



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

February 14, 2014

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

**SUBJECT: INDIAN POINT POWER STATION – NRC INTEGRATED INSPECTION
REPORT 05000247/2013005 AND 05000286/2013005**

Dear Mr. Ventosa:

On December 31, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Indian Point Power Station, Units 2 and 3. The enclosed inspection report documents the inspection results, which were discussed on January 8, 2014, 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.

No NRC-identified or self-revealing findings were identified during this inspection. However, inspectors documented two licensee-identified violations which were determined to be of very low safety significance in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violations or significance of the NCVs, 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 Resident Inspector at Indian Point Power Station.

As a result of the Safety Culture Common Language Initiative, the terminology and coding of cross-cutting aspects were revised beginning in calendar year (CY) 2014. New cross-cutting aspects identified in CY 2014 will be coded under the latest revision to Inspection Manual Change (IMC) 0310. Cross-cutting aspects identified in the last six months of 2013 using the previous terminology will be converted to the latest revision in accordance with the cross-reference in IMC 0310. The revised cross-cutting aspects will be evaluated for cross-cutting themes and potential substantive cross-cutting issues in accordance with IMC 0305 starting with the CY 2014 mid-cycle assessment review.

In accordance with Title 10 of *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the NRC's document system Agencywide Documents Access 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/

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 05000247/2013005 and 05000286/2013005
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: 05000247/2013005 and 05000286/2013005

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: Indian Point Power Station, Units 2 and 3

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

Dates: October 1, 2013, through December 31, 2013

Inspectors: J. Stewart, Senior Resident Inspector
A. Patel, Resident Inspector
T. Lamb, Acting Resident Inspector
T. Fish, Senior Operations Engineer
J. Furia, Senior Health Physicist
J. Kulp, Senior Resident Inspector, Oyster Creek
D. Orr, Reactor Inspector
E. Torres, Resident Inspector, Calvert Cliffs

Accompanied by: L. McKown, Project Engineer
J. Petch, Project Engineer

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

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SUMMARY

IR 05000247/2013005, 05000286/2013005; 10/01/2013 – 12/31/2013; Indian Point Power Station, Units 2 and 3; Routine Integrated Inspection Report.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. No findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4.

Other Findings

Two violations of very low safety significance identified by Entergy were reviewed by the inspectors. Corrective actions taken or planned by Entergy have been entered into Entergy's corrective action program (CAP). These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Indian Point Unit 2 began the inspection at 100 percent power and remained at or near full power for the duration of the inspection period.

Indian Point Unit 3 began the inspection at 100 percent power and remained at or near full power for the duration of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 2 samples)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of Entergy's readiness for the onset of seasonal low temperatures. The review focused on the auxiliary boiler feed pump building ventilation system and the emergency diesel generators (EDGs). The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), Technical Specifications, control room logs, and the CAP to determine what temperatures or other seasonal weather could challenge these systems, and to ensure Entergy personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including Entergy's seasonal weather preparation procedure and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during cold weather conditions. Documents reviewed for each section of the inspection report are listed in the Attachment.

b. Findings

No findings were identified.

.2 External Flooding

a. Inspection Scope

On October 2 and 3, the inspectors performed an inspection of the external flood protection measures for Indian Point Unit 3. The inspectors reviewed Technical Specifications, procedures, and the UFSAR, Chapter 2.5, which describes the design flood levels and protection areas containing safety-related equipment, to identify areas that may be affected by external flooding. The inspectors conducted a walkdown of specific vulnerable areas of the plant, including the 15 foot levels of the turbine building, auxiliary feedwater building, and intake building, to ensure that Entergy staff maintained flood protection measures in accordance with design specifications. The inspectors also

reviewed operating procedures for mitigating external flooding during severe weather to determine if Entergy established adequate measures to protect against external flooding events.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04Q – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

Unit 2 and Unit 3

- EDGs and 480V switchgear rooms following grid disturbance and loss of Y94 transmission line and offsite feeder 95891 on October 24, 2013

Unit 2

- 22 and 23 safety injection (SI) pumps using Entergy's procedure 2-COL-10.1.1, "Safety Injection System," while 21 SI pump was tagged out for maintenance on November 19, 2013
- SI system using Entergy's procedure 2-COL-10.1.1, "Safety Injection System," and flow diagram 9321-F-27353, prior to 22 SI pump testing on December 18, 2013.

