



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

October 21, 2020

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. 05000219/2020003, HOLTEC  
DECOMMISSIONING INTERNATIONAL, LLC, OYSTER CREEK NUCLEAR  
GENERATING STATION, FORKED RIVER, NEW JERSEY**

Dear Ms. Cowan:

On September 30, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an 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 July 6-8, 2020, July 27-29, 2020, and August 14, 2020. 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 October 15, 2020 and are described in the enclosed report. No findings of safety significance were identified.

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](http://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](http://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 Elizabeth Andrews at 610-337-5117 if you have any questions regarding this matter.

Sincerely,

*/RA/*

Anthony Dimitriadis, Chief  
Decommissioning, ISFSI, and Reactor Health  
Physics Branch  
Division of Nuclear Materials Safety

Docket No: 50-219  
License No: DPR-16

Enclosure: Inspection Report 05000219/2020003  
w/Attachment

cc w/encl:        Distribution via ListServ

NRC INSPECTION REPORT NO. 05000219/2020003, HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, OYSTER CREEK NUCLEAR GENERATING STATION, FORKED RIVER, NEW JERSEY DATED OCTOBER 21, 2020.

DOCUMENT NAME: G:\DNMS\DIRHP\Decom Reactor Sites\Oyster Creek\Inspection Reports\2020\OC\_3Q2020\_IR.docx

**SUNSI Review Complete: EAndrews**

After declaring this document An Official Agency Record it will be released to the Public. **ML20295A228**

To receive a copy of this document, indicate in the box: **C** = Copy w/o attach/encl **E** = Copy w/ attach/encl **N** = No copy

OFFICE	DNMS/RI		DNMS/RI	N				
NAME	EAndrews/ea		ADimitriadis/ad					
DATE	10/15/20		10/21/20					

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 050-00219

License No: DPR-16

Report No: 05000219/2020003

Licensee: Holtec Decommissioning International, LLC

Facility: Oyster Creek Nuclear Generating Station

Location: Forked River, New Jersey

Dates: July 1, 2020 – September 30, 2020

Inspectors: E. Andrews, Health Physicist  
Decommissioning, ISFSI and Reactor HP Branch  
Division of Nuclear Materials Safety, Region I

B. DeBoer, Health Physicist  
Decommissioning, ISFSI and Reactor HP Branch  
Division of Nuclear Materials Safety, Region I

Approved by: Anthony Dimitriadis, Chief  
Decommissioning, ISFSI and Reactor HP Branch  
Division of Nuclear Materials Safety, Region I

Enclosure

## EXECUTIVE SUMMARY

Holtec Decommissioning International, LLC  
Oyster Creek Nuclear Generating Station  
NRC Inspection Report No. 05000219/2020003

An announced decommissioning inspection was completed at Oyster Creek Nuclear Generating Station (Oyster Creek) on September 30, 2020. 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 self-assessments, audits, and corrective actions; spent fuel pool safety; decommissioning performance and status review at permanently shutdown reactors; radioactive waste treatment and effluent and environmental monitoring; and solid radioactive waste management and transportation of radioactive materials.

The inspection consisted of observations by the inspectors, interviews with Oyster Creek 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."

Based on the results of this inspection, no findings of safety significance were identified.

## 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 Code of Federal Regulations (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, 60801, 71801, 84750, 86750

##### a. Inspection Scope

In-office reviews of information supplied by Oyster Creek were performed during the inspection period. The inspectors performed on-site inspections on July 6-8, 2020, July 27-29, 2020, and August 14, 2020. The inspection consisted of observations by the inspectors, interviews with Oyster Creek 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 corrective action program (CAP). The inspectors reviewed a representative selection of CAP documents to determine if a sufficiently low threshold for problem identification existed, follow-up evaluations were of sufficient quality, and HDI assigned timely and appropriate prioritization for issue resolution commensurate with the significance of the issue.

The inspectors reviewed Holtec's programs for the safe wet storage of spent fuel and performed walkdowns of the spent fuel pool and associated support systems to assess material condition, configuration control, and system operation. The inspectors toured the control room and interviewed certified fuel handlers to verify spent fuel pool system instrumentation, alarms, and leakage detection monitoring is adequate to assure the safe storage of spent fuel. The inspectors observed a chemistry technician preparing, collecting, and analyzing spent fuel pool chemistry samples. The inspectors also reviewed chemistry sample analysis results performed between January 2020 and June 2020 in order to determine if chemistry parameters were within the limits of Holtec's license commitments.

