-(=/(=/(=/(=/(	-,		
Any Material Changes	to Trust Agreement Since P	revious Report 10 CFR 50.	75(f)(1) and 10 CFR 5	0.82(a)(8)	(v)(D)		
No material changes.							
Need for Additional Fin	nancial Assurance 10 CFR 50	.75(f)(1) and 10 CFR 50.82	2(a)(8)(v)(C)				
NONE							

Holtec Decommissioning International

Oyster Creek Nuclear Generating Station Annual Decommissioning Cash Flow Analysis

HDI-OC-21-023 and HDI-PIL-21-037 Enclosure 1 Page 6 of 9

<b>Oyster Creek Nuclear Generating Station - DECON Method</b> Annual Cash Flow in Millions of 2020 Dollars									
Year	License Termination Cost	Spent Fuel Management Cost	Site Restoration Cost	Total Costs	Beginning of Year NDT Balance	Withdrawals	NDT Earnings <sup>1</sup>	Year Ending NDT Balance	
2021	127	97	16	240	713 <sup>2</sup>	-276 <sup>3</sup>	9	446	
2022	53	7	5	65	446	-65	8	389	
2023	64	7	6	77	389	-77	6	318	
2024	56	8	8	72	318	-72	5	251	
2025	20	9	1	30	251	-30	4	225	
2026	0	7	0	8	225	-8	4	221	
2027	0	8	0	8	221	-8	4	218	
2028	0	8	0	8	218	-8	4	214	
2029	0	8	0	8	214	-8	4	210	
2030	0	8	0	8	210	-8	4	207	
2031	0	8	0	8	207	-8	4	203	
2032	0	8	0	8	203	-8	4	199	
2033	9	27	0	36	199	-36	3	166	
2034	2	27	0	29	166	-29	3	140	
2035	1	9	1	11	140	-11	3	131	
Total <sup>4</sup>	333	246	37	615		-651	69		

<sup>1</sup> NDT earnings reflect an assumed 2% Real Rate of Return (RRR)

<sup>2</sup> 2021 Beginning of Year NDT Balance is net of realized tax liabilities

<sup>3</sup> The 2021 NDT Withdrawal Amount includes \$36M for the reimbursement of HDI's 2020 expenses that were not reimbursed in 2020.

<sup>4</sup> Columns may not add due to rounding

### Figure 1

Holtec Decommissioning International

Oyster Creek Nuclear Generating Station Decommissioning Schedule Timeline

HDI-OC-21-023 and HDI-PIL-21-037 Enclosure 1 Page 8 of 9



## **Oyster Creek Decommissioning – Waterfall Chart**

INTERNATIONAL	SHUTDOWN START 09/17/2018	ZIRCONIUM FIRI ELIMINATED 06/29/2019	E CLOSE DATE 07/01/2019		FUEL ON PAD 07/01/2021	SUBM LTF 11/04/2	AIT 2022		
Y	EAR 2018		2019	2020	2021	2022	2023	2024	
	DNTH M J J A S		JJASOND	J F M A M J J A S O N D J	F M A M J J A S O N D	J F M A M J J A S O N	D J F M A M J J A S O N D	JFMAMJJA	SONDJFM
CHARACTERIZATIO	DN, TP					PREPARE LTP	NRC REVIEV	/ LTP	FSS REPORT
					SITE CHARACT	ERIZATION/ REMEDIAI			
			FUEL W	VET STORAGE					
ISFSI				PC	FUEL OL TO PAD			FUEL DRY ON	ILY STORAGE
REACTOR SEGMENTATION				REACTOR	INTERNALS NTATION	VESSEL AND MISC. HARDWARE SEGMENTATION			
D&D (DECON, ABATEMENT ANI DISMANTLEMENT	)				D&D (DECON, A	BATEMENT AND DISM	ANTLEMENT)		
WASTE MANAGEMENT						WASTE MANAGE	MENT		
SITE RESTORATION									SITE RESTORATIO

PARTIAL RELEAS 11/03/20	SITE SE 25	FINAL LICENSE TERMINATION 12/03/2035 FINAL SITE SURVEY 08/29/2035 COMPLETE FUEL SHIPMENT 03/28/2035
2025	2026	2026 TO 2036
A M J J A S O N D	J F M A M J J A S O N D	2026 2027 2028 2029 2030 2033 2033 2033 2035 2035
FSS NRC REVIEW		
N		



