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

May 18, 2021

Ms. Pamela B. Cowan
Senior Vice President & Chief Operating Officer
Holtec Decommissioning International, LLC
Krishna P. Singh Technology Campus
1 Holtec Boulevard
Camden, NJ 08104

SUBJECT: NRC INSPECTION REPORT NO. 05000219/2021001 AND INDEPENDENT SPENT FUEL STORAGE INSTALLATION REPORT 07200015/2021001, HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, OYSTER CREEK NUCLEAR GENERATING 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 shut down Oyster Creek Nuclear Generating Station (Oyster Creek). On-site inspections were performed on February 22-24, 2021. On-site independent spent fuel storage installation inspections were performed on February 22-24, 2021, February 28, 2021, and March 22-24, 2021. Additional inspection activities (in office reviews) were conducted remotely as a consequence of the COVID-19 public health emergency (PHE) during the inspection period. The inspection 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 plant walk-downs by the inspectors, interviews with site personnel, and a review of procedures and records. The results of this inspection were discussed with Ms. Andrea Sterdis, Holtec Decommissioning International, LLC (HDI) Vice President Regulatory and Environmental Affairs, and other members of the Oyster Creek staff on April 19, 2021 and are described in the enclosed report.

NRC inspectors documented one Severity Level IV violation in this report. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy. If you contest the violation or the severity of the violation documented in this inspection report, 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 20555-001; with copies to the Regional Administrator, Region I; and the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-001.

In accordance with 10 Code of Federal Regulations (CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter and 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 Briana DeBoer at 610-337-5370 if you have any questions regarding this matter.

Sincerely,

Stephen T. Hammann

Digitally signed by Stephen T. Hammann
Date: 2021.05.18 14:50:22 -04'00'

For Anthony Dimitriadis, Chief
Decommissioning, Independent Spent Fuel Storage Installation (ISFSI) and Reactor Health Physics Branch
Division of Radiological Safety and Security

Docket No: 050-00219 and 072-00015

License No: DPR-16

Enclosure: Inspection Report 05000219/2021001 and 07200015/2021001 w/Attachment

cc w/encl: Distribution via ListServ

NRC INSPECTION REPORT NO. 05000219/2021001 AND INDEPENDENT SPENT FUEL STORAGE INSTALLATION REPORT 07200015/2021001, HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, OYSTER CREEK NUCLEAR GENERATING STATION, FORKED RIVER, NEW JERSEY DATED MAY 18, 2021.

DOCUMENT NAME: https://usnrc.sharepoint.com/:w:/r/teams/Region-I-Decommissioning-Branch/_layouts/15/doc2.aspx?sourcedoc=%7Bd12caa1a-696d-4fe0-bb9c-ea7a25b250c2%7D&action=edit&wdPid=360e0c93&cid=6dd097e0-5db3-421a-9d2e-80a0bb026c27

SUNSI Review Complete: BDeBoer **ML21132A064**

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OFFICE	DRSS/RI	N	DRSS/RI	N				
NAME	B.DeBoer		A.Dimitriadis/sth for					
DATE	5/10/21		5/18/21					

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos:	050-000219 and 072-00015
License No:	DPR-16
Report Nos:	05000219/2021001 and 07200015/2021001
Licensee:	Holtec Decommissioning International, LLC
Facility:	Oyster Creek Nuclear Generating Station
Location:	Forked River, New Jersey
Dates:	January 1, 2021 – March 31, 2021
Inspectors:	E. Andrews, Health Physicist B. DeBoer, Health Physicist M. Henrion, Health Physicist J. Kulp, Senior Reactor Inspector O. Masnyk Bailey, Health Physicist
Approved by:	Anthony Dimitriadis, Chief Decommissioning, Independent Spent Fuel Storage Installation (ISFSI) and Reactor Health Physics Branch Division of Radiological Safety and Security, Region I

Enclosure

EXECUTIVE SUMMARY

Holtec Decommissioning International, LLC
Oyster Creek Nuclear Generating Station
NRC Inspection Report Nos. 05000219/2021001 and 07200015/2021001