The inspectors reviewed the decommissioning schedule to determine if the schedule was consistent with the post shutdown decommissioning activities report. The inspectors reviewed activities and documentation associated with radioactive effluent control and site radiological environmental monitoring program to evaluate the effectiveness of site radiological programs. The inspectors reviewed radioactive

gaseous and liquid effluent release permits, the 2019 Annual Radioactive Effluent Release Report, and the 2019 Annual Radiological Environmental Operating Report. The inspectors toured the meteorological tower and selected environmental monitoring and sample stations to determine if they were adequately maintained.

The inspectors reviewed activities and documentation associated with the possession, processing, packaging, storage, and shipment of licensed radioactive material. The inspectors reviewed documentation, logs, and records and toured radioactive waste buildings to assess the storage of radioactive waste. The inspectors also reviewed the work package for the two most recent shipments of radioactive waste. The review included records of shipment packaging, surveying, labeling, marking, placarding, vehicle checks, and emergency instructions to ensure compliance with the applicable NRC and Department of Transportation regulations.

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 verified that audits and self-assessments were performed by qualified individuals independent of the organization being audited and that management reviewed the audits and associated corrective actions.

The inspectors determined that Holtec had safely stored spent fuel in wet storage. The inspectors verified that spent fuel pool chemistry and cleanliness controls were adequately implemented. The inspectors also verified surveillance requirements for water level and temperature of the spent fuel pool were adequate and procedures provided guidance to restore spent fuel pool water level if required.

The inspectors verified the effluent releases to the environment had been properly controlled, monitored, and quantified as required by NRC regulations. The inspectors verified that calculated doses reported in the Annual Radioactive Effluent Release Report and Annual Radiological Environmental Operating Report were below regulatory dose criteria of 10 CFR 50, Appendix I. The inspectors also determined that the selected environmental monitoring and sample stations were adequately maintained.

The inspectors verified solid radioactive waste was adequately stored, monitored, and that inventories were up to date. The inspectors verified that radioactive waste shipping paperwork was properly completed, and Oyster Creek personnel were knowledgeable of their duties and responsibilities. The inspectors determined radioactive waste shipped for disposal at land disposal facilities was properly classified, described, packaged, marked, and labeled, and was in proper condition for transportation. In an effort to maintain doses as low as reasonably achievable, the inspectors reviewed available radiological surveys for areas within several radioactive waste facilities that were not accessible during walkdowns. The inspectors continue to monitor the recovery of the radioactive waste facilities and noted that the work order backlog for the various radioactive waste processing systems and facilities was being appropriately prioritized and managed.

c. Conclusions

Based on the results of this inspection, no findings of safety significance were identified.

**3.0 Exit Meeting**

On October 15, 2020, 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. The inspectors verified that 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

P. Cowan, HDI Senior Vice President and Chief Operating Officer  
A. Sterdis, HDI Vice President Regulatory and Environmental Affairs  
J. Dostal, HDI Oyster Creek Site Vice President  
J. Bellina, Operator  
L. Berlinski, Oversight Assessor  
J. Frank, Site DC Regulatory Assurance Lead  
S. Johnson, Site DO Operations Lead  
K. Leonard, Principal Project Manager  
J. McCarthy, Radiation Protection Decommissioning Specialist  
D. Montt, Chemistry Supervisor  
N. Miller, Maintenance Supervisor  
M. Nesheim, Certified Fuel Handler  
E. O'Brien, Senior Environmental Compliance Specialist  
J. Raby, Radiation Protection Supervisor  
J. Sisak, Site DO Work Management Lead  
C. Spink, Operator  
W. Straka, Certified Fuel Handler  
G. Test, Chemistry Technician  
K. Wolf, Manager Radiation Protection and Chemistry