## Enclosure 2

Holtec Decommissioning International Pilgrim Nuclear Power Station Annual Decommissioning Funding and Spent Fuel Management Status and Financial Assurance Report As of December 31, 2020

(9 pages including cover page)

HDI-OC-21-023 and HDI-PIL-21-037 Enclosure 2 Page 1 of 9

### Holtec Decommissioning International Pilgrim Nuclear Power Station Annual Decommissioning Funding and Spent Fuel Management Status and Financial Assurance Report As of December 31, 2020

As required by 10 CFR 50.75(f) and 50.82(a)(8), Holtec Decommissioning International (HDI) reports the following information for Pilgrim Nuclear Power Station:

### A. Formula Cost Amount per 10 CFR 50.75(c)

Pursuant to 10 CFR 50.75(c), the 2021 estimated NRC formula cost is \$628,612,907. HDI does not use this calculation for any decommissioning cost estimates or evaluations.

### B. Current Decommissioning Cost Estimate

The required minimum funding assurance amount for Pilgrim as of December 31, 2020 is based on the site-specific Decommissioning Cost Estimate (DCE) developed in accordance with 10 CFR 50.82(a) and included in the HDI revised Post-Shutdown Decommissioning Activities Report (Reference 1) as amended in the annual decommissioning funding and spent fuel management status report for 2019 (Reference 2). Additional reporting requirements are documented on Table 1 of this Enclosure. Table 1 provides HDI revised total estimate information as required by 10 CFR 50.82. The revised total estimate to complete decommissioning for the Pilgrim site is **\$824M** (in 2020 dollars). Of that total cost estimate, the revised estimate for license termination expenses is **\$370M**, the current separate estimate of spent fuel management costs is **\$417M** and the current separate estimate for site restoration costs is **\$37M**.

### C. Current Decommissioning Fund Balance

The Pilgrim Nuclear Decommissioning Trust (NDT) fund balance as of December 31, 2020 was \$881M. This amount represents the market value of the NDT fund as of December 31, 2020 net of any material current income tax liability on realized gains, interest, dividends, and other income of the trust. No additional amounts remain to be collected. The trust fund amount is the total available for decommissioning including costs of license termination decommissioning, spent fuel management, and site restoration activities. The total is provided because HDI received an exemption from 10 CFR 50.82(a)(8)(i)(A) to allow the Pilgrim Trust fund to be used for site irradiated fuel management and site restoration costs (Reference 3).

# D. Assumptions Used Regarding Rates of Escalation for Decommissioning Costs, Earnings on Funds, and Other Factors Used in Funding Projections

HDI has assumed a 2% real rate of return as allowed by 10 CFR 50.75(e)(1)(i).

### E. Rates used to Inflate Decommissioning Costs

The estimates in the 2018 HDI Pilgrim Revised PSDAR/Decommissioning Cost Estimate (DCE) (Reference 1) were provided in 2018 dollars. The estimates provided in Table 1 of this Enclosure have been inflated to 2020 dollars. The Bureau of Labor Statistics data provided the basis for the decommissioning cost estimate inflation rate forecast. Decommissioning costs are inflated using a weighted average of BLS indices for Labor, Energy, Consumer Price Index, Materials, and Equipment. For Burial inflation factor, HDI utilized NUREG-1307, Revision 18. HDI has used a factor of 1.02 to calculate the inflation to 2020 dollars. This is conservative as it does not credit the fixed price contracts.

### F. Current ISFSI Decommissioning Cost

The current detailed site-specific Independent Spent Fuel Storage Installation (ISFSI) decommissioning cost estimate is \$4.324M (2020 dollars). The ISFSI estimated costs are based on the estimated costs provided in the HDI Revised PSDAR/DCE (Reference 1) and amended in

Reference 2 which have been inflated using published inflation indices as previously discussed in item (E).

### G. Decommissioning Financial Assurance

Financial assurance for decommissioning is provided by the prepayment method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(i) and 10 CFR 72.30(e)(1) as approved by NRC in their approval of the license transfer to Holtec Pilgrim, LLC and HDI.

