



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

February 1, 2016

Mr. Larry Coyle  
Site Vice President  
Entergy Nuclear Operations, Inc.  
Indian Point Energy Center  
450 Broadway, GSB  
Buchanan, NY 10511-0249

SUBJECT: INDIAN POINT NUCLEAR GENERATING – INTEGRATED INSPECTION  
REPORT 05000247/2015004 AND 05000286/2015004

Dear Mr. Coyle:

On December 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Indian Point Nuclear Generating (Indian Point), Units 2 and 3. The enclosed inspection report documents the inspection results, which were discussed on January 15, 2016, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no violations of NRC requirements were identified. However, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. Because of the very low safety significance, and because it is entered into your corrective action program, the NRC is treating this finding as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest the non-cited violation in this report, you should provide a response within 30 days of the date of this inspection report, 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; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at Indian Point.

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 available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records component of the NRC's Agencywide Documents Access and

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Sincerely,

*/RA/*

Glenn T. Dentel, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Docket Nos. 50-247 and 50-286  
License Nos. DPR-26 and DPR-64

Enclosure:  
Inspection Report 05000247/2015004 and 05000286/2015004  
w/Attachment: Supplementary Information

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**U.S. NUCLEAR REGULATORY COMMISSION****REGION I**

Docket Nos. 50-247 and 50-286

License Nos. DPR-26 and DPR-64

Report Nos. 05000247/2015004 and 05000286/2015004

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: Indian Point Nuclear Generating Units 2 and 3

Location: 450 Broadway, GSB  
Buchanan, NY 10511-0249

Dates: October 1, 2015, through December 31, 2015

Inspectors: B. Haagensen, Senior Resident Inspector  
G. Newman, Acting Senior Resident Inspector  
S. Rich, Resident Inspector  
J. DeBoer, Emergency Preparedness Inspector  
J. Furia, Senior Health Physicist  
P. Kaufman, Senior Reactor Inspector  
B. Pinson, Project Engineer  
D. Silk, Senior Operations Engineer

Approved By: Glenn T. Dentel, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

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**SUMMARY**

Inspection Report 05000247/2015004, 05000286/2015004; 10/01/2015 – 12/31/2015; Indian Point Nuclear Generating (Indian Point), Units 2 and 3; Routine Integrated Inspection Report.

This report covered a three-month period of inspection by resident inspectors and announced baseline inspections performed by regional inspectors. No NRC-identified or self-revealing findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

A violation of very low safety significance that was identified by Entergy was reviewed by the inspectors. Corrective actions taken or planned by Entergy have been entered into Entergy's corrective action program (CAP). This violation and corrective action tracking number are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

Unit 2 began the inspection period at 100 percent power. On December 5, 2015, Unit 2 was manually tripped by the operators in response to an electrical malfunction in the control rod drive system that caused control rods to drop into the core (event notification 51586). The unit was restarted on December 8, 2015, and operated at reduced power while repairs were made to the 22 main boiler feed pump. Unit 2 returned to full power operations on December 10, 2015, and remained at or near 100 percent power for the remainder of the inspection period.

Unit 3 operated at 100 percent power during the inspection period with the following exception: Unit 3 tripped from full power on December 14, 2015, due to an electrical fault on a 345 kilovolt (kV) transmission line (event notification 51606). The unit was restarted on December 16, 2015, and returned to full power operations on December 17, 2015, and remained at or near 100 percent power for the remainder of the inspection period.

### 1. REACTOR SAFETY

#### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

1R01 Adverse Weather Protection (71111.01 – 2 samples)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

During the week of December 21, 2015, the inspectors performed a review of Entergy's readiness for the onset of seasonal cold temperatures. The inspectors reviewed procedure OAP-048, "Seasonal Weather Preparation (Units 2 and 3)." The focused areas were the refueling water storage tank and condensate storage tank level instruments. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), technical specifications (TSs), control room logs, and the CAP to determine what temperatures or other seasonal weather could challenge these systems and to ensure Entergy had adequately prepared for these challenges. The inspectors reviewed station procedures, including Entergy's seasonal weather preparation procedure and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during cold weather conditions. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

## .2 External Flooding

### a. Inspection Scope

During the week of November 2, 2015, the inspectors performed an inspection of the external flood protection measures for Indian Point. The inspectors reviewed TSs, procedures, design documents, and UFSAR, which depicted the design flood levels and protection areas containing safety-related equipment, to identify areas that may be affected by external flooding. The inspectors conducted a walkdown of the Unit 2 turbine building and service water pump (SWP) area to ensure that Entergy could implement flood protection measures in accordance with their flood protection procedures. The inspectors also reviewed operating procedures for mitigating external flooding during severe weather to confirm that, overall, Entergy had established adequate measures to protect against external flooding events and, more specifically, that credited operator actions were adequate.

### b. Findings

No findings were identified.

## 1R04 Equipment Alignment

### Partial System Walkdowns (71111.04Q – 3 samples)

#### a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

#### Unit 2

- Appendix R emergency diesel generator (EDG) following planned maintenance on October 23, 2015

#### Unit 3

- Battery chargers and 125 volts direct current system while the 31 battery charger was out of service on October 16, 2015
- Boric acid transfer system following repair of valve CH-370 on October 20, 2015

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, TSs, work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed



whether Entergy had properly identified equipment issues and entered them into the CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Resident Inspector Quarterly Walkdowns (71111.05Q – 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Entergy controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan (PFP) and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

Unit 2

- Auxiliary feedwater (AFW) building (PFP-259, PFP-260, and PFP-261 were reviewed) on October 5, 2015
- Primary water makeup pump room (PFP-208 was reviewed) during elevated fire risk on November 30, 2015

Unit 3

- Upper electrical tunnel (PFP-357 was reviewed) on October 29, 2015
- Upper electrical penetration area (PFP-358 was reviewed) on October 29, 2015
- Primary auxiliary building on November 16, 2015

b. Findings

No findings were identified.