An announced quarterly decommissioning inspection was completed at Oyster Creek Nuclear Generating Station (Oyster Creek) on March 31, 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 problem identification and resolution at permanently shutdown reactors; decommissioning performance and status reviews at permanently shutdown reactors; and decommissioning emergency preparedness program evaluation. The inspection consisted of observations by the inspectors, interviews with site personnel, a review of procedures and records, and plant walk-downs. The U.S. Nuclear Regulatory Commission's (NRC's) program for overseeing the safe operation of a shut down nuclear power reactor is described in Inspection Manual Chapter (IMC) 2561, "Decommissioning Power Reactor Inspection Program."

Additionally, the inspection period included a review and observation of the ISFSI dry cask activities. The NRC's program for overseeing the operation of dry storage of spent fuel at an ISFSI is described in IMC 2690, "Inspection Program for Storage of Spent Reactor Fuel at Independent Spent Fuel Storage Installations and for 10 Code of Federal Regulations (CFR) Part 71 Transportation Packagings."

The NRC determined that one Severity Level IV NCV of 10 CFR 72.172 "Corrective Action" was identified based on the licensee's failure to ensure that bending of the snap rings were promptly identified and placed in the CAP (corrective action program). Specifically, the licensee had replaced the snap rings on prior occasions due to evidence of bending of the ring, however, this condition was never entered into the vendors or licensee's CAP.

REPORT DETAILS

1.0 Background

On September 25, 2018, Oyster Creek certified the permanent removal of fuel from the reactor vessel [Agencywide Document Access and Management System (ADAMS) Accession No. ML18268A258]. This met the requirements of 10 CFR 50.82(a)(1)(i) and 50.82(a)(1)(ii). On October 1, 2018, the NRC notified Oyster Creek that the Operating Reactor Assessment Program had ceased and that implementation of the Decommissioning Power Reactor Inspection Program would begin on October 1, 2018 (ADAMS Accession No. ML18274A221). On July 1, 2019, an amended license was issued transferring the license from Exelon Generation Co., LLC to Holtec Decommissioning International, LLC (ADAMS Accession No. ML19164A157). Oyster Creek is currently in the "Actively Decommissioning, Fuel in the Spent Fuel Pool" phase of decommissioning as described in IMC 2561.

2.0 Active Decommissioning Performance and Status Review

2.1 Inspection Procedure 40801, 71801, 82501, 86750

a. Inspection Scope

In office reviews of information supplied by Oyster Creek were performed during the inspection period. The inspectors performed on-site decommissioning inspections on February 22-24, 2021. The inspection consisted of observations by the inspectors, interviews with site personnel, a review of procedures and records, and plant walk-downs.

The inspectors reviewed documents and interviewed site personnel to determine if issues were identified and corrected in accordance with the site's CAP. The inspectors reviewed a representative selection of CAP documents to determine if a sufficiently low threshold for problem identification existed, if follow-up evaluations were of sufficient quality, and if HDI had assigned timely and appropriate prioritization for issue resolution commensurate with the significance of the issue.

The inspectors reviewed the status of activities related to the site decommissioning to determine if activities were in accordance with licensed requirements. The inspectors reviewed the decommissioning schedule to determine if the schedule was consistent with the post shutdown decommissioning activities report (PSDAR).

The inspectors reviewed Oyster Creek's emergency preparedness program to determine whether changes made to the emergency preparedness program continue to meet commitments, NRC requirements, and had not negatively affected the licensee's overall state of emergency preparedness. The inspectors reviewed changes to the Oyster Creek Permanently Defueled Emergency Plan and Emergency Action Levels.

b. Observations and Findings

The inspectors determined that issues had been identified and entered into the CAP in a timely manner and the issues were effectively screened, prioritized, and evaluated commensurate with their safety significance.

The inspectors observed portions of the reactor vessel internals segmentation and preparations for the demolition of the waste surge tank. The inspectors determined the activities were performed safely and in accordance with work plans and plant procedures. The inspectors noted the next main decommissioning activities include the dry cask storage campaign, which was in progress as of the exit meeting of this inspection period. The inspectors verified the schedule was consistent with the September 18, 2018, notification by HDI revising the PSDAR for Oyster Creek.