### H. Changes in the Decommissioning Funding Plan Trust Agreement

The trust agreement has not been amended. Pursuant to the process for appointing a successor trustee set forth in the trust agreement, Holtec Pilgrim notified BNY Mellon to transition trustee responsibilities to the Northern Trust Company (who also serves as trustee for Oyster Creek). The transition became effective after the reporting period.

Please refer to Tables 1 and 2 of this Enclosure for additional required reporting data. Table 2 provides a cash flow analysis using the revised decommissioning cost estimates developed by HDI. This cash flow analysis demonstrates that the Pilgrim decommissioning trust fund is sufficiently funded to cover costs as estimated for the license termination, spent fuel management and site restoration activities necessary to complete safe and compliant decommissioning of the site.

In addition, HDI has included an updated schedule that reflects the current decommissioning plan. Figure 1 provides the revised schedule. The schedule revisions reflect actual work progress achieved from HDI's acquisition of the site through December 31, 2020. The schedule reflects revisions to the work plan resulting from more detailed project planning, subcontract execution, and optimization since HDI's submittal of the 2019 Annual Decommissioning and Spent Fuel Management Report (Reference 2). The overall decommissioning milestones are not significantly changed from those submitted in Reference 2. The estimate to complete and cash flow analyses provided in Tables 1 and 2 confirm that these schedule revisions are not significant as defined in 10 CFR 50.82 (a)(7). HDI also has confirmed that the changes to the schedule remain bounded by the environmental evaluation included in the HDI Pilgrim PSDAR (Reference 1).

### **References:**

- Letter, Holtec Decommissioning International, LLC to US NRC, "Notification of Revised Post-Shutdown Decommissioning Activities Report and Revised Site-Specific Decommissioning Cost Estimate for Pilgrim Nuclear Power Station," November 16, 2018 (ML18320A040)
- Letter, Holtec Decommissioning International, LLC to US NRC, "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations," dated March 31, 2020 (ML20091M858)
- Letter from US NRC to Entergy Nuclear Operations, Inc., "Pilgrim Nuclear Power Station— Request for Exemption from 10 CFR 50.82(a)(8)(i)(A) for Holtec Decommissioning International, LLC" dated August 22, 2019 (ML19192A083)

### Holtec Decommissioning International

Pilgrim Nuclear Power Station Annual Decommissioning Financial Assurance and Spent Fuel Management Report

ENCLOSURE 1								
	Holtec Decommissioning International							
HOLTEC		Pilgrim Nuclear P	ower Station	u				
DECOMMISSIONING								
INTERNATIONAL	Summ	nary Information as o	f December 31, 2	2020				
		10 CFR 50.82(a)	(8)(v)-(vii)					
Decommissioning Trus	t Fund Balance 10 CFR 50.7	5(f)(1) and 10 CFR 50.82(a	)(8)(v)(A)		-			
Year	Type of Trust	Fund Balance (2020 \$)			Comments			
2020	Decommissioning Trust	\$881M			As of 12/31/2020; net of tax liabilities			
Other Financial Assura	nce Methods Being Relied L	Jpon 10 CFR 50.75(f)(1) ar	nd 10 CFR 50.82(a)(8)	(v)(B)				
NONE								
HDI Decommissioning	Expenditures 10 CFR 50.82(	a)(8)(v)(A) Since License I	ransfer	Total	Commonto			
2019		Spent Fuel Night	Site Restoration	stotal	2019 Costs in as-Sport Dollars			
2019	\$40M	\$50W	\$3M	\$175M	2019 Costs in as-Spent Dollars			
Total Spent to Date	\$100M	\$071VI	\$3M	\$175IVI	2020 Costs in as-spent Donars			
	INITELÉ	ŞIZƏİVİ	γJIVI	Υ <u></u>				
Prior Year Expenditure	s Variance to Total HDI Esti	mated Cost 10 CFR 50.82(	a)(8)(v)(B)					
Year	License Termination	Spent Fuel Mgmt	Site Restoration	Total	Comments			
2020 Estimated	\$59M	\$66M	\$0M	\$125M	Estimate in 2019 Dollars			
2020 Actuals	\$106M	\$67M	\$3M	\$175M	Variance due to project timing and optimization			
Remaining Decommiss	ioning Estimated Cost 10 CF	R 50.82(a)(8)(v)(B) / (vii)(	B)					
Year	License Termination	Spent Fuel Mgmt	Site Restoration	Total	Comments			
2021	\$370M	\$417M	\$37M	\$824M	Estimated in 2020 Dollars			
Decommissioning Crite	eria Upon Which the Estima	te is Based 10 CFR 50.75(f	)(1) and 10 CFR 50.82	2(a)(8)(v)(E	3)			
DECON								
Any Modification to M	ethod of Providing Einancia	Assurance 10 CER 50 75/	f)(1) and 10 CER 50 9	2(2)(8)(1)				
NONE	ction of Fromang Financia			2(0)(0)(0)				
Any Material Changes	to Trust Agreement Since P	revious Report 10 CFR 50.	75(f)(1) and 10 CFR 5	0.82(a)(8)	(v)(D)			
No material changes. S	ee item (H) in Enclosure 2							
	No material changes. See item (H) in Enclosure 2							