Unit 3

- 32 and 33 EDGs using Entergy's procedure 3-COL-EL-005, "Diesel Generators," when 31 EDG was removed from service for planned maintenance on October 7, 2013

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, Technical Specifications, work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted the system's 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 the 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 November 6 through 14, 2013, the inspectors performed a complete system walkdown of accessible portions of the Unit 2 Service Water 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 condition reports and work orders to ensure Entergy appropriately evaluated and resolved any deficiencies.

b. Findings

No findings were identified.

1R05 Fire Protection

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

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Entergy 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, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

Unit 2

- Control building, 480V switchgear room (pre-fire plan 251 was reviewed) on October 16, 2013
- Control building, control room (pre-fire plan 253 was reviewed) on December 10, 2013

Unit 3

- Diesel generator building, diesel generators 31, 32, and 33, and diesel generator valve room (pre-fire plan 354 was reviewed) on October 29, 2013
- Control building, control room (pre-fire plan 353 was reviewed) on November 13, 2013
- Fuel storage building, fuel storage bay area, and general floor plan (pre-fire plans 315 and 316, respectively, were reviewed) on December 11, 2013

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program

Licensed Operator Regualification (71111.11A* and 71111.11B – 2 samples)

a. Inspection Scope

The following Unit 3 baseline inspection activities were performed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and Inspection Procedure Attachment 71111.11, "Licensed Operator Regualification Program and Licensed Operator Performance."

Examination Results (Unit 2* and 3)

On December 10, 2013, facility training staff reported requalification exam results for Unit 3 and also included Unit 2 exam results. Inspectors reviewed these results to determine if pass/fail rates were consistent with the guidance of NRC Manual Chapter 0609, Appendix I, and "Operator Regualification Human Performance Significance Determination Process."

*The review verified the following for Unit 2:

- Individual pass rate on the dynamic simulator scenarios was greater than 80 percent. (Pass rate was 100 percent.)
- Individual pass rate on the job performance measure (JPM) part of the operating exam was greater than 80 percent. (Pass rate was 100 percent.)
- Individual pass rate on the written examination was greater than 80 percent. (Pass rate was 100 percent.)
- More than 80 percent of the individuals passed all portions of the requalification exam. (Pass rate was 100 percent.)
- Crew pass rate was greater than 80 percent. (Pass rate was 100 percent.)

The review verified the following for Unit 3:

- Individual pass rate on the dynamic simulator scenarios was greater than 80 percent. (Pass rate was 100 percent.)
- Individual pass rate on the JPM part of the operating exam was greater than 80 percent. (Pass rate was 100 percent.)

- Individual pass rate on the written examination was greater than 80 percent. (Pass rate was 98 percent.)
- More than 80 percent of the individuals passed all portions of the requalification exam. (Pass rate was 98 percent.)
- Crew pass rate was greater than 80 percent. (Pass rate was 100 percent.)

Written Examination Quality

The inspectors reviewed a sample of Unit 3 comprehensive written exams.

Operating Test Quality

The inspectors reviewed a sample of Unit 3 operating tests (scenarios and JPMS).

Licensee Administration of Operating Tests

The inspectors observed Unit 3 facility training staff administer dynamic simulator exams and JPMS during the week of September 16, 2013. These observations included facility evaluations of crew and individual operator performance during the simulator exams and individual performance of JPMS.

Exam Security

The inspectors assessed whether facility staff properly safeguarded exam material, and whether test item repetition guidelines were met.

Remedial Training and Re-examinations

The inspectors reviewed the remedial training package and associated re-exam for a Unit 3 operator who failed the scenario portion of the 2012 operating exam.

Conformance with License Conditions

Unit 3 license reactivation and license proficiency records were reviewed to ensure that 10 CFR 55.53 license conditions and applicable program requirements were met. The inspectors also reviewed a sample of records for requalification training attendance, and a sample of medical examinations for compliance with license conditions and NRC regulations.

