UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PA 19406-2713

May 13, 2021

Pamela B. Cowan
Sr. Vice President and COO
Holtec Decommissioning International, LLC
Krishna P. Singh Campus
1 Holtec Blvd.
Camden, NJ 08104

SUBJECT: NRC INSPECTION REPORT NO. 05000293/2021001, HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, PILGRIM NUCLEAR POWER STATION

Dear Ms. Cowan:

On March 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed its quarterly inspection under Inspection Manual Chapter 2561, “Decommissioning Power Reactor Inspection Program," at the permanently shutdown Pilgrim Nuclear Power Station (PNPS). Focused topical inspections using three inspection procedures were conducted onsite from March 15 - 19, 2021. The inspector examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and the conditions of your license. The inspection consisted of observations by the inspector, interviews with site personnel, and a review of procedures and records. The results of the inspection were discussed with Mr. John Moylan, Site Vice President, and other members of the Holtec Decommissioning International, LLC (HDI) staff on April 13, 2021, and are described in the enclosed report.

One NRC-identified violation of NRC requirements of very low safety significance (Severity Level IV) is documented in this report. Because of the very low safety significance and because it was entered into your corrective action program, the NRC is treating the violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest the subject or severity of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region I, 2100 Renaissance Blvd., Suite 100, King of Prussia, PA 19406-2713; and the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

In accordance with 10 CFR 2.390 of the NRC’s "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS), accessible from the NRC Website at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Current NRC regulations and guidance are included on the NRC's website at www.nrc.gov; select **Radioactive Waste**; **Decommissioning of Nuclear Facilities**; then **Regulations, Guidance and Communications**. The current Enforcement Policy is included on the NRC's Website at www.nrc.gov; select **About NRC**, **Organizations & Functions**; **Office of Enforcement**; **Enforcement documents**; then **Enforcement Policy** (Under 'Related Information'). You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 8:00 a.m. to 5:30 p.m. EST, Monday through Friday (except Federal holidays).

No reply to this letter is required. Please contact Harold (Harry) Anagnostopoulos at 610-337-5322 if you have any questions regarding this matter.

Sincerely,

Anthony M. Dimitriadis

Digitally signed by Anthony M. Dimitriadis
Date: 2021.05.13 14:48:04 -04'00'

Anthony Dimitriadis, Chief
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Radiological Safety and Security

Docket No. 05000293
License No. DPR-35

Enclosure: Inspection Report 05000293/2021001 w/Attachment

cc w/encl: Distribution via ListServ

NRC INSPECTION REPORT NO. 05000293/2021001, HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, PILGRIM NUCLEAR POWER STATION, PLYMOUTH, MASSACHUSETTS DATED MAY 13, 2021.

DOCUMENT NAME: https://usnrc.sharepoint.com/teams/Region-I-Decommissioning-Branch/Inspection Reports/Inspection Reports - Final/PG 2020004 Inspection Report_22FEB2021_HWA Final.docx
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NAME	HAnagnostopoulos/ha		ADimitriadis/ad					
DATE	05/12/2021		05/13/2021					

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Docket No.	05000293
License No.	DPR-35
Report No.	05000293/2021001
Licensee:	Holtec Decommissioning International, LLC (HDI)
Facility:	Pilgrim Nuclear Power Station (PNPS)
Location:	Plymouth, Massachusetts
Inspection Period:	January 1, 2021 to March 31, 2021
Topical Inspection Dates:	March 15 - 19, 2021
Inspector:	Harold Anagnostopoulos, Senior Health Physicist Decommissioning, ISFSI, and Reactor Health Physics Branch Division of Radiological Safety and Security, Region I
Approved By:	Anthony Dimitriadis, Chief Decommissioning, ISFSI, and Reactor Health Physics Branch Division of Radiological Safety and Security, Region I

EXECUTIVE SUMMARY

Holtec Decommissioning International, LLC (HDI)
Pilgrim Nuclear Power Station (PNPS)
NRC Inspection Report No. 05000293/2021001

An announced quarterly decommissioning inspection was completed on March 31, 2021 for the Pilgrim Nuclear Power Station (PNPS). A focused topical inspection using three inspection procedures was conducted onsite from March 15 - 19, 2021. Additional inspection activities were conducted remotely during the inspection period as a consequence of the COVID-19 public health emergency (PHE). The inspection included a review of the wet storage of spent nuclear fuel, the program for Material Control & Accounting (MC&A) of special nuclear material (SNM), radioactive waste handling and storage, and radioactive material shipping. The inspector also examined the segmentation of the dryer/separator underwater, and the handling of Type B/C wastes.

