



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

May 12, 2015

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 – NRC INTEGRATED INSPECTION  
REPORT 05000247/2015001 AND 05000286/2015001**

Dear Mr. Coyle:

On March 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 April 22, 2015, 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.

This report documents two findings of very low safety significance (Green); one self-revealing and one NRC-identified. These findings involve violations of NRC requirements. Additionally, one licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance, and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations, consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest the non-cited violations 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, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at Indian Point. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Senior Resident Inspector at Indian Point.

L. Coyle

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRCs "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 Management System (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA Raymond R. McKinley for/***

Arthur L. Burritt, 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 05000247/2015001 and 05000286/2015001  
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. 05000247/2015001 and 05000286/2015001

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: Indian Point Nuclear Generating Units 2 and 3

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

Dates: January 1, 2015, through March 31, 2015

Inspectors: J. Stewart, Senior Resident Inspector  
A. Patel, Resident Inspector  
G. Newman, Resident Inspector  
B. Pinson, Acting Resident Inspector  
T. Burns, Reactor Inspector  
S. Chaudhary, Reactor Engineer  
N. Floyd, Reactor Inspector  
J. Furia, Senior Health Physicist  
T. Setzer, Senior Project Engineer

Approved By: Arthur L. Burritt, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

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## SUMMARY

Inspection Report 05000247/2015001, 05000286/2015001; 01/01/2015 – 03/31/2015; Indian Point Nuclear Generating (Indian Point), Units 2 and 3; Problem Identification and Resolution; Fire Protection.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. The inspectors identified two findings of very low safety significance (Green) that were non-cited violations (NCVs). The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)," dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

### Cornerstone: Initiating Events

- Green. The inspectors identified an NCV of the license condition 2.K. when Entergy failed to properly control transient combustibles within the Unit 2 control room envelope in accordance with the approved fire protection program (FPP). The inspectors identified transient combustible material in excess of the specified limits that were unattended and without a transient combustible evaluation (TCE). The inspectors notified Entergy personnel of the deficiency, the transient combustibles were promptly removed, and the issue was entered into the corrective action program (CAP) as condition report (CR)-IP2-2015-1058.

The inspectors determined that the failure to properly control transient combustible material in accordance with the approved FPP was a performance deficiency. This finding was determined to be more than minor because it is associated with the "protection against external factors" attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In accordance with IMC 0609.04, "Phase 1 – Initial Characterization of Findings," the inspectors determined that the finding affected the administrative controls for transient combustible materials. The inspectors conducted a Phase 1 SDP screening using IMC 0609, Appendix F, "Fire Protection Significance Determination Process," and assigned the finding to the "Fire Prevention and Administrative Controls" category; in that, it affected Entergy's combustible materials control. The finding was determined to be Green, or very low safety significance, after IMC 0609, Appendix F, question 1.3.1, "Is the reactor able to reach and maintain safe shutdown (hot or cold) condition," was answered "yes." The inspectors assumed that any fire in the area associated with the combustibles observed would be promptly extinguished using readily available extinguishing equipment and that no safety-related equipment would be disabled. The inspectors determined that this finding had a Human Performance, Procedure Adherence, cross-cutting aspect because Entergy failed to properly control transient combustible material in accordance with the approved FPP when the allowed limits were exceeded without an evaluation [H.8]. (Section 1R05)

### **Cornerstone: Mitigating Systems**

- Green. The inspectors identified a self-revealing NCV of license condition 2.K. because Entergy did not take adequate corrective actions for degraded fire protection piping in the Unit 1 turbine building. This issue contributed to excessive leakage and failure of a 10-inch high-pressure fire protection spool piece. Depressurization and isolation of this leak resulted in loss of high-pressure fire water to Unit 2 until compensatory measures could be established after about two hours. Entergy entered this issue into their CAP as CR-IP2-2014-6668, repaired the piping section, and is prioritizing repairs to other sections of degraded piping.

This finding is greater than minor because it adversely affected the Mitigating Systems cornerstone objective to ensure the availability and reliability of systems (fire protection system) that provide protection against external events (fire) when all the fire protection pumps were secured to isolate the failed piping. This finding was evaluated using IMC 0609, Appendix F, "Fire Protection Significance Determination Process, question 1.4.7, "Fire Water Supply." It was found to be of very low safety significance because at least 50 percent of the fire water capacity (5500 gpm) remained available when the leak occurred. The inspectors determined that this finding had a cross-cutting aspect in Problem Identification and Resolution, Resolution, because Entergy did not take effective corrective actions to address issues in a timely manner commensurate with their safety significance, resulting in the piping break [P.3]. (Section 4OA2)

### **Other Findings**

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

## REPORT DETAILS

### Summary of Plant Status

Unit 2 operated at 100 percent power during the inspection period.

Unit 3 began the inspection period at 100 percent power. On January 8, 2015, operators commenced a shutdown in accordance with Technical Specification (TS) 3.5.4 due to both refueling water storage tank (RWST) level alarms being inoperable. Unit 3 reached 45 percent power when one level channel was restored and the shutdown stopped. Operators restored both level channels, commenced power ascension, and returned Unit 3 to 100 percent power later the same day. Afterwards, Unit 3 operated at full power until March 1 when the plant was shut down for a planned refueling and maintenance outage (3R18). Following refueling and maintenance activities, the reactor was critical on March 24, and returned to power operation on March 25, 2015. Unit 3 ended the period at 92 percent power and achieved full power on April 1, 2015.

### 1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01 – 1 sample)

#### Readiness for Impending Adverse Weather Conditions

##### a. Inspection Scope

The inspectors reviewed Entergy's preparations for the onset of cold weather on January 8, 2015, and subsequent dates when extreme cold weather conditions were predicted or experienced. The inspectors reviewed the implementation of adverse weather preparation procedures including OAP-48, "Seasonal Weather Preparation (Units 2 and 3)," and 2-SOP-24.1.1, "Service Water Cold Weather Operations (Units 2)," before the onset of and during this adverse weather condition. The inspectors walked down areas housing vital equipment including the Unit 2 emergency diesel generator (EDG) building; the Unit 2 480 volt switchgear room; the Unit 3 EDG rooms; and the Unit 3 service water room to ensure system availability and that there were no problems as a result of the severe weather. The inspectors verified that operator actions defined in Entergy's adverse weather procedure maintained the readiness of essential systems. The inspectors discussed cold weather preparedness with operators and maintained an awareness of weather issues throughout the winter weather period. Following a cold weather event affecting Unit 3 on January 8, 2015, Entergy instituted additional compensatory tours of vital areas to assure no further impact from the cold weather to vital equipment. The inspectors routinely verified completion of these tours and documentation of any identified weather issues into Entergy's CAP. Documents reviewed for each section of this inspection report are listed in the Attachment.

##### b. Findings

No findings were identified.



## 1R04 Equipment Alignment

### .1 Partial System Walkdowns (71111.04Q – 5 samples)

#### a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

#### Unit 2

- On February 3, 2015, Unit 2 station batteries 21, 23, and 24 during temporary modification of 22 battery for cell replacement

#### Unit 3

- On January 13, 2015, backup spent fuel pool cooling system while the normal spent fuel pool cooling heat exchanger was out of service for planned maintenance using 3-SOP-SFP-003
- On March 12, 2015, normal spent fuel pit cooling system with the reactor completely defueled into the spent fuel pit
- On March 12, 2015, service water single header operations on the 4-5-6 header in accordance with 3-OSP-RW-005 during repair and replacement of degraded piping on the 1-2-3 header
- On March 23, 2015, vapor containment pressure transmitters after isolation for valve stroking and calibration

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 Updated Final Safety Analysis Report (UFSAR), TSs, work orders (WOs), 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 staff had properly identified equipment issues and entered them into their CAP for resolution with the appropriate significance characterization.

#### b. Findings

No findings were identified.

### .2 Full System Walkdown (71111.04S – 1 sample)

#### a. Inspection Scope

On March 26, 2015, the inspectors performed a complete system walkdown of accessible portions of the Unit 3 component cooling water (CCW) system to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures,

surveillance tests, drawings, equipment line-up check-off lists, and the UFSAR to verify the system was aligned to perform its required safety functions. The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hanger and support functionality, and operability of support systems. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related CRs and WOs to ensure Entergy appropriately evaluated and resolved any deficiencies. This sample was part of a vertical slice review of the CCW system.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 8 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 staff 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 degraded or inoperable fire protection equipment as applicable, in accordance with procedures.

