



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

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

March 13, 2023

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. 05000003/2022004, 05000247/2022004, 05000286/2022004, AND 07200051/2022002

Dear Kelly Trice:

On December 31, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection under Inspection Manual Chapter 2561, "Decommissioning Power Reactor Inspection Program," at the permanently shutdown 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 walkdowns. The results of the inspection were discussed with Richard Burrioni, Site Vice President and other members of your staff on February 2, 2023, and are described in the enclosed inspection report.

Based on the results of this inspection, two NRC-identified violations of NRC requirements of relatively inappreciable (very low) safety significance (Severity Level IV) are documented in this report. Because of the significance and because the issues were entered into your corrective action program, the NRC is treating the violations as Non-Cited Violations (NCVs), consistent with Section 2.3.2.a of the Enforcement Policy. If you contest the subject or severity of one or both of these NCVs, you should provide a response within 30 days of the date of this letter, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; 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 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).

No reply to this letter is required. Please contact Katherine Warner, CHP of my staff at (610) 337-5389 if you have any questions regarding this matter.

Sincerely,

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

Docket Nos. 05000003, 05000247, 05000286,  
and 07200051

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

cc w/encl: Distribution via ListServ

Enclosure: Inspection Report Nos. 05000003/2022004,  
05000247/2022004, 05000286/2022004, and  
07200051/2022002 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. 05000003/2022004, 05000247/2022004, 05000286/2022004, AND 07200051/2022002 DATED MARCH 13, 2023

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U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

INSPECTION REPORT

Docket Nos. 05000003, 05000247, 05000286, and 07200051

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

Report Nos. 05000003/2022004, 05000247/2022004, 05000286/2022004, and 07200051/2022002

Licensee: Holtec Decommissioning International, LLC (HDI)

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

Location: Buchanan, NY

Inspection Dates: October 1 – December 31, 2022

Inspectors:

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

B. DeBoer, Senior Health Physicist  
Decommissioning, ISFSI and Reactor Health Physics Branch  
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S. Anderson, Senior Health Physicist  
Decommissioning, ISFSI and Operating Reactor Branch  
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J. DeBoer, Senior Project Engineer  
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Accompanied By:

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New York State Office of Fire Prevention and Control  
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Office of Resilience and Emergency Preparedness  
New York Department of Public Service

Approved By:

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

## 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. 05000003/2022004, 05000247/2022004, 05000286/2022004, and  
07200051/2022002

An announced decommissioning inspection was completed on December 31, 2022, at Indian Point Units 1, 2, and 3. A combination of on-site and remote inspection activities were performed over the inspection period. The inspection included a review of design changes and modifications, problem and identification and resolution, fire protection, spent fuel pool (SFP) activities, financial assurance, decommissioning performance and status, occupational radiation exposure, emergency preparedness, and 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."

Additionally, the inspection included a review and observation of the Independent Spent Fuel Storage Installation (ISFSI) HI-LIFT construction activities and inspection of Unit 2's dry cask loading campaign. 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 Title 10 of the *Code of Federal Regulations* (10 CFR) Part 71 Transportation Packagings."

### List of Violations

One NRC identified Severity Level IV Non-Cited Violation (NCV) of Title 10 CFR 20.1501 is documented for failing to perform adequate radiation surveys to evaluate radiological conditions associated with an overflow in the Unit 2 21 Waste Hold Up Tank (WHUT) cubicle, in part, to ensure compliance 10 CFR 20.1406(c). Specifically, surveys were not performed in accordance with HDI procedures in the WHUT cubicle after an overflow was identified, resulting in a failure to adequately assess radiological conditions and conduct operations to minimize the introduction of residual radioactivity into the site. HDI entered the issue into its corrective action program (CAP) as IR-IP2-2022720.

One NRC identified Severity Level IV NCV of Title 10 CFR 50.48(f)(1) is documented for failing to perform the Unit 2 underground fire loop flow surveillance test. Specifically, the licensee failed to implement its fire protection impairment criteria and surveillance procedure and perform the Unit 2 underground fire loop test as required. HDI entered the issue into its CAP as IR-IP2-00649.

## **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.

On February 8, 2017, Entergy Nuclear Operations, Inc. (Entergy) notified the NRC of its intent to permanently cease power operations at IP-2 and IP-3 by April 30, 2020, and April 30, 2021, respectively subject to operating extensions through, but not beyond 2024 and 2025 (Agencywide Documents and Access Management System (ADAMS) Accession Number: ML17044A004). On May 12, 2020, Entergy certified cessation of power operations and the permanent removal of fuel from the IP-2 reactor vessel (ADAMS Accession Number: ML20133J902). On May 11, 2021, Entergy certified cessation of power operations and permanent removal of fuel from the IP-3 reactor vessel (ADAMS Accession Number: ML21131A157). On May 13, 2021, the NRC notified Indian Point 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 Number: ML21132A069). On May 28, 2021, Entergy Nuclear Operations, Inc. informed the NRC of the successful purchase and sale transaction closing of the Indian Point facilities to Holtec Decommissioning International, LLC (ADAMS Accession No. ML21147A553). 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, including stack noble gas monitoring, are discussed in the Offsite Dose Calculation Manual (ODCM).

IP-1 was inspected under the “Actively Decommissioning (DECON), No Fuel in the Spent Fuel Pool” category and IP-2, and IP-3 were inspected under the “Active Decommissioning (DECON), Fuel in the Spent Fuel Pool” category during this inspection period. The categories of decommissioning are described in IMC 2561.

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

#### **2.1 Inspection Procedures 37801, 40801, 60801, 71801, 83750, 86750**

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

The inspectors performed on-site focused topical inspections on October 17 – 20, November 14 – 17, and December 12 – 15, 2022, 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 conducted document reviews and interviews with site personnel to determine if IPEC procedures and processes were adequate and in accordance with the regulations and guidance associated with 10 CFR 50.59, and to determine if changes made by IPEC under 10 CFR 50.59 required prior NRC approval.