.2 Fire Protection – Drill Observation (71111.05A – 1 sample)

a. Inspection Scope

The inspectors observed a fire brigade drill scenario conducted on December 3, 2015, that involved the north loading well. The inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that Entergy identified deficiencies, openly discussed them in a self-critical manner at the debrief, and took appropriate corrective actions as required. The inspectors evaluated specific attributes as follows:

- Proper wearing of turnout gear and self-contained breathing apparatus
- Proper use and layout of fire hoses
- Employment of appropriate fire-fighting techniques
- Sufficient fire-fighting equipment brought to the scene
- Effectiveness of command and control
- Search for victims and propagation of the fire into other plant areas
- Smoke removal operations
- Utilization of pre-planned strategies
- Adherence to the pre-planned drill scenario
- Drill objectives met

The inspectors also evaluated the fire brigade's actions to determine whether these actions were in accordance with Entergy's fire-fighting strategies. Entergy document EN-TQ-125, "Fire Brigade Drills," Attachment Drill Report, was reviewed by the inspectors.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program

.1 Licensed Operator Requalification Program (711111.11A – 1 sample for Unit 2; 711111.11B – 1 sample for Unit 3)

a. Inspection Scope

The following inspection activities were performed primarily on Unit 3 using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10, and Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." IP 711111.11A was conducted on Unit 2 for one sample and IP 711111.11B was conducted on Unit 3 for one sample.

Examination Results

On December 7, 2015, the results of the annual operating tests for both units were reviewed in-office to determine if pass/fail rates were consistent with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10, and NRC Inspection Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process." The revision verified that the failure rate (individual or crew) did not exceed 20 percent.

Unit 2

- One out of fifty-one licensed operators failed at least one section of the annual exam. The overall individual failure rate was 2.0 percent.
- Zero out of six crews failed the simulator test. The crew failure rate was 0.0 percent.

### Unit 3

- Zero out of fifty-three operators failed at least one section of the annual exam. The overall individual failure rate was 0.0 percent.
- Zero out of six crews failed the simulator test. The crew failure rate was 0.0 percent.

### Written Examination Quality

The inspectors reviewed a Unit 3 written examination administered to the “victor” crew for qualitative and quantitative attributes as specified in Appendix B of IP 71111.11, “Licensed Operator Requalification.”

### Operating Test Quality

The operating tests for the weeks of September 21 and 28, 2015, were reviewed for quality. Twelve job performance measures (JPMs) and nine scenarios were reviewed for qualitative and quantitative attributes as specified in Appendix C of IP 71111.11, “Licensed Operator Requalification Program.”

### Entergy’s Administration of Operating Tests

Observations were made of the dynamic simulator exams and JPMs administered during the week of September 21, 2015. These observations included facility evaluations of crew and individual performance during the dynamic simulator exams and individual performance of five JPMs.

### Examination Security

The inspectors assessed whether facility staff properly safeguarded exam material. Scenarios, JPMs, and written examinations were checked for excessive overlap of test items.

### Remedial Training and Re-Examinations

The remediation plan for one reactor operator (RO), who had failed a weekly quiz, was reviewed to assess the effectiveness of the remedial training. Remediation of this individual was checked for compliance with site procedures.

### Conformance with Operator License Conditions

Medical records for six senior reactor operator licenses and four RO licenses were reviewed to assess conformance with license conditions.

Proficiency watch standing records were reviewed for the first two quarters of 2015.

The reactivation plans for two operators were reviewed to assess the effectiveness of the reactivation process and to check for compliance with site procedures.

Records were reviewed for the participation of the licensed operators of crew “C” in the requalification program from cycle 1501 through 1504.

### Simulator Performance

Simulator performance and fidelity was reviewed for conformance to the reference plant control room. A sample of simulator CRs was also reviewed to ensure facility staff addressed, identified, and addressed performance modeling problems. Simulator test documentation was also reviewed.

### Problem Identification and Resolution

A review was conducted of recent operating history documentation found in inspection reports, Entergy's CAP, and the most recent NRC plant issues matrix. The inspectors also reviewed specific events from Entergy's CAP related to operator performance, such as root and apparent cause evaluations, to verify that they had been appropriately addressed. The inspectors reviewed operator training and simulator issues to ensure that issues were being tracked and corrected by Entergy. The resident inspectors were also consulted for insights regarding licensed operators' performance. Those reviewed did not detect any operational events that were indicative of possible training deficiencies.

#### b. Findings

No findings were identified.

### .2 Quarterly Review of Licensed Operator Requalification Program (711111.11Q – 2 samples)

#### a. Inspection Scope

The inspectors evaluated operator performance and verified completion of operator actions. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

- Unit 2 licensed operator just-in-time simulator training on December 6, 2015, in preparation for the Unit 2 reactor startup on December 7, 2015
- Unit 3 licensed operator just-in-time simulator training on December 15, 2015, in preparation for the Unit 3 reactor startup on December 17, 2015

#### b. Findings

No findings were identified.

### .3 Quarterly Review of Licensed Operator Performance in the Main Control Room (711111.11Q – 2 samples)

#### a. Inspection Scope

The inspectors observed operator performance in the main control room during heightened activities. This included infrequently performed test or evolution briefings,

pre-shift briefings, and reactivity control briefings to verify that the briefings met the criteria specified in Entergy's administrative procedure EN-OP-115 "Conduct of Operations." Additionally, the inspectors observed test performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

- Unit 2 troubleshooting efforts on pressurizer pressure control switch on November 11, 2015
- Unit 3 electrical plant start up conducted on December 17, 2015, following the plant trip on December 14, 2015

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 5 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that Entergy performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that Entergy performed risk assessments as required by Title 10 of the *Code of Federal Regulations* (10 CFR) 50.65(a)(4) and that the assessments were accurate and complete. When Entergy performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

Unit 2

- Emergent yellow risk due to loss of control power for 22 EDG on October 6, 2015
- Emergent yellow fire risk due to unplanned maintenance on 23 SWP on November 30, 2015
- Yellow risk with output breaker 7 open for planned maintenance on 345kV feeder Y94 on December 17, 2015

Unit 3

- Yellow risk due to 31 EDG planned maintenance on October 19, 2015
- Yellow risk due to 32 component cooling water pump planned maintenance from October 27 to October 30, 2015

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 4 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

Unit 2

- Phase B solenoid operated valves in the isolation valve sealing water system found closed on October 5, 2015 (CR-IP2-2015-4482)
- Pressurizer pressure controller unanticipated step changes on November 4 and November 6, 2015 (CR-IP2-2015-5008 and CR-IP2-2015-5028)
- Pressurizer pressure controller channel defeat switch degraded on December 10, 2015 (WO 00429927). This completed a review of the operator workaround (OWA) program

Unit 3

- 31 main boiler feed pump controller in manual was reviewed on November 2, 2015 (WO 00426460). This completed a review of the OWA program

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to Entergy's evaluations to determine whether the components or systems were operable. The inspectors confirmed, where appropriate, compliance with bounding limitations associated with the evaluations. Where compensatory measures were required to maintain operability, such as in the case of OWAs, the inspectors determined whether the measures in place would function as intended and were properly controlled by Entergy. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Based on the review of the selected OWAs listed above, the inspectors verified that Entergy identified OWAs at an appropriate threshold and addressed them in a manner that effectively managed OWA-related adverse effects on operators and structure, system, and component (SSCs).