Unit 2

- Compensatory measures in accordance with SAO-703 for fire protection system impairment due to high-pressure fire protection water header leak in Unit 1 on December 29, 2014
- 480 volt switchgear room during hot work for north wall drain modification under WO 353028, engineering change (EC) 47865 (PFP-251 was reviewed), on January 20, 2015
- Cable spreading room during 22 battery cell replacement activity per EC 53593 on February 4, 2015 (PFP-252 and 252A were reviewed)
- Main control room and adjacent areas (PFP-253 was reviewed) on March 2, 2015

Unit 3

- Cable spreading and station battery rooms during Yellow fire risk due to wide-range ex-core neutron flux detector N38 being out of service (PFP-352 and PFP-352A were reviewed) on January 15, 2015
- Primary auxiliary building safety injection pumps and main corridor, elevation 34' (PFP-305 was reviewed), on February 9, 2015

- Main control room and adjacent areas (PFP-353 was reviewed) on February 26, 2015
- Vapor containment building, elevations 46', 67', and 95' (PFP-301, PFP-302, and PFP-303 were reviewed) on March 23, 2015

b. Findings

Introduction: The inspectors identified a Green NCV of the Indian Point Unit 2 License Condition 2.K. for failure to properly control transient combustible material within the Unit 2 control room in accordance with the approved FPP. Specifically, on March 2, the inspectors identified transient combustible material within the Unit 2 control room fire zone, in excess of that allowed by the FPP that was unattended and had no TCE.

Description: In late 2014, Unit 2 personnel occupying a side room of the main control room were relocated and the space was left unattended. There was limited foot traffic into the room by personnel who used the room to store and sign watch logs for the adjacent areas. Prior to this, this area within the control room was constantly manned with Entergy security personnel. The abandoned room is separated from the control room proper by an Appendix R fire wall; however, it is not fully enclosed, and a fire in the area, if not promptly detected and controlled, could spread into the control room by way of the common ventilation system.

On March 2, during a fire walkdown of the control room fire zone, inspectors noted multiple boxes of paper, computer monitors and equipment, an office chair, and various office supplies within the former central alarm station. Entergy procedure EN-DC-161, "Control of Combustibles", defines the control room as a Level 2 area in which "combustibles are permitted, but only with strict combustible controls." Section 5.6.[5] of EN-DC-161 states, in part, that "if non-exempt combustibles associated with any single job in a Level 2 area exceed 25 pounds, then a TCE shall be processed, compensatory measures shall be established, or constant attendance of the combustible materials shall be provided."

The inspectors determined that the amount of transient combustible material in the area exceeded the 25 pound limit as set forth in EN-DC-161, and as such, required a TCE, constant attendance, or other appropriate compensatory actions. The presence of the transient combustible material was brought to the attention of the Entergy Fire Marshal and the Unit 2 Control Room Supervisor. The material was promptly removed from the area and a posting was made on the entryway door notifying staff of the requirement to maintain the area free of transient combustible material. The issue was documented into Entergy's CAP as CR-IP2-2015-1058.

Analysis: The inspectors determined that the failure to properly control transient combustible material in accordance with the approved FPP was a performance deficiency that was within Entergy's ability to foresee and correct. This finding was determined to be more than minor because it is associated with the "Protection Against External Factors" attribute of the Initiating Events cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability. In accordance with IMC 0609.04 "Phase 1 – Initial Characterization of Findings," the inspectors determined that the finding affected the administrative controls for transient combustible materials. The inspectors conducted a Phase 1 SDP screening using IMC 0609, Appendix F, "Fire Protection Significance Determination Process," and assigned

the finding to the “Fire Prevention and Administrative Controls” category; in that, it affected Entergy’s combustible materials control program. The finding was determined to be Green, or very low safety significance, after IMC 0609 Appendix F question 1.3.1, “Is the reactor able to reach and maintain safe shutdown (hot or cold) condition,” was answered “yes.” The inspectors assumed that any fire in the area associated with the combustibles observed would be promptly extinguished using readily available extinguishing equipment, and that no safety-related equipment would be affected. The finding was assigned a cross-cutting aspect in the area of Human Performance, Procedure Adherence, because Entergy staff failed to properly control transient combustibles in accordance with the approved FPP when the allowed limits were exceeded without an evaluation. [H.8]

Enforcement: License Condition 2.K. requires that Entergy implement and maintain the NRC-approved FPP. Entergy procedure EN-DC-161 is the controlling document for control of transient combustible material within the power block. EN-DC-161 Section 5.6.[5].(a) states, in part, that if non-exempt combustibles associated with any single job in the control building exceeds 25 pounds, then a TCE shall be processed, compensatory measures shall be established, or constant attendance of the combustible materials shall be provided. Contrary to the above, on March 2, 2015, NRC inspectors identified transient combustible material (paper, containers, trash) in excess of 25 pounds within the control room fire zone without a TCE, appropriate compensatory measures, or constant attendance. The inspectors notified Entergy staff of the deficiency, the transient combustible material was promptly removed, and the issue was documented in Entergy’s CAP as CR-IP2-2015-1058. Because the violation was of very low safety significance (Green) and it was entered into Entergy’s CAP as CR-IP2-2015-1058, it is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000247/2015001-01; Failure to Control Transient Combustibles in Accordance with the approved Fire Protection Program)**

1R08 Inservice Inspection Activities (71111.08P – 1 sample)

a. Inspection Scope

From March 9, 2015, to March 18, 2015, the inspectors conducted an inspection and review of Entergy staff implementation of inservice inspection (ISI) program activities for monitoring degradation of the reactor coolant system (RCS) boundary, risk significant piping and components, and containment systems during the Unit 3 3R18 refueling outage (RFO). The sample selection for this inspection was based on the inspection procedure (IP) objectives and risk priority of those pressure retaining components in systems where degradation would result in a significant increase in risk. The inspectors observed in-process non-destructive examinations (NDE), reviewed documentation, and interviewed Entergy personnel to verify that the NDE activities performed as part of the fourth interval, second period, of the Unit 3 ISI program were conducted in accordance with the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 2001 Edition with 2002 and 2003 Addenda.

Non-Destructive Examination and Welding Activities (IMC Section 02.01)

The inspectors performed direct observation of NDE activities in process and reviewed documentation of NDEs listed below. Activities included review of ultrasonic testing (UT), radiographic testing (RT), and visual examination.

The inspectors reviewed certifications of the NDE technicians performing the examinations and verified that the inspections were performed in accordance with approved NDE procedures and industry guidance. For UT activities, the inspectors also verified the calibration of equipment used to perform the examinations. The inspectors verified that the test results were reviewed and evaluated by certified Level III NDE personnel and that the parameters used in the test were in accordance with the limitations, precautions, and prerequisites specified in the test procedure.

#### ASME Code Required Examinations

- Direct observation of the manual UT of pipe-to-elbow and elbow-to-tee welds (Line 358 – Welds 8, 9, and 10), 8-inch diameter, in the residual heat removal (RHR) system
- Documentation review of the manual UT of the steam generator (SG) number 33 hot-leg nozzle inner radius (33-1A)
- Direct observation of the automated UT of the reactor pressure vessel upper head penetration nozzles
- Documentation review of the remote bare metal visual test (VT) of the reactor vessel upper head surface and the 78 penetration nozzles
- Documentation review of the remote bare metal VT of the reactor vessel four hot-leg nozzle-to-safe end welds (31/32/33/34 HL) and one cold-leg nozzle-to-safe end weld (33 CL)
- Documentation review of the RT of pipe-to-tee welds (Line 19 – Welds W1, W2, and W3), 3-inch diameter, in the chemical and volume control system (CVCS)
- The inspectors visually examined the condition of the containment liner surfaces at all floor elevations and the moisture barrier located at the interface between the liner and concrete floor. Limited portions of the containment surfaces above and below each elevation were accessible for examination. The inspectors also performed a document review of the containment VT records and compared those to the inspectors' walkdowns.

#### Review of Previous Indications Accepted by Evaluation

The inspectors did not review any previous indications because there were no relevant indications from the previous RFO that required evaluation for continued service.

#### Repair/Replacement Activities Including Welding Activities

The inspectors reviewed the modification package associated with EC 44654, which implemented the industry proposed flexible and diverse coping mitigation strategies (FLEX) modifications. Specifically, the inspectors reviewed the portion of the FLEX modification for RCS inventory control that consisted of installation of an additional threaded connection for make up to the RCS. The inspectors performed a direct observation of the welding activities associated with the piping tie-in to the CVCS system line number 19 to verify that welding and applicable NDE activities were performed in accordance with ASME code requirements. The inspectors reviewed the weld procedure and welder qualifications and also reviewed the radiography data sheets for final acceptance of the welds. The modification was performed under WO 00363778.

### Pressurized-Water Reactor Vessel Upper Head Penetration Inspection Activities (IMC Section 02.02)

The inspectors verified that the reactor pressure vessel upper head penetration J-groove weld examinations were performed in accordance with requirements of 10 CFR 50.55a and ASME Code Case N-729-1, "Alternative Examination Requirements for Pressurized-Water Reactor Vessel Upper Heads," to ensure the structural integrity of the reactor vessel head pressure boundary. The inspectors also observed portions of the remote bare metal visual examination of the exterior surface of the reactor vessel upper head to verify that no boric acid leakage or wastage had been observed. For both the ultrasonic and visual examinations, the inspectors verified that the required examination volume and surfaces coverage had been achieved.