Simulator Performance

Unit 3 simulator performance and fidelity were reviewed for conformance to the reference plant control room. A sample of simulator deficiency reports was also reviewed to ensure facility staff addressed identified modeling problems.

Problem Identification and Resolution

The inspectors reviewed recent Unit 3 operating history documentation found in inspection reports, licensee event reports, Entergy's CAP, NRC end-of-cycle and mid-cycle reports, and the most recent NRC plant issues matrix. The inspectors focused on

events associated with operator errors that may have occurred due to possible training deficiencies.

b. Findings

No findings were identified.

Licensed Operator Regualification (71111.11Q – 4 samples)

Unit 2

.1 Quarterly Review of Licensed Operator Regualification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on October 1, 2013, which included a small break loss of coolant accident coincident with a failure of the reactor to automatically trip (ATWS). The simulation was completed using Indian Point Energy Center (IPEC) Simulated Evaluated Scenario LRQ-SES-50. The inspectors evaluated operator performance during the simulated events 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 site area emergency classification made by the shift manager. Additionally, the inspectors assessed the ability of Entergy's evaluators to identify and document crew performance problems. Simulator fidelity with the operating plant was also evaluated to assure accurate simulation.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors observed and reviewed replacement of a reactor protection bistable conducted on October 18, 2013 (CR-IP2-2013-4213). The inspectors observed the critical evolution planning meeting, the performance briefings, and reactivity control briefings to verify that the activities met the criteria specified in Entergy's Operations Section Expectations Handbook and Entergy's Administrative Procedure OP-AA-329, "Conduct of Infrequently Performed Tests and Evolutions." Additionally, the inspectors observed operator response to an EDG trouble alarm, a reactor coolant system dilution, and response to work activities to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards. During the observation, an in-progress work activity to replace control room lighting was also observed (work order 00334855).

b. Findings

No findings were identified.

Unit 3

.3 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator evaluated scenario in the plant specific simulator conducted on October 7, 2013. The session was evaluated as part of the licensed operator annual operating test, was conducted using Simulator Evaluated Scenario 13SX-LOR-SES011, which included a condensate pump trip, multiple dropped control rods, a failure of the reactor to automatically trip (ATWS), and a failed open pressurizer power operated relief valve. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions; which included the implementation of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of crew communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor and shift manager. The inspectors verified the accuracy and timeliness of the site area emergency classification made by the shift manager and timeliness of notification of state authorities simulated by the crew communicator. Additionally, the inspectors assessed the ability of the training staff to evaluate operator performance and identify performance problems.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors observed performance of 3-PT-Q94C, Pressurizer Level Functional Test – Channel III, on November 13, 2013. Upon completion of the test, while changing the in-control channel from channel III to II, the pressurizer pressure dropped approximately 15 psig and increase in the level was noted. The inspectors observed the operator performance during the transient to bring pressurizer level and pressure to normal operating conditions. The inspectors reviewed the test results and calibration testing of the channels. The inspectors observed the pressurizer pressure functional testing conducted on November 14, 2013. On December 16, 2013, the inspectors observed control room operator turnover, a reactivity adjustment by addition of boron, SI logic testing “A” train, and alignment of the 31 battery to 35 battery charger. The performance of SI logic testing on train “A” was done in accordance with license procedure 3PT-M14A, “SI Logic Testing Safety Injection.” The battery alignment was done in accordance with Entergy procedure 3-SOP-EL-003, “Battery Charger and 125 volt DC System Operations.” The inspectors observed conduct of routine operations by crew licensed operators; control board walkdowns; the beginning of shift meeting; operator response to alarms; and communications between reactor operators, senior reactor operators, and the non-licensed crew. Additionally, the inspectors observed

procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

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 work orders, and maintenance rule basis documents to ensure that Entergy was identifying and properly evaluating performance 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 10 CFR 50.65 and verified that the (a)(2) performance criteria established by Entergy staff was reasonable. As applicable, 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 and Unit 3

