



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

June 7, 2021

Mr. Richard J. Burroni
Site Vice President
Holtec Decommissioning International, LLC
450 Broadway, Generation Support Building
P.O. Box 249
Buchanan, NY 10511-0249

SUBJECT: INDIAN POINT ENERGY CENTER, UNIT 3 – INTEGRATED INSPECTION
REPORT 05000286/2021002

Dear Mr. Burroni:

On May 13, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Indian Point Energy Center, Unit 3. On May 19, 2021, the results of this inspection were discussed with Mr. Anthony J. Vitale, Site Vice President, Entergy Nuclear Operations, Inc., and other members of his staff. The results of this inspection are documented in the enclosed report.

No findings or violations of more than minor significance were identified during this inspection.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

Daniel L. Schroeder, Chief
Reactor Projects Branch 2
Division of Operating Reactor Safety

Docket No. 05000286
License No. DPR-64

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

SUBJECT: INDIAN POINT ENERGY CENTER, UNIT 3 – INTEGRATED INSPECTION
REPORT 05000286/2021002 DATED JUNE 7, 2021

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 05000286

License Number: DPR-64

Report Number: 05000286/2021002

Enterprise Identifier: I-2021-002-0029

Licensee: Entergy Nuclear Operations, Inc.¹

Facility: Indian Point Energy Center, Unit 3

Location: 450 Broadway, Generation Support Building
Buchanan, NY 10511-0249

Inspection Dates: April 1, 2021, to May 13, 2021

Inspectors: G. George, Senior Resident Inspector
E. Allen, Resident Inspector
K. Warner, Senior Health Physicist

Approved By: Daniel L. Schroeder, Chief
Reactor Projects Branch 2
Division of Operating Reactor Safety

¹ License transferred to HOLTEC Decommissioning International, LLC on May 28, 2021.

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Indian Point Energy Center, Unit 3, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

PLANT STATUS

Unit 3 began the inspection period at 92 percent rated thermal power. On April 30, 2021, the unit was shut down for defueling outage 3D21. All reactor fuel was removed from the reactor vessel and safely stored in the spent fuel pool on May 11, 2021. By letter dated May 11, 2021, Entergy Nuclear Operations, Inc. submitted a Certification of Permanent Cessation of Power Operations to the NRC certifying that Unit 3 had permanently ceased power operations and that all fuel had been permanently removed from Unit 3 (ADAMS Accession No. ML21131A157). Effective May 13, 2021, the NRC notified Entergy Nuclear Operations, Inc. that oversight activities will no longer be conducted in accordance with the Operating Reactor Assessment Program and that oversight activities will be conducted in accordance with the Decommissioning Power Reactor Inspection Program (ADAMS Accession No. 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).

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident and regional inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week, increasing the amount of time onsite as local COVID-19 conditions permitted. As part of their onsite activities, resident inspectors conducted plant status activities as described in IMC 2515, Appendix D, observed risk significant activities, and completed onsite portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and onsite. The inspections documented below met the objectives and requirements for completion of the IP.

REACTOR SAFETY

71111.04 - Equipment Alignment

Partial Walkdown (IP Section 03.01) (2 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Back-up spent fuel pool cooling system on April 27, 2021
- (2) 31 and 32 component cooling water heat exchangers and 31, 32, and 33 emergency diesel generator jacket water coolers in single service water header operation on May 10, 2021

71111.05 - Fire Protection

Fire Area Walkdown and Inspection (IP Section 03.01) (2 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Circulating and Service Water Pumps Building (PFP-385) on April 28, 2021
- (2) Primary Auxiliary Building, general floor plan, 41-foot elevation (PFP-306), on April 28, 2021

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Residual heat removal pump rooms, Primary Auxiliary Building, 15-foot elevation, on April 21, 2021

71111.07A - Heat Sink Performance

Annual Review (IP Section 03.01) (1 Sample)

The inspectors evaluated readiness and performance of:

- (1) 31 and 32 component cooling water heat exchangers and 31, 32, and 33 emergency diesel generator jacket water coolers for single service water header operation on May 10, 2021

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01)
(1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during the Unit 3 shutdown and cooldown to defueling outage from April 30 to May 1, 2021.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated operator classroom training for the final reactor shutdown prior to defueling on April 28, 2021.