The inspection consisted of observations by the inspector, interviews with site personnel, a review of procedures and records, and observations of activities. The U.S Nuclear Regulatory Commission's (NRC's) program for overseeing the safe operation of a shutdown nuclear power reactor is described in Inspection Manual Chapter (IMC) 2561, "Decommissioning Power Reactor Inspection Program."

Based on the results of this inspection, one Severity Level IV, non-cited violation of NRC requirements was identified.

List of Violations

The NRC determined that one Severity Level IV NCV of 10 CFR 71.5(a)(1)(v) was identified by the inspector. HDI inadvertently sent a Type A waste package with the wrong manifest information to a waste disposal facility on January 19, 2021. The total package activity reflected on the uniform waste manifest provided for the shipment was incorrect by 40%. The manifest that was used for the shipment was originally prepared for another package (which was not sent). This is a severity level four (SL IV) violation of very low safety significance, since the packaging and proper shipping name for the shipment were correct. HDI entered the issue into its corrective action program (CAP) as PIL-02989.

REPORT DETAILS

1.0 Background

June 10, 2019, Entergy Nuclear Operations, Inc. (ENOI) certified cessation of power operations and the permanent removal of fuel from the PNPS reactor vessel (ADAMS Accession Number: ML19161A033). This met the requirements of 10 CFR 50.82(a)(1)(i) and 50.82(a)(1)(ii). On June 11, 2019, the NRC notified PNPS that the NRC would no longer perform its oversight activities in accordance with the Operating Reactor Assessment Program and that oversight would be conducted under the provisions outlined in IMC 2561 "Decommissioning Power Reactor Inspection Program" (ADAMS Accession No. ML19162A033). On August 27, 2019 an amendment was issued transferring the license from ENOI to Holtec International, LLC HDI (ADAMS Accession No. ML19235A050). PNPS is in the active decommissioning phase with fuel in the spent fuel pool as described in IMC 2561.

2.0 Decommissioning Performance and Status Review

a. Inspection Scope [Inspection Procedures 60801, 85103, 86750]

The inspector toured the main control room to observe the status of indicators and instrumentation associated with the safe wet storage of nuclear fuel in the spent fuel pool (SFP). The inspector performed walked downs of key reactor components, including; the SFP pumps, heat exchangers, piping, local instrumentation, and local indicators with an Operations Shift Manager. The inspector evaluated the maintenance, surveillance, and calibration of SFP-related equipment. The inspector reviewed records of routine chemistry analysis of water in the SFP and the reactor cavity / dryer-separator pit (DSP) and compared results with procedural requirements. The inspector reviewed technical basis documents to determine if SFP components were maintained as specified by the maintenance rule (10 CFR 50.65).

The inspector examined the programs, processes, procedures, and records related to the MC&A of SNM. This program is specified in 10 CFR 74.19, with the objective of preventing the loss or misuse of SNM. This included a detailed review of a timeline of major SFP evolutions since the last inspection, the most recent annual physical inventory, the relevant Department of Energy (DOE)/NRC 741 and 742 forms, an inspection of the SFP, and a walkdown of all item control areas with the SNM Custodian. The inspector observed (by smart-sampling) the storage of fuel and non-fuel SNM in the SFP and then compared the storage to technical specification requirements for criticality control to the locations as documented in the MC&A physical inventory records.

The inspector walked-down radioactive waste storage areas, including the new facility for the temporary storage of packaged Class B/C waste. The inspector examined a selection of sealed radioactive sources in inventory to ensure that they are intact and are secured from unauthorized access or removal. The inspector verified the qualifications of personnel who are authorized to ship Class VII radioactive material over public highways. The inspector attended a pre-job briefing and observed the shipment of one Type A waste package. The inspector also conducted a detailed review of a sampling of completed shipping packages to verify that the packages were appropriately characterized, classified, and prepared in accordance with regulations and procedures. The inspector attended a pre-job briefing and then observed the removal and processing

of a Class B/C waste box from the DSP. The inspector observed cutting of the steam dryer in the DSP and cleaning of the DSP.

b. Observations and Findings

The inspector determined that HDI had maintained an adequate level of maintenance and surveillance on the SFP and its related components, and that the water quality for the SFP and the reactor cavity/DSP met requirements. The inspector verified, through sampling, that the wet storage of nuclear fuel in the SFP met technical specification requirements for criticality control and that fuel assemblies were in locations as described in the SNM physical inventory records.

