



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION I  
475 ALLENDALE ROAD, SUITE 102  
KING OF PRUSSIA, PA 19406-1415

December 11, 2024

Kelly Trice  
President - HDI  
Holtec Decommissioning International, LLC  
Krishna P. Singh Technology Campus  
1 Holtec Boulevard  
Camden, NJ 08104

SUBJECT: HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, INDIAN POINT ENERGY  
CENTER UNITS 1, 2 AND 3 - NRC INSPECTION REPORT NOS.  
05000003/2024003, 05000247/2024003, 05000286/2024003

Dear Kelly Trice:

On September 30, 2024, 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 Indian Point Nuclear Generating Station Units 1, 2 and 3. The inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations, and the conditions of your licenses. The inspection consisted of observations by the inspectors, interviews with site personnel, a review of procedures and records, and plant walk-downs. The results of the inspection were discussed with Frank Spagnuolo, Site Vice President, and other members of your staff on November 07, 2024, and are described in the enclosed inspection report.

Within the scope of this inspection, no violations of more than minor safety significance were identified.

In accordance with Title 10 of the *Code of Federal Regulations* (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](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).

K. Trice

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No reply to this letter is required. Please contact Storm Veunephachan of my staff at (610) 337-5366 if you have any questions regarding this matter.

Sincerely,

Elise Eve, Team Leader  
Decommissioning Team  
Decommissioning, ISFSI, and Reactor  
Health Physics Branch  
Division of Radiological Safety and Security

Docket Nos. 05000003, 05000247, and 05000286  
License Nos. DPR-5, DPR-26, and DPR-64

cc w/encl: Distribution via ListServ

Enclosure: Inspection Report Nos. 05000003/2024003,  
05000247/2024003, and 05000286/2024003  
w/Attachment

K.Trice

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SUBJECT: HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, INDIAN POINT ENERGY CENTER UNITS 1, 2 AND 3 - NRC INSPECTION REPORT NOS. 05000003/2024003, 05000247/2024003, AND 05000286/2024003, DATED DECEMBER 11, 2024

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**SUNSI Review Complete: SVeunephachan**

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**ADAMS Accession No. ML24344A204**

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U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

INSPECTION REPORT

Docket Nos. 05000003, 05000247, and 05000286

License Nos. DPR-5, DPR-26, and DPR-64

Report Nos. 05000003/2024003, 05000247/2024003, and 05000286/2024003

Licensee: Holtec Decommissioning International, LLC (HDI)

Facility: Indian Point Energy Center, Units 1, 2 and 3

Location: Buchanan, NY

Inspection Dates: July 1 – September 30, 2024

Inspectors: K. Warner, CHP, Senior Health Physicist  
Decommissioning, ISFSI and Reactor Health Physics Branch  
Division of Radiological Safety and Security

S. Veunephachan, Senior Health Physicist  
Decommissioning, ISFSI and Reactor Health Physics Branch  
Division of Radiological Safety and Security

R. Turtill, Senior Financial Analyst  
Financial Assessment Branch  
Division of Rulemaking, Environmental, and Financial Support  
Office of Nuclear Materials Safety and Safeguards

Accompanied By: J. Parrott, Senior Project Manager  
Reactor Decommissioning Branch  
Division of Decommissioning, Uranium Recovery, and Waste  
Programs  
Office of Nuclear Materials Safety and Safeguards

G. Chapman, Senior Health Physicist  
Reactor Decommissioning Branch  
Division of Decommissioning, Uranium Recovery, and Waste  
Programs  
Office of Nuclear Materials Safety and Safeguards

Approved By: Elise Eve, Team Leader  
Decommissioning Team  
Decommissioning, ISFSI and Reactor Health Physics Branch  
Division of Radiological Safety and Security

Enclosure

## **EXECUTIVE SUMMARY**

Holtec Decommissioning International, LLC (HDI)  
Indian Point Energy Center Units 1, 2, and 3 (IP-1, IP-2, and IP-3)  
NRC Inspection Report Nos. 05000003/2024003, 05000247/2024003, and 05000286/2024003

A routine announced decommissioning inspection was completed on September 30, 2024, at the permanently shut-down Indian Point Units 1, 2, and 3. A combination of on-site and remote inspection activities were performed over this period. The inspection included a review of problem identification and resolution, fire protection, decommissioning performance and status reviews, financial assurance, occupational radiation exposure, and solid radioactive waste management and transportation. 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 decommissioning 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 violations of more than minor safety significance were identified.