NONE

Holtec Decommissioning International

Pilgrim Nuclear Power Station Annual Decommissioning Cash Flow Analysis

## Pilgrim Nuclear Power Station - DECON Method

Annual Cash Flow in Millions of 2020 Dollars

Annuar	Annual Cash Flow in Minimus of 2020 Donars								
Year	License Termination Cost	Spent Fuel Management Cost	Site Restoration Cost	Total Costs	Beginning of Year NDT Balance	Withdrawals	NDT Earnings <sup>1</sup>	Year Ending NDT Balance	
2021	140	92	3	235	881 <sup>2</sup>	-281 <sup>3</sup>	12	612	
2022	33	32	6	70	612	-70	11	553	
2023	54	7	12	72	553	-72	10	491	
2024	57	7	5	69	491	-69	8	430	
2025	38	6	6	49	430	-49	8	388	
2026	33	7	1	41	388	-41	7	355	
2027	1	9	5	14	355	-14	7	347	
2028		6		6	347	-6	7	348	
2029		6		6	348	-6	7	349	
2030		7		7	349	-7	7	348	
2031		7		7	348	-7	7	347	
2032		7		7	347	-7	7	347	
2033		7		7	347	-7	7	346	
2034		7		7	346	-7	7	346	
2035		7		7	346	-7	7	345	
2036		7		7	345	-7	7	344	
2037		7		7	344	-7	7	344	
2038		7		7	344	-7	7	343	
2039		7		7	343	-7	7	343	
2040		7		7	343	-7	7	342	
2041		7		7	342	-7	7	341	
2042		7		7	341	-7	7	340	
2043		7		7	340	-7	7	340	
2044		7		7	340	-7	7	339	
2045		7		7	339	-7	7	338	
2046		7		7	338	-7	7	337	
2047		7		7	337	-7	7	337	
2048		7		7	337	-7	7	336	
2049		7		7	336	-7	7	335	
2050		7		7	335	-7	7	334	
2051		7		7	334	-7	7	333	
2052		7		7	333	-7	7	333	
2053		7		7	333	-7	1	332	
2054		7		7	332	-7	6	331	
2055		7		7	331	-/	6	330	
2056		7		7	330	-/	6	329	
2057		/		/	329	-/	6	328	
2058		/		/	328	-/	6	327	
2059	1	/		/	327	-/	0	326	
2060	4	7		12	326	-12	0	320	
2061	4	7		12	320	-12	6	315	
2062	4	2	1	12	315	-12	0	309	
Total <sup>4</sup>	370	417	37	824	309	-4	<b>299</b>	511	

<sup>1</sup> NDT earnings reflect an assumed 2% Real Rate of Return (RRR)

<sup>2</sup> 2021 Beginning of Year NDT Balance is net of realized tax liabilities

<sup>3</sup> The 2021 NDT Withdrawal Amount includes \$46M for the reimbursement of HDI's 2020 expenses that were not reimbursed in 2020.