The inspector determined that MC&A program records were complete, comprehensive, and maintained in accordance with regulations and local procedures. Routine reports of SNM inventory and mass-balance to the U.S. DOE and the U.S. Nuclear Regulatory Commission (NRC) were made as required. Item control areas (ICAs) were posted and had adequate access control. The program of SNM security seals was adequately maintained.

The inspector raised concerns with the storage of eleven nuclear detectors (SNM) that had been removed from the reactor core, cut to separate the detector portion from its forty-foot cable, and stored in three temporary waste containers (metal tubes with handles) in an isolated portion of the reactor cavity. While this type of storage is a routine practice, storage of these items is typically located in the SFP and not the reactor cavity. The three storage containers could not be moved to the SFP during the time of this inspection because the underwater gates that isolate the SFP from the reactor cavity were installed to support work in the DSP.

The inspector reviewed procedure P-EN-NF-200 “Special Nuclear Material Control” and found that the procedure did not anticipate the potential for SNM to be stored underwater but outside of the reactor or the SFP during the dismantlement of the reactor components. This resulted in having several procedural requirements associated with training, marking or labeling, and storage area boundaries remain unclear and indeterminant. This storage method and location will also complicate and unnecessarily obscure aspects of the next annual physical inventory of the items in the waste containers. HDI wrote an issue report (PIL-02865) to document the concerns and initiate corrective actions. Immediate corrective actions included briefing personnel who perform work in the reactor cavity/DSP on the MC&A requirements for SNM, identification of the waste containers containing the SNM, and initiating a revision to the procedure. The inspector determined that no SNM was unaccounted-for and no violation of regulations had occurred.

The inspector determined that radioactive waste storage areas were appropriately designated, posted, and controlled. Waste containers were identified and labeled, and their material condition was adequate.

As part of routine oversight, the inspector reviewed the circumstances surrounding issue report PIL-02603 in which HDI self-identified that on January 19, 2021, the wrong radioactive waste package had been sent to a waste disposal facility. Package #37 had been mistakenly shipped in place of the intended package #45. The Uniform Low-Level

Radioactive Waste Manifest (NRC forms 540 and 541) reflected the information for package #45, meaning that package #37 was offered for transport with an inaccurate transport index (TI) and an inaccurate total package activity.

HDI identified the error on January 20, 2021, immediately notified the waste disposal facility and provided a corrected waste manifest to the facility, which was received prior to the arrival of the waste.

Immediate corrective actions taken by HDI included the conduct of an investigation to find the apparent cause of the error, requiring a peer-check of shipping package identification prior to shipment, revising the relevant procedure to include a checklist to be used when making similar shipments, and changing the manner in which these packages are labeled and identified. In addition, HDI hired waste handling and shipping staff with significant shipping experience from the disposal facility and brought them onsite to assume the duties as the shipper for HDI.

The inspector verified that the waste manifest that was incorrectly assigned to package #37 did contain the proper shipping name, was offered for shipment in the appropriate packaging, and with the proper labels and placards.

10 CFR 71.5(a)(1)(v) requires 49 CFR 172 to be adhered to. 49 CFR 172.202(a)(5) requires in part that, shipping papers (the waste manifest) indicate the total quantity of hazardous materials, including the activity of Class 7 radioactive materials. Contrary to this requirement, the licensee failed to accurately include the correct quantity of Class 7 radioactive materials. Specifically, the shipping papers associated with the shipment in question listed a value for the total package activity which was in error by approximately 40 percent.

Because HDI placed the deficiency into its CAP and the violation was not willful or repetitive, the safety significance was determined to be very low and treated as severity level IV (SL IV) non-cited violation consistent with section 2.3.2 of the NRC Enforcement Policy (NCV 05000293/2021001-01). HDI entered the violation in their CAP as PIL-02989.

c. Conclusions

Based on the results of this inspection, one severity level IV, NCV of NRC requirements was identified.