- Performance evaluation of 30 Unit 2 and 30 Unit 3 radiation monitors within the scope of the maintenance rule. In particular, inspectors reviewed the history of radiation monitors that have been out of service for more than 30 days. Unit 2 has radiation monitor R6 and R7 out of service due to obsolete parts and R59 due to continued pump trips on low flow. All three radiation monitors have compensatory measures in place. Unit 3 has R63A and R63B, Gross Failed Fuel Detectors, out of service due to self-regulating flow control valve FCV-505 shuts on increased flow rate resulting in isolating flow through the detectors. Previously, these radiation monitors were out of service due to leak through of AOV-956E, upstream sample isolation valve which was repaired in March 2013. Currently, the alternate monitoring method is through normal reactor coolant system sampling at 31 or 33 reactor coolant system hotleg sample line. Associated condition reports, compensatory measures, system health reports, corrective actions, maintenance rule procedures and NRC reports were reviewed by the inspectors. Both units radiation monitoring systems remain in maintenance rule a(2) status.

Unit 2

- Performance evaluation following the functional failures of the 23 charging pump due to low oil pressure during inspection as a result of improper tubing replacement practices during the overhaul in the Spring of 2012. The condition reports, a(1) evaluation, and the third quarter 2013 Unit 2 chemical and volume control system health report were reviewed by the inspectors.
- Performance evaluation following the functional failure of the Power Range Channel N-41 High Voltage Power Supply due to age related degradation of electrolytic

capacitors. Associated condition reports, corrective actions, work orders, procurement evaluations, maintenance procedures, as well as a Maintenance Rule Expert Panel meeting were reviewed by the inspectors.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 4 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 Technical Specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

Unit 2

- November 5, 2013; Yellow risk and risk management when 22 auxiliary boiler feed pump was removed from service for planned maintenance and surveillance testing. The inspectors verified Entergy's contingency postings in accordance with Entergy's procedure EN-OP-119, "Protected Equipment Postings," and procedure EN-WM-104, "On Line Risk Assessment," as part of the inspection.
- November 13, 2013; Yellow risk and risk management when 21 EDG was removed from service for planned maintenance and surveillance testing. The inspectors verified Entergy's contingency postings in accordance with Entergy's procedure EN-OP-119, "Protected Equipment Postings," and procedure EN-WM-104, "On Line Risk Assessment," as part of the inspection.

Unit 3

- October 17, 2013; Orange risk and risk management during replacement of cell 14 on the 33 Station Battery. On October 9, 2013, during performance of weekly surveillance test 3-PT-W013, Station Battery Visual Inspection, on station battery 33, Entergy staff discovered a crack in the upper jar of battery cell 14 and entered orange risk to replace the cell. The inspectors walked down a temporary modification installed to maintain the integrity of the cell. The inspectors attended the Critical Evolution Meeting where the risk management actions were prescribed, observed pre-evolution briefings of the operations crew including the Infrequently Performed Task or Evolution briefing, and observed the permanent replacement of

cell 14 on October 17, 2013 (CR-IP3-2013-4216). An investigation of the cause of the crack was initiated by Entergy.

- November 21, 2013; Yellow risk and risk management during the 480V undervoltage/degraded grid protection system functional testing. The inspectors verified Entergy's contingency postings in accordance with Entergy's procedure EN-OP-119, "Protected Equipment Postings," procedure EN-WM-104, "On Line Risk Assessment," and work orders as part of the inspection.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 6 samples)

a. Inspection Scope

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

Unit 2

- Operability of the control room envelope after a torn membrane and other minor deficiencies were identified during Entergy's surveillance PI-SA3, Control Room and Control Room Fan Room Inspection (CR-IP2-2013-4394) on November 4, 2013. The inspectors walked down the control room envelope with an operations shift manager; discussed the satisfactory completion of Entergy's surveillance PT-EM-013 with the system engineer; and reviewed the 2010 completion of Control Room Envelope In-leakage Testing in the operability assessment.
- Operability of PCV-1307 post-accident containment venting system after it failed the inservice test (IST) open stroke time range during the performance of 2-PT-Q013, Inservice Valve Tests on November 26, 2013. The valve was outside the required range of IST open stroke time of 3 to 9 seconds (CR-IP2-2013-4793), however; it was within the limiting open stroke time of 20 seconds for operability of the valve.
- Operability of the 22 EDG following removal of the 22 EDG lube oil cooler reversing chamber head as a part of the 6-month inspection of the service water side on December 17, 2013. While removing the head, a portion of the coating detached from the head and adhered to the gasket (CR-IP2-2013-5062). No portion of the coating was determined to have sloughed off.