The inspectors assessed the implementation and effectiveness of IPEC's corrective action program (CAP) by reviewing a sampling of issues, non-conformances and conditions adverse to quality into the CAP. The inspectors reviewed the effectiveness and implementation of the IPEC decommissioning quality assurance program. The inspectors reviewed associated procedures and a sampling of recent audits and self-assessments, the resolution of deficiencies, and the schedule for planned quality assurance activities over the next year. The inspectors evaluated whether the quality assurance organization was proactive in conducting assessments and whether the assessments were self-critical to identify and correct potential gaps in program performance.

The inspectors reviewed the loss of offsite power events that occurred between August 2021 and October 2022 and their potential impact on the safe wet storage of spent fuel. The inspectors interviewed personnel and reviewed corrective action documentation to determine if the site fully understood the events and took appropriate actions to prevent recurrence. The inspectors performed walkdowns of the Unit 2, Unit 3, and Appendix R diesel generators to assess material condition, configuration control, and system operation.

The inspectors reviewed HDI's organization and staffing to assess qualifications of personnel and staffing levels for current and upcoming work activities and discussed planned 2023 work activities with HDI management. The inspectors performed several plant walk downs to assess material conditions and housekeeping, including the Unit 1 sphere, and portions of the Units 2 and 3 vapor containments. The inspectors observed decommissioning activities and reviewed worker level of knowledge or procedure use and adherence, including preparation for the Unit 3 upper internals segmentation project. The inspectors observed several pre-job briefings and associated work activities, including observations of thermocouple demolition work, equipment blade change outs, a tri-nuke filter change out, and radioactive waste movement activities.

The inspectors reviewed the decommissioning schedule to determine if the schedule was consistent with the post shutdown decommissioning activities report. 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 could potentially significantly impact the site's decommissioning financial assurance.

The inspectors conducted site walk-downs, including radiologically controlled areas, to examine and assess radiological postings, airborne and contamination controls, and locked high radiation doors and gates. The inspectors reviewed radiation work permits (RWP's), As Low As Reasonably Achievable (ALARA) work plans to determine if radiation work activities were pre-planned effectively to limit worker exposure, if ALARA briefings describing radiation safety during work activities, and Total Effective Dose Equivalent (TEDE) ALARA evaluations to determine whether or not respirators were needed for work activities. The inspectors reviewed procedures and documentation associated with external



dosimetry. The inspectors toured locations of background dosimeters to determine if they were in appropriately low background locations. The inspectors reviewed the 2022 National Voluntary Laboratory Accreditation Program (NVLAP) accreditations for whole body radiation and extremity dosimeters used at IPEC. Additionally, the inspectors reviewed a sampling of recent external dosimetry discrepancy reports, including the results of the routine external whole-body dosimeter-to-electronic whole body dosimeter mismatch comparisons.

The inspectors observed radiation protection (RP) technicians and supervisors perform work activities, including responding to a personnel contamination event (PCE). The inspectors observed the fact-finding meeting for the PCE on October 21, 2022, and reviewed associated documentation. The inspectors reviewed the activation analysis and component characterization for IPEC Units 2 and 3 completed in July, 2021. The inspectors conducted a detailed review of the radiological survey plan for the unrestricted release of the Unit 2 Condensate Storage Tank (CST) including a comprehensive review of the associated documentation and several meetings with HDI staff and a walkdown of the area around the CST.

The inspectors observed activities, interviewed personnel, and reviewed documentation to assess the effectiveness of IPEC's programs for handling, storage, and transportation of radioactive material. The inspectors performed walkdowns of several parts of the liquid radwaste system, including the 13 Waste Collection Tank in Unit 1, several entries into the 21 Waste Hold up Tank cubicle in Unit 2, and the 31 Waste Hold up Tank cubicle in Unit 3. The inspectors observed workers handling and packaging radioactive waste and performed walkdowns of radioactive waste storage locations to determine if the licensee had properly classified and stored radioactive materials. The inspectors observed personnel transporting a container of reactor components onsite and reviewed radiation protection survey paperwork. The inspectors also reviewed select work packages for shipments of radioactive waste including records of shipment packaging, surveying, labeling, marking, placarding, vehicle checks, and emergency instructions to assess compliance with NRC and Department of Transportation regulations. The inspectors reviewed training records to determine if radwaste personnel were qualified to appropriately implement the site solid radwaste program. Additionally, the inspectors reviewed the Part 37 security plan and reviewed IPEC's implementation of the requirements.

b. Observations

The inspectors determined that the reviewed 10 CFR 50.59 screenings and evaluations had been performed with no issues of more than minor significance.

The inspectors determined that issues had been identified, entered into the CAP, and evaluated commensurate with their safety significance through document reviews and discussions. The inspectors determined that the quality assurance organization was sufficiently independent and that the audits and self-assessments conducted included appropriate scrutiny of licensee performance. The inspectors verified that audits were performed by qualified individuals independent of the organization being audited and that management reviewed the audits, self-assessments and associated corrective actions. The inspectors verified that the audits and self-assessments were performed in the appropriate timeframe and any weaknesses identified were captured within the corrective action program.

The inspectors determined that the loss of offsite power events did not negatively impact the safe wet storage of spent fuel. The temperature of the spent fuel pool (SPF) was appropriately monitored and maintained throughout the events, and the diesel generators performed as needed. The inspectors also verified that IPEC personnel adequately understood the cause of the issues and performed appropriate corrective actions to prevent recurrence.

The inspectors noted that during this inspection period, the site began segmentation activities of the upper reactor vessel internals at Unit 3, continued preparations for reactor vessel internals segmentation at Unit 2, and began Unit 3 reactor vessel head segmentation activities. The inspectors noted that for the areas of the plant toured, the material condition and housekeeping was adequate. The inspectors conducted numerous plant tours and observations of activities and noted that the site generally conducted activities in accordance with the regulatory requirements and plant procedures.