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 1 sample)Temporary Modificationa. Inspection Scope

The inspectors reviewed the temporary modifications listed below to determine whether the modifications affected the safety functions of systems that are important to safety. The inspectors reviewed 10 CFR 50.59 documentation and post-modification testing results and conducted field walkdowns of the modifications to verify that the temporary modifications did not degrade the design bases, licensing bases, and performance capability of the affected systems.

Unit 2

- Engineering Change (EC)-60486, Bypass of transfer switch EDD6 to energize 22 EDG control circuit on October 8, 2015

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 4 samples)a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the test results were properly reviewed and accepted and problems were appropriately documented. The inspectors also walked down the affected job site, observed the pre-job brief and post-job critique where possible, confirmed work site cleanliness was maintained, and witnessed the test or reviewed test data to verify quality control hold point were performed and checked, and that results adequately demonstrated restoration of the affected safety functions.

Unit 2

- 21 EDG after starting air motor lubricator replacement on November 18, 2015
- 22 SWP after lubricating oil preventative maintenance on November 24, 2015

Unit 3

- 31 EDG 2-year preventive maintenance and pre-lube pump replacement on October 20, 2015
- 32 EDG lubricating oil and jacket water leak repairs on October 26, 2015

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 5 samples)a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and Entergy's procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

Unit 2

- 2-PT-Q 027A, 21 AFW Pump, on October 23, 2015 (this sample was part of an in-depth review of the AFW system – see Inspection Report 050000247/2015003)
- 2-PT-M021A, EDG 21 Load Test, on November 18, 2015
- 2-PT02M2A, Reactor Protection System Logic Train "A" Actuation Logic Test and Trip Actuating Device Operational Test (Greater Than 25 Percent Reactor Power) on December 21, 2015
- PT-Q026D 24 SWP on December 21, 2015

Unit 3

- 3-PT-Q120B, 32 Auxiliary Boiler Feedwater Pump (ABFP) Quarterly Surveillance, on October 1 and October 14, 2015 (in-service test)

b. Findings

No findings were identified.

**Cornerstone: Emergency Preparedness**1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)a. Inspection Scope

Entergy implemented various changes to the Indian Point Emergency Action Levels (EALs), Emergency Plan, and Implementing Procedures. Entergy had determined that, in accordance with 10 CFR 50.54(q)(3), any change made to the EALs, Emergency Plan, and its lower-tier implementing procedures, had not resulted in any reduction in effectiveness of the Plan, and that the revised Plan continued to meet the standards in 50.47(b) and the requirements of 10 CFR Part 50, Appendix E.



The inspectors performed an in-office review of all EAL and Emergency Plan changes submitted by Entergy as required by 10 CFR 50.54(q)(5), including the changes to lower-tier emergency plan implementing procedures, to evaluate for any potential reductions in effectiveness of the Emergency Plan. This review by the inspectors was not documented in an NRC Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety. The requirements in 10 CFR 50.54(q) were used as reference criteria.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06 – 1 sample)

Training Observations

a. Inspection Scope

The inspectors observed emergency response organization (ERO) mini-scenario training evolutions on October 19 and October 26, 2015, which required the ERO duty team for the week to perform emergency event classification and protective action recommendation development. Entergy planned for this evolution to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities, as applicable, performed by the ERO duty team. The inspectors also observed the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the ERO team's performance and ensure that Entergy evaluators noted the same issues and entered them into the CAP.

b. Findings

No findings were identified.

**2. RADIATION SAFETY**

**Cornerstone: Public Radiation Safety and Occupational Radiation Safety**

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08 – 1 sample)

a. Inspection Scope

The inspectors verified the effectiveness of Entergy's programs for processing, handling, storage, and transportation of radioactive material. The inspectors used the requirements of 49 CFR 170 to 177; 10 CFR 20, 37, 61, and 71; applicable industry standards; Regulatory Guides; and procedures required by TSs as criteria for determining compliance.

### Inspection Planning

The inspectors conducted an in-office review of the solid radioactive waste system description in the UFSAR, the process control program, and the recent radiological effluent release report for information on the types, amounts, and processing of radioactive waste disposed. The inspectors reviewed the scope of quality assurance audits performed for this area since the last inspection.

### Radioactive Material Storage

The inspectors observed radioactive waste container storage areas and verified that Entergy had established a process for monitoring the impact of long-term storage of the waste.

### Radioactive Waste System Walk-Down

The inspectors walked down the following items and areas:

- Accessible portions of liquid and solid radioactive waste processing systems to verify current system alignment and material condition
- Abandoned in place radioactive waste processing equipment to review the controls in place to ensure protection of personnel
- Changes made to the radioactive waste processing systems since the last inspection
- Processes for transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers
- Current methods and procedures for dewatering waste

### Waste Characterization and Classification

The inspectors identified radioactive waste streams and reviewed radiochemical sample analysis results to support radioactive waste characterization. The inspectors reviewed the use of scaling factors and calculations to account for difficult-to-measure radionuclides.

### Shipment Preparation

The inspectors reviewed the records of shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and Entergy verification of shipment readiness.

### Shipping Records

The inspectors reviewed selected non-accepted package shipment records.

### Identification and Resolution of Problems

The inspectors assessed whether problems associated with radioactive waste processing, handling, storage, and transportation were identified at an appropriate threshold and properly addressed in Entergy's CAP.

b. Findings

No findings were identified.