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management (IP Section 03.01) (2 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) High integrated risk due to emergency diesel generator 31 surveillance test failure and electric governor replacement, work order 560279, from April 5 to 7, 2021
- (2) Emergent leaking of reactor cavity segmented seal during yellow outage risk from May 8 to 11, 2021

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (2 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) (CR-IP3-2021-00868) Operability determination of emergency diesel generator service water cooling discharge valves due to bent instrument air supply tubing on April 9, 2021
- (2) (CR-IP3-2021-01051) Operability determination when the intermediate range detector NI-35 failed to automatically energize source range detectors on May 1, 2021

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02)
(1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Work Order 52884300, Temporary modification for erection of scaffolding to operate BF-7-1 near turbine driven auxiliary feedwater pump, P-32, exhaust piping on April 25, 2021

71111.19 - Post-Maintenance Testing

Post-Maintenance Test (IP Section 03.01) (1 Sample)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) Emergency diesel generator number 31 following replacement of the electronic governor on April 7, 2021

71111.20 - Refueling and Other Outage Activities

Refueling/Other Outage (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated Unit 3 defueling outage 3D21 activities from April 30 to May 13, 2021

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) 3-PT-M079A, 31 diesel generator monthly load test on April 7, 2021
- (2) 3-PT-CS028, Power operated relief valve test on May 1, 2021

RADIATION SAFETY

71124.01 - Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated how the licensee identifies the magnitude and extent of radiation levels and the concentrations and quantities of radioactive materials and how the licensee assesses radiological hazards.

Instructions to Workers (IP Section 03.02) (1 Sample)

The inspectors evaluated instructions to workers including radiation work permits used to access high radiation areas for the following:

- (1) Radiation Work Packages
 - 20213521, "3D21 Reactor Disassembly"
 - 20213509, "Emergent Work"
 - 20213501, "3D21 Radiation Protection Support"

Electronic Alarming Dosimeter Alarms

- No unanticipated dose rate alarms during this inspection period
- Reviewed four anticipated dose rate alarms during this inspection period

Labeling of Containers

- Reviewed labeling of containers in radioactive material storage areas

Contamination and Radioactive Material Control (IP Section 03.03) (2 Samples)

The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material for the following:

- (1) Observed workers exiting the radiation control area during defueling outage 3D21
- (2) Observed licensee surveys of potentially contaminated material leaving the radiation control area

Radiological Hazards Control and Work Coverage (IP Section 03.04) (4 Samples)

The inspectors evaluated in-plant radiological conditions during facility walkdowns and observation of radiological work activities for the following:

- (1) Monitored pre-job briefings and observed work associated with the blind flange removal in the vapor containment fuel transfer canal
- (2) Monitored pre-job briefings and observed work associated with emergent work in the fuel transfer canal on the spent fuel pool gate valve in the Fuel Storage Building
- (3) Evaluated site reviews of surveys in areas with potentials for dose gradients to determine if enhanced job controls were used as appropriate
- (4) Monitored the pre-job briefings and observed work with the core exit thermal couple nozzle assembly removal and bullet nose installation work activity

High Radiation Area and Very High Radiation Area Controls (IP Section 03.05) (3 Samples)

The inspectors evaluated licensee controls of the following high radiation areas and very high radiation areas:

- (1) Primary Auxiliary Building, 73-foot elevation
- (2) Vapor containment lower cavity
- (3) Vapor containment regenerative heat exchanger cubicle

Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 03.06) (1 Sample)

- (1) The inspectors evaluated radiation worker and radiation protection technician performance as it pertains to radiation protection requirements.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

IE01: Unplanned Scrams per 7000 Critical Hours (IP Section 03.01) (1 Sample)

(1) April 1, 2020, through March 31, 2021

IE03: Unplanned Power Changes per 7000 Critical Hours (IP Section 03.02) (1 Sample)

(1) April 1, 2020, through March 31, 2021

IE04: Unplanned Scrams with Complications (IP Section 03.03) (1 Sample)

(1) April 1, 2020, through March 31, 2021

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On May 6, 2021, the inspectors presented the radiological hazard assessment and controls inspection results to Mr. Anthony J. Vitale, Site Vice President, Entergy Nuclear Operations, Inc., and other members of the licensee staff.
- On May 19, 2021, the inspectors presented the integrated inspection results to Mr. Anthony J. Vitale, Site Vice President, Entergy Nuclear Operations, Inc., and other members of the licensee staff.