The inspectors noted that the changes to the Oyster Creek Defueled Emergency Plan and Emergency Action Levels did not reduce their effectiveness and contain the appropriate level of detail and basis to support the change. However, this review is not a formal safety evaluation and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

c. Conclusions

Based on the results of this inspection, no violations were identified.

2.2 Inspection Procedure 60855, Operation on an ISFSI

a. Inspection Scope

The inspectors conducted direct observations and performed independent evaluations to determine if the licensee was operating the ISFSI in conformance with the commitments and requirements. The inspectors reviewed changes to the program and procedures since the last inspection, evaluated the effectiveness of the licensee's plans for controlling radiological activities, reviewed selected records, and observed selected licensee activities for loading fuel. The inspectors evaluated the effectiveness of the licensee's management oversight and quality assurance assessments of ISFSI activities.

b. Observations and Findings

On February 22-24, 2021, February 28, 2021 and March 22-24, 2021, the inspectors observed and evaluated Oyster Creek's ISFSI activities associated with casks 8, 9, 10, 15, and 16 of the 33-cask campaign. In addition to the ISFSI activities, the inspectors also reviewed the licensee's activities associated with long-term operation and monitoring of the ISFSI. The inspectors evaluated compliance with the Certificate of Compliance (CoC), Technical Specifications (TS), and station procedures.

The inspectors observed fuel assemblies loaded into the multi-purpose canister (MPC), which included a review of fuel selection and fuel loading verification. The inspectors also observed MPC processing operations including: (1) welding; (2) non-destructive weld examinations; (3) hydrostatic testing; (4) forced helium dehydration; (5) blowdowns; and (6) survey activities. The inspectors also observed MPC movement activities including: (1) stack-up and MPC transfer (2) lifting of loaded HI-STORM out of Cask Transfer Pit (CTP) and (3) placement of HI-STORM on ISFSI pad. During performance of these activities, the inspectors verified that procedure use, communication, and coordination of ISFSI activities met established regulatory requirements and Holtec approved procedures. The inspectors also observed pre-job briefings to assess the licensee's ability to identify critical steps of the evolution, potential failure scenarios, and human performance tools to prevent errors.

The inspectors performed a walk-down of the heavy haul path and toured the ISFSI pad to assess the material condition of the pad and the TN NUHOMS systems and HI-STORM FW systems currently loaded on the pad. The inspectors also verified that transient combustibles were not stored on the ISFSI pad or in the vicinity of the loaded dry cask storage systems. The inspectors confirmed that transient combustible material entry onto the ISFSI pad was controlled in accordance with site procedures.

The inspectors reviewed Oyster Creek's response and corrective actions associated with issues that occurred during processing of cask 1 of the 33-cask campaign. Specifically, the inspectors reviewed the licensee's "Cask 1 Lessons Learned" document, a comprehensive document that delineated areas for improvement from the initial loading and corrective measures to be implemented. Holtec implemented procedural changes and enhancements to address these areas. Additionally, the port plug design was enhanced to mitigate the leaking issues identified with the stainless plug and the locking pin was redesigned to prevent it from moving out of position.

The inspectors observed radiation protection technicians as they provided job coverage for the cask loading workers. The inspectors reviewed survey data maps and radiological records from the MPC loadings to date to confirm that radiation survey levels measured were within limits specified by the TS and consistent with values specified in the final safety analysis report. The inspectors noted that the dose received early in the campaign was higher than previously seen during similar operations. The inspectors observed that additional shielding was subsequently installed on the Vertical Cask Transporter (VCT) during MPC transfer and in the areas near the drying skid and the welder's station. Additionally, low radiation areas were identified, a barrier was placed adjacent to the handrail on 51-foot elevation to prevent persons from lingering near it, and workers were briefed on better work and As Low As Reasonably Achievable (ALARA) practices. The inspectors noted that dose had steadily declined since these additional measures were put in place.