Unit 3

- Operability of the propane generator (SPG-1) used for Appendix R lighting following identification that spark plug gaps were out-of-specification during one-year preventive maintenance under work order 00351131-02 (CR-IP3-2013-4396) on October 29, 2013. The plug gaps were corrected and the generator tested using Entergy's procedure 3-PT-Q138, "Propane Generator Test."
- Operability of auxiliary feedwater flow regulating valve, FCV-406C, which demonstrated an unseating condition while the valve opens on November 13, 2013. The inspectors observed testing and reviewed the applicable data.
- Operability of service water line 1093 following the identification of several areas of degradation in pipe coating while performing a modification to the 32 Main

Transformer Moat in November 2013. Exposed piping was required to be visually inspected during the work and it revealed two locations in which the ultrasonic testing revealed degradation beyond the allowable limits of the American Society of Mechanical Engineers, Section XI Code. The inspectors performed several walkdowns of the affected area during work and reviewed Entergy's operability evaluation (identified under CR-IP3-2013-04174), applicable ultrasonic testing data, and Relief Request Number IP3-008.

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 Technical Specification 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 Technical Specifications and the 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 of Entergy actions with the bounding limitations of their evaluations.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 2 samples)

.1 Permanent Modification

a. Inspection Scope

The inspectors evaluated a modification to retire leg "M" of the 138KV IP2-IP3 tie feeder 33332L/M implemented by engineering change EC45093, "138KV IP2-IP3 Tie Feeder 33332M Phase C Disconnect." The inspectors verified that the design bases, licensing bases, and performance capability of the affected systems were not degraded by the modification. In addition, the inspectors reviewed modification documents associated with the design change, including fault protection relays setting calculations, maximum loading through feeder 33332L calculations, and cable specifications. The inspectors also conducted a walkdown of the feeder 33332M area affected by the change on both units and observed some of the modification as it was completed.

b. Findings

No findings were identified.

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

- EC-47159 for Unit 3 to install temporary modification on 33 station battery cell 14. While performing surveillance test 3-PT-W013, Station Battery Visual Inspection, a crack was found on the jar of cell 14 between the high and low electrolyte level indicators. Layers of duct tape measuring in excess of 3 inches in width were placed over the face having the hairline crack, and extended over a reduced distance on the sides of the cell. Additionally, tie wraps were wrapped around the tape to provide a second layer of protection over the crack. No leaks were observed through the crack and the cell was replaced on October 17, 2013 (CR-IP3-2013-4222).

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 7 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the 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 the 23 SI pump following planned maintenance activities using Entergy's Test 2-PT-Q029C on October 8, 2013
- Instrumentation and control testing of N-41 high voltage power supply replacement following N-41 failing low IAW work order 365968 on October 25, 2013
- Functional test of 21 EDG following planned maintenance activities using Entergy's Test 2-PT-M021A on November 14, 2013
- Functional test of 24 station battery after replacement of cell 50 using Entergy's Test 2-PT-M022, Station Battery Surveillance, on December 26, 2013

Unit 3

- Functional test of 31 EDG following planned maintenance activities using Entergy's Test 3-PT-M079A on October 8, 2013.
- Functional test of boric acid transfer pump 32 following pump and valve replacement and maintenance activities using Entergy's Test 3-PT-Q038B on October 17, 2013.