**4. OTHER ACTIVITIES**

4OA2 Problem Identification and Resolution (71152 – 2 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by IP 71152, “Problem Identification and Resolution,” the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Entergy entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow up, the inspectors performed a daily screening of items entered into the CAP and periodically attended CR screening meetings. The inspectors also confirmed, on a sampling basis, that, as applicable, for identified defects and non-conformances, Entergy performed an evaluation in accordance with 10 CFR Part 21.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by IP 71152, “Problem Identification and Resolution,” to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely-related issues that may have been documented by Entergy outside of the CAP. The inspectors also reviewed Entergy’s CAP database for the third and fourth quarters of 2015 to assess CRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRCs daily CR review (Section 4OA2.1). The inspectors reviewed Entergy’s trend report for October 2015, conducted under EN-LI-121, “Trending and Performance Review Process,” to verify that Entergy was appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

The inspectors noted and discussed with Entergy staff two minor adverse trends. The first trend was associated with operator use of human performance tools in the control room during off-normal but non-emergency situations. The trend was identified after observing control room activities while excess letdown was in service on Unit 3, during

plant cooldown in preparation of O-ring repairs on Unit 3, during reactor coolant system fill-and-vent following those repairs, and while the Unit 2 pressurizer pressure instrumentation was malfunctioning. During each evolution, the inspectors noted that some operators had an uncertain understanding of the expected plant response, and yet proceeded on with scheduled activities instead of stopping when unsure. At no point did the operators take an inappropriate action for the current plant configuration, and therefore, this issue was determined to be of minor significance. Entergy wrote CR-IP3-2015-4782, CR-IP3-2015-4872, and CR-IP3-2015-4897 to address these observations.

The second trend was associated with adherence to fleet procedures. At Indian Point, there are procedures written and controlled by site staff; but there are also procedures written and controlled by a group assembled from the entire Entergy nuclear fleet. The inspectors identified three instances in which the fleet procedural requirements were not met. While performing a surveillance test in the Unit 3 ABFPs, Entergy did not mark critical steps in the procedure, contrary to requirements in EN-HU-106. Entergy wrote CR-IP3-2015-3700 to address this. During the planned shutdown for the Unit 3 O-ring repairs, a reactor engineer was not present in the control room, even though EN-OP-115 requires that a reactor engineer be “actively engaged” in a planned shutdown. Additionally, the inspectors identified that Entergy did not prepare contingency plans for high source terms during refueling outages, contrary to EN-RP-110-06. Entergy wrote CR-IP2-2015-5402 to address this issue. The inspectors did not identify any adverse consequence due to the procedure non-compliances and therefore determined the issue was of minor significance.

Based on the overall results of the semi-annual trend review, the inspectors determined that, generally, Entergy was appropriately identifying and entering issues into the CAP at a very low level, adequately evaluating the issues, and identifying adverse trends before they became more significant safety problems.

### .3 Annual Sample: Deficient Thrust Restraint on 22 SWP

#### a. Inspection Scope

During a structural maintenance rule walkdown of the Unit 2 intake structure on June 24, 2014, Entergy observed a thrust restraint for 22 SWP, located in the SWP bay, which was sheared off at the upper clip angle connections. The SWP bay is essentially 100 percent humidity environment. This caused the severe corrosion identified on the carbon steel restraint and misalignment between the two pieces that were sheared off. In addition, a 3/8-inch gap was identified between the thrust restraint and pump bearing plate. Entergy documented and evaluated the condition in CR-IP2-2014-3710.

The inspectors reviewed Entergy’s evaluation of the degraded thrust restraint and reviewed the corrective actions and extent of condition to resolve the deficient condition. The inspectors reviewed EC 52592 that redesigned the support base plate on the ceiling and the repair activity performed per WO 386718. The 3/8-inch gap between restraint and SWP discharge thrust pad was restored to zero inches using shim plates. The inspectors reviewed Entergy’s Immediate Operability Determination, Drawing 9321-1006, “Intake Structure Platform Framing Plan and Details,” Calculation IP-CALC-14-00075, “Redesign Anchorage of the Thrust Restraint for 22 Service Water Pump,” and IP-CALC-14-00059, “Evaluation of 22 Service Water Pump Due to Degraded Thrust Restraint.”

Through these activities the inspectors assessed whether Entergy was appropriately identifying, characterizing, and correcting problems associated with the degraded thrust restraint on 22 SWP and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of Entergy's CAP and 10 CFR 50, Appendix B.

b. Findings and Observations

No findings were identified.

The review verified that Entergy staff adequately identified, characterized, and resolved problems related to the degraded thrust restraint on 22 SWP and that the corrective actions were appropriate. The inspectors reviewed the CR and corrective actions for the deficient thrust restraint to confirm that the Entergy process for identifying, evaluating, and repairing degraded components, including operability determinations, were appropriate to maintain Unit 2 service water system capability.

The thrust restraint is designed for 48,400 pounds of thrust force and IP-CALC-14-00075 calculation showed the new support connection was adequate to withstand the required loading due to this applied force. The 22 SWP shaft was evaluated in calculation IP-CALC-14-00059 and the pump was evaluated to be operable with a degraded thrust restraint prior to being repaired.

The inspectors verified that the degraded thrust restraint was appropriately identified and dispositioned with an adequate technical basis for assessing integrity of the service water system and the design function of the thrust restraint was adequately restored.

4OA3 Follow Up of Events and Notices of Enforcement Discretion (71153 – 4 samples)

.1 Plant Events

a. Inspection Scope

For the plant events listed below, the inspectors reviewed and/or observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems. The inspectors communicated the plant events to appropriate regional personnel, and compared the event details with criteria contained in Inspection Manual Chapter 0309, "Reactive Inspection Decision Basis for Reactors," for consideration of potential reactive inspection activities. As applicable, the inspectors verified that Entergy made appropriate emergency classification assessments and properly reported the event in accordance with 10 CFR Parts 50.72 and 50.73. The inspectors reviewed Entergy's follow-up actions related to the events to assure that Entergy implemented appropriate corrective actions commensurate with their safety significance.

- Unit 2 reactor manual trip as the result of an electrical malfunction in the 24 motor control center and subsequent loss of power to rod control that caused dropped control rods on December 5, 2015
- Unit 3 reactor trip caused by a main generator trip as the result of a 345 kV electrical system disturbance on December 14, 2015

b. Findings

No findings were identified.