3.0 Exit Meeting Summary

On April 13, 2021, the inspector presented the inspection results to Mr. John Moylan, Site Vice President, and other members of the HDI staff. No proprietary information was retained by the inspector or documented in this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

J. Moylan, Site Vice President
J. McDonough, Operations Manager
D. Noyes, Senior Compliance Manager
J. Buckley – Waste Management Lead
R. Despaux – Project Manager for Class B/C Waste, Holtec
R. Hargat – RP Technician
M. Lawson, Radiation Protection Manager
J. McCarthy – Project Manager for Reactor Segmentation, CDI
F. McGinnis, Regulatory Assurance Specialist
T. Mecardo – Supervisor for Class B/C Waste, Holtec
J. O'Donnel – Operations Shift Manager
E. Posivak – Special Projects Manager, Waste Control Specialists
E. Sanchez – Special Nuclear Material Custodian
M. Scott – Shipper, Waste Control Specialists
M. Thornhill, Certified Health Physicist

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

"10CFR50.65 Maintenance Rule Scoping Basis Document," 19 Fuel Pool Cooling System, Revision 4.
"10CFR50.65 Maintenance Rule Scoping Basis Document", 56 Structures System, Revision 7.
"2020 Pilgrim Station Special Nuclear Material Physical Inventory Report", work order 50080458, dated 10/16/2020
ALARA Plan 2021 138 AP1.
Audit Report, WCS-TX-2020-28, "Audit of CDI – Pilgrim Station Waste Management Program", Waste Control Specialists, December 8, 2020.
DAC-0531, "PNPS RVI Package HK1-02-6001026 Classification – 2021", Revision 0
"Dose Rate Estimates and Radiological Considerations for the Pilgrim Nuclear Power Station Packages", DW James Consulting, June 18, 2020.
EN-NF-202, "Tamper Proof Seals for Special Nuclear Material", Revision 5
FO-QA-002, "Waste Control Specialists Generator Certification Form", February 7, 2019.
Human Performance Evaluation (HUE), "Wrong Radioactive Material Package Sent to WCS".
Issue Reports PIL-00451, 00577, 00591, 00706, 00736, 00828, 00829, 00911, 01067, 01087, 01114, 01135, 01143, 01183, 01219, 01228, 01371, 01402, 01419, 01627, 01635, 01642, 01655, 01710, 01781, 01829, 01950, 02086, 02087, 02216, 02312, 02329, 02344, 02352, 02584, 02634, 02672, 02787, 02789.
List, work orders related to spent fuel pool and related components
Logs, radioactive material shipping (for CY2021)

P-EN-RW-102, “Radioactive Shipping Procedure”, Revision 19.
P-EN-RP-143, Revision 15, Attachment 2, “Sealed Source Leak Test Instructions”
P-EN-NF-200, Special Nuclear Material Control, Revision 15
“Pilgrim Type A Package Regulatory Analysis”, DW James Consulting
Plan, “PNPS Shield Block Segment Shipping Campaign”.
Procedure 1.3.15, “Pilgrim Decommissioning Organization”, Revision 2.
Procedure 6.1-220, “Radiological Controls for High Risk Evolutions, B Waste Transfer”, Revision 25.
Procedure 7.8.1, “Chemistry Sample and Analysis Program”, Revision 82
Radiological Engineering Evaluation 19-035, “Radiological Control Plan for Transferring RV Segmentation ‘B’ Waste from RB117 to the Staging Pad”, Addendum 05.
Radiological survey 2021-0207
Shipping packages 21-111, 21-102, 21-105, 21-108
Shipping plan for reactor shield blocks
SNF Transfer Forms 2021-01 and 2020-24 to 2020-32
Spent Fuel Pool Influent Nuclear IQ Results, 1/2020 to 3/3/2021
“Type A Box Additional Shielding Dose Rate Estimates for Pilgrim Nuclear PowerStation”, DW James Consulting, January 21, 2021.
Uniform Low-Level Radioactive Waste Manifest #21-107
Uniform Low-Level Radioactive Waste Manifest #21-108
Work order 00036440-03-01-0005
Work order 52865784-01

LIST OF ACRONYMS USED

ADAMS	Agency-wide Document and Access Management System
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
DSP	[steam] Dryer/Separator Pit
ENOI	Entergy Nuclear Operations, Inc
GPO	Government Printing Office
HDI	Holtec Decommissioning International, LLC
MC&A	Material Control and Accounting
ICA	Item Control Area
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
NCV	Noncited Violation
NRC	U.S. Nuclear Regulatory Commission
PNPS	Pilgrim Nuclear Power Station
SFP	Spent Fuel Pool
SNM	Special Nuclear Material
SL IV	Severity Level 4
TI	Transport Index