- Functional test of auxiliary feedwater pump 33 and the associated valve FCV-406C following planned maintenance using Entergy's Test 3-PT-Q120C on October 31, 2013.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

Unit 2 New Fuel Receipt

a. Inspection Scope

The inspectors observed the new fuel receipt of Westinghouse fuel assemblies transferred to the Unit 2 new fuel storage vault on December 10, 2013. The inspectors verified compliance with Technical Specifications, NRC regulations, and Entergy's procedures. The inspectors observed Entergy engineers conducting inspections and verified each fuel movement was properly tracked in accordance with Entergy's procedure 0-REF-400-GEN, "New Fuel Receipt and Inspection."

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 6 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 Technical Specifications, the UFSAR, and Entergy's procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests including ISTs:

Unit 2

- 2-PT-Q029C, 23 SI Pump, on October 8, 2013
- 2-PT-Q034, 22 Auxiliary Feed Pump; and 2-PT-Q013-DS085, Valve FCV-405A IST Data Sheet, on November 5, 2013 (IST)
- 2-PT-Q034B, PCV-1310A and PCV-1310B Nitrogen Supply, on November 5, 2013
- Special Engineering Procedure 300068-01, Procedure for Assembly and Testing of Boron-10 Areal Density Meter at IPEC Unit 2, on November 17 and 18, 2013

Unit 3

- 3-PT-Q94C, Pressurizer Level Functional Test – Channel III, on November 14, 2013
- 3-PT-Q085, SI System Valve Operability Test, on December 11, 2013 (IST)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness1EP6 Drill Evaluation (71114.06 – 1 sample)Training Observationa. Inspection Scope

The inspectors observed and evaluated the conduct of a routine Unit 2 emergency drill on November 20, 2013, which required emergency plan implementation by an operations crew. Entergy planned for this evolution to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed emergency response operations in the simulator, technical support center, and emergency operations facility to check that event classification, notification activities, and protective action recommendations were in accordance with Entergy's procedures and regulatory requirements. Entergy's training drill involved a Notification of an Unusual Event due to fire in the protected area boundary for greater than 15 minutes; an Alert based on an increase in reactor coolant activity; and a General Emergency due to a steam generator tube rupture. The event classifications were in accordance with the Entergy's procedure IP-EP-210, "Central Control Room," IPEC Emergency Plan Implementing Procedure, and Emergency Action Level Matrix. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that Entergy's evaluators properly identified weaknesses and entered them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY**Cornerstone: Public Radiation Safety and Occupational Radiation Safety**2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08 – 1 sample)a. Inspection Scope

During the week of November 4 – 8, 2013, the inspectors verified the effectiveness of Entergy's programs for processing, handling, storage, and transportation of radioactive material. The inspectors used the requirements of 10 CFR Parts 20, 61, and 71;

10 CFR Part 50, Appendix A, Criterion 63, "Monitoring Fuel and Waste Storage;" and Entergy's procedures required by the Technical Specifications/Process Control Program (PCP) as criteria for determining compliance.

The inspectors reviewed the solid radioactive waste system description in the final safety analysis report (FSAR), the PCP, and the recent radiological effluent release report for information on the types, amounts, and processing of radioactive waste disposed.

The inspectors reviewed the scope, the results, and the adequacy of Entergy's corrective actions of quality assurance (QA) audits performed for this area since the last inspection.

Radioactive Material Storage

The inspectors inspected areas where containers of radioactive waste were stored. The inspectors verified that the radioactive materials storage areas were controlled and posted as appropriate.

The inspectors verified that Entergy had established a process for monitoring the impact of long-term storage (e.g., buildup of any gases produced by waste decomposition, chemical reactions, container deformation, loss of container integrity, or re-release of free-flowing water). The inspectors verified that there were no signs of swelling, leakage, or deformation.

Radioactive Waste System Walkdown

The inspectors walked down accessible portions of liquid and solid radioactive waste processing systems to verify and assess that the current system configuration and operation agree with the descriptions in the FSAR, offsite dose calculation manual, and PCP.

The inspectors identified radioactive waste processing equipment that was not operational and/or was abandoned in place, and verified that Entergy had established administrative and/or physical controls for the protection of personnel from unnecessary personnel exposure.

The inspectors reviewed the adequacy of any changes made to the radioactive waste processing systems since the last inspection. The inspectors verified that changes from what was described in the FSAR were reviewed and documented.