## **REPORT DETAILS**

### **1.0 Background**

IP-1 was a pressurized water reactor that was granted a 40-year Operating License in 1962 and was permanently shut down in 1974. Pursuant to the June 19, 1980 "Commission Order Revoking Authority to Operate Facility" and the "Decommissioning Plan for Indian Point Unit No. 1," approved by the NRC in an Order, dated January 31, 1996, the reactor remains in a defueled status.

The NRC received the certifications of cessation of power operations and permanent removal of fuel for Units 2 and 3 on May 12, 2020, and May 11, 2021, respectively (ADAMS Accession Numbers: ML20133J902 and ML21131A157). On May 28, 2021, the NRC issued license amendments transferring Indian Point Unit Nos. 1, 2, and 3 facility licenses from Entergy Nuclear Operations, Inc. to Holtec Indian Point 2, LLC; Holtec Indian Point 3, LLC; and Holtec Decommissioning International, LLC (ADAMS Accession No. ML21126A004).

IP-1 and IP-2 are physically contiguous and share systems, such as the integrated liquid waste system and the air handling system; and facilities, such as the chemistry and health physics laboratories. Liquid waste from IP-3 will be transported to and processed at IP-1. Radiological effluent limits are met on an overall site basis and specific operating limits and surveillance requirements for effluent monitoring instrumentation are discussed in the Offsite Dose Calculation Manual.

IP-1, IP-2 and IP-3 were inspected under the "Actively Decommissioning (DECON), No Fuel in the Spent Fuel Pool" category. The categories of decommissioning are described in IMC 2561.

### **2.0 Active Decommissioning Performance and Status Review**

#### **2.1 Inspection Procedures 40801, 71801, 83750, 84750, 86750, and 92702**

##### **a. Inspection Scope**

The inspectors performed on-site decommissioning inspection activities on July 22 - 25, August 19-22, and September 09 - 11, supplemented by in-office reviews and periodic phone calls. 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 HDI's response (ML24171A012) and reported corrective actions to the notice of violation (EA-2024-037) documented in NRC inspection report numbers 05000003/2024005, 05000247/2024005, and 05000286/2024005 (ML24120A226) to determine if the corrective actions and extent of condition were adequate.

The inspectors continued their review of the status of the decommissioning trust fund and met with HDI staff to determine whether the funds were used as expected and if any changes had the potential to significantly impact the site's decommissioning financial assurance.

The inspectors assessed the implementation and effectiveness of IPEC's Corrective Action Program (CAP) by reviewing a sampling of issues associated with identifying, resolving, and correcting issues in the 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 IPEC assigned timely and appropriate prioritization for issue resolution commensurate with the significance of the issue. The inspectors attended several management review committee meetings to determine if IPEC management was adequately engaged in issue disposition and resolution. The inspectors reviewed one incident in the Unit 2 reactor head hot work activities documented in IR IP2-01178. The inspectors also reviewed the Decommissioning Quality Assurance Program (DQAP).