The inspectors determined that the funds in the decommissioning trust fund were used as expected, and the inspectors did not identify any changes that could significantly impact the site's decommissioning financial assurance. The inspectors noted that the NRC office of Nuclear Material Safety and Safeguards, Financial Assurance Branch (FAB) staff has the lead for assessing the appropriateness of a licensee's decommissioning fund allocation, and determined that a spot-check assessment was not warranted at this time.

The inspectors identified technical concerns in their initial review of plans to survey and demolish the Unit 2 CST. Specifically, IPEC had performed a number of radiological surveys, but did not have a technical basis in the form of a survey plan or evaluation to demonstrate that the CST would be dispositioned in accordance with regulatory requirements. This prompted a series of meetings to obtain additional information and to clearly understand how the tank and contents were to be surveyed and released for disposal as non-radioactive industrial waste. In response, HDI initiated IPEC-RPT-22-019, "Free Release of Unit 2 Condensate Storage Tank" and performed several revisions to the report after subsequent discussions resulting in the inspectors being able to gain a reasonable assurance that the building was appropriately evaluated and that it would be surveyed, demolished, and released in accordance with regulatory requirements. IPEC entered IP3-00809 into its corrective action program to review lessons learned on demolishing impacted buildings. The inspectors noted that these issues are similar to those documented in Pilgrim Inspection Report 2022003 (ML22322A195).

The inspectors discussed ongoing and upcoming segmentation activities of reactor internal and reactor segmentation with IPEC staff and management. The inspectors verified that RWPs and ALARA plans for reactor upper internals segmentation were implemented and were effective in limiting worker exposure, and occupational dose was expected to be appropriate for the scope of the radiological activities performed. The inspectors verified that IPEC's external dosimetry procedures included the appropriate guidance and that background dosimeters were in appropriate locations. The inspectors noted that IPEC performed an evaluation of the appropriate background subtract values used for dose calculations and determined that the conclusion to use an average site background for dosimetry corrections was appropriate. The inspectors found that whole-body dosimeters were calibrated and processed by a vendor that was NVLAP accredited, as required.

The inspectors determined that RP staff generally controlled work activities, used appropriate instruments for the surveys, and that survey records were clear and complete. The inspectors observed IPEC's response to a PCE during the October inspection and noted a professional, and appropriate response. The inspectors noted that no significant dose to the worker resulted from the event and the PCE was appropriately entered into IPEC's corrective action program as IP2-00647.

The inspectors discussed the July 2021 activation analysis with site staff and noted that section 2.3 of the July 2021 activation analysis, states, in part, that "measured dose rates of components and/or segments will be used to verify these results." However, IPEC did not have specific trigger dose rates in the field documentation to verify these results. The inspectors also discussed activation and contamination components to dose. The inspectors noted that for higher class waste, the activation dose was expected to be the predominant component that would determine waste classification, but for lower class waste i.e. Class A, the contamination component may have more of an impact to classification. The inspectors discussed the need for IPEC to verify assumptions to ensure appropriate waste classification with the staff. IPEC entered the issue into the corrective action program as IP3-00840. In December, the inspectors reviewed several of the corrective actions, including the development of "go/no-go" dose rates for individual components and the boxes themselves and verified that they were being implemented in the field through discussions with workers.

The inspectors verified that selected radioactive waste shipping paperwork was properly completed, and site personnel were knowledgeable of their duties and responsibilities as required. The inspectors determined that radioactive waste shipped for disposal at land disposal facilities was properly classified, described, packaged, marked, labeled and was in proper condition for transportation for the sample reviewed. The inspectors verified that solid radioactive waste was adequately stored and monitored and worker radwaste training and qualifications were up to date. The inspectors verified that liquid radioactive waste was appropriately stored with the exception of the material stored in the Waste Hold Up Tank (WHUT), as listed below.

### Violation

The inspectors identified one Severity Level IV non-cited violation (NCV) of 10 CFR 20.1501(a) for failure to perform adequate radiation surveys to evaluate radiological conditions associated with an overflow in the Unit 2 21 Waste Hold Up Tank (WHUT), in part, to ensure compliance 10 CFR 20.1406(c). Specifically, surveys in the WHUT cubicle were not performed in accordance with HDI procedures after an overflow was identified, resulting in a failure to adequately assess radiological conditions and the extent of residual radioactivity necessary to conduct operations to minimize the introduction of residual radioactivity into the site.

On May 31, 2022, an operator identified an ongoing overflow of the 21 WHUT as evidenced by conditions in the Unit 2 Chemical and Volume Control System (CVCS) hold up tank room adjacent to the 21 WHUT cubicle. The 10 CFR 50.75(g)(1) leak/spill record dated September 1, 2022, states, in part, "21 WHUT overflowed due to inaccurate tank level indication. Liquid appeared to be predominantly an oil emulsion with a small amount of water. During the event, 22 sump pump was recirculating the liquid back to 21 WHUT, which allowed for the spill to continue [until operations transferred] sufficient volume from

21 WHUT to 11 Waste Collection Tank (WCT).” Approximately 100 gallons was listed as the volume of the spill. Gamma spectroscopy of a sample of the material outside the 21 WHUT cubicle identified Manganese-54, Cobalt-57, Cobalt-60, Antimony-125, and Cesium-137 at a concentration of 0.222  $\mu\text{Ci/g}$  and tritium was also analyzed and determined to be present. The inspectors noted that HDI did not perform analysis of hard to detect radionuclides despite the expected presence of radionuclides in the plant mixture.

