



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

October 25, 2018

Anthony Vitale  
Site Vice President  
Entergy Nuclear Operations, Inc.  
Indian Point Energy Center  
450 Broadway, GSB  
P.O. Box 249  
Buchanan, NY 10511-0249

**SUBJECT: ENTERGY NUCLEAR OPERATIONS, INC., INDIAN POINT NUCLEAR  
GENERATING STATION UNIT 1 – NRC INSPECTION REPORT NO.  
05000003/2018001**

Dear Mr. Vitale:

On October 16 – 18, 2018, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Indian Point Nuclear Generating Station Unit 1. The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and the conditions of your license. The inspection consisted of observations by the inspector, interviews with personnel, and a review of procedures and records. The results of the inspection were discussed with you and other members of your staff on October 18, 2018, and are described in the enclosed inspection report. No findings of safety significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response 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 (610) 337-5389 if you have any questions regarding this matter.

Sincerely,

*/RA/*

Raymond J. Powell, Chief  
Decommissioning, ISFSI, and Reactor HP  
Branch  
Division of Nuclear Materials Safety

Docket No. 05000003

License No. DPR-5

cc w/encl: Distribution via ListServ

Enclosure: Inspection Report No. 05000003/2018001

ENERGY NUCLEAR OPERATIONS, INC., INDIAN POINT NUCLEAR GENERATING STATION  
UNIT 1 – NRC INSPECTION REPORT NO. 05000003/2018001 DATED October 25, 2018

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U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

INSPECTION REPORT

Inspection No. 05000003/2018001  
Docket No. 05000003  
License No. DPR-5  
Licensee: Entergy Nuclear Operations Inc. (Entergy)  
Facility: Indian Point Nuclear Generating Station Unit 1 (IP-1)  
Address: 450 Broadway  
Buchanan, NY 10511-0249  
Inspection Dates: October 16 – 18, 2018  
Inspector: Katherine Warner  
Health Physicist  
Decommissioning, ISFSI and Reactor  
Health Physics Branch  
Division of Nuclear Materials Safety  
  
Kimberly Conway  
Project Manager  
Reactor Decommissioning Branch  
Division of Decommissioning, Uranium Recovery and  
Waste Programs  
  
Approved By: Raymond Powell, Chief  
Decommissioning, ISFSI and Reactor  
Health Physics Branch  
Division of Nuclear Materials Safety

Enclosure

## **EXECUTIVE SUMMARY**

Entergy Nuclear Operations, Inc.  
Indian Point Nuclear Generating Station Unit 1  
NRC Inspection Report No. 05000003/2018001

A routine announced safety inspection was conducted on October 16 – 18, 2018 at IP-1. The inspectors reviewed IP-1's activities related to the safe storage of radioactive material, including site operations, engineering, maintenance, plant support activities, management oversight, and corrective action program (CAP) implementation. The inspection consisted of observations by the inspector, interviews with Entergy personnel, a review of procedures and records, and plant walk-downs. There are currently no ongoing decommissioning activities being conducted at IP-1. The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in Inspection Manual Chapter (IMC) 2561, "Decommissioning Power Reactor Inspection Program." Based on the results of this inspection, no findings of safety significance were identified.

## **REPORT DETAILS**

### **1.0 Background**

IP-1 is a pressurized water reactor that was granted a 40-year Operating License in 1962, and was permanently shut down in 1974. The facility is being maintained in SAFSTOR status. 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. There are ongoing activities in the IP-1 space that are support services for Indian Point Nuclear Generating Station Unit 2 (IP-2) and to a lesser extent Indian Point Nuclear Generating Station Unit 3 (IP-3).

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. IP-1 also contains radioactive waste processing facilities that provide waste processing services for both units. 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).

Support services provided by IP-2 to IP-1 include maintenance, corrective action program implementation, plant support activities while in SAFSTOR status, and implementation of the SAFSTOR activities required in the Updated Final Safety Analysis Report (UFSAR), and Technical Specifications (TS).

Appendix A to Provisional Operating License No. DPR-5 recognizes this commonality, as well as the intended use of the IP-1 facility to support IP-2 until the retirement of that unit, and contains specific references to Appendix A of the IP-2 Facility Operating License No. DPR-26.

The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in IMC 2561.

### **2.0 Safe Storage (SAFSTOR) Performance and Status Review**

- a. Inspection Scope (Inspection Procedures (IPs) 36801, 37801, 40801, 64704, 71801, 83750, 84750, 86750)

A routine announced safety inspection was conducted on October 16 – 18, 2018 at IP-1. The inspection consisted of observations by the inspectors, interviews with Entergy personnel, a review of procedures and records, and plant walk-downs. The inspectors reviewed the safe storage (SAFSTOR) program as outlined in the UFSAR, TS, ODCM, and procedure IP-SMM-U1-001, “IPEC Site Management Manual, Control of Indian Point 1.” The inspectors reviewed SAFSTOR activities, including site operations, engineering, maintenance, plant support activities, management oversight, and the corrective action program (CAP). The inspectors also assessed the material condition of the IP-1 facilities during plant tours of the containment annulus, containment building, and fuel handling building. The inspectors noted that there were no design changes or modifications since the previous inspection.

The inspectors reviewed activities, components, and documentation associated with the following SAFSTOR programs: occupational exposure, fire protection, radioactive effluent control, site radiological environmental monitoring program (REMP), and decommissioning organization and staffing. The inspectors reviewed radiological survey reports, fire extinguisher and fire hose inspection reports, radioactive gaseous and liquid effluent release permits, the groundwater monitoring program report, the annual REMP report, and the annual effluent release report, which included a summary of the radioactive waste management and transportation programs.