Violation - On February 24, 2021, during hydrostatic testing of the MPC lid-to-shell weld for cask 9 of the 33-cask campaign, the Removable Valve Operating Assembly (RVOA) disengaged from the spring collar assembly and flew up into the air and back down onto the work platform. As a result, there was unexpected leakage of contaminated water and unexpected dose to an individual standing on the work platform.

The hydrostatic test is a pressure test used to verify that the lid-to-shell weld is in accordance with the American Society of Mechanical Engineers code. During the hydrostatic test, water is used to pressurize the MPC to 125% of the design pressure for 10 minutes. During the test, the weld is visually examined for leakage and the pressure gauge is monitored to ensure that the pressure does not fall below the applicable minimum test pressure. The purpose of the RVOA is to connect the MPC vent and drain ports on the MPC lids to the standard piping systems used during the various MPC processing operations. During performance of the test, the RVOA was connected by two snap rings to a spring collar assembly attached to the vent port on the lid of the MPC. During this particular evolution, the licensee determined that the snap rings failed during hydrostatic testing causing the RVOA to abruptly become disengaged from the spring collar, which remained attached to the MPC vent port. Contaminated water exited the MPC vent port contaminating the work platform, 23-foot level, and 51-foot level of the reactor building. During this event, an employee was standing on the work platform monitoring the system. The employee's clothes were contaminated, and the individual

received an unplanned internal dose (< 10 mrem CEDE) determined through an internal dose assessment.

The licensee documented the event in condition report OYS-01730 and Holtec Field Condition Report (FCR) 29481164. Further evaluation was documented in Attachment A to FCR 29481164. Attachment A states “the lower snap-ring on the RVOA has been replaced on a few occasions due to evidence of bending of the ring.” However, this condition was never entered into the vendor’s or licensee’s CAP.

10 CFR Part 72.172 “Corrective Action” requires in part that, “the licensee and certificate holder shall establish measures to ensure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective materials and equipment, and nonconformances, are promptly identified and corrected.”

Contrary to the above, from December 14, 2020 to February 24, 2021, the licensee failed to identify and correct a condition adverse to quality. Specifically, the licensee failed to ensure that bending of the snap rings were promptly identified and placed in the CAP. This resulted in the failure of the snap rings during hydrostatic testing on February 24, 2021.

This violation was determined to be a Severity Level IV violation using Section 6.3 of the NRC Enforcement Policy, dated January 15, 2020. The licensee entered this issue into its CAP as OYS-01730. The licensee re-designed the attachment of the RVOA to the spring collar to ensure the event could not be repeated.

Since the licensee placed the deficiency into its corrective action program, the safety significance of the issue was determined to be very low, and because the violation was not willful or repetitive; this violation was treated as a NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy (NCV 07200015/2021001-01)

c. Conclusions

The NRC determined that one Severity Level IV NCV of 10 CFR Part 72.172, “Corrective Action” occurred based on the licensee’s failure to identify and correct a condition adverse to quality.

3.0 Exit Meeting

On April 19, 2021, the inspectors presented the inspection results to Ms. Andrea Sterdis, HDI Vice President Regulatory and Environmental Affairs, and other members of the Oyster Creek staff who acknowledged the inspection results. No proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Oyster Creek Personnel

A. Sterdis, HDI Vice President Regulatory and Environmental Affairs
J. Dostal, HDI Oyster Creek Site Vice President
L. Berlinski, Oversight Assessor
R. Fitts, Emergency Preparedness/Corrective Action Process Manager
J. Frank, Site DC Regulatory Assurance Lead
B. Gary, RP Technician
M. Hassler, Project Manager
S. Johnson, Site DO Operations Lead
K. Leonard, Principal Project Manager
J. McCarthy, Radiation Protection Decommissioning Specialist
B. Murray, Holtec Site Services Cask Loading Supervisor
J. Sisak, Site DO Work Management Lead
C. Spagnuolo, Shift Manager
H. Tritt, Site DC Engineering Lead
K. Wolf, Manager Radiation Protection and Chemistry