EN-RP-113, “Response to Contaminated Leaks/Spills,” requires the site to perform surveys as necessary to determine the extent of residual radioactivity, which may include any of the following: Building interiors, including in and around joints, drains, hoods, exhaust stacks, and other features that could provide pathways for residual radioactivity to concentrate or migrate to inaccessible areas. Between May 31 and June 3, 2022, HDI surveyed and decontaminated the waste hold up pump room floor, the floor in front of the 21 CVCS tank and the floor in access to the 21 WHUT. However HDI personnel did not enter the 21 WHUT cubicle as part of the overflow event response, nor were surveys and cleanup activities performed in the 21 WHUT cubicle. On June 1, 2022, HDI entered the as-found condition into the CAP as IR-IP2-00390. Corrective Action No# IP2-00390-01 assigned tracking of nearby monitoring well (MW) parameters, including MW-42-49 and MW-32-59 over several months, the results of which did not indicate any significant increase of radionuclides in groundwater.

On October 19, 2022, a survey was performed in the 21 WHUT cubicle in preparation for NRC inspection activities during which the RP technician received a dose of approximately 15 mrem. HDI wrote IR-IP2-00648 on October 20, 2022, describing “significant amounts of oil/water discovered below 21 WHUT during survey of area in preparation for NRC walkdown.” Correction Action No#IP2-00648-01 was assigned to the radiation protection department to determine how to clean up while minimizing dose/exposure with a due date of March 31, 2023. The inspectors noted that a corrective action to clean up the 21 WHUT cubicle was only assigned after the October 2022 survey of the area.

Prior to NRC inspection activities in October 2022, the last radiological survey into the 21 WHUT cubicle was performed on November 17, 2015 during which the RP technician received a dose of approximately 19 mrem. Dose rates in October 2022 were similar to the 2015 values, however, the inspectors noted several inches of an oily substance covering the cubicle. Smears of the oily substance indicated 20 millirad (mrad) beta, indicating high levels of contamination on top of floors previously identified to be contaminated at 100,000 – 400,000 dpm/100 cm<sup>2</sup> beta-gamma. After the October 2022 survey of the room, IPEC staff increased the estimate of the spill volume from 100 gallons to 380 gallons and gamma spectroscopy of the substance in the tank room identified a similar radionuclide mix as the pump room at a concentration of 0.347  $\mu\text{Ci/g}$  compared to 0.222  $\mu\text{Ci/g}$  in the pump room.

The statements of consideration associated with the issuance of 10 CFR 20.1501 (as provided in the Federal Register Notice 46 FR 53647 and 56 FR 23398) state “This amendment puts licensees on notice that compliance with the Commission’s radiological requirements in Part 20 should be by design and not fortuitous” and “The principal role of the [radiation] survey is preventative. Adequate survey procedures provide measurable protection for the health and safety of the worker and the public because they provide the information necessary for the establishment of adequate protective measures. The usefulness of this early warning system may be seriously reduced if licensees are not held responsible for failure to conduct any survey or for failure to conduct an adequate survey

[even] when violations of other Part 20 requirements have not occurred...” Statements of consideration for 20.1406 states in part, “residual radioactivity that would be significant for decommissioning planning would be a quantity of radioactive material that would later require remediation during decommissioning to meet the unrestricted use criteria of 10 CFR 20.1402.”

10 CFR 20.1501(a) requires, in part, that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in 10 CFR 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and concentrations or quantities of residual radioactivity, and the potential radiological hazards of the radiation levels and residual radioactivity detected.

10 CFR 20.1406(c) requires licensees, to the extent practical, conduct operations to minimize the introduction of residual radioactivity into the site, including the subsurface, in accordance with the existing radiation protection requirements in Subpart B and radiological criteria for license termination in Subpart E of 10 CFR 20.

Contrary to the above, from June 1 – October 17, 2022, HDI did not make or cause to be made surveys that were necessary for the licensee to comply with 10 CFR 20 and were reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and concentrations or quantities of residual radioactivity and the potential radiological hazards of the radiation levels and residual radioactivity detected. Specifically, HDI did not perform adequate radiological surveys after a known overflow of the 21 WHUT cubicle, identified on May 31, 2022.

This violation was evaluated using Section 6.3.d of the NRC Enforcement Policy, dated January 13, 2023, to be a Severity Level IV non-cited violation, regarding the failure to implement procedures, including surveys, which has a low safety significance.

Because this violation was determined to be of relatively inappreciable potential safety consequences, was entered into the licensee’s corrective action program as IR-IP2-2022720, and was not willful or repetitive, the violation was treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy **(NCV 05000247/2022004-01, Failure to Conduct Adequate Radiation Surveys).**

c. Conclusions

One Severity Level IV, non-cited violation of 10 CFR 20.1501(a) was identified.

2.2 Inspection Procedure 64704, Fire Protection Program at Permanently Shutdown Reactors

a. Inspection Scope

The inspectors evaluated IPEC’s Fire Protection Program (FPP) to determine if HDI maintained it in a state of operational readiness and if changes made to the program continued to meet commitments, NRC requirements, and if such changes had negatively affected the overall state of the FPP. The inspection consisted of interviews with site personnel, a review of procedures and records, and plant walk-downs. The inspectors conducted the inspection to:

- Determine if the licensee had developed and implemented technically adequate procedures to implement the FPP;
- Determine if the licensee had proper installation, operability, and maintenance of fire protection systems and equipment; and
- Review the adequacy and implementation of the quality assurance program for the FPP.

Specifically, the inspectors reviewed the updated fire protection plan and a sample of FPP implementation procedures to assess compliance with the current FPP, to determine if it reflected the current decommissioning status of the facility, and if the program had been appropriately implemented. Procedures reviewed included those controlling storage of combustibles and flammables, conduct of hot-work, ignition sources, and transient combustibles. Pre-fire plans were reviewed to evaluate the plans to determine if they were updated and reflected the plant's decommissioning status. The inspectors reviewed changes to the FPP including decommissioning of systems and the implementation of the incipient fire brigade (offsite response as primary responder).