- .2 (Closed) Licensee Event Report (LER) 05000286/2015-005-00: Automatic Reactor Trip Due to a Turbine-Generator Trip Caused by the Trip of 345 kV Main Generator Output Breaker 3 Due to a Failure of South Ring Bus 345 kV Breaker 5

On June 15, 2015, Unit 3 tripped from 100 percent power after the ROs opened main generator output breaker 1 at the request of Con Edison. The output of Unit 3 feeds in to the south ring bus in the Buchanan 345 kV substation between breakers 1 and 3. With breaker 1 open, the power produced by Unit 3 flows through only breaker 3. In this configuration, the amount of power flowing through breaker 5 is also increased. When the ROs opened breaker 1, phase C on breaker 5 faulted to ground. Breaker 3 opened as designed in response to the fault. With both breaker 1 and breaker 3 open, the turbine and subsequently the reactor tripped as designed.

The inspectors reviewed Entergy's post-transient evaluation and apparent cause evaluation to verify the accuracy of the LER. The inspectors also reviewed Entergy's corrective actions for the trip, which included tracking Con Edison's replacement of breaker 5, and comparing the preventive maintenance performed on similar Entergy-owned breakers to the industry standards. The inspectors did not identify any new issues during the review of the LER. This LER is closed.

- .3 (Closed) LER 05000286/2015-007-00: Manual Reactor Trip Due to Decreasing Steam Generator Water Level Caused by a Mis-Wired Circuit Board in the Main Feedwater Pump Speed Control System

On July 8, 2015, operators initiated a manual reactor trip in response to decreasing steam generator levels. 31 condensate pump tripped due to overcurrent caused by a windings short, lowering suction pressure available to the main boiler feedwater pumps. Entergy determined that an incorrectly wired track and hold circuit in the 31 main boiler feedwater pump speed controller caused the pump to remain at minimum speed, the recirculation valve to open, and the discharge valve to close, resulting in insufficient feedwater for the power level. The inspectors reviewed Entergy's evaluation of the event and corrective actions documented in CR-IP3-2015-3795. The inspectors did not identify any performance deficiencies during review of the LER. This LER is closed.

4OA5 Other Activities

- .1 IP 92702, "Follow Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternate Dispute Resolution Confirmatory Orders"

a. Inspection Scope

During the week of September 21, 2015, the inspectors performed an onsite review of Entergy's records related to corrective actions taken in response to a Severity Level (SL) III Notice of Violation (NOV) issued to Indian Point on March 16, 2015. The NOV, involving a failure to provide accurate and complete information to the NRC on an operator's license renewal application and meet the requirements of 10 CFR 50.9 and

10 CFR Part 55, is described in NRC Inspection Report 05000247 and 05000286/2015008 and is publically available in the NRC's Agencywide Document Access and Management System, accession number ML15075A328. The objectives of the inspection were to determine that adequate corrective actions have been implemented for the SL III NOV, root causes have been identified, generic implications have been addressed, and that Entergy's programs and practices have been appropriately enhanced to prevent recurrence. The inspectors reviewed CRs, procedures, and relevant references to the NOV. The inspectors also interviewed management and staff personnel who participated in the CAP evaluation of the violations. The inspection criteria used during the inspection included the inspection guidance contained in IP 92702 and the performance attributes listed in Table 1 of IP 71152.

b. Findings

No findings were identified.

Entergy's apparent cause evaluation (IP2-2014-4202) appropriately identified the apparent and contributing causes that resulted in the failure to provide accurate and complete information to the NRC on an operator's license renewal application. Entergy performed a review of the extent of condition that ensured that necessary medical conditions are being identified and reported to the NRC. The inspectors corroborated this conclusion by sampling ten operators' medical records during this inspection.

Entergy's corrective actions included procedure changes and training of the necessary personnel. Entergy initiated CR-IP2-2015-00740 to ensure the adequacy of their corrective actions. The inspectors determined that adequate corrective actions had been taken to identify and report restricting medical conditions to the NRC to preclude recurrence.

.2 IP 92723, "Follow Up on Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period"

a. Inspection Scope

The inspectors performed a review to assess Entergy's evaluation of two SL IV violations and one SL III violation that occurred within the area of impeding the regulatory process from July 1, 2014, to July 1, 2015. The SL IV violations were documented in NRC inspection reports as: (1) Non-cited violation (NCV) 05000247/2014403-05 and NCV 05000286/2014403-05, involving a security-related reporting issue, and (2) NCV 05000286/2015002-03, involving a failure to provide complete information in a report submitted per 10 CFR 50.73, "Licensee Event Reports." The SL III violation was documented as enforcement action 14-180 in NRC Inspection Report 05000286/2015008 and is described in 4OA5.1.a.

The inspection objectives were to:

- Provide assurance that the causes of multiple traditional enforcement violations are understood by Entergy.

- Provide assurance that the extent of condition and extent of causes of multiple traditional enforcement violations are identified.
- Provide assurance that Entergy's corrective actions to traditional enforcement violations are sufficient to address the causes.

The inspectors reviewed the cause evaluation associated with each of the issues and the common cause analysis (CCA), CR-IP2-2015-04272, "Indian Point's IP 92723 Inspection Over-Archiving Document." Additionally, the inspectors reviewed Entergy's "Pre-Inspection Assessment Worksheet" and "Snapshot Self-Assessment." The inspectors reviewed corrective actions to address the identified causes. Additionally, the inspectors held discussions with Entergy to ensure that the causes were understood and corrective actions were appropriate to address the causes.

b. Assessment

(1) Determine that Entergy's Evaluation Identifies How Each of the Issues was Identified, How Long Each Issue Existed, and Prior Opportunities for Identification

The inspectors determined that Entergy's evaluation addressed how each of the issues was identified, how long they existed, and prior opportunities for identification. Each issue was individually evaluated through Entergy's CAP. Additionally, Entergy performed a collective evaluation for the two SL IV violations and one SL III violation through a pre-NRC inspection self-assessment.

(2) Determine that the Group of Traditional Violations Received an Evaluation at an Appropriate Level of Detail Using a Systematic Method(s) to Identify Cause(s)

The inspectors determined that the SL IV and SL III violations were reviewed collectively using a systematic process to identify any common causes. The inspectors also determined this review contained an appropriate level of detail. The inspectors verified that each violation was adequately evaluated in accordance with Entergy's CAP requirements. Entergy's CCA did not identify a clear common cause between the two SL IV violations and the SL III violation but identified three human performance aspects as apparent causes.