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened /Closed

07200015/2021001-01	NCV	Failure to identify and correct a condition adverse to quality

LIST OF DOCUMENTS REVIEWED

2.1 Inspection Procedures 40801, 71801, 82501

Procedures
EP-OC-1001, Oyster Creek Permanently Defueled Emergency Plan (PDEP), Revision 1
EP-OC-1001, Addendum 1, Oyster Creek Station Permanently Defueled Emergency Action Levels and Technical Basis, Revision 1

Condition Reports
OYS-01364 OYS-01367 OYS-01369 OYS-01415 OYS-01419 OYS-01544
OYS-01679 OYS-01709 OYS-01757 OYS-01818

Miscellaneous
OC-2014-OE-0005, Degraded Boraflex Fuel Rack Operability Evaluation, Revision 6
SFP Chem Data (February 2020 – February 2021)

2.2 Inspection Report 60855

Procedures

HI-2200825, Operations & Maintenance Manual for Thread-less RVOA and Port Plugs, Revision 0
HPP-2948-0200, MPC Loading at OCNGS, Revision 4
HPP-2948-0300, MPC Processing (FHD) at OCNGS, Revision 11
HPP-2948-0500, HI-STORM Movements at OCNGS, Revision 3
HPP-2948-0504, MPC Closure Welding at Oyster Creek, Revision 4
HPP-2948-0700, Abnormal Conditions at OCNGS, Revision 11
NISP-RP-0006 Personnel Contamination Monitoring, Revision 1
RP-AA-220, Bioassay Program, Revision 14
RP-AA-222, Methods for Estimating Internal Exposure from In-Vivo and In-Vitro Bioassay Data, Revision 6
RP-AA-305, HOLTEC Hi-Trac Radiation Survey, Revision 3
RP-AA-401, Operational ALARA Planning and Controls, Revision 26

Condition Reports

OYS-01528	OYS-01531	OYS-01583	OYS-01587	OYS-01591	OYS-01665
OYS-01687	OYS-01718	OYS-01730	OYS-01738	OYS-01748	OYS-01785
OYS-01788	OYS-01799	OYS-01802			

Miscellaneous

ALARA Work-In-Progress Review for RWP 906, ALARA Plan Number 20-906, dated February 19, 2021
Drawing No. 11910, RVOA and ROVOA Instrument Tree, Revision 4
Drawing No. 11910, RVOA and ROVOA Instrument Tree, Revision 5
Field Condition Report 29481111, dated January 11, 2021
Field Condition Report 29481164, dated February 24, 2021
HI-2188716, Fuel Compatibility and Loading Plan Report for Oyster Creek Generating Station, Revision 7
Intake Investigation Form, RWP #906, dated February 24, 2021
NISP-RP-006, Nuclear Industry Standard Process, Radiation Protection, dated October 25, 2018
OCGS Radiological Survey No. RC5-21-406, dated February 24, 2021
OCGS Radiological Survey No. RCF5-21-416, dated February 24, 2021
OCGS Radiological Survey No. RE4-21-405, dated February 24, 2021
OCGS Radiological Survey No. RE4-21-404, dated February 24, 2021
OCGS Radiological Survey No. RE4-21-427, dated February 25, 2021
OYC-IS-PM-WR-01176-09, RVOA Modifications, dated February 26, 2021
SMDR-2948-2968, Revision 0

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
ALARA	As Low As Reasonably Achievable
CAP	corrective action program
CEDE	committed effective dose equivalent
CFR	Code of Federal Regulations
CoC	Certificate of Compliance
CTP	cask transfer pit
FCR	field condition report
GPO	Government Printing Office
HDI	Holtec Decommissioning International, LLC
IMC	inspection manual chapter
MPC	multi-purpose canister
NCV	non-cited violation
NRC	U.S. Nuclear Regulatory Commission
Oyster Creek	Oyster Creek Nuclear Generating Station
PHE	public health emergency
PSDAR	post shutdown decommissioning activities report
RVOA	removable valve operating assembly
TS	technical specifications
VCT	vertical cask transporter