The inspectors identified processes for transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers. The inspectors verified that the waste stream mixing, sampling procedures, and methodology for waste concentration averaging were consistent with the PCP, and provided representative samples of the waste product for the purposes of waste classification.

For those systems that provide tank recirculation, the inspectors verified that the tank recirculation procedure provided sufficient mixing.

The inspectors verified that Entergy's PCP correctly described the current methods and procedures for dewatering waste.

Waste Characterization and Classification

The inspectors identified radioactive waste streams, and verified that Entergy's radiochemical sample analysis results were sufficient to support radioactive waste characterization. The inspectors verified that Entergy's use of scaling factors and calculations to account for difficult-to-measure radionuclides was technically sound and based on current analyses.

The inspectors verified that changes to plant operational parameters were taken into account to (1) maintain the validity of the waste stream composition data between the annual or biennial sample analysis update, and (2) verified that waste shipments continued to meet applicable requirements.

The inspectors verified that Entergy had established and maintained an adequate QA program to ensure compliance with applicable waste classification and characterization requirements.

Shipment Preparation

The inspectors reviewed the records of shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and Entergy's verification of shipment readiness. The inspectors verified that the requirements of any applicable transport cask certificate of compliance had been met. The inspectors verified that the receiving licensee was authorized to receive the shipment packages.

The inspectors determined that the shippers were knowledgeable of the shipping regulations and that shipping personnel demonstrated adequate skills to accomplish the package preparation requirements for public transport. The inspectors verified that Entergy's training program provided training to personnel responsible for the conduct of radioactive waste processing and radioactive material shipment preparation activities.

Shipping Records

The inspectors identified non-excepted package shipment records and verified that the shipping documents indicate the proper shipper name; emergency response information and a 24-hour contact telephone number; accurate curie content and volume of material; and appropriate waste classification, transport index, and international shipping identification number. The inspectors verified that the shipment placarding was consistent with the information in the shipping documentation.

Identification and Resolution of Problems

The inspectors verified that problems associated with radioactive waste processing, handling, storage, and transportation, were being identified by Entergy at an appropriate threshold, were properly characterized, and verified the appropriateness of the corrective actions for a selected sample of problems. Entergy generated six condition reports to document material condition deficiencies identified during this inspection.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 – 2 samples)

.1 Occupational Radiation Safety Cornerstone

a. Inspection Scope

The inspectors reviewed a listing of Entergy's action reports for issues related to the occupational radiation safety performance indicator, which measures non-conformances with high radiation areas greater than 1 rem/hour (R/hr) and unplanned personnel exposures greater than 100 millirem (mrem) total effective dose equivalent (TEDE), 5 rem skin dose equivalent (SDE), 1.5 rem lens dose equivalent (LDE), or 100 mrem to the unborn child.

The inspectors determined if any of these performance indicator (PI) events involved dose rates >25 R/hr at 30 centimeters or >500 R/hr at 1 meter. If so, the inspectors determined what barriers had failed and if there were any barriers left to prevent personnel access. For unintended exposures >100 mrem TEDE (or >5 rem SDE or >1.5 rem LDE), the inspectors determined if there were any overexposures or substantial potential for overexposure. The inspectors determined that no PI events for occupational radiation safety had occurred during the assessment period.

b. Findings

No findings were identified.

.2 Public Radiation Safety Cornerstone

a. Inspection Scope

The inspectors reviewed a listing of Entergy's action reports for issues related to the public radiation safety performance indicator, which measures radiological effluent release occurrences per site that exceed 1.5 mrem/quarter (qtr) whole body or 5 mrem/qtr organ dose for liquid effluents; or 5 millirads (mrads)/qtr gamma air dose, 10 mrads/qtr beta air dose; or 7.5 mrems/qtr organ doses from Iodine-131 (I-131), I-133, Hydrogen-3 (H-3) and particulates for gaseous effluents. The inspectors determined that no PI events for public radiation safety had occurred during the assessment period.

b. Findings

No findings were identified.