### Boric Acid Corrosion Control Inspection Activities (IMC Section 02.03)

The inspectors reviewed the boric acid corrosion control program, which is performed in accordance with Entergy procedures and discussed the program requirements with the boric acid program owner. The inspectors performed walkdowns of various plant areas inside the containment building and reviewed photographic inspection records of several identified boric acid leakage locations. The inspectors determined the leak locations did not involve pressure boundary leakage. The inspectors discussed the evaluation plans for those identified boric acid leaks with Entergy staff and reviewed a sample of CRs to verify non-conforming conditions were addressed for resolution within Entergy's CAP. Samples were selected based on actions for repair, component function, significance of leakage, and location where direct leakage or impingement on adjacent locations could cause degradation of safety system components.

### SG Tube Inspection Activities (IMC Section 02.04)

No SG tube inspections were performed during this RFO.

The inspectors reviewed the SG operational assessment from the previous RFO to confirm that not performing SG tube inspections during the current RFO was in accordance with TS requirements and Electric Power Research Institute guidelines.

### Identification and Resolution of Problems (IMC Section 02.05)

The inspectors reviewed a sample of Unit 3 corrective action reports, which identified NDE indications, deficiencies, and other non-conforming conditions since the previous RFO and during the current outage. The inspectors verified that non-conforming conditions were properly identified, characterized, evaluated, and that corrective actions were identified and entered into Entergy's CAP for resolution.

#### b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11Q – 4 samples)Unit 2.1 Quarterly Review of Licensed Operator Regualification Testing and Traininga. Inspection Scope

The inspectors observed licensed operator simulator training on January 20, 2015, which included a SG tube rupture coincident with a loss of offsite power and the failure of select components to automatically start as expected. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. 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. The inspectors verified the accuracy and timeliness of the emergency classification and the TS action statements entered by the crew. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Rooma. Inspection Scope

The inspectors observed and reviewed control room operations on March 30, 2015. The inspectors observed the pre-shift briefing, pre-evolution briefing and testing of 21 EDG, response to a heat trace alarm, testing of SG level protection by instrument and control technicians including operation of feedwater regulating valves in manual control to support portions of the test, and plant reactivity control to verify that the activities met the criteria specified in Entergy's procedure EN-OP-115, "Conduct of Operations." Additionally, the inspectors observed crew performance and communications to verify coordination of activities between work groups and supervisors met established expectations and standards.

b. Findings

No findings were identified.

Unit 3.3 Quarterly Review of Licensed Operator Performance in the Main Control Rooma. Inspection Scope

The inspectors observed and reviewed Entergy's power descent to 45 percent rated thermal power conducted on January 8, 2015. The inspectors observed crew updates and reactivity control briefings to verify that the briefings met the criteria specified in

Entergy's administrative procedures OP-AA-329, "Conduct of Infrequently Performed Tests and Evolutions," and EN-OP-115, "Conduct of Operations." Additionally, the inspectors observed operator performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards. Specific activities observed included reducing turbine load, boration, and insertion of control rods in accordance with 3-POP-2.1, "Operation at Greater than 45% Power." Subsequently, power escalation was observed and monitored.

b. Findings

No findings were identified.

.4 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed and reviewed Entergy's restart and return to power operations activities following RFO 3R18. The inspectors observed pre-evolution briefings, including reactivity control briefings, to verify that the briefings met the criteria specified in Entergy's conduct of operations procedure and Entergy administrative procedure OP-AA-329, "Conduct of Infrequently Performed Tests and Evolutions." Additionally, the inspectors observed operator performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards. Specific activities observed included vacuum refill of the RCS, preparation of the unit for power operations, testing of the main turbine, excitation of the main generator, power escalation, and return to online operations. Response to a loss of letdown event and entry into abnormal procedure AOP-CVCS-1, were observed during main turbine speed escalation. Subsequently, power escalation to full power operations was directly observed or monitored.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 3 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance WOs, and maintenance rule basis documents (including Structural Monitoring Program) to determine that Entergy was identifying and properly evaluating performance and material problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.65 and verified that the (a)(2) performance criteria established by Entergy staff was reasonable. For SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally,



the inspectors ensured that Entergy staff was identifying and addressing common-cause failures that occurred within and across maintenance rule system boundaries.

### Unit 2

- CR-IP2-2014-3251, maintenance rule structural monitoring inspection for the RWST foundation; associated reports reviewed included IP-RPT-13-00051, IP-RPT-08-00059, IP-RPT-05-00440

### Unit 3

- CR-IP3-2014-02579, repeat functional failure of the SG water level control
- CR-IP3-2015-1556, failure of the CCW return valve AC-750B and associated maintenance (this sample was part of a vertical slice review of the CCW system)

#### b. Findings

No findings were identified.

#### 1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 7 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 personnel 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 personnel performed risk assessments as required by 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

- Elevated (Yellow) risk when auxiliary feedwater (AFW) flow instrument loop 21 and 22 and the 21 AFW pump alternate supply breaker were removed from service for calibration and testing on January 20, 2015
- Elevated risk during on-line replacement of 22 battery with focus on risk management activities on February 3, 2015

### Unit 3

- Elevated (Yellow) risk when the 31 EDG was out of service for planned maintenance on January 5, 2015

- Emergent Red risk when the RWST was unavailable due to frozen level instrumentation lines on January 8, 2015
- Elevated (Yellow) risk during testing of undervoltage and degraded voltage relays on the 480 volt safety buses on January 22, 2015
- Elevated shutdown risk (Yellow) during draining of the RCS to 68' for reactor disassembly on March 4, 2015 (this sample was part of a vertical slice review of the CCW system)
- Elevated shutdown risk (Yellow) during maintenance on the station auxiliary transformer without 138 kilovolt feeders on March 16, 2015

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 9 samples)

a. Inspection Scope

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

Unit 2

- On December 18, 2014, during the performance of 2-PT-Q092, "Containment Building Inspection," the reactor coolant pump (RCP) oil collection tanks were found with a level of 20". A small increase to the CCW surge tank fill line was also noted which lead to the conclusion of a small CCW leak being captured by the RCP oil collection system (CR-IP2-2014-6538). The inspectors verified that Entergy took appropriate action to drain the RCP oil collection tank to less than 10" as required and that CCW surge tank can be filled with operator action in the accident condition.
- On January 12, 2015, operators identified leakage from RCS valve C-19 on the 22 RCP seal injection line (CR-IP2-2015-0171). The inspectors verified that the leakage was not pressure boundary leakage, no boric acid wastage on vital components, and the leak was abated when the valve was tightened shut.
- On January 28, 2015, during the performance of 2-PT-Q001C, 23 Station Battery Surveillance, cell # 13, had a lower than expected specific gravity of 1.202 (CR-IP2-2015-00480). The inspectors verified that cell voltage, electrolyte level, and cell temperature were within the TS requirement and cell #13 was operable.
- On February 5, 2015, the inspectors verified operability of 22 battery during online cell replacement in accordance with EC 53593.
- On February 19, 2015, during the performance of 2-PT-Q0921, Containment Building Inspection, operators identified leakage from a socket weld upstream of RHR vent valve S-50 (CR-IP2-2015-00885). The inspectors verified that the leakage was not pressure boundary leakage and that Entergy took appropriate corrective actions to repair the weld.

### Unit 3

- On January 6, 2015, during planned maintenance on the 31 EDG, jacket water was found to be leaking through the jacket water heat exchanger into the service water side. The inspectors verified that jacket water inventory would be maintained.
- On January 12, 2015, main stream line snubber MS-R-2-2-H was found to have discolored oil after initial discovery of a minor oil leak. The snubber was subsequently replaced and failed functional testing. The inspectors verified that the affected main steam line would remain operable.
- On March 1, 2015, during performance of 3-PT-R007B, 32 Auxiliary Boiler Feedwater Pump (ABFP) Full Flow Test, the test group was unable to obtain the required pump speed for the full flow testing portions of the procedure. The inspectors verified that 32 ABFP achieved the required developed head and flow necessary to satisfy TSs requirements and that an adequate analysis to support operability had been conducted to accept the pump performance at the lower speed.
- On March 2, 2015, during performance of 3-PT-R145, Anticipated Transient without Scram Mitigating System Actuation Circuitry System Functional Test, a turbine autostop oil pressure switch 63-AST2 did not work properly and precluded the tripping of generator lockout relays 86P and 86BU. The inspectors verified functionality of the alternate channel.

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. Where compensatory measures were required to maintain operability, 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.

#### b. Findings

No findings were identified.

#### 1R18 Plant Modifications (71111.18 – 1 sample)

##### Temporary Modification

#### a. Inspection Scope

The inspectors reviewed the temporary modification listed below to determine whether the modification 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 modification to verify that the temporary

modifications did not degrade the design bases, licensing bases, and performance capability of the affected systems.