The inspectors conducted walk-downs of active plant detection systems, suppression systems, fire barriers, and fire pumps/water sources to assess the material condition and determine if it was maintained. This included a review of fire pump testing to determine if an adequate water supply was available to the necessary systems and standpipes for fire suppression/firefighting activities. The inspectors performed a focused review of the installed fire detection, suppression systems, and fire barriers in fire areas associated with the Spent Fuel Pool (SFP), SFP cooling equipment, SFP power supply, and SFP inventory to determine if they were maintained, if surveillances were performed on a periodic basis, and if they were capable of performing their intended function.

The inspectors reviewed a sample of self-assessments and corrective action documents to determine if HDI had appropriately identified FPP decommissioning deficiencies and if it had entered the issues into the corrective action program for resolution.

b. Observations and Findings:

Based on the inspection results, the inspectors determined that HDI maintained the FPP within NRC requirements and the fire protection plan, with one exception. The required fire protection detection systems, suppression systems, barriers, and Unit 3's fire water supply systems had been maintained and appropriately tested and were in a state of operational readiness. Proper FPP emphasis was placed on SFP systems, components, and support systems to minimize the potential for radiological releases in the event of a fire at the plant.

HDI maintained the leadership, staffing, and training of the onsite incipient fire brigade. Agreements were appropriately established with the local fire department to be the primary responder for onsite fires. Additionally, procedures for response and measures for coordination with offsite responders were appropriately established. The inspectors verified that HDI had conducted training with offsite responders on facility layout, fire hazards, fire pre-fire plans, firefighting equipment, radiological hazards, and health physics relevant to firefighting operations.

## Violation

The inspectors evaluated the licensee's implementation of the surveillance requirements regarding the Unit 2 System Flow Test and determined that the licensee's failure to implement the fire protection equipment surveillance requirements procedure was a violation of 10 CFR 50.48(f)(1). Specifically, the requirement states in part, that licensees maintain a fire protection program to address the potential for fires that could cause the release or spread of radioactive materials, including reasonable preventing these fires. HDI procedure SAO-703, "Fire Protection Impairment Criteria and Surveillance," revision 36, Addendum II, M., requires in part, piping associated with the high-pressure fire water system shall be flow tested to determine the internal condition of the piping at a frequency of once per 36 months.

During a routine review of the last completed underground fire loop surveillances for both Units, the inspectors identified the last Unit 2 underground fire loop flow surveillance test was completed on August 7, 2018. This requires the next surveillance test of the Unit 2 underground fire loop to be due on August 2021. However, procedure SAO-703, "Fire Protection Impairment Criteria and Surveillance," revision 36, step 4.8, does allow for surveillance requirements for fire protection equipment and systems that are specified in Addendum II their test frequencies specified can be extended by 25%. Applying the frequency of 25%, would allow for the test to be extended to May 2022.

Contrary to the above, on October 25, 2022, the NRC inspectors identified the last completed Unit 2 underground fire loop flow surveillance test was completed on August 7, 2018. Specifically, the licensee failed to implement its fire protection impairment criteria and surveillance procedure and perform the Unit 2 underground fire loop test as required. At the time of the inspection on October 17-20, 2022, the surveillance test had not been completed nor identified by the licensee that the surveillance was missed.

Using Section 6.3.d of the NRC Enforcement Policy, dated January 13, 2023, this violation was evaluated to be a Severity Level IV non-cited violation regarding the failure to implement procedures, which has a low safety significance.

Since the licensee placed the deficiency into its corrective action program as IR-IP2-00649, the violation was of relatively inappreciable potential safety consequences, and because the violation was not willful or repetitive; therefore, this violation was treated as a NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy. **(NCV 05000247/2022004-02, Failure to Perform Underground Fire Loop Flow Surveillance Test).**

### c. Conclusions

One Severity Level IV, non-cited violation of 10 CFR 50.48(f) was identified.

## 2.3 Inspection Procedure 82401, Decommissioning Emergency Preparedness Scenario Review and Exercise Evaluation

### a. Inspection Scope

On October 4, 2022, the inspectors reviewed and evaluated the proposed scenario for the Indian Point, Unit 3 biennial emergency plan exercise. On November 15, 2022, the

inspectors evaluated the biennial emergency plan exercise at Indian Point, Unit 3. The biennial emergency plan exercise scenario simulated a seismic event which resulted in hypothetical damage to the spent fuel racks and increased radiation levels.

b. Observations and Findings:

The inspectors determined that the conduct of the emergency plan exercise was adequate to demonstrate reasonable assurance of HDI's ability to effectively implement Indian Point's emergency plan to adequately protect the public health and safety in the event of a radiological emergency.

c. Conclusions

No violations of more than minor safety significance were identified.

### **3.0 Independent Spent Fuel Storage Installation**

#### **3.1 Operation of an Independent Spent Fuel Storage Installation (Inspection Procedure 60855)**

a. Inspection Scope:

The inspectors conducted direct observations and performed independent evaluations to determine if the licensee had operated its ISFSI program in conformance with its 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 also evaluated the effectiveness of the licensee's management oversight and quality assurance assessments of ISFSI activities.

The inspectors observed and evaluated Indian Point's ISFSI activities associated with dry cask operations. In addition to the ISFSI activities, the inspectors reviewed the licensee's activities associated with long-term operation and monitoring of the ISFSI. The inspectors assessed the licensee's program to determine compliance with the Certificate of Compliance (CoC), Technical Specifications (TSs), and station procedures.

b. Observations and Findings:

On November 7- 10, 2022, the inspectors observed dry cask operations for the 11<sup>th</sup> canister loaded during the Unit 2 continuous offload campaign. The activities observed included: (1) MPC/HI-TRAC heavy lift out of spent fuel pool; (2) decontamination of the HI-TRAC; (3) installation of shield ring; (4) MPC lid welding and non-destructive examinations; (5) forced helium dehydration; (6) stack-up and MPC transfer; (7) HI-STORM lid installation; (8) HI-STORM movement and placement on ISFSI pad; and (9) survey activities. During performance of these activities, the inspectors verified that procedure use, communication, and coordination of ISFSI activities met regulatory requirements and approved site procedures. The inspectors also observed pre-job briefings and determined that the licensee's ability to identify critical steps of the evolution, potential failure scenarios, and human performance tools to prevent errors were effective to ensure procedural adherence and a safe work environment.