ITEMS OPENED, CLOSED, AND DISCUSSED

None

## LIST OF DOCUMENTS REVIEWED

### 2.1 Inspection Procedures 40801, 60801, 71801, 84750, 86750

#### Drawings

GE 237E756, Spent Fuel Pool Cooling Flow Diagram, Sheet 1, Revision 60

#### Procedures

205.10, Fuel Assembly Removal/Insertion in Fuel Pool, Revision 33  
311, Fuel Pool Cooling System, Revision 126  
420, Instrument Setpoints, Revision 17  
ABN-16, Loss of Fuel Pool Cooling, Revision 7  
CY-AB-120-300, Spent Fuel Pool, Revision 18  
CY-OC-120-500, Fuel Pool System Sample Collection, Revision 10  
CY-OC-120-702, Radwaste System Sample Collection, Revision 11  
CY-OC-120-1102, Auxiliary Plant System Sample and Analysis Schedule, Revision 11  
CY-OC-120-7004, Radwaste System: Liquid Analysis and Disposition, Revision 8  
CY-OC-170-201, Offsite Dose Calculation Manual for Oyster Creek Generating Station, Revision 10  
RAP-N1e(DC), Pool Level/Temp Hi, Revision 0  
RAP-N2e(DC), Pool Level Lo, Revision 0  
RP-AA-500, Radioactive Material (RAM) Control, Revision 18  
RP-AA-600, Radioactive Material/Waste Shipments, Revision 17  
RP-AA-600-1001, Exclusive Use and Emergency Response Information, Revision 10  
RP-AA-600-1002, Highway Route Controlled Quantity/Advance Notification for Radioactive/Waste Shipments, Revision 6  
RP-AA-600-1003, Radioactive Waste Shipments to Barnwell and the Defense Consolidation Facility (DCF), Revision 10  
RP-11-600-1005, Radioactive Material and Non-Disposal Site Waste Shipments, Revision 19  
RP-AA-600-1006, Shipment of Category 1 Quantities of Radioactive Material or Waste (Category 1 RAMQC), Revision 11  
RP-AA-600-1008, Radioactive Waste Shipments to Waste Control Specialists (WCS) Disposal Facility, Revision 8  
RP-AA-600-1009, Shipment of Category 2 Quantities of Radioactive Material or Waste (Category 2 RAMQC), Revision 3  
RP-AA-601, Surveying Radioactive Material Shipments, Revision 21  
RP-AA-602, Packaging of Radioactive Material Shipments, Revision 21  
RP-AA-602-1001, Packaging of Radioactive Material/Waste Shipments, Revision 18  
RP-AA-602-1003, Radioactive Material/Waste Shipments Transported Via Rail, Revision 1  
RP-AA-603, Inspection and Loading of Radioactive Material Shipments, Revision 10  
RP-AA-605, 10 CFR 61 Program, Revision 10  
RP-AA-6001, Transportation Accident Response, Revision 2  
RP-OC-6004, Oyster Creek Cask Handling Procedure, Revision 8

#### Condition Reports

OYS-00114	OYS-00163	OYS-00884	OYS-00885	OYS-00900	OYS-00901
OYS-00908	OYS-00913	OYS-00919	OYS-00925	OYS-00930	OYS-00932
OYS-00936	OYS-00940	OYS-00941	OYS-00942	OYS-00944	OYS-00946
OYS-00952	OYS-00954	OYS-00955	OYS-00965	OYS-00968	OYS-00984
OYS-00989	OYS-01024	OYS-01038	OYS-01043	OYS-01052	OYS-01058

### Radiological Surveys

N38-20-982, New Rad Waste – 23' Elevation  
N56-20-1004, New Rad Waste – 48' Elevation  
PSB-20-539, ORW Control Room & Precoat Room  
WAA-20-650, Low Level Rad Waste Storage Facility

### Release Permits

OCR-19-15, Oyster Creek Release Permit, dated April 4, 2019  
OCR-19-30, Oyster Creek Release Permit, dated June 24, 2019  
OCR-19-48, Oyster Creek Release Permit, dated December 19, 2019  
OCR-20-07, Oyster Creek Release Permit, dated June 2, 2020

### Work Orders

4359873  
4768663  
1-OYC-OP-OP-0021289001-2012  
1-OYC-OP-OP-0023802801-2021  
1-OYC-OP-OP-0023802901-2021

### Miscellaneous

2019 Annual Radioactive Effluent Release Report  
2019 Annual Radiological Environmental Operating Report  
2019 Pre-NRC Inspection, dated July 31, 2019  
2019 Pre-NRC Inspection, dated August 9, 2019  
2019 Waste Shipment Log  
2020 Waste Shipment Log  
LLRWSF Recovery Plan, dated July 24, 2019  
OC-19-001, Radioactive Liquid Effluent Discharge Study Update, Revision 0  
OC-20-010, The Basis and Method for Estimating SFP Tritium Gaseous Releases via the Main Stack, Revision 0  
OC-2019-EC-0007, Variable Frequency Drives for RB and TB HVAC, Revision 0  
Shipment OC-1002-20, dated June 25, 2020  
Shipment OC-4001-20, dated June 17, 2020  
Spent Fuel Pool Chemistry Data January 2020 to June 2020

## LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
CAP	corrective action program
CFR	Code of Federal Regulations
HDI	Holtec Decommissioning International, LLC
IMC	inspection manual chapter
NRC	U.S. Nuclear Regulatory Commission
Oyster Creek	Oyster Creek Nuclear Generating Station
PHE	public health emergency