- EC 53593, Online replacement of 22 battery

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 10 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests (PMTs) 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 procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

Unit 2

- Functional test of PCV-1136 using 2-PT-2Y046 and 2-PT-Q013 inservice test following 6-year preventive maintenance on the main steam atmospheric dump valves backup N2 supply on January 16, 2015
- Functional test using 2-PT-M067, Technical Support Center (TSC) Diesel, following 5-year inspection of breaker 52/TSC-G1 and 6-year inspection of TSC tie breaker bus 2-3 (52/2-G1) on January 27, 2015

Unit 3

- RWST level instrument calibration in accordance with 3-PT-Q83, following line freezing and thawing on January 8, 2015
- Valve stroke time test using 3-PT-V057 on AC-MOV-822B, following major preventative maintenance on March 13, 2015 (this sample was part of a vertical slice review of the CCW system)
- Valve stroke time testing using 3-PT-V057 on AC-MOV-730, following actuator replacement and preventative maintenance on March 16, 2015
- Calibration and retesting of 31 ABFP recirculation valve BFD-FCV-1121 and associated flow controller FC-1135AS on March 17, 2015
- Visual inspection and magnetic particle testing of welded joints for FLEX hose connection to CST in accordance with WO 359312 on March 17, 2015
- Functional test using 3PT-R59 of vapor containment smoke detectors BSD-6 and BSD-7, following replacement on March 23, 2015
- Channel calibration using 3-PC-R73A of N-35 intermediate range nuclear instrument, following replacement on March 24, 2015

- Functional testing of the main turbine using 3-PT-V021, Turbine Generator Overspeed Trip Test, following major teardown and rebuild during 3R18, on March 24 and 25, 2015

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 1 sample)

a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the Unit 3 maintenance and 3R18 RFO, which was conducted on March 2 through March 25, 2015. The inspectors reviewed Entergy's development and implementation of outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. During the outage, the inspectors observed portions of the plant shutdown and cooldown and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable TSs when taking equipment out of service
- Implementation of clearance activities and confirmation that tags were properly hung and that equipment was appropriately configured to safely support the associated work or testing
- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication
- Status and configuration of electrical systems and switchyard activities to ensure that TSs were met
- Monitoring of decay heat removal operations
- Impact of outage work on the ability of the operators to operate the spent fuel pool cooling system
- Reactor water inventory controls, including flow paths, configurations, alternative means for inventory additions, and controls to prevent inventory loss with a focus on reduced inventory operations
- Activities that could affect reactivity
- Maintenance of containment as required by TSs
- Refueling activities, including fuel handling and pre-outage fuel receipt inspections
- Fatigue management for operators and key maintenance personnel
- Tracking of startup prerequisites, walkdown of the containment to verify that debris had not been left which could block the recirculation pump suction strainers
- Startup, synchronization, and ascension to full power operation
- Identification and resolution of problems related to RFO activities

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 10 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 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-Q029C, 23 Safety Injection Pump Test, on January 6, 2015 (inservice test)
- 2-PT-2Y008B, 22 EDG Mechanical Overspeed Trip, on January 13, 2015
- 2-PT-Q027A, 21 Auxiliary Feed Pump, on January 20, 2015
- 2-PT-M110, Appendix R DG Functional Test, on January 22, 2015

Unit 3

- 3-PT-M62B, 480 Volt Undervoltage/Degraded Grid Protection System Bus 5A Functional Test, on January 22, 2015
- 3-PT-R006A, Main Steam Safety Valves Setting Test Using Set Pressure Verification Device, on February 27, 2015
- 3-PT-R007B, 32 ABFP Full Flow Test, on March 1, 2015
- 3-PT-R178, SI-846 RWST Outlet Valve Leak Rate Test, on March 10, 2015
- 3-PT-R172B, Station Battery 32 Modified Performance Test, on March 16, 2015
- 3-PT-R025D3, MOV-769 Local Leak Rate Test, on March 26, 2015 (containment isolation valve and part of a vertical slice review of the CCW system)

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 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)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine Entergy emergency drill on January 14, 2015, to identify any weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator control room, TSC, and operations support center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the station drill critique to compare inspector observations with those identified by Entergy staff in order to evaluate Entergy's critique and to verify whether the Entergy staff was properly identifying weaknesses and entering them into their CAP.

b. Findings

No findings were identified.

**2. RADIATION SAFETY**

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

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

During March 2–6, 2015, the inspectors reviewed Entergy performance in assessing the radiological hazards and exposure control in the workplace. The inspectors used the requirements in 10 CFR Part 20, TS, applicable industry standards, and procedures required by TS as criteria for determining compliance.

### Radiological Hazards Control and Work Coverage

The inspectors reviewed:

- Ambient radiological conditions during tours of the radiological controlled area, posted surveys, radiation work permits, adequacy of radiological controls, radiation protection job coverage, and contamination controls
- Use of electronic personal dosimeters in high noise areas in high radiation areas
- Radiation work permits for work within airborne radioactivity areas
- Airborne radioactivity controls and monitoring, contamination containment integrity, and temporary high-efficiency particulate air ventilation system operation
- Controls for highly activated or contaminated materials stored within spent fuel pools
- Posting and physical controls for high radiation areas and very high radiation areas

### Radiation Worker Performance

The inspectors reviewed radiation worker performance and radiological problem reports since the last inspection.

### Radiation Protection Technician Proficiency

The inspectors reviewed performance of radiation protection technicians and radiological problem reports since the last inspection.

#### b. Findings and Observations

No findings were identified.

### 2RS2 Occupational ALARA Planning and Controls (71124.02)

#### a. Inspection Scope

During March 2–6, 2015, the inspectors assessed performance with respect to maintaining occupational individual and collective radiation exposures as low as is reasonably achievable (ALARA). The inspectors used the requirements in 10 CFR Part 20, TS, applicable industry standards, and procedures required by TS as criteria for determining compliance.

### Radiological Work Planning

The inspectors reviewed:

- Work activities ranked by actual exposure that were completed during the last outage
- ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements
- ALARA work planning, use of dose mitigation features, and dose goals
- ALARA evaluations for the use of respiratory protective devices
- Work planning and the integration of ALARA requirements



- Evaluation of person-hour estimates provided by maintenance planning and other groups to the radiation protection group based on actual work activity person-hour results

#### Verification of Dose Estimates and Exposure Tracking Systems

The inspectors reviewed ALARA work packages, assumptions and basis for the current annual collective exposure estimate, and ALARA procedures to determine the methodology for estimating and tracking collective exposures.

#### Radiation Worker Performance

The inspectors reviewed radiation worker and radiation protection technician performance during work with respect to the radiological hazards present and the ALARA program requirements.

#### b. Findings

No findings were identified.

### 2RS5 Radiation Monitoring Instrumentation (71124.05)

#### a. Inspection Scope

During February 9–13, 2015, the inspectors reviewed Entergy radiation monitoring instruments that are used to protect occupational workers and to protect the public from nuclear power plant operations. The review was against criteria contained in 10 CFR Part 20, 10 CFR Part 50, applicable regulatory guides and industry standards, TS/offsite dose calculation manual (ODCM), and Exelon station procedures for determining compliance.

#### Walkdowns and Observations

The inspectors walked down radioactive effluent radiation monitoring systems (RMSs), including liquid and gaseous system.

#### Calibration and Testing Program

The inspectors reviewed:

- RMS channel calibration and functional tests
- RMS alarm set points
- Performance checks and calibrations of laboratory analytical instruments used for radioactive effluent sample analyses
- Corrective actions implemented in response to degraded instrument performance drywell/containment high-range monitor calibration documentation since the last inspection
- Method for the collection of post-accident iodine effluent samples

### Problem Identification and Resolution

The inspectors reviewed problems associated with effluent monitoring calibration program in Entergy's CAP.

#### b. Findings

No findings were identified.

### 2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

#### a. Inspection Scope

During February 9–13, 2015, the inspectors reviewed gaseous and liquid effluent processing systems and the accuracy of the calculations for effluent releases and public doses. The review was against criteria contained in 10 CFR Part 20, 10 CFR Part 50, 40 CFR 190, applicable regulatory guides and industry standards, TS/ODCM, and Entergy station procedures for determining compliance.