<sup>4</sup> Columns may not add due to rounding

## Figure 1

Holtec Decommissioning International

Pilgrim Nuclear Power Station Decommissioning Schedule Timeline



## Pilgrim Decommissioning - Waterfall Chart



					FINAL LIC TERMIN/ 09/07/2	CENSE ATION 2063
				FINAL S SURVE 06/03/20	ITE Y 163	
	PARTIA RELE/ 09/24/2	L SITE ASE 2027	SHIPI 12/31	IE FUEL MENT /2062		
2026	2027	•	20	28 TO <mark>2</mark> (	063	
A M J J A S O N D	JFMAMJJA	ASOND	2028 - 2061	2062	2063	
ORT FSS N	RC REVIEW					
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### Holtec Decommissioning International Annual Decommissioning Funding and Spent Fuel Management Status and Financial Assurance Report

## Attachment 1

Methodology Used to Calculate the Formula Cost Amount per 10 CFR 50.75(c)

(3 pages including cover page)

#### Holtec Decommissioning International Annual Report on the Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations (ISFSIs) Methodology Used to Calculate the Formula Cost Amount per 10 CFR 50.75(c)

The labor, energy and burial indexes used are consistent with those described in NUREG-1307, Revision 18, issued January 2021.

The current labor cost indexes used are obtained from the Employment Cost Index published by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). Specifically, HDI used the Employment Cost Index for total compensation for private industry workers in the Northeast Region. The labor adjustment factors were calculated according to Section 3.2 of NUREG-1307, Revision 18 using fourth quarter 2020 data. Table 1 shows the data used for this calculation.

### Table 1: Northeast Region Labor Adjustment Factor

Applicable Site	Series ID	4Q2020 Index	Labor Adjustment	
		Number	Factor (Lx)	
Oyster Creek	CIU201000000210I	144.0	3.11	
Pilgrim	CIU201000000210I	144.0	3.11	

The current energy cost indexes used are obtained from Producer Price Indexes (PPI) – Commodities, published by the U.S. Department of Labor, BLS. Specifically, HDI used the PPI for industrial electric power (WPU0543) and light fuel oils (WPU0573). The energy adjustment factors were calculated according to Section 3.3 of NUREG-1307, Revision 18, using December 2020 data. Table 2 shows the data used for this calculation.

### Table 2: Energy Adjustment Factor

WPU0543 – January 1986 (base value)	114.2
WPU0573 – January 1986 (base value)	82.0
WPU0543 – December 2020 (preliminary value)	232.7
WPU0573 – December 2020 (preliminary value)	209.8
Industrial Electric Power Adjustment Factor – (Px)	2.038
Light Fuel oil Adjustment Factor – (F <sub>X</sub> )	2.559
Energy Adjustment Factor – (BWR)	2.277

The waste burial adjustment factors are taken from Table 2-1 of NUREG-1307, Revision 18, based on 2020 data. The adjustment factors HDI used assume a combination of compact-affiliated and non-compact facilities as applicable. Table 3 shows the data used for this calculation.

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LLW Burial Site	Reactor Type	Decommissioning Site	Combination of Compact-Affiliated and Non-Compact Disposal Facilities Waste Adjustment Factor – (B <sub>x</sub> )	Generators Located in Unaffiliated States – (B <sub>x</sub> )
South Carolina Atlantic Compact Site	BWR	Oyster Creek	12.948	N/A
Generic LLW	BWR	Pilgrim	N/A	12.837

### Table 3: Waste Burial Adjustment Factor

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The calculation methodology used for all adjustment factors is consistent with NUREG-1307, Revision 18.

Site	Escalation Factors - (Lx), (Ex), (Bx)		Escalation Factors - (Lx), (Ex), (Bx) (Lx), (Ex), (Bx) Escalation Factor Formula 10 CFR 50.75(c)(2)		1986 BWR Base Year \$ Escalated * Factor
Oyster Creek	(Lx)	3.11	0.65(L)+0.13(E)+0.22(B)	5.17	\$627,041,568
	(Ex)	2.28			
	(Bx)	12.948			
Pilgrim	(Lx)	3.11	0.65(L)+0.13(E)+0.22(B)	5.14	\$628,612,907
	(E <sub>X</sub> )	2.28			
	(Bx)	12.837			