The inspector reviewed quality assurance (QA) audit and CAP documents associated with IP-1 to determine if issues were being appropriately identified, assessed and reviewed; and that corrective actions were being appropriately implemented.

b. Observations and Findings

The inspectors noted that while organizational responsibilities for IP-1 is shared across multiple groups within the Indian Point Energy Center (IPEC) organization, the ownership of Unit 1 has now been centralized to the Director, License Renewal and Decommissioning now called Director, Special Projects. The inspectors discussed the IP-1 support functions performed by various organizational groups including operations, radiation protection, engineering, and work control with representatives from the respective groups and found that activities were effectively coordinated between the various technical groups to maintain IP-1's SAFSTOR condition. The inspectors discussed prioritization of maintenance activities for IP-1 with a representative from the work control organization to ensure essential items were being performed in a timely manner.

The inspectors confirmed that the staff effectively implemented the SAFSTOR program. The inspectors verified that the staff conducted the maintenance and surveillance program for systems and components in accordance with the TS requirements and established procedures. The inspectors evaluated the results of Entergy's IP-1 2016 structural engineering inspection that included the Chemical Systems Building, Fuel Handling Building, Superheater Building, and Utility Tunnel as well as portions of Entergy's IP-1 2014 structural engineering inspection that included the Containment Building. Their inspection found that there were some areas of deterioration. The inspectors verified that no areas required immediate action.

The annual radiological effluent and REMP reports demonstrated that all calculated doses were below regulatory dose criteria of 10 Code of Federal Regulations (CFR) 50, Appendix I for calendar year 2017. The inspectors noted that there were no radioactive waste shipments from Unit 1 for offsite disposal or processing since the last inspection.

The inspectors determined that Entergy effectively entered concerns into the CAP to prioritize and evaluated them commensurate with their safety significance. Generally, Entergy effectively addressed identified issues, implemented corrective actions, and tracked them to closure.

c. Conclusions

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

### **3.0 Exit Meeting Summary**

On October 18, 2018, the inspectors presented the inspection results to Richard Burroni, Director, Special Projects, and other members of Entergy's organization. The inspectors confirmed that proprietary information was not removed from the site.



**SUPPLEMENTARY INFORMATION**

**PARTIAL LIST OF PERSONS CONTACTED**

R. Burroni, Director, Special Projects  
G. Dahl, Nuclear Safety/Licensing Specialist IV, Regulatory Assurance  
K. Elliott, Fire Protection Engineer  
L. Fitzsimmons, Radiation Protection Technician  
W. O'Brien, Radiation Protection Supervisor  
J. Ruch, Engineer III, Design Engineering – Civil  
F. Spagnuolo, Manager- Outage

**ITEMS OPEN, CLOSED, AND DISCUSSED**

None

**LIST OF DOCUMENTS REVIEWED**

EN-RP-101 Attachment 9.9, High Radiation Area/Locked High Radiation Area/Very High Radiation Area Brief Checklist, Revision 14  
IP-1 TS (Appendix A to Provisional Operating License No. DPR-5)  
Indian Point Unit 1 Final Safety Analysis Report  
IP-RPT-14-00050, Indian Point Unit 1 SAFSTOR 2014 Structural Inspection, dated March 8, 2016  
IP-RPT-16-00092, Indian Point Unit 1 SAFSTOR 2016 Structural Inspection, dated August 31, 2017  
IP-SMM-U1-001, Control of Indian Point 1, Revision 5  
IPEC Pre-Fire Plans 119 - 125  
QA-6-2017-IP-1, Quality Assurance Audit Report, Engineering Programs  
QA-10-2018-IP-1, Quality Assurance Audit Report, Maintenance  
Radiological Surveys for IP-1 Containment Building, May 2017, November 2017, March 2018, May 2018, June 2018  
RP-ADM-109, Radiation Protection Periodic Task Scheduling, Revision 8  
RWP 20181000, Unit 1 Safestore Support, Revision 01  
RWP Totals for RWP 20171000, 20171001, 20171002, report generated September 24, 2018  
RWP Totals for RWP 20181000, 20181001, 20181002, report generated September 24, 2018  
SEP-FPP-IP-001, IPEC Fire Protection Program Plan, Revision 5  
TST-2-PT-A17A- 1Y Test Fire Hose Station (SAO), dated October 22, 2017  
TST-PT-A17B- 1Y Test Fire Hose Station, dated June 11, 2018  
2017 Annual Radioactive Effluent Release Report Indian Point Nuclear Generating Unit Nos 1, 2, and 3, dated April 25, 2018  
2017 Annual Radiological Environmental Operating Report Indian Point Unit Nos. 1, 2, and 3, dated May 14, 2018  
2017 Liquid Release Permit Reports, U1 Foundation Drain  
2018 Liquid Release Permit Reports, U1 Foundation Drain

**Condition Reports:** CR-IP2-

2018-03043	2018-00879	2018-04471
2017-03087	2018-01103	2018-04802
2017-03163	2018-03043	
2017-03467	2018-03472	

## LIST OF ACRONYMS USED

CAP	Corrective Action Program
Entergy	Entergy Nuclear Operations, Inc.
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPEC	Indian Point Energy Center
IP-1	Indian Point Unit 1
IP-2	Indian Point Unit 2
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
QA	Quality Assurance
REMP	Radiological Environmental Monitoring Program
SAFSTOR	Safe Storage
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report