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 and confirmed that radiation survey levels measured were within limits specified by the TS and consistent with values specified in the final safety analysis report.

c. Conclusions:

No violations of more than minor safety significance were identified.

3.2 Onsite Fabrication of Components and Construction of an ISFSI (Inspection Procedure 60853)

Hi Lift Crane

a. Inspection Scope

During the inspection period inspectors reviewed documents, observed activities, and discussed with IPEC personnel an auxiliary lifting device, known as the “Hi-Lift” Crane planned for installation in the IP-3 Fuel Storage Building. The licensee requested NRC approval of the Hi-Lift Crane in a License Amendment Request dated March 24, 2020, which described among other topics the crane design, crane and building structural analyses, crane load test requirements, and applicable quality assurance standards. The NRC staff approved the incorporation of the Hi-Lift Crane into the IP-3 current licensing basis in IP-3 License Amendment 272 dated February 28, 2022 (ML21091A305). An NRC Safety Evaluation was also provided. On April 26-27 and July 12-15, 2022, inspectors observed Hi-Lift Crane fabrication and load testing activities at the Holtec crane fabrication facility. Inspectors interviewed licensee personnel, reviewed procedures, observed storage and handling of crane components, reviewed procurement documents and commercial grade dedication documents, and observed the Hi-Lift Crane “100%” and “125%” load tests. On August 24-26 and September 13-16 inspectors conducted further on-site inspections at the IP-3 facility. Inspectors interviewed IPEC and contractor personnel, reviewed fabrication procedures, and observed drilling activities into both the truck bay wall and the spent fuel pool wall landing where crane anchoring was planned. The inspectors reviewed structural configurations of the support walls and drilled hole locations to determine if they were consistent with the structural analysis results provided to the NRC staff.

b. Observations

The inspectors performed evaluations to determine if the fabrication, installation, and testing activities performed by Holtec validates the crane licensing requirements. The inspectors noted that during this inspection period, fabrication and testing of the crane was ongoing. Specifically, observation of the final assembly; onsite testing of the crane and control system; and commercial grade dedication testing activities of components were not complete. Successful completion and review of these activities will be needed to determine if the crane complies with licensing requirements. At the end of this inspection period, questions raised by the inspectors related to the design and capability verification testing of several commercial grade active components remained with the licensee.

Inspectors observed portions of activities at the Holtec fabrication facility where activities were conducted, including fabrication of crane structural components, testing activities, and testing results for various crane components. The inspectors found that procurement documents identified components procured or fabricated as safety-related or commercial grade. For components fabricated at the facility or procured as commercial grade components the inspectors observed testing and reviewed test results credited to dedicate the components for safety-related applications. The inspectors observed testing of the assembled crane with a 100% and 125% rated load.

Inspectors observed on-site drilling operations at IPEC for crane anchoring and evaluated if the drilling was performed in accordance with licensee procedures and if design requirements were met. The inspectors validated the structural configuration of the spent fuel and truck bay walls where the anchor system will be installed. Following completion of drilling activities, the inspectors observed that due to the location of existing rebar in the truck bay wall, the anchor hole locations were different than the evaluation submitted as part of the license amendment. Inspectors noted that Holtec had entered this issue into its corrective action program as IR-IP3-00777 and would evaluate if additional structural analysis, discussed in the NRC Safety Evaluation, was required. This analysis will be reviewed by NRC staff during a future inspection.

c. Conclusions

No violations of more than minor safety significance were identified.

**4.0 Exit Meeting Summary**

On February 2, 2022, the inspectors presented the inspection results to Richard Burrone, 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**

R. Burroni, Site Vice President  
F. Spagnuolo, Decommissioning Manager  
M. Johnson, Regulatory Assurance Manager  
K. Elliott, Mechanical Engineer  
W. Wittich, Senior Licensing Specialist  
R. Whitley, Decommissioning Project Manager  
G. Delfini, Engineering Supervisor  
W. O'Brien, Radiation Protection Superintendent  
R. Fuchek, Chemistry and Radiation Protection Manager  
R. Daley, CAA Specialist Sr.  
R. Passalugo, WCS Project Manager  
C. Bohren, Operations Manager  
J. Sullivan, VP Engineering, WMP  
C. Fabricante, ALARA Specialist  
D. Quinn, Radiological Supervisor  
C. Delamater, Emergency Planning

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

None

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

#### Audits and Reports

2022-I-02, Fire Protection Program Audit  
2022-I-08, Emergency Preparedness Program Audit  
2022-I-16, Operations and Technical Specifications Audit  
2022-I-23, Radiation Protection Program Audit  
2022-I-26, Security Program Audit  
Confined Space for 2021 Self-Assessment  
Groundwater Protection Initiative Assessment  
Industrial Hygiene Self-Assessment  
Maintenance Rule (a)(3) Assessment  
NCI Oversight Report No. IPEC-02-2022  
Nuclear Consultants International Monthly Report, October 2022  
Protective Strategy Evaluation and Performance Evaluation Program Self-Assessment  
Review of Power Reactor Target Sets Self-Assessment  
Security Training Self-Assessment  
IP2-RPT-03-00015, IP2 Fire Hazards Analysis Report, Revision 8  
IP2-RPT-03-00015, IP2 Fire Hazards Analysis Report, Revision 9  
IP3-ANAL-FP-02143, IP3 Fire Hazards Analysis Report, Revision 6  
IPEC 2022-I-02, Fire Protection Internal Audit Checklist, Revision 3

Audits and Reports (Continued)

IPEC-RPT-22-018-R0, Unit 2 and Unit 3 Containment Equipment Hatch Airflow Tests Summary  
IPEC FP Health Report 1Q21  
IP-RPT-22-001 R1, Evaluation of Transition to an Incipient Fire Brigade