THIRD PARTY REVIEWS

The inspectors reviewed Institute on Nuclear Power Operations reports that were issued during the inspection period.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.04	Drawings	9321-F-20276	Piping and Instrumentation Diagram Back-Up Spent Fuel Pool Cooling System	Revision 5
		9321-F-20333	Flow Diagram Service Water System	Revision 61
		9321-F-27223	Flow Diagram Service Water System Nuclear Steam Supply Plant	Revision 45
	Procedures	3-OSP-RW-005	Service Water System Alignment for Single Service Water Header Operation	Revision 8
		3-SOP-RW-005	Service Water System Operation	Revision 42
		3-SOP-SFP-003	Operation of the Back-Up Spent Fuel Pool Cooling System	Revision 24
71111.05	Calculations	IP3-CALC-FP-02795	Combustible Loading Calculation for IP3 Fire Hazards	Revision 2
	Fire Plans	PFP-306	Unit 3 Primary Aux. Bldg. - General Floor Plan, Elev. 41'-0"	Revision 15
		PFP-385	Unit 3 Circulating and Service Water Pumps Bldg., Elev. 15'-0"	Revision 0
71111.06	Calculations	IP-CALC-08-00031	Misc. Structural Evaluation for IP2 & IP3 RHR Pump Motor Flood Protection	Revision 0
		IP-CALC-08-00061	Sizing Calculation for RHR Pump Flooding Line	Revision 0
	Corrective Action Documents Resulting from Inspection	CR-IP3-2021-00987		
	Engineering Changes	EC 5000041988	Installation of RHR Pump Motor Flood Protection	Revision 0
71111.07A	Calculations	IP-CALC-06-00017	Service Water System PROTO-FLO Model Expansion	Revision 2
	Engineering Changes	EC 13884	Indian Point 3 Containment Temperature After Loss of RHR Cooling During 3R15 Engineering Report IP-RPT-09-00021	Revision 0
71111.11Q	Miscellaneous	3-Graph-RCS-4	Minimum Shutdown Boron Concentration	Revision 41
	Procedures	3-POP-2.1	Operation at Greater Than 45% Power	Revision 72
		3-POP-3.1	Plant Shutdown from 45% Power	Revision 55
		3-POP-3.3	Plant Cooldown - Hot to Cold Shutdown	Revision 57
		EN-OP-116	Infrequently Performed Tests or Evolutions	Revision 16
71111.13	Corrective Action Documents	CR-IP3-2021-01133		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Procedures	EN-WM-104	On Line Risk Assessment	Revision 22
71111.15	Corrective Action Documents	CR-IP3-2021-01051		05/01/2021
	Corrective Action Documents Resulting from Inspection	CR-IP3-2021-00868		04/06/2021
71111.18	Corrective Action Documents Resulting from Inspection	CR-IP3-2021- 01014		04/25/2021
	Procedures	EN-MA-133	Control of Scaffolding	Revision 22
	Work Orders	52884300		
71111.19	Corrective Action Documents Resulting from Inspection	CR-IP3-2021-00857 CR-IP3-2021-00870 CR-IP3-2021-00872		04/05/2021
	Work Orders	00560279	Frequency of the 31 Diesel Was Fluctuating	04/07/2021
71111.20	Corrective Action Documents Resulting from Inspection	CR-IP3-2021- 01023		04/27/2021
	Procedures	0-NF-203	Internal Transfer of Fuel Assemblies and Inserts	Revision 27
		3-AOP-RHR-1	Loss of RHR	Revision 13
		3-POP-3.3	Plant Cooldown - Hot to Cold Shutdown	Revision 57
		3-POP-4.1	Operation at Cold Shutdown	Revision 41
		3-REF-003-GEN, Section 2.2	Indian Point Unit 3 Refueling Procedure	Revision 10
		3-SOP-CVCS-003	Reactor Coolant System Boron Concentration Control	Revision 45
		3-SOP-RCS-007	Pressurizer Relief Tank Operations	Revision 20
3-SOP-RHR-001	Residual Heat Removal System	Revision 53		
71111.22	Procedures	3-PT-CS028	Pressurizer PORV and Block Valve Test RC-PCV-455C and 456 RC-MOV-535 and 536	Revision 14
71124.01	ALARA Plans	EN-RO-105	3D21 Disassembly of Reactor and Resetting of RX Head	04/30/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Procedures	3-REF-001-GEN	Fuel Transfer Tube Blind Flange Removal	Revision 5
		3-REF-002-GEN	CETNA/Instrument Port Conoseal Disassembly	Revision 5
	Radiation Work Permits	20213521	3D21 Reactor Disassembly	Revision 2