The inspectors reviewed:

- The 2012 and 2013 annual radioactive effluent release reports
- The current ODCM/Ts
- Radioactive effluent monitor operability issues reported by Entergy in the radioactive effluent release reports
- Changes to the ODCM made by Entergy since the last inspection
- Any non-radioactive systems that had become contaminated since the last inspection
- Groundwater monitoring results and changes to Entergy's written program for identifying and controlling contaminated spills/leaks to groundwater
- Licensee event reports (LERs) related to the radioactive effluent program issued since the previous inspection
- Radioactive effluent program implementing procedures

#### Walk-downs and Observations

The inspectors walked down:

- Selected components of the gaseous and liquid radioactive effluent discharge systems
- Filtered ventilation systems whose test results were reviewed during the inspection radioactive effluent release points

### Sampling and Analyses

The inspectors observed:

- The routine processing and discharge of radioactive effluents
- Radioactive gaseous effluent treatment equipment in use and radioactive liquid waste being processed and discharged in accordance with procedure requirements and system alignment consistent with discharge permits
- Radioactive effluent sampling activities and controls
- RMS out of service compensatory sampling performed since the last inspection
- The results of the radioactive effluent sample inter-laboratory comparison program including hard-to-detect isotopes

### Instrumentation and Equipment

The inspectors reviewed:

- The methodology Entergy uses to determine the radioactive gaseous effluent ventilation flow rates consistent with the ODCM
- Radioactive gaseous effluent discharge systems high-efficiency particulate air and charcoal filtration surveillance test results since the previous inspection

### Dose Calculations

The inspectors reviewed:

- Radioactive liquid and gaseous waste discharge permits
- Methods used to determine the isotopes that are included in the radioactive discharges
- Current Part 61 waste stream characterization results
- Changes in Entergy's offsite dose calculations since the last inspection
- Meteorological dispersion and deposition factors used in the ODCM
- Latest land use census results

### Groundwater Protection Initiative Implementation

The inspectors reviewed:

- Entergy's implementation of the voluntary groundwater protection initiative since the last inspection including groundwater monitoring results
- Identified leakage or spill events and entries made into 10 CFR 50.75 (g) records
- Evaluations of leaks or spills and review any remediation actions taken
- Onsite contamination events involving contamination of groundwater
- On-site groundwater sample results and a description of any significant on-site leaks/spills into groundwater since the previous inspection

### Problem Identification and Resolution

The inspectors reviewed problems associated with the effluent monitoring and control program in Entergy's CAP.

b. Findings

No findings were identified

4. **OTHER ACTIVITIES**40A1 Performance Indicator Verification (71151 – 4 samples)RCS Specific Activity (BI01) and RCS Leak Rate (BI02)a. Inspection Scope

The inspectors reviewed Entergy's submittal for the RCS specific activity and RCS leak rate performance indicators for both Unit 2 and Unit 3 for the period of January 1, 2014, through December 31, 2014. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7. The inspectors also reviewed RCS sample analysis and control room logs of daily measurements of RCS leakage, and compared that information to the data reported by the performance indicator.

b. Findings

No findings were identified.

40A2 Problem Identification and Resolution (71152 – 2 samples).1 Routine Review of Problem Identification and Resolution Activitiesa. Inspection Scope

As required by Inspection Procedure 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 their 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 their CAP and periodically attended CR screening meetings.

b. Findings

No findings were identified.

.2 Annual Follow-Up of Selected Issue: Measurement and Test Equipment (M&TE)a. Inspection Scope

The inspectors selected CR-IP2-2014-03809 for detailed review. This CR documented a root cause evaluation (RCE) and planned or completed corrective actions to address deficiencies in the implementation of the M&TE program at Unit 2 and Unit 3. These

deficiencies were identified by Entergy nuclear oversight staff during maintenance audit QA-10-2014-IP. The deficiencies involved instances where Entergy did not implement critical elements of their M&TE program. Specifically, instances were identified where Entergy did not perform evaluations on safety-related equipment for M&TE identified as out of tolerance after use, staff did not maintain appropriate environmental controls in calibration labs, and M&TE traceability and accountability was not maintained in accordance with the Entergy M&TE program.

The inspectors assessed Entergy's problem identification for completeness and accuracy, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of corrective actions to determine whether Entergy was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned or completed corrective actions were appropriate to address the likely causes. The inspectors compared the actions taken to the requirements of Entergy's CAP and 10 CFR 50, Appendix B. In addition, the inspectors interviewed engineering personnel to assess the effectiveness of the implemented corrective actions.

b. Findings and Observations

No findings were identified.

The inspectors determined that Entergy took appropriate actions to identify, characterize, and evaluate the causes of the deficiencies and the extent of the problems related to their M&TE program.

The inspectors determined Entergy identified the extent of the problem through their review of M&TE program requirements, Entergy's CAP entries for the previous fifteen years related to M&TE, and through their interviews of staff responsible for the M&TE program. The inspectors concluded Entergy documented the scope of the M&TE problems in a timely fashion following identification of the deficiencies by Entergy nuclear oversight personnel. However, in review of the CR history related to M&TE problems, the inspectors concluded there were prior opportunities that were missed to address the extent of the problem.

The inspectors reviewed the RCE and determined Entergy completed a performance gap and barrier analysis of each M&TE program area. Entergy concluded the root cause was due to inadequate commitment to M&TE program implementation and oversight. Additionally, Entergy identified three contributing causes involving (1) individuals not following M&TE procedures; (2) poorly defined roles, responsibilities, and accountability; and (3) procedure quality gaps in the Entergy corporate and site M&TE program guidance. The inspectors determined the RCE was completed in sufficient depth and detail to identify the likely causes of the M&TE problems. The RCE also addressed operability and reportability requirements. The inspectors noted that NRC Inspection Report 05000247/2014005 and 05000286/2014005, dated February 5, 2015 (ADAMS ML15037A011), documented a licensee-identified violation of very low safety significance (Green) for Entergy not implementing 10 CFR 50, Appendix B, Criterion XII, "Control of Measuring and Test Equipment," for safety-related equipment identified in the RCE. The inspectors did not identify any additional findings.

The inspectors reviewed Entergy's CAP included in the RCE. The inspectors determined that for each root or contributing cause, corrective actions were either completed or being tracked for further action. These actions involved reinforcing program requirements with staff, accounting for all M&TE revising and streamlining requirements, and developing performance metrics to monitor program compliance. Additionally, Entergy planned to conduct subsequent reviews to verify the effectiveness of their actions. The inspectors concluded these corrective actions reasonably addressed the causes of the M&TE problems.

### .3 Annual Sample: Review of Fire Protection Piping Failure

#### a. Inspection Scope

The inspectors performed an in-depth review of Entergy's evaluation and corrective actions associated with through-wall piping leaks and a degraded piping section in the Unit 1 and Unit 2 common fire protection system. The piping section cracked and leaked on December 29, 2014, causing all fire protection pumps to auto-start. Operators stopped all of the pumps for a period of about two hours while isolating the failed piping section.

Entergy documented the piping failure in CR-IP2-2014-6668. The inspectors reviewed earlier CRs such as CR-IP2-2010-5187 and CR-IP2-2008-0044 which were written to document through-wall leaks in the same fire protection pipe section. The inspectors assessed Entergy's problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of corrective actions to determine whether Entergy was appropriately identifying, characterizing, and correcting problems associated with the degraded piping and whether the planned or completed corrective actions were appropriate, timely, and in accordance with Entergy's procedural requirements. The inspectors compared the actions taken to the requirements of Entergy's CAP, FPP plan, and operating license. In addition, the inspectors reviewed subsequent testing, performed field walkdowns, and interviewed engineering personnel to assess the effectiveness of the corrective actions.

#### b. Findings and Observations

Introduction: A self-revealing Green NCV of license condition 2.K. was identified when Entergy failed to take adequate corrective actions for degraded fire protection piping following leaks identified as early as 2008. These earlier leaks contributed to a large piping leak in a 10-inch fire protection line which required operators to secure all high pressure fire pumps until the affected section could be isolated.

Description: On December 29, 2014, plant operators received alarms for low pressure on the fire header and observed a start of all three fire pumps due to low fire system pressure. The low pressure was caused by an axial split in a 10-inch diameter fire protection piping spool piece. After verification that no fire existed, operators turned off both motor-driven fire main booster pumps and the diesel-driven fire pump to stop the leak and to allow isolation of the piping section. Stopping all of the pumps resulted in a loss of automatic high-pressure fire water to Unit 2 for about two hours. The leak was then isolated by closing a number of manual valves and compensatory measures were implemented that allowed the fire pumps to be restored to automatic operation. At the time, the inspectors verified that Entergy had appropriately implemented their

requirements in SAO-703, "Fire Protection Impairment Criteria and Surveillance" (see NRC Inspection Report 05000247/2014005, Section 1R05).

The inspectors reviewed corrective action documents and WOs for identified degradation of the fire protection piping and conducted a walkdown to assess the material condition. In 2010, Entergy generated CR-IP2-2010-5187 due to the discovery of a through-wall leak in the fire protection piping downstream of valve FP-2. This leak was discovered during a UT conducted as extent of condition for a nearby through-wall leak documented in 2008 (CR-IP2-2008-0044). Entergy created WO 135106 to replace the corroded and corroding piping section. In November 2012, the WO was in a ready status and scheduled to be worked. Due to problems obtaining effective isolation for protective tagging due to valve leak-by, the repair was postponed and the work was not done. Entergy had planned a major maintenance outage for the fire protection system for May 2014 to repair leaking valves and sections of corroded piping. Despite being within the isolation boundary and ready to work, the section of piping containing the 2010 leak was not included in the scope of this work. WO 135106 was instead scheduled following Unit 3 3R18 RFO. The inspectors noted that Entergy did not consider the remaining service life of the degraded piping section when delaying the repair from 2012 to 2015. This issue was entered into Entergy's CAP as CR-IP2-2014-6668.