Engineering Changes

IPC-2021-004

Procedures

EN-DC-127R21, Control of Hot Work and Ignition Sources  
EN-DC-128R14, Fire Protection Impact Reviews  
IP-EN-DC-161R0, Control of Combustibles  
0-ONOP-FP-1 Revision 0, Plant Fires  
DSP-RA-001, Corrective Actions Program  
0-RP-RWP-15, RCA Door Control, Revision 0  
CD-020, Decommissioning Quality Assurance Program, Revision 1  
DSP-RA-001, Corrective Action Program, Revision 0  
EN-DC-150-DP, Condition Monitoring of Maintenance Rule Structures, Revision 2  
EN-DC-207, Maintenance Rule Periodic Assessment, Revision 3  
HPP-2880-0200, MPC Loading at IPEC, Revision 21  
HPP-2880-0300, MPC Sealing, Drying, and Backfilling at IPEC, Revision 12  
HPP-2880-0400, MPC Stack-Up and Transfer at IPEC, Revision 8  
HPP-2880-0500, HI-STORM Operations and Transport at IPEC, Revision 11  
HQP-18.0, Audits, Revision 0  
HSP-101802, Audits, Revision 7  
EN-CY-111, Radiological Groundwater Protection Program, Revision 11  
EN-RP-113, Response to Contaminated Spills, Revision 10  
EN-RP-121 Attachment 5, Radioactive Material Category 1 and 2 Accountability, Revision 0  
IP-EN-RP-105, Radiological Work Permits, Revision 0  
IP-EN-RP-110-04, Radiation Protection Risk Assessment Process, Revision 0  
IP-EN-RP-201, Dosimetry Administration, Revision 0  
IP-EN-RP-202, Personnel Monitoring, Revision 0  
IP-EN-RP-203, Dose Assessment, Revision 0  
IP-EN-RP-204, Special Monitoring Requirements, Revision 0  
IP-EN-RP-204-01, Effective Dose Equivalent (EDEX) Monitoring, Revision 0  
IP-EN-RP-206, Dosimeter of Legal Record Quality Assurance, Revision 0

Condition Reports Reviewed

CR-IP2-2020-00458	IP2-00538	IP2-00593	IP3-00250
IP2-00080	IP2-00539	IP2-00602	IP3-00352
IP2-00325	IP2-00540	IP2-00614	IP3-00480
IP2-00354	IP2-00547	IP2-00618	IP3-00613
IP2-00380	IP2-00550	IP2-00620	IP3-00629
IP2-00385	IP2-00556	IP2-00628	IP3-00633
IP2-00387	IP2-00559	IP2-00662	IP3-00737
IP2-00390	IP2-00567	IP2-00676	IP3-00757
IP2-00435	IP2-00572	IP3-00004	IP3-00802
IP2-00470	IP2-00573	IP3-00014	IP2-00647
IP2-00528	IP2-00580	IP3-00015	
	IP2-00590	IP3-00249	

Condition Reports Generated from Inspection

IP3-00841	IP3-00840	IP3-00901	IP3-00905
IP3-00828	IP3-00842	IP2-00719	
IP3-00838	IP3-00809	IP2-00720	

Licensing Bases Documents

Indian Point 2 Defueled Safety Analysis Report, Revision 1  
Indian Point 3 Defueled Safety Analysis Report, Revision 0  
Post Shutdown Decommissioning Activities Report (IPEC 1, 2, and 3 PSDAR), December 19, 2019

Work Orders

IP2-WR-00355  
IP3-WR-00412  
IP3-WR-00522  
IP3-WR-00626  
19283-01-01-0023  
51499337-02  
52947894-01  
534600-SEG-81-10U3  
559260-44  
559260-45  
559260-51

Miscellaneous

IPEC PRE-FIRE PLANS Revision 18  
SAO-703\_R36, Fire Protection Impairment Criteria and Surveillance  
SEP-FPP-IP-001\_Revision 9, IPEC Fire Protection Program Plan  
IP3 TRM TRO 3.7.A Fire Protection Systems  
AP-64.1\_R10, Fire Protection/ Systems and Components Governed by Technical Requirements Manual and Technical Specifications  
IP2-DBD-221\_R3\_Fire Protection, Design Basis Document for Fire Protection System  
IP3-DBD-321\_R4\_Fire Protection, Design Basis Document for Fire Protection System  
2022 Incipient FB Training Student Guide  
FPF-SAF-Fire Extinguisher, Fire Protection Extinguisher Practical  
Incipient Fire Brigade Training PowerPoint