(3) Determine that the Evaluation Included a Consideration of How Prior Occurrences in the Same Traditional Enforcement Area (Willfulness, Regulatory Process, or Consequences) were Addressed by Entergy

Entergy included additional SL IV violations from the previous five years in the area of impeding the regulatory process, which broadened the scope of their CCA. The inspectors noted that Entergy's evaluation included a consideration of how prior occurrences in the area of impeding the regulatory process were addressed. Entergy's self-assessment of their CCA reviewed six previous SL IV traditional enforcement violations within the area of impeding the regulatory process which had occurred at Indian Point between September 1, 2010, and September 25, 2015, checking for repeat or similar problems and identified three human performance aspects as apparent causes. These aspects were identified as "work practices," "inattention to details," and "misjudgment – mindset." Entergy also assessed the causes for individual violations. The CCA also considered operational experience



regarding failure to make required reports to the NRC from other sites. The inspectors reviewed the previous SL IV violations to determine if they were due to a more fundamental concern involving weaknesses in Entergy's CAP. The inspectors did not identify any commonality among the SL IV violations that suggested a fundamental weakness with Entergy's CAP, and determined that evaluation of prior occurrences in the same traditional enforcement were adequately evaluated and addressed by Entergy.

(4) Determine that the Evaluation Addresses the Extent of the Condition and the Extent of Cause of the Problem

The inspectors reviewed the individual CAP items for each of the SL IV and SL III violations, as well as the self-assessment. Entergy included a review of recent 10 CFR 50.59 evaluations and performance indicator data to verify that all required NRC reporting criteria were met. The inspectors determined that Entergy's CAP process, augmented by the CCA, adequately addressed the extent of condition and the extent of cause in accordance with the procedural requirements for the individual violations, as well as collectively.

(5) Determine that Appropriate Corrective Action(s) are Specified for Each Cause Identified for the Group of Violations or That There Is an Evaluation Indicating That No Actions Are Necessary

The inspectors noted that appropriate corrective actions were specified for the causes identified for each of the SL IV and SL III violations. Entergy's CCA identified human performance as a common element in the SL IV and SL III violations considered in the CCA and addressed this through process and procedure changes, training for affected staff, and communication to Entergy personnel. The inspectors reviewed the corrective actions and identified no deficiencies.

(6) Determine that the Corrective Actions Have Been Prioritized with Consideration of the Regulatory Compliance

The inspectors determined that corrective actions were adequately prioritized with consideration of regulatory compliance. Procedure EN-LI-102, "Corrective Action Program," provided guidance for prioritizing corrective actions. A sample review conducted by the inspectors indicated that corrective actions were appropriately prioritized.

(7) Determine that a Schedule Has Been Established for Implementing and Completing the Corrective Actions

The inspectors noted that a schedule was established for implementing and completing the corrective actions. Procedure EN-LI-102 provided guidance for establishing due dates for corrective actions. The inspectors conducted a sample review of completed and planned corrective actions and did not identify any discrepancies.

(8) Determine that Measures of Success Have Been Developed for Determining the Effectiveness of the Corrective Actions to Prevent Recurrence

Measures of success were developed for determining the effectiveness of the corrective actions to prevent recurrence. Entergy's CCA defined specific measures of success for the corrective actions addressing the SL IV and SL III violations. The specific measures of success focused on making all required reports.

c. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On January 15, 2015, the inspectors presented the inspection results to Mr. Larry Coyle, Site Vice President, and other members of Entergy. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by Entergy and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV. This issue was identified and documented in Entergy's CAP as CR-IP2-2015-01985 and HQ-2015-00526, based on a previously identified NRC finding at another Entergy facility.

- From 2010 to 2014, Indian Point made four shipments of radioactive material that contained category two levels of radioactive material quantity of concern but did not implement a transportation security plan for these shipments, which is contrary to the requirements of 49 CFR 172, Subpart I, "Safety and Security Plans." This performance deficiency adversely affected the Public Radiation Safety cornerstone attribute of Program and Process based on inadequate procedures associated with the transportation of radioactive materials. This issue was documented in Entergy's CAP as CR-IP2-2015-01985 and HQ-2015-00526. Corrective actions included revision of procedure EN-RW-106 and selection of a vendor to regularly review the federal register for regulatory changes that can impact plant operations.

**ATTACHMENT: SUPPLEMENTARY INFORMATION**

**SUPPLEMENTARY INFORMATION**

**KEY POINTS OF CONTACT**

Entergy Personnel

L. Coyle, Site Vice President  
J. Dinelli, Plant Operations General Manager  
R. Anderson, FIN Team Manager  
N. Azevedo, Code Programs Supervisor  
J. Baker, Unit 2 Shift Manager  
K. Baumbach, Chemistry Supervisor  
S. Bianco, Operations Fire Marshal  
R. Burroni, Engineering Director  
T. Chan, Engineering Supervisor  
N. Chase, Control Room Operator  
D. Dewey, Assistant Operations Manager  
R. Dolansky, ISI Program Manager  
R. Drake, Civil Design Engineering Supervisor  
J. Ferrick, Production Manager  
D. Gagnon, Security Manager  
J. Garcia, I&C Technician  
L. Glander, Emergency Preparedness Manager  
M. Johnson, Unit 3 Shift Manager  
F. Kich, Performance Improvement Manager  
J. Kirkpatrick, Regulatory and Performance Improvement Director  
N. Lizzo, Training Manager  
D. Mayer, Unit 1 Director  
B. McCarthy, Operations Manager  
F. Mitchell, Radiation Protection Manager  
E. Mullek, Maintenance Manager  
F. Spagnulo, Outage Manager  
B. Sullivan, Nuclear Operations Training Superintendent  
S. Stevens, Radiation Protection Operations Superintendent  
M. Tesoriero, System Engineering Manager  
M. Troy, Nuclear Oversight Manager  
R. Walpole, Regulatory Assurance Manager

## LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

### Closed

|                      |     |  |
|----------------------|-----|--|
| 05000286/2015-005-00 | LER | Automatic Reactor Trip Due to a Turbine-Generator Trip Caused by the Trip of 345 kV Main Generator Output Breaker 3 Due to a Failure of South Ring Bus 345 kV Breaker 5 (Section 4OA3) |
| 05000286/2015-007-00 | LER | Manual Reactor Trip Due to Decreasing Steam Generator Water Level Caused by a Mis-Wired Circuit Board in the Main Feedwater Pump Speed Control System (Section 4OA3)                   |