The inspectors reviewed documentation and met with IPEC management to discuss staffing, status of decommissioning and upcoming activities, among other topics to determine if Holtec Indian Point had conducted activities in accordance with regulatory and license requirements. The inspectors performed several plant walk-downs to evaluate field conditions and decommissioning activities by assessing material condition of structures, systems, and components, housekeeping, system configurations, and worker level of knowledge or procedure use and adherence. These walk-downs included all levels of the Unit 1 sphere, general areas of the Unit 1 Chemical Systems, Fuel Storage, and Nuclear Services Buildings, Unit 2 and 3 vapor containment 95', Unit 3 fuel storage and the solid radwaste storage building. The inspectors observed select pre-job briefings and associated work activities, including Reactor Coolant System (RCS) pipe cutting work in Unit 1, reactor head segmentation in Unit 2, spent fuel rack removal in Unit 3 fuel storage building, lower reactor internals segmentation and support activities in Unit 3, and preparations for a radioactive waste shipment.

The inspectors reviewed the status of the decommissioning trust fund and met with HDI staff to determine whether the funds were used as expected and if any changes had the potential to significantly impact the site's decommissioning financial assurance.

The inspectors conducted plant walk-downs of radiologically controlled areas and observed select work activities to examine and assess Radiological Protection (RP) controls including airborne and contamination controls, and radiological postings. The inspectors reviewed Radiation Work Permits (RWPs), As Low As Reasonably Achievable (ALARA) work plans to determine if radiation work activities were pre-planned effectively to limit worker exposure. Inspectors also reviewed survey plans for Unit 3 spent fuel rack removal and cut and packaging plans for Unit 2 reactor head.

The inspectors reviewed activities and documentation associated with radioactive effluent control and Radiological Environmental Monitoring Program (REMP) to assess the effectiveness of the site radiological programs. The inspectors reviewed any changes made to the Offsite Dose Calculation Manual (ODCM), Process Control Program, and radioactive waste system design. The inspectors observed a selection of environmental monitoring stations to evaluate their location, placement, and material condition. The inspectors also observed several media change-out activities (e.g., air sampling stations) and sample collection of eels and crabs. The inspectors also conducted walk-downs of a collection of groundwater protection imitative wells to evaluate material condition and observe sample

collection. Inspectors conducted walkdowns of effluent radiation monitors and reviewed calibration records.

The inspectors observed activities, interviewed personnel, performed walkdowns, and reviewed documentation to assess the licensee's programs for handling, storage, and transportation of radioactive material. The inspectors observed workers handling and packaging radioactive waste and performed walk-downs of radioactive waste storage locations, including radioactive material pens 1, 2, and 3, the solid radwaste storage building, and the 53' of the Unit 1 Nuclear Services Building to evaluate if the licensee had properly classified and stored radioactive materials. The inspectors observed personnel surveying, labeling, and placarding vehicles used for transporting radioactive waste and reviewed work packages for shipments of radioactive waste.

The review included records of shipment packaging, surveying, labeling, marking, placarding, vehicle checks, and emergency instructions to determine compliance with NRC and Department of Transportation (DOT) regulations.

b. Observations

The inspectors conducted document reviews and interviews of site personnel and determined that issues had been identified, entered into the CAP, and evaluated commensurate with their safety significance. The inspectors determined that the site appropriately responded to the small fire incident involving the reactor head segmentation. The inspectors noted that the fire watch identified the small flame, and the flame was immediately extinguished. The inspectors noted that there were no radiological safety consequences from this incident. Inspectors also determined the DQAP and CAP procedures are adequate and implemented appropriately.

The inspectors noted that during this inspection period, IPEC staff continued decommissioning and dismantlement activities in Unit 1 containment, Unit 2 and Unit 3 vapor containment, and Unit 3 Fuel Storage Building. The work included spent fuel rack cleaning and removal in Unit 3, pipe removal in Unit 1 containment, Unit 2 reactor head segmentation and continued Unit 3 lower internal segmentation. The inspectors verified the location of continuous air monitors and general area air samplers while work was conducted. The inspectors noted that for the areas of the plant toured, the material condition and housekeeping was adequate. The inspectors noted through plant tours, document reviews, and observations of work activities that HDI conducted activities in accordance with the regulatory requirements. The inspectors also reviewed work in progress documents tracking dose of workers for lower internal segmentation.