Indian Point Unit 2 Cask #11 Fuel Loading Verification Video, performed 11/4/22  
 Indian Point Unit 2 Cask #11 Move Sheets, performed 11/4/22  
 Fire Pump Surveillance Tests, Various  
 2-PT-3Y015A Underground Fire Loop Flow Test  
 3-PT-R113 Underground Fire Loop Flow Test  
 HI-2094405, Dose Versus Distance from a HI-STORM Containing the MPC-32, Revision 23  
 HI-2200662, HI-BRIAN Weld Robot Operations and Maintenance Manual, Revision 0  
 HI-2210219, Thermal Evaluation of HI-TRAC 100D and HI-TRAC MS in Unit 2 Cask Processing Area at Indian Point NPP, Revision 5  
 HI-2210651, Fuel Loading Plan for Indian Point Unit 2 and Unit 3, Revision 8  
 HI-2220447, EC IPC-2022-059: Licensing and Operations for Phase 2 Loading at IPEC Unit 2, Revision 1  
 HI-2220827, Structural Evaluation of HI-TRAC MS Temporary Shield Ring, Revision 1  
 IP-CALC-19-00003\_R1, Post-Permanent Shutdown Analyses of Fuel Handling, Waste Handling, and HIC  
 Fire Drill Logs & Attendance Sheets, Various  
 Radiological Surveys, Various  
 IPEC 22-03, IPEC Onsite Safety Review Committee meeting minutes, dated August 15, 2022  
 IPEC 22-04, IPEC Onsite Safety Review Committee meeting minutes, dated November 2, 2022  
 IPEC 2205, IPEC Onsite Safety Review Committee meeting minutes, dated November 9, 2022  
 Vessel Segmentation Routine Tasks, Radiological Protection Surveys  
 Survey Number 22-2-3035, Box 11-3037, CRD Drive shaft bag, October 18, 2022  
 Survey Number 22-2-3036, Box 11-3037, CRD Drive shaft bag, October 18, 2022  
 Survey Number 22-2-3037, Box 11-3037, CRD Drive shaft bag, October 18, 2022  
 20-919-RE-273, IPEC Units 2 and 3 Activation Analysis and Component Characterization, July 2021  
 IPEC-RPT-22-019, Free Release of Unit 2 Condensate Storage Tank, Revision 1  
 IPEC-RPT-22-019, Release Survey Plan for Unit 2 Condensate Storage Tank, Revision 2  
 ALARA Plan, (Phase 1) Cut and Pack Upper Internals, October 3, 2022  
 ALARA Plan, Cut and Package Control Rod Drives, August 30, 2022  
 ALARA Plan, Load 28 MPCs and place on the ISFSI pad, September 28, 2022  
 Radiological Work Permit 20223059, Remove cut and package Control Rod Drives in Unit 3 VC, Revision 00  
 Radiological Work Permit 20223060, Phase 1 Cut and Package Upper Internals and associated work, Revision 00  
 Radiological Work Permit 20222005, LHRA Entry, Revision 00  
 TEDE-ALARA Evaluation for RWP 2022-3060, Gantry Saw Blade Change outs, October 4, 2022  
 HDI-IPEC-22-029, Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations – Holtec Decommissioning International, LLC (HDI), March 25, 2022  
 Phase I IPEC Organization Chart, September 29, 2022  
 Report ID ICAS0011, IP1 Transactions May 30, 2021 – October 7, 2022  
 Report ID ICAS0011, IP2 Transactions May 30, 2021 – October 7, 2022  
 Report ID ICAS0011, IP3 Transactions May 30, 2021 – October 7, 2022  
 Radiological Survey #15-2-1150, 58 ft PAB 21 WHUT, November 17, 2015  
 Radiological Survey #22-2-3947, 58 ft PAB 21 WHUT, October 19, 2022  
 Radiological Survey #22-2-1676, WHU pump room Unit 2, May 31, 2022  
 Radiological Survey #22-2-1682, Unit 2 58' CVCS Pump room, May 31, 2022  
 Radiological Survey #22-2-1689, Unit 2 58' CVCS Pump room, June 1, 2022

Radiological Survey #22-2-1706, Unit 2 58' CVCS Pump room, June 2, 2022  
 Radiological Survey #22-2-1717, Unit 2 58' CVCS Pump room, June 3, 2022  
 Radiological Survey #22-2-4065, ISFSI Pad, October 26, 2022  
 Radiological Work Permit 20222029, Revision 1  
 10 CFR 50.75(g)(1) Leak/Spill Record, WHU Pump room 21 WHUT cell, 21 CVCS Tank Area,  
 September 1, 2022  
 10 CFR 50.75(g)(1) Leak/Spill Record, WHU Pump room 21 WHUT cell, 21 CVCS Tank Area,  
 January 27, 2023  
 Chem Sample Number: 01-Jun-22-10001, U2-RP WHUT Spill, June 1, 2022  
 Certificate of Accreditation to ISO/IEC 17025:2017, NVLAP LAB CODE: 100518-0  
 Safety Evaluation for Amendment No. 272 to Renewed Facility License No DPR-64, Holtec  
 Decommissioning International, LLC and Holtec Indian Point 3, dated 2/28/22  
 HI-2188549, IPEC Unit 3 HI-LIFT Specification, Rev. 3  
 IPC-2022-067, IP3 FSB Installation of HI-LIFT, dated 12/7/22  
 HSP 1106, Magnetic Particle Testing (Yoke), Revision 4  
 HSP 2880-0015, Direct Visual Examination, Revision 2  
 RRTI-2880-0017, HI LIFT Anchor Bolt Loading Information, Rev. 0  
 LA222114-P-001, IPEC 3 – Fuel Handling Building HI-LIFT Proof Testing of Spent Fuel Pit  
 Concrete Anchor Bolts, Rev. 0  
 LA222114-C-001, IPC U3 – HI-LIFT Concrete Anchor Pull Test, Rev. 0  
 CR-2880103H-2005-R0  
 FRC28801231  
 FRC28801226  
 IPEC Position Paper – Waste Hold Up Tank (WHUT)

### **LIST OF ACRONYMS USED**

ADAMS	Agencywide Document Access Management System
ALARA	As Low As-Reasonably Achievable
CAP	Corrective Action Program
CoC	Certificate of Compliance
CST	Condensate Storage Tank
CVCS	Chemical and Volume Control System
DECON	Actively Decommissioning
DSAR	Defueled Safety Analysis Report
DQAP	Decommissioning Quality Assurance Program
Entergy	Entergy Nuclear Operations, Inc.
EC	Engineering Change
EP	Emergency Plan
FAB	Financial Assurance Branch
FPP	Fire Protection Program
FSBAFS	Fuel Storage Building Air Filtration System
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

ISFSI	Independent Spent Fuel Storage Installation
MPC	Multi-purpose canister
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
NVLAP	National Voluntary Laboratory Accreditation Program
ODCM	Offsite Dose Calculation Manual
PCE	Personnel Contamination Event
PHE	Public Health Emergency
RP	Radiation Protection
RWP	Radiation Work Permits
SAFSTOR	Safe Storage
SSCs	Structures, Systems, and Components
SFP	Spent Fuel Pool
TEDE	Total Effective Dose Equivalent
TS	Technical Specifications
VC	Vapor Containment
WHUT	Waste Hold Up Tank