## LIST OF DOCUMENTS REVIEWED

### Common Documents Used

Indian Point Unit 2, Updated Final Safety Analysis Report  
 Indian Point Unit 2, Individual Plant Examination  
 Indian Point Unit 2, Individual Plant Examination of External Events  
 Indian Point Unit 2, Technical Specifications and Bases  
 Indian Point Unit 2, Technical Requirements Manual  
 Indian Point Unit 2, Control Room Narrative Logs  
 Indian Point Unit 2, Plan of the Day

### Section 1R01: Adverse Weather Protection

#### Procedures

2-AOP-FLOOD-1, Flooding, Revision 10  
 3-AOP-FLOOD-1, Flooding, Revision 9  
 OAP-048 Seasonal Weather Preparation, Revision 17  
 2COL-30.1, Electric Heat Tracking, Revision 28  
 2 COL-11.5, Space Heating and Winterization, Revision 31  
 2SOP 11.5, Space Heating and Winterization, Revision 34  
 OAP-008, Severe Weather Preparations. Revision 23

#### Condition Reports (CR-IP2-)

2013-04349

#### Maintenance Orders/Work Orders

WO 00366688            WO 00366686

#### Miscellaneous

Unit 3 Technical Requirements Manual  
 Individual Plant Examination for External Events, Unit 2  
 Individual Plant Examination for External Events, Unit 3

**Section 1R04: Equipment Alignment**Procedures

3-SOP-EI-003, Battery Charger and 125 Volt Direct Current System Operations, Revision 42  
 EN-DC-136, Temporary Modifications, Revision 12  
 3-ONOP-CVCS-3, Emergency Boration, Revision 14  
 3-COL-CVCS-001, Chemical and Volume Control System, Revision 31

Condition Reports (CR-IP3-)

2015-05220    2015-05245    2015-05297    2015-05309    2015-05379

Drawings

9321-F-33853, Electrical Distribution and Transmission System, Revision 20  
 9321-F-27363, Sheet 1, Flow Diagram Chemical and Volume Control System, Revision 53

**Section 1R05: Fire Protection**Procedures

PFP-357, Upper Electrical Tunnel, Revision 5  
 PFP-358, Upper Electrical Penetration Area, Revision 15

Condition Reports (CR-IP3-)

2015-5381

Drawings

9321-F-40903, Flow Diagram of Plant Fire Protection System Sheet Number 1, Revision 31

Miscellaneous

Standing order 15-07

**Section 1R11: Licensed Operator Requalification Program**Procedures

EN-NS-112, Medical Program, Revision 14  
 EN-TQ-114, Licensed Operator Requalification Training Program Description, Revision 9  
 2-POP-1.2, Reactor Startup, Revision 59  
 3-POP-1.2, Reactor Startup, Revision 55

Job Performance Measures

|       |       |       |     |      |        |
|-------|-------|-------|-----|------|--------|
| 007-3 | 030-9 | 246   | 072 | 105A | 245A   |
| 006A  | 013   | 030-3 | 033 | 077A | 243A-4 |

Simulator Scenarios

|                 |                 |                 |
|-----------------|-----------------|-----------------|
| 13SX-LOR-SES033 | 13SX-LOR-SES018 | 13SX-LOR-SES005 |
| 13SX-LOR-SES064 | 13SX-LOR-SES050 | 13SX-LOR-SES008 |
| 13SX-LOR-SES003 | 13SX-LOR-SES011 | 13SX-LOR-SES013 |

Training/Operator – Related Condition Reports

|                   |                   |                   |
|-------------------|-------------------|-------------------|
| CR-IP2-2014-04202 | CR-IP2-2015-00737 | CR-IP2-2015-00740 |
| CR-IP3-2015-01677 |                   |                   |

Simulator-Related Test Documents

|                   |                   |
|-------------------|-------------------|
| CR-IP3-2014-02083 | CR-IP3-2015-02928 |
|-------------------|-------------------|

Simulator Performance Tests

Manual Rx Trip, July 1, 2014

Simultaneous Closure of All Main Steam Isolation Valves, July 1, 2014

Simultaneous Trip of All Reactor Coolant Pumps, July 1, 2014

Loss-of-Coolant Accident with Blackout, July 1, 2014

Maximum Design Load Rejection, July 1, 2014

Steady State Operability Test, July 1, 2014

Simulator Analysis of Unit 2 Trip Resulting From Loss of Both Heater Drain Pumps, April 1, 2013

Simulator Analysis of Unit 2

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**Procedures

IP-SMM-WM-101, Fire Protection and Maintenance Rule (a)(4) Risk Assessment, Revision 5

Miscellaneous

Equipment Out of Service Risk Tool

Operations Narrative Logs for November 27 and 30, 2015

**Section 1R15: Operability Determinations and Functionality Assessments**Procedures

2-COL-10.4.1, Isolation Valve Seal Water System, Revision 21

EN-FAP-OP-006, Operator Aggregate Impact Index Performance Indicator, Revision 2

Condition Reports (CR-IP2-)

2015-4482

Condition Reports (CR-IP3-)

2013-02320 2013-04613 2014-00060 2014-01269 2015-01657 2015-02095

2015-03721 2015-04985 2015-05232 2015-05322

Maintenance Orders/Work Orders

WO 00305120 WO 00347650 WO 00368637 WO 00371378

WO 00385256 WO 00408553 WO 00409269 WO 00409602

WO 00426457 WO 00426460 WO 00426799 WO 52533356

Drawings

226967, Wiring Diagram and Schematic of Isolated Seal Water Valves 3518, 3519, Revision 7

322462, Schematic Diagram of IVSWS Flow Control Valves SOV-7864, SOV-7865, SOV-7866 and SOV-7867, Revision 0

IP2-D-000005, Indian Point Unit 2 Seal Water Valves 3518, 3519, 1410, 1413, Revision 2

9321-F-27293, Sheet 1, Flow Diagram Steam Generator Blowdown System, Revision 33

Miscellaneous

IP2-CISS/IVSW DBD, Isolation Valve Seal Water System, Revision 1

Operator Rounds

Operations Performance Indicators for Third Quarter 2015

**Section 1R19: Post-Maintenance Testing**Procedures

IP-SMM-MA-115, Indian Point Calibration and Control of Measuring and Test Equipment,  
Revision 2