The inspectors reviewed the corrective actions and extent of condition review for the notice of violation (EA-2024-037), including the work group evaluation completed to evaluate the cause and determine corrective actions. Specifically, the inspectors reviewed the revised separation and release agreements and conditions of employment and determined that, with one exception, the revised agreements were adequate. The inspectors observed that the language added to the UWUA agreement did not adequately cover section 5.b, which describes the requirement for employees to report to Holtec of subpoenas, phone calls, correspondence, requests for information, inquiries or other contacts, including from government agencies. HDI entered this observation into their CAP as IR-IP2-01143.



The inspectors reviewed the documents identified in HDI's extent of condition review and determined that most did not contain discouraging or otherwise restrictive language. The inspectors provided an observation that CD-01, "Holtec International Associate Manual," contained some similar language to that which was cited in the NOV and would benefit from a revision to include similar language that was added to the other documents. HDI documented this observation in their CAP as IR-IP2-01142. The inspectors reviewed a sample letter that HDI reported to send out to former HDI employees who signed separation agreements and determined that it adequately informed individuals of their right to raise concerns to the NRC. The inspectors noted that this action was completed in a timely manner. The NRC reviewed the training developed and implemented that served to notify employees who previously signed confidentiality agreements of their rights to raise concerns to the NRC and determined that the training was adequate.

The inspectors verified that radioactive effluent sampling and analysis requirements were satisfied. The inspectors verified the radiological environmental monitoring program was consistent with Technical Specifications (TS) and the ODCM. This included the implementation of REMP sampling of aquatic life and air sampling stations. The inspectors also verified IPEC's continued implementation of their groundwater monitoring program. The inspectors verified that radiation effluent monitors were operational and calibrated as required per their ODCM.

The inspectors determined that solid radioactive waste was adequately stored and monitored and worker radwaste training and qualifications were up to date. The inspectors discussed liquid radioactive waste storage capacity at IPEC with site management and did not identify any immediate concerns. The inspectors also determined that radioactive waste shipping paperwork was properly completed and HDI contractor personnel were knowledgeable of their duties and responsibilities. The inspectors determined that radioactive waste shipped was properly described, classified, packaged, marked, and labeled, and was in proper condition for transport. The inspectors determined that Holtec's radioactive waste shipments were in compliance with NRC and DOT regulations. Specifically, the inspectors observed a radioactive waste shipment and reviewed the waste manifest.

c. Conclusions

No violations of more than minor safety significance were identified.

### **3.0 Exit Meeting Summary**

On November 7, 2024, the inspectors presented the inspection results to Frank Spagnuolo, Site Vice President, and other members of the IPEC organization. No proprietary information was retained by the inspectors or documented in this report.

## **SUPPLEMENTARY INFORMATION**

### **PARTIAL LIST OF PERSONS CONTACTED**

F. Spagnuolo, Site Vice President  
B. Noval, HDI Director Regulatory Affairs  
M. Johnson, Nuclear Manager  
W. Wittich, Senior Licensing Specialist  
W. O'Brien, Radiation Protection Superintendent  
R. Fuchek, Radiation Protection Manager  
R. Whitely, RV Segmentation Decommissioning Manager  
M. Kempski, Maintenance Manager  
C. Bohren, Operations Manager

### **ITEMS OPEN, CLOSED, AND DISCUSSED**

None

### **PARTIAL LIST OF DOCUMENTS REVIEWED**

#### **Procedures**

DSP-RA-001, Corrective Actions Program, Revision 2  
CD-020, Decommissioning Quality Assurance Program, Revision 3  
2-PC-EM32, Process Radiation Monitor R-60 Calibration, Revision 17  
2-PT-Q77, Liquid Process Radiation Monitor R-54 Channel Operational Test  
IP-EN-CY-131, Annual Radioactive Effluent Release Report  
IP-SMM-CY-110, Radiological Groundwater Monitoring Program, Revision 13  
0-RP-RWP-415, RCA Door Control, Revision 1  
IPEC Radiological Groundwater Monitoring Program Quality Assurance and Procedures