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

.1 Routine Review of Problem Identification and Resolution Activities

a. 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 the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended condition report screening meetings and system health meetings.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review (1 sample)

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by Inspection Procedure 71152, “Problem Identification and Resolution,” to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely-related issues that may have been documented by Entergy outside of the CAP, such as trend reports, performance indicators, major equipment problem lists, system health reports, maintenance rule assessments, and maintenance or CAP backlogs. The inspectors also reviewed Entergy’s CAP database for the third and fourth quarters to assess trends in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRCs daily condition report review (Section 4OA2.1). The inspectors reviewed Entergy’s quarterly trend report for the third quarter of 2013, completed by the corrective actions and assessment group to verify that Entergy personnel were appropriately identifying and evaluating adverse trends.

b. Findings and Observations

No findings were identified.

The inspectors observed that Entergy documented adverse conditions in the CAP at a very low threshold and verified on a sampling basis that these issues were addressed within the scope of the CAP or through department review and documentation in the quarterly trend report for overall assessment. For example, the inspectors noted that weekly system health reviews were provided to station managers by system engineering personnel and in this review, operational issues were tracked and discussed.

The inspectors observed an apparent increase in the number of material condition problems associated with the service water system on both units. Specifically, small

thru-wall leaks were found on service water piping on Unit 2 in two cases requiring entry into Technical Specification 3.0.3 until the leaks were isolated using isolation valves (CR-IP2-2013-3759, 5053). On Unit 3, when buried piping was unearthed during a material condition improvement project, small externally induced piping flaws were identified requiring documentation and action by Entergy to assure piping integrity and operability (CR-IP3-2013-4174). The long term resolution of these issues was being evaluated in Entergy's CAP at the end of the inspection period.

.3 Annual Sample: Nuclear Oversight Elevated Concern of Tagout Problems (1 sample)

a. Inspection Scope

The inspectors performed an in-depth review of Entergy's common cause analysis and corrective actions associated with condition report CR-IP2-2013-02751. This condition report documented a finding initiated by IPEC's nuclear oversight (NOS) using procedure EN-QV-106, "Elevation and Escalation of Nuclear Oversight Concerns." NOS implemented the elevation process which is the first tool used to drive for performance improvement, and it provides the department an opportunity to resolve performance issues prior to NOS engaging higher levels of management with an escalation. The quality assurance finding stated:

"Tagouts continue to be designed with inadequate protection boundaries and implemented in the field without holding off the energy source; workers are commencing work without understanding how they are being protected and verifying energy has been released; and tagout holders are not walking down the protection and adequately briefing the work order holders. Breakdowns in all three fundamental aspects of the tagging program continue exposing workers to energy sources and causing loss of configuration control of important plant safety systems. Corrective actions to date have not been effective in arresting the trend."

NOS followed its Problem Development Sheet guidelines to develop the finding and problem statement and provided several supporting examples from 2010 to June 2013. Included in one of the examples was condition report CR-IP2-2013-01366 that was initiated in response to the 21 and 22 EDGs being rendered inoperable for about 90 minutes while the 23 EDG was tagged-out for planned maintenance. The 21 and 22 EDGs were rendered inoperable due to procedure non-compliance with protective tagging and work package processes. This issue required a notification to the NRC and was a licensee-identified Green non-cited violation (NCV). Further details of this issue are discussed in Sections 4OA3 and 4OA7 of this report. Entergy completed its root cause evaluation report for the tagging issues on August 6, 2013.

The inspectors assessed Entergy's problem identification threshold, causal analyses, technical analyses, extent of condition reviews, interim actions, and the prioritization and timeliness of corrective actions to determine whether Entergy was appropriately identifying, characterizing, and correcting problems associated with this issue. The inspectors compared the actions taken to the requirements of Entergy's CAP and 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." In addition, the inspectors reviewed documentation associated with this issue, including several condition reports and effectiveness reviews, and interviewed maintenance and operations personnel to

assess the effectiveness of the implemented corrective actions and the actions planned to complete full resolution of the issue.

b. Findings and Observations

No findings were identified.

Entergy completed an apparent cause evaluation report using common cause and barrