



10 CFR 2.201

September 6, 2023

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

Subject: Reply to: Holtec Decommissioning International, LLC, Oyster Creek Nuclear  
Generating Station – NRC Inspection Report No. 05000219/2023002, Apparent  
Violation (EA-23-076)

Reference: U.S. Nuclear Regulatory Commission Inspection Report to Holtec  
Decommissioning International, LLC, Oyster Creek Nuclear Generating Station –  
Apparent Violation, NRC Inspection Report No. 05000219/2023002 (ADAMS  
Ascension No. ML23214A247), dated August 22, 2023.

Dear Sir or Madam:

Holtec Decommissioning International, LLC (HDI) hereby submits the Reply to an Apparent Violation identified in NRC Inspect Report No. 05000219/2023002, Enforcement Action No. EA-23-076. As requested, the enclosure contains the following for the apparent violation and HDI's corrective actions: (1) the reason for the apparent violation; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved.

As detailed in our root cause evaluation report, HDI takes the apparent violation very seriously and we recognize and own the shortfalls in performance that resulted in the apparent violation.

This letter contains no new regulatory commitments. Should you have any questions, please contact me at (856) 797-0900, ext. 3578.



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Sincerely,

Jean A. Fleming  
Vice President of Licensing, Regulatory Affairs & PSA  
Holtec International

Enclosure: Reply to an Apparent Violation EA-23-076

cc: NRC Regional Administrator - Region I  
NRC Chief of Decommissioning, ISFSI and Reactor Health Physics Branch Division of  
Radiological Safety and Security – Region 1  
NRC Lead Decommissioning Inspector – Oyster Creek  
NRC NMSS – Oyster Creek Project Manager  
New Jersey DEP - Assistant Commissioner, Air Quality, Energy and Sustainability  
New Jersey Bureau of Nuclear Engineering, Assistant Director Radiation Protection  
Element



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**ENCLOSURE**

**Reply to an Apparent Violation  
EA-23-076**

## **Apparent Violation**

NRC Inspect Report No. 05000219/2023002 (EA-23-076) dated August 22, 2023, cited the apparent violation in the Executive Summary as stated below:

One apparent violation was identified for HDI’s failure to properly prepare and ship a package containing radioactive material in a manner that assured, under conditions normally incident to transport, conformance with U.S. Department of Transportation (DOT) radiation level limitations specified by Title 49 of the Code of Federal Regulations (49 CFR) 173.441 on any external surface of the package. Specifically, inadequate radiological surveys performed at OC indicated that the package conformed with DOT limits. However, when the shipment arrived at Indian Point Energy Center (IPEC) on May 3, 2023, the maximum radiation dose rate on the external surface of the package (topside) was measured as 450 millirem per hour (mrem/h), exceeding the DOT limit of 200 mrem/h.

HDI accepts this apparent violation, has performed a detailed root cause analysis investigation and report, has taken prompt action to return to full compliance and has implemented comprehensive corrective actions for long-term sustained compliance.

## **Reason for the Apparent Violation**

The root cause of the apparent violation is that HDI Procedure RP-AA-601 Revision 21, “Surveying Radioactive Material Shipments”, lacked requiring a final verification survey in all instances, as recommended in Institute of Nuclear Power Operations (INPO) Significant Event Report (SER 2-09), “Recurring Events: Radioactive Shipments Exceed Regulatory Limits”. The direct cause of the apparent violation is that a radiation hot spot on an alignment fixture measured 450 millirem per hour (mr/hr) which was above the regulatory limits of 200 mr/hr, and which was undetected and unshielded prior to vehicle release from Oyster Creek (OC).

Contributing causes to the event and the apparent violation included the following:

- Less than adequate oversight and risk determination as evidenced by the following: (1) Radiation Protection (RP) floor supervisor failed to question the adequacy of the RP technician survey of the alignment fixture for the actual existing material geometry and wrapping configuration; (2) Shipping and RP supervision failed to ensure adequate radiation surveys once the alignment fixture was loaded onto the truck and the geometry was changed when straps were ratcheted for transport; (3) The team failed to assess risk for radiation levels of the alignment fixture once loaded on the truck given the changes in geometry and configuration of the shipping package.
- Less than adequate coordination and communication for the alignment fixture shipping preparations including package selection, and removal from the pool to placing on the

transport truck, as evidenced by multiple examples related to radiation surveys, lack of OC shipper involvement, material wrapping and geometry, and lack of supervision involvement.

- Failure to follow procedures. Procedure RP-AA-601 Attachment 4 (RPM Waiver of High Risk Shipping Requirements) was not adhered to in respect of the approval documentation. It was used but not documented before the shipment was made, therefore, it was not included in the shipping package.

### **Corrective Steps Taken and Results Achieved**

In response to the higher-than-expected radiation levels at Indian Point Energy Center (IPEC) personnel placed the shipment package in a radiologically controlled area and notified the NRC and Oyster Creek personnel. Oyster Creek management initiated an apparent cause investigation (OYS-03315) into the event. Procedures RP-AA-601 and RP-AA-602-1001, “Packaging of Radioactive Material Waste Shipments”, were revised to emphasize the potential for soft-sided package geometry to be changed during the process of securing the package on a trailer for transport and to require a verification shipping survey when the package has been secured to the trailer for transport. Procedure RP-AA-601 was also revised to re-title Attachment 4 to include the Radiation Protection Manager (RPM) waiver for Medium risk. The investigation was subsequently upgraded to a root cause evaluation (OYS-03408).

In addition, the root cause evaluation identified the following actions that have been taken:

- Revised survey procedure RP-AA-601 to require final release surveys of packages in their final configuration when on the transport vehicle, which includes a sign-off in a checklist.
- Revised packaging procedure RP-AA-602-1001 to require final release surveys of packages in their final configuration when on the transport vehicle, which includes a sign-off in a checklist.
- Revised procedure RP-AA-601 to eliminate vagueness in the approval documentation needed for use of Attachment 4.

### **Corrective Steps that Will be Taken**

The root cause evaluation identified the following actions that will be taken:

- Update and provide training for radiation protection technicians and supervisors to include emphasis on the potential for soft-sided package geometry to be changed during the shipping process and the need for conservative decision making to reduce risk.
- Provide a briefing on this event to radiation protection and shipping personnel at all Holtec sites.

- Establish a pre-job brief process specific for all shipment risk levels that is appropriate for a decommissioning site, including the importance of obtaining good surface contact readings and the need for conservative decision making to reduce risk.
- Develop a risk assessment procedure for shipments from a decommissioning site that emphasizes conservative decision making to reduce risk.
- Establish a loading plan process for shipments that coordinates the activities of the involved groups that includes pre-job briefings that engage all stakeholders.
- Elevated the procedure classification for RP-AA-601 from Information Use to Reference Use.

### **Date of Full Compliance**

HDI established full compliance on August 15, 2023 when the corrective action to prevent recurrence (CAPR) was completed. In addition, the corrective actions taken as a result of the apparent cause evaluation were completed on July 13, 2023.

HDI has completed a rigorous analysis and thorough evaluation of the apparent violation as documented in a root cause evaluation report including rigorous and broad scope corrective actions to prevent recurrence and additional corrective actions. The root cause evaluation team included members of the HDI organization and industry representatives with root cause experience and regulator backgrounds. Radiological risk to the public was minimal because radiation limits at the vehicle's sides, bottom and cab were within federal limits. An individual would have to climb onto the vehicle (flatbed trailer) and onto the top of the package to access the location of the hot spot. Based on the following information, HDI requests that the NRC consider that the imposition of a Civil Penalty is not necessary nor warranted:

- Two year credit is warranted for this event on May 3, 2023 being only four days short of two years since the last SL3 escalated enforcement (EA-21-093 for an event which occurred on May 7-8, 2021) based on the circumstances of this particular case, in that this is the first occurrence of this particular violation. Oyster Creek has had no prior DOT shipping violations in the entire history of the station making radioactive waste shipments including both the operating and decommissioning periods. Since entering decommissioning, the station has averaged 200 radioactive waste shipments per year. During the years of operation, the station averaged approximately 40-50 radioactive waste shipments per year.
- A Holtec site identified this violation by implementation of a receipt inspection procedure, when the shipment arrived at Indian Point Energy Center (IPEC) on May 3, 2023, the maximum radiation dose rate on the external surface of the package (topside) was measured as 450 millirem per hour (mr/hr), exceeding the DOT limit of 200 mr/hr.
- Robust CAPR that will preclude recurrence by procedure which requires a transportation survey prior to departing the protected area that confirms measured surface radiation levels on contact do not exceed the DOT limit of 200 mr/hr.