#### **Issue Reports Reviewed**

IR-IP2-01091 and attachments

#### **Issue Reports Generated from Inspection**

IR- IP2-01142

IP2-01143

#### **Licensing Bases Documents**

Indian Point 1 Technical Specifications, Amendment 63  
Indian Point 2 Technical Specifications, Amendment 299  
Indian Point 3 Technical Specifications, Amendment 275  
Indian Point 2 Defueled Safety Analysis Report, Revision 1  
Indian Point 3 Defueled Safety Analysis Report, Revision 1  
Post Shutdown Decommissioning Activities Report (IPEC 1, 2, and 3 PSDAR), December 19, 2019

#### **Miscellaneous**

Work Group Evaluation 50.7(f) violation – IR-IP2-01091  
Reporting Safety Concerns to the NRC – training provided completed May 31, 2024  
Response to June 18, 2024, Additional DTF Questions, June 27, 2024

Response to May 14, 2024, DTF interview follow up questions, June 4, 2024  
HDI-IPEC-24-026, Correction - Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installation, Holtec Decommissioning International, LLC (HDI), June 4, 2024  
HDI-IPEC-24-012, Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installation, Holtec Decommissioning International, LLC (HDI), March 29, 2024  
HDI-IPEC-23-013, Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installation, Holtec Decommissioning International, LLC (HDI), March 31, 2023  
HDI-IPEC-23-50, Notification of Changes in Schedule in accordance with 10 CFR 50.82(a)(7), November 2, 2023  
DSP-WC-001, IP3-DEMO-SFP RACKS, Revision 1  
Unit 2 Reactor Head ALARA Plan  
Unit 3 Spent Fuel Rack Removal ALARA Plan  
0-CY-1420, Radiological Quality Assurance Plan, Revision 5  
2023 Annual Radioactive Effluent Release Report  
2023 Annual Radiological Environmental Operating Report  
2023 Land Use Census  
IPC-2024-004, Unit 1 Liquid Waste Transfer Engineering Change  
IPC-2024-004 Unit 1 Liquid Waste Transfer Engineering Change Process Applicability Determination  
Shipping Manifest 24-3-098  
RWP 20243061, Cut and Package Lower Internals in Unit 3 VC  
2023 Annual Dosimetry Quality Assurance Report

#### Procedures/Forms

CD-01, Holtec International Associate Manual, September 2018  
CD-07, Corporate Governance and Ethics Manual, December 14, 2023  
Form 93HR, Pledge of Ethical Conduct  
Separation Checklist for Employees and Supervisors, March 13, 2023  
HDI Release Agreement UWUA Template, April 16, 2024  
HDI Waiver and Release Agreement, April 16, 2024  
HR-11, Holtec Security International, LLC Confidentiality, Non-Compete, and Non-Solicitation Agreement, April 16, 2024  
HR-11, Holtec International, LLC Confidentiality, Non-Compete, and Non-Solicitation Agreement, April 16, 2024  
Holtec Separation and Release Agreement and Your Rights to Engage in NRC-protected activities letter template, April 16, 2024

#### Audits

Radiation Protection Program Annual Performance Report  
Security Training Self-Assessment 2024

### **LIST OF ACRONYMS USED**

ADAMS	Agencywide Document Access Management System
ALARA	As Low As-Reasonably Achievable
CAP	Corrective Action Program
DECON	Actively Decommissioning
DOT	Department of Transportation
DQAP	Decommissioning Quality Assurance Program
GPI	Groundwater Protection Initiative
GPO	Government Printing Office
Holtec/HDI	Holtec Decommissioning International, LLC (HDI)
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPEC	Indian Point Energy Center
IP-1	Indian Point Unit 1
IP-2	Indian Point Unit 2
IP-3	Indian Point Unit 3
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
RCS	Reactor Coolant System
REMP	Radiological Environmental Monitoring Program
RP	Radiation Protection
RWP	Radiation Work Permits
TS	Technical Specifications