Analysis: The inspectors determined that Entergy's failure to correct degraded fire protection piping after the degradation was identified in 2008 leading to a piping break and high leakage in 2014, was reasonably within Entergy's ability to foresee and prevent and was a performance deficiency. Traditional enforcement does not apply since there were no actual safety consequences or potential for impacting the NRC's regulatory function, and the finding was not the result of any willful violation. This finding is greater than minor because it adversely affected the Mitigating Systems cornerstone objective to ensure the availability and reliability of systems (fire protection system) that provide protection against external events (fire) when all the fire protection pumps were secured to isolate the failed piping. This finding was evaluated using IMC 0609, Appendix F, "Fire Protection Significance Determination Process, question 1.4.7, "Fire Water Supply." It was found to be of very low safety significance because at least 50 percent of the fire water capacity (5500 gpm) remained available when the leak occurred.

The inspectors determined that this finding had a cross-cutting aspect in Problem Identification and Resolution, Resolution, because Entergy did not take effective corrective actions to address issues in a timely manner commensurate with their safety significance, resulting in the piping break [P.3].

Enforcement: License condition 2.K. requires that Entergy implement and maintain in effect all provisions of the NRC-approved FPP, as approved in part by the NRC Safety Evaluation Report dated January 31, 1979. The January 31, 1979, Safety Evaluation Report requires administrative controls comparable to those described in NRC Branch Technical Position 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants Docketed Prior to July 1, 1976." Branch Technical Position 9.5-1 requires that measures be established to assure that conditions adverse to fire protection, such as deficiencies, defective components, and non-conformities are promptly identified, reported, and corrected. Contrary to license condition 2.K., Entergy failed to promptly correct a condition adverse to fire protection in that corrective actions were not taken for known piping material condition deficiencies leading to a piping break. Because the issue was

of very low safety significance and entered into Entergy's CAP (CR-IP2-2014-6668), this violation is being treated as an NCV per Section VI.A of the NRC Enforcement Policy.  
**(NCV 05000247/2015001-02; Untimely Corrective Actions for Degraded Fire Protection Piping Results in Piping Break)**

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

- .1 (Closed) LER 05000247/2014-003-00: Technical Specification (TS) Prohibited Condition Due to Mode Change with an Inoperable 22 Auxiliary Feedwater Pump

On March 18, 2014, Entergy identified a failure to comply with TS 3.7.5 for the AFW system after discovery that PMTs had not been performed after completion of preventive maintenance on the steam supply valves for 22 turbine driven auxiliary feed pump. Upon discovery of the failure to complete the PMT, the 22 turbine driven auxiliary feed pump was declared inoperable under TS 3.7.5. The PMT was subsequently completed satisfactorily, the 22 turbine driven auxiliary feed pump declared operable, and TS 3.7.5 exited. The inspectors reviewed Entergy's documentation and corrective actions in CR-IP2-2014-02149. The inspectors did not identify any new issues during the review of the LER. This LER is closed.

- .2 (Closed) LER 05000286/2013-004-00: Technical Specification (TS) Prohibited Condition Due to Leak in the Reactor Coolant Pressure Boundary Caused by Defects in a Weld on Seal Table In-Core Detector Drive E-11

On March 14, 2013, during a scheduled RFO boric acid program walk down inspection, Entergy identified boron residue on the fillet weld which attaches the E-11 in-core guide tube to the seal table. Entergy performed a liquid penetrant test (PT) on the fillet weld to determine if any flaws or indications were present in the weld. The PT did not identify any rejectable indications; however, it did identify rounded indications in the weld which could have been the cause of the leakage. Because PT results showed rounded indications in the weld and boron residue was present, the condition was judged to represent a potential through-wall defect and therefore a reactor coolant leak path. The seal table in-core guide tube is part of the reactor coolant pressure boundary (RCPB). Indian Point Unit 3 TS Limiting Condition for Operation (LCO) 3.4.13, "RCS Operation Leakage," does not allow any RCPB leakage; therefore, this issue was determined to be a condition prohibited by TSs and reportable to the NRC.

The apparent cause of the defect was outer diameter initiated stress corrosion cracking of the stainless steel guide tube base material under the fillet weld. Corrective actions included a VT-2 visual examination of the remaining seal table penetrations to verify that no additional through wall leaks were present. Additionally, the leaking guide tube was removed from service by cutting the tube below the leaking area and installing a welded plug to form a new RCPB. The enforcement aspects of this issue are discussed in Section 4OA7. The inspectors did not identify any new issues during the review of the LER. This LER is closed.



- .3 (Closed) LER 05000286/2014-001-00: Automatic Reactor Trip as a Result of Steam Flow/Feedwater Flow Mismatch with Low 33 Steam Generator (SG) Water Level Due to the Failure of the 33 SG Feedwater Flow Controller

On January 6, 2014, a Unit 3 automatic reactor trip occurred at full power as a result of a loss of feedwater flow to the 33 SG after the feedwater regulating valve spuriously went shut. Following the trip, a resident inspector responded to the control room and evaluated the response of control room personnel and plant equipment. All safety systems responded as designed and the trip was uncomplicated as described in NRC Inspection Report 05000286/2014002. Entergy documented the trip in their CAP and completed an investigation which was reviewed by the inspector. The feedwater regulating valve closed when the controller power supply output dropped to zero due to failure of aging capacitors. Entergy had planned to replace the controller power supply because of its age and known unreliability, but replacement was delayed by the lack of the replacement components. Prior to restart, the failed component was replaced with a controller of modified design. No findings were identified. This LER is closed.

- .4 (Closed) LER 05000247, 05000286/2014-001-00: Technical Specification (TS) Prohibited Condition Due to Failure to Comply with TS 3.4.3 Reactor Coolant System Pressure Temperature Limits During Vacuum Refill

On February 20, 2014, Entergy identified a failure to comply with TS 3.4.3, "Reactor Coolant System Pressure Temperature Limits," when performing vacuum refill in Mode 5. Vacuum refill has been a common practice for both Units 2 and 3 during recovery of the RCS following refueling. The pressure temperature limit curves in TSs are bounded by areas of acceptable operation, areas of unacceptable operation, and a 0 psig bottom line. During vacuum refill, pressure in the RCS is reduced below 0.0 psig to allow removal of non-condensable gas which might collect in the top of the reactor vessel or SG tubes after filling of the system with water. Entergy identified that operations below the 0 psig line could be considered a prohibited condition. As corrective action, Entergy submitted a TS change to clarify the acceptability of vacuum fill operations. NRC approved Entergy's request in Unit 2 license amendment 248, dated March 5, 2014; and Unit 3 Amendment 255, dated March 6, 2015. Although widely used in both pressurized and boiling water nuclear technologies, vacuum fill operations in Mode 5 were not explicitly permitted in TS pressure-temperature limits and its use on both Units 2 and Unit 3 was a performance deficiency. Because the pressure transient below 0 psig was limited to one atmosphere and the RCS and components were designed for large pressures and transients, there was no impact of the vacuum fill condition on the physical design barriers and all more-than-minor screening questions in IMC 0612 were answered "no." Therefore, failure to comply with TS temperature-pressure limits during prior vacuum fill operations constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy. This LER is closed.

4OA5 Other ActivitiesIP 92702, "Follow-up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternate Dispute Resolution Confirmatory Orders"a. Inspection Scope

On Wednesday, October 8, 2014, the inspectors performed an onsite review of Entergy records related to corrective actions taken in response to a Severity Level (SL) III Notice of Violation (NOV) issued to Indian Point on April 29, 2014. The NOV is described in NRC Inspection Report 05000247 and 05000286/2013011, and is publically available in ADAMS, accession number ML14118A124. 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 and Observations

No findings were identified.

Entergy's high tier apparent cause evaluation (HT-ACE IP2-2012-4132) identified a lack of trending as the apparent cause to the station's failure to properly address rising trends in EDG fuel oil particulate levels. Had the trends been noted and entered into the CAP, Entergy states that it is reasonable that the station would have initiated remedial action and precluded the events that led to the issuance of the subject NOV. A contributing cause to the issue was that the CAP was not utilized to document the step increase in particulate that occurred in 2010, which coincided with a change in vendor. Entergy assigned corrective actions to address the apparent and contributing causes, which included:

- Implementing a formal trending process for safety-related chemistry analyses
- Reinforcing CR initiation protocols and requirements for chemistry through continuing training
- Reinforcing expectations for tracking of vendor analyses and entry of data into the chemistry database, and conducting department "stand-down" meetings
- Reinforcing requirements for timely evaluation/disposition of test results
- Reinforcing required actions for out-of-spec conditions
- Reinforcing requirements to validate data in the nuclear IQ chemistry database (second check), including trend analysis and identification of out-of-specification conditions
- Discontinuing on-site fuel oil analysis

- Providing case studies covering fuel oil events as part of continuing chemistry training

The inspector determined that adequate corrective actions had been taken to address process and performance issues in the chemistry department to help ensure that EDG fuel oil particulate laboratory results are properly trended and assessed. Departmental procedures, specifically Entergy procedure EN-CY-100 "Conduct of Chemistry," contain adequate guidance on chemistry fundamentals for analyzing lab samples and documenting chemistry data in the CAP when the results are out-of-specification or exceed TS.