EN-MA-105, Control of Measuring and Test Equipment, Revision 11

EN-LI-100, Process Applicability Determination, Revision 17

0-GNR-408-ELC, EDG 12-Year Inspection, Revision 6

3-BKR-016-CUB, Westinghouse 480 Volt Switchgear Cubicle Inspection and Cleaning,  
Revision 12

3-PT-M079A, 31 EDG Functional Test, Revision 49

3-PT-M079B, 32 EDG Functional Test, Revision 51

Condition Reports (CR-IP3-)

2015-05249 2015-05250

Maintenance Orders/Work Orders

WO 00395820

WO 00408280

WO 00409383

WO 00410514

WO 00410515

WO 00419581

WO 00420663

WO 52522498

WO 52537607

WO 52646607

WO 52653729

Miscellaneous

EC 59120, Provide Engineering Justification for Electronic Stopwatch Exemption from  
M Program

EN-LI-100, Attachment 9.1, Process Applicability Determination Form, Completed August 12,  
2015

Quality Assurance Program Manual, Revision 29

**Section 1R22: Surveillance Testing**Procedures

3-PT-Q120B, 32 ABFP (Turbine Driven) Surveillance and IST, Revision 25

3-PT-R090E, Local Operations of 32 ABFP, Revision 15

2-PT-Q026D, 24 Service Water Pump, Revision 13

2-PT-Q017E, Alternate Safe Shutdown Supply Verification to 24 SWP, Revision 11

2-PT02M2A, Reactor Protection System Logic Train "A" Actuation Logic Test and Trip Actuating  
Device Operational Test (Greater Than 25 Percent Reactor Power), Revision 5

Condition Reports (CR-IP3-)

2015-05132 2015-05040 2015-05747

Maintenance Orders/Work Orders

WO 52635625

WO 52653723

WO52652926-01

**Section 1EP4: Emergency Action Level and Emergency Plan Changes**Procedures

IPEC-EP, Indian Point Energy Center, Revision 17

IP-EP-120, Emergency Classification, Revision 8

IP-EP-220, Technical Support Center, Revision 16

IP-EP-250, Emergency Operation Facility, Revision 33

IP-EP-310, Dose Assessment, Revision 12

IP-EP-310, Dose Assessment, Revision 13  
EN-IP-1055, Fire Emergency Response, Revision 17

**Section 1EP6: Drill Evaluation**

Condition Reports (CR-IP2-)

2015-03941 2015-04623 2015-04721

Miscellaneous

ERO Duty Team Turnover Report, October 19, 2015 to October 26, 2015  
ERO Duty Team Turnover Report, October 26, 2015 to November 2, 2015

**Section 2RS8: Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation**

Procedures

EN-RW-102, Radioactive Shipping Procedure, Revision 13  
EN-RW-104, Scaling Factors, Revision 12  
EN-RW-105, Process Control Program, Revision 5  
EN-RW-106, Integrated Transportation Security Plan, Revision 4

Condition Reports (CR-IP2-)

2014-01499 2015-01985 2015-04296

Quality Assurance

Focused Self-Assessment IP3LO-2015-00036, Radioactive Waste Management, May 2015

Scaling Factors

U-2 DAW      U-3 DAW      U-3 LWS Resin      U-3 SRST Resin

Training

Lesson Plan 10-LP-RPCT-7919, Radioactive Material Shipping – HP/RW

Shipments

15-025      15-045      15-070      15-125      15-157

**Section 4OA2: Problem Identification and Resolution**

Maintenance Orders/Work Orders

WO386718, Completed October 21, 2015

Drawings

9321-1006, Intake Structure Platform Framing Plan and Details, Revision 9  
14861, Service Water Pump, Revision 5

Miscellaneous

Engineering Report IP-RPT-14-00046, Maintenance Rule Structural Monitoring Inspection Report (Fourth Cycle) for the Unit 2 Intake Structure, Revision 0  
Engineering Change No. 52592  
Performance Review Meeting Report, Indian Point Energy Center, October 2015



Calculations

IP-CALC-14-00075, Redesign Anchorage of the Thrust Restraint for 22 Service Water Pump, Revision 0

IP-CALC-14-00059, Evaluation of 22 Service Water Pump Due to Degraded Thrust Restraint, Revision 1

**Section 40A3: Follow-up of Events and Notices of Enforcement Discretion**

Procedures

IP-SMM-OP-104, Offsite Power Continuous Monitoring and Notification, Revision 13

Condition Reports (CR-IP3-)

2002-04550 2015-03487

**Section 40A5: Other Activities**

Procedures

EN-LI-118-06, Common Cause Analysis, Revision 4

EN-LI-118, Cause Evaluation Process, Revision 21

EN-LI-102, Corrective Action Program, Revision 24

EN-LI-104, Self-Assessment and Benchmark Process, Revision 11

EN-LI-123-03, Pre-Inspection Assessments for IP 92723, Revision 1

EN-NS-112, Medical Program, Revision 13

OAP-032, Operations Training Program, Revision 24

Condition Reports (CR-IP2-)

2014-04202 2014-04622 2014-04627 2014-05531 2015-00589 2015-00745  
2015-02331

Condition Reports (CR-IP3-)

2014-01416 2014-01981 2014-02156 2015-04261

**LIST OF ACRONYMS**

|        |  |
|--------|--|
| 10 CFR | Title 10 of the <i>Code of Federal Regulations</i> |
| ABFP   | auxiliary boiler feedwater pump                    |
| AFW    | auxiliary feedwater                                |
| CAP    | corrective action program                          |
| CCA    | common cause analysis                              |
| CR     | condition report                                   |
| EAL    | emergency action level                             |
| EC     | engineering change                                 |
| EDG    | emergency diesel generator                         |
| ERO    | emergency response organization                    |
| IP     | inspection procedure                               |
| JPM    | job performance measure                            |
| kV     | kilovolt   |
| LER    | licensee event report                              |
| NOV    | notice of violation                                |
| NRC    | Nuclear Regulatory Commission, U.S.                |
| OWA    | operator workaround                                |
| PFP    | pre-fire plan                                      |
| RO     | reactor operator                                   |
| SL     | severity level                                     |
| SSC    | structure, system, and component                   |
| SWP    | service water pump                                 |
| TS     | technical specification                            |
| UFSAR  | Updated Final Safety Analysis Report               |
| WO     | work order   |