One observation was noted with respect to the second check on lab results entered into the chemistry database "NuclearIQ." Entergy, by way of a management expectation, required the chemistry staff to perform a validation (second check) of EDG fuel oil lab results entered into NuclearIQ. The inspector performed a review of NuclearIQ data from January 2013 to present and found instances where a second check was not performed. After investigating, Entergy found that the employee who had typically been responsible for validating the data had retired in June 2014 and that this responsibility had not been transferred. Since there is no regulatory requirement to perform a second check, this did not represent a performance deficiency or violation of regulatory requirements. Entergy entered the observation into their CAP (CR-IP3-2014-2528) and incorporated the second check as a procedural requirement in 0-CY-1210, "Organization and Responsibilities of the Chemistry Department."

In addition to process and performance improvements made in the chemistry department, Entergy performed assessments of safety conscious work environment and deliberate misconduct. Nuclear safety culture assessments have indicated favorable, positive nuclear safety culture metrics being met for chemistry and across the site. Entergy has used all-hands meetings to emphasize procedure compliance, consequences of deliberate misconduct, reporting misconduct and completeness, and accuracy of information. These and other leadership and alignment meetings have been implemented across the Entergy fleet. Based on the safety conscious work environment information reviewed, the inspectors determined that there was no evidence that Entergy employees would be hesitant to raise safety concerns in their CAP or to management.

#### 4OA6 Meetings, Including Exit

On February 23, 2015, the inspectors presented the results of the IP 92702 follow-up inspection to Mr. Bob Walpole, Regulatory Assurance Manager. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

On April 22, 2015, the inspectors presented the inspection results to Mr. Larry Coyle, Site Vice President, and other members of the Entergy staff. 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 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.

- TS LCO 3.4.13, "RCS Operation Leakage," states, in part, that RCS operational leakage shall be limited to no pressure boundary leakage. Contrary to the above, on March 14, 2013, during a scheduled RFO boric acid program walk down inspection, Entergy identified a through-wall defect and therefore a RCPB leak on a fillet weld which attaches the E-11 in-core guide tube to the seal table path. Corrective actions included a VT-2 visual examination of the remaining seal table penetrations to verify that no additional through wall leaks were present. Additionally, the leaking guide tube was removed from service by cutting the tube below the leaking area and installing a welded plug to form a new RCPB. No performance deficiency was identified because it was not reasonable for Entergy to foresee and prevent the pressure boundary leak. Since this violation has no performance deficiency, traditional enforcement applies. The inspectors evaluated the significance of the issue using traditional enforcement and determined it was a SL IV NCV of TS 3.4.13 in accordance with the NRC Enforcement Policy, Section 6.1.d. This issue was entered into Entergy's CAP as CR-IP3-2013-01556 and a report was made to the NRC in LER 05000286/2013-004-00.

**ATTACHMENT: SUPPLEMENTARY INFORMATION**

**SUPPLEMENTARY INFORMATION****KEY POINTS OF CONTACT**Entergy Personnel

N. Azevedo, Code Programs Supervisor  
 J. Balletta, Operations Test Engineer  
 K. Baumbach, Chemistry Supervisor  
 S. Bianco, Operations Fire Marshal  
 R. Burroni, Engineering Director  
 T. Chan, Engineering Mechanical Supervisor  
 L. Coyle, Site Vice President  
 D. Dewey, Assistant Operations Manager  
 J. Dinelli, Plant Operations General Manager  
 R. Dolanksy, ISI Program Manager  
 R. Drake, Civil Design Engineering Supervisor  
 J. Ferrick, Production Manager  
 D. Gagnon, Security Manager  
 L. Glander, Emergency Preparedness Manager  
 F. Inzirillo, Training Manager  
 F. Kich, Performance Improvement Manager  
 J. Kirkpatrick, Regulatory and Performance Improvement Director  
 D. Mayer, Unit 1 Director  
 B. McCarthy, Operations Manager  
 F. Mitchell, Radiation Protection Manager  
 E. Mullek, Acting Maintenance Manager  
 M. Tesoriero, System Engineering Manager  
 M. Troy, Quality Assurance Manager  
 R. Walpole, Regulatory Assurance Manager

**LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED**Opened/Closed

05000247/2015-001-01	NCV	Failure to Control Transient Combustibles in Accordance with the Approved Fire Protection Program (Section 1R05)
05000247/2015-001-02	NCV	Untimely Corrective Actions for Degraded Fire Protection Piping Results in Piping Break (Section 4OA2)

Closed

05000247/2014-003-00	LER	Technical Specification (TS) Prohibited Condition Due to Mode Change with an Inoperable 22 Auxiliary Feedwater Pump (Section 4OA3)
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05000286/2013-004-00	LER	Technical Specification (TS) Prohibited Condition Due to Leak in the Reactor Coolant Pressure Boundary Caused by Defects in a Weld on Seal Table In-Core Detector Drive E-11 (Section 4OA3)
05000286/2014-001-00	LER	Automatic Reactor Trip as a Result of Steam Flow/Feedwater Flow Mismatch with Low 33 Steam Generator (SG) Water Level Due to the Failure of the 33 SG Feedwater Flow Controller (Section 4OA3)
05000247, 05000286/ 2014-001-00	LER	Technical Specification (TS) Prohibited Condition Due to Failure to Comply with TS 3.4.3 Reactor Coolant System Pressure-Temperature Limits During Vacuum Refill (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 1R08: Inservice Inspection Activities**

##### Procedures

CEP-CII-003, General Visual Examinations of Class MC Components, Revision 304  
 CEP-NDE-0100, Administration and Control of NDE, Revision 8  
 CEP-NDE-0255, Radiographic Examination ASME, ANSI, AWS, API, AWWA Welds and Components, Revision 7  
 CEP-NDE-0400, Ultrasonic Examination, Revision 5  
 CEP-NDE-0423, Manual Ultrasonic Examination of Austenitic Piping Welds (ASME XI), Revision 6  
 CEP-NDE-0485, Manual Ultrasonic Examination of Vessel Nozzle Inside Radius (Non-App. VIII), Revision 10  
 EN-DC-319, Boric Acid Corrosion Control Program, Revision 10  
 WDI-STD-1040, Procedure for Ultrasonic Examination of Reactor Vessel Head Penetrations, Revision 11  
 WDI-STD-1041, Reactor Vessel Head Penetration Ultrasonic Examination Analysis, Revision 10  
 WPS-SS-8/8-B, Welding Procedure Specification for Manual Gas Tungsten Arc Welding of P-No. 8 Stainless Steels, Revision 0  
 3-PT-Q137, Containment Building Inspection, Revision 6  
 3-PT-R114, RCS Boric Acid Leakage and Corrosion Inspection, Revision 12  
 3-PT-R203, Visual Examination of Reactor Vessel Head Penetrations and Head Surface for Leakage, Revision 4

Condition Reports (CR-IP3-)

2014-02789 2015-00956 2015-01118 2015-01166 2015-01201 2015-01360  
 2015-01427 2015-01520 2015-01672

Maintenance Orders/Work Orders

363778 364928 52503172

Drawings

ISI-IWE-001, Containment Metal Liner Roll-out Drawing Elev. 46'-0" to 191'-0", Revision 2  
 ISI-IWE-002, Containment Dome Liner Plate Above Elev. 191'-0", Revision 2  
 9321-F-27353, Flow Diagram Safety Injection System, Sheet 1, Revision 42  
 9321-F-27363, Sheet 1, Revision 52

Miscellaneous

EC 44654, Implementation of FLEX modifications for RCS inventory control, Revision 0  
 IP-RPT-15-00010, One Time Inspection of IP3 Containment Steel Liner to Satisfy License  
 Renewal Commitment, Revision 0  
 IP3-RT-15-012, RT Data Sheet for Weld W1 on Line #19, dated March 12, 2015  
 IP3-RT-15-013, RT Data Sheet for Weld W2 on Line #19, dated March 12, 2015  
 IP3-RT-15-014, RT Data Sheet for Weld W3 on Line #19, dated March 13, 2015  
 IP3-VT-15-003 thru -007, VT Data Sheets for Reactor Vessel 31/32/33/34 Hot Leg and 33 Cold  
 Leg Nozzle-to-Pipe Connections, dated March 6, 2015  
 UT-15-016, UT Data Sheet for RHR Weld 8, dated March 16, 2015  
 UT-15-017, UT Data Sheet for RHR Weld 9, dated March 16, 2015  
 UT-15-018, UT Data Sheet for RHR Weld 10, dated March 16, 2015  
 UT-15-019, UT Data Sheet for SG 33-1A Nozzle Inside Radius, dated March 17, 2015  
 VT-15-001, VT Data Sheet for Containment Liner Plates, dated March 16, 2015  
 VT-15-006, VT Data Sheet for Containment Moisture Barrier, dated March 16, 2015  
 VT-15-069, VT Data Sheet for Containment Moisture Barrier with insulation removed, dated  
 March 18, 2015  
 WDI-PJF-1313542-EPP-001, Examination Program Plan for the Indian Point Unit 3 3R18  
 Reactor Vessel Head Inspection, Revision 0  
 Weld Data Sheet for Welds W1, W2, and W3 on CVCS Line #19, dated March 13, 2015  
 Weld Map 00363778-03-01 for CVCS Line #19 Tie-in, Revision 0  
 51-9198796-000, Indian Point 3 R17 Steam Generator Condition Monitoring and Final  
 Operational Assessment, dated June 19, 2013

**Section 1R12: Maintenance Effectiveness**Procedures

ACI 349.3R-02, Evaluation of Existing Nuclear Safety-Related Concrete Structures  
 ACI 201.1R-08, Guide for Conducting a Visual Inspection of Concrete in Service  
 EN-DC-150, Condition Monitoring of Maintenance Rule Structures, Revision 1  
 EN-DC-150, Condition Monitoring of Maintenance Rule Structures, Revisions 6 and 7  
 IP-RPT-13-00051, Maintenance Rule Structural Inspection Report (4<sup>th</sup> Cycle), Revision 0  
 IP-RPT-05-00440, Maintenance Rule Structural Monitoring Program, Refueling Water Storage  
 Tank Foundation, Revisions 0 and 1  
 IP-RPT-08-00059, Maintenance Rule Structural Inspection Report (3<sup>rd</sup> Cycle)

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

Procedures

EN-OP-104, Operability Determination Process, Revision 7  
SAO-703, FP/ASSS Equipment Impairment Criteria, Revision 34  
3-PT-R007B, 32 ABFP Full Flow Test, Revision 17  
3-PT-R145, AMSAC System Functional Test, Revision 15

Condition Reports (CR-IP2-)

2014-06538

Condition Reports (CR-IP3-)

2015-00151  
2015-00912  
2015-00945

Drawings

208168, Unit 2 CVCS Flow Diagram, Sheet 1  
9321-LL-31303, Schematic Diagram Turbine Generator, Sheets 2, 2B, 5, 5A, 6

Miscellaneous

Technical Specification 3.7.5, Auxiliary Feedwater System  
Technical Specification 3.3, Instrumentation

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

Procedures

3-PT-R007A, 31 & 33 ABFPS Full Flow test, Revision 20

Condition Reports (CR-IP3-)

2015-00884

Miscellaneous

Technical Specification 3.7, Plant Systems

**Section 1R22: Surveillance Testing**

Procedures

2-PT-M021B, Emergency Diesel Generator 22 Load Test, Revision 24  
3-PT-R006A, Main Steam Safety Valves Setting Test Using Set Pressure Verification Device,  
Revision 12 (test performed on February 27, 2015)

Condition Reports (CR-IP2-)

2015-00203

Condition Reports (CR-IP3-)

2015-0898

Miscellaneous

ASME OM Code – 2001, I-1320  
Technical Specification 3.7.1, Main Steam Safety Valves



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

Procedures

IP-EP-410, Protective Action Recommendations, Revision 10

**Section 2RS5: Radiation Monitoring Instrumentation**

Most recent calibration results for:

Radiation Monitors

R-54; R-49; R-18; R-61; R-19; R-46; R-53; R-39; R-40; R-52; R-51; R-62; R-16A; R-16B; R-23; R-50; R-20; R-45; R-15; R-42; R-12; R-44; R-14; R-27; R-60

Flow Meters/Level Instruments

LT-971-FRE; LT971-FIE; FL-1241; FL-1242; FL-1243; FL-1244; FT-1241; FT-1242; FT-1243; FT-1244; LW-FE-12; FR-7874; FE-1064; FL-1064; 3LG FIT-41; 3LG-FM-41; 3LG-FR-41; FT-545; FT-546; FT-547; FT-548; FIR-543; FIR-544; CT967-LIE-1; CT974-LIE-2; CT974-LIE-1; CT974-LIE-2; LIC-1101-S; LT-1131; LI-1131; LI-920; LT-920; LT-5751; LI-920A; LI-920B; LI-181; LI-180; 3-LG-LI-12; 3-LG-LI-22; SV2-DPT; SV2-1-DPT; SV2-DPI; SV1-DPT; SV1-FR

**Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment**

Condition Reports (CR-IP2-)

2015-00701

Condition Reports (CR-IP3-)

2015-00567 2015-00568

Miscellaneous

Audit QA-2/6-2013-IP-01, Combined Chemistry, Effluent and Environmental Audit  
Nuclear Oversight Follow-Up Surveillances: QS-2013-IP-022; QS-2014-IP-08; QS-2014-IP-09  
Snapshot Assessment LO-IP3LO-2014-00078, Pre-NRC Inspection of Radiological Effluent  
Technical Specification

**Section 4OA1: Performance Indicator Verification**

Procedures

0-SOP-LEAKRATE-001, Rev. 6, RCS Leakrate Surveillance, Evaluation, and Leak Identification

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

Procedures

EN-HU-106, Procedure and Work Instruction Use and Adherence, Revision 2  
EN-LI-102, Corrective Action Process, Revision 23  
EN-LI-102, Corrective Action Program, Revision 24

Condition Reports (CR-IP2-)

2014-00073 2014-03368 2014-03587 2014-03597 2014-03809 2014-03809  
2014-05055 2014-06553 2014-06555 2015-00238

Condition Reports (CR-IP3-)

2014-01306 2014-01331 2014-01401 2014-01405 2015-00040

Miscellaneous

IP-SMM-MA-115, Indian Point Energy Center (IPEC) Calibration and Control of Measuring and Test Equipment, Revision 1

Measuring and Test Equipment User Familiarization

QS-2014-IP-06, Quality Assurance Surveillance Report

QA-10-2014-IP-1, Quality Assurance Audit Report

**Section 40A5: Other Activities**Procedures

EN-LI-121, Trending and Performance Review Process, Revision 15

EN-CY-100, Conduct of Chemistry, Revision 0

0-CY-1210, Organization and Responsibilities of the Chemistry Department, Revision 13

0-CY-1810, Diesel Fuel Oil Monitoring, Revision 15

Condition Reports (CR-IP2-)

2013-03738 2012-05049 2012-04617 2012-04463 2012-04164 2012-04261

2012-04132 2012-01831 2012-01253 2012-00901 2012-01039 2013-03738

Condition Reports (CR-IP3-)

2014-02528 2012-01939 2012-00805 2012-00520

MiscellaneousIPEC Chemistry Periodic Program Oversight Review (Organization and Responsibilities Matrix)  
CR-JAF-2012-00966

LER 05000247/2012-007-00, Technical Specification Prohibited Condition Due to Diesel Generator Reserve Fuel Oil Storage Tank Total Particulates Not Within Limits for Greater than TS Allowed Outage Time

NRC Inspection Report 05000247 and 05000286/2013011

Technical Specification 3.8, Electrical Power Systems and Bases

**Section 40A7: Licensee-Identified Violations**Miscellaneous

LER 2013-004-00

**LIST OF ACRONYMS**

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
ABFP	auxiliary boiler feedwater pump
ADAMS	Agencywide Document Access and Management System
AFW	auxiliary feedwater
ALARA	as low as is reasonably achievable
ASME	American Society of Mechanical Engineers
CAP	corrective action program
CCW	component cooling water
CR	condition report

CST	condensate storage tank
CVCS	chemical and volume control system
DG	diesel generator
EAL	emergency action level
EC	engineering change
EDG	emergency diesel generator
Entergy	Entergy Nuclear Northeast
FLEX	flexible and diverse coping mitigation strategies
FPP	fire protection program
Indian Point	Indian Point Energy Center
IMC	Inspection Manual Chapter
IP	inspection procedure
ISI	inservice inspection
LCO	limiting condition for operation
LER	licensee event report
M&TE	measuring and test equipment
NCV	non-cited violation
NDE	non-destructive examination
NOV	notice of violation
NRC	Nuclear Regulatory Commission
ODCM	offsite dose calculation manual
PFP	pre-fire plan
PMT	post-maintenance testing
PT	penetrant test
RCP	reactor coolant pump
RCE	root cause evaluation
RCPB	reactor coolant pressure boundary
RCS	reactor coolant system
RFO	refueling outage
RHR	residual heat removal
RMS	radiation monitoring system
RT	radiographic testing
RWST	refueling water storage tank
SDP	significance determination process
SG	steam generator
SL	severity level
SSC	structure, system, and component
TCE	transient combustible evaluation
TS	technical specification
TSC	technical support center
UFSAR	updated final safety evaluation report
UT	ultrasonic testing
VT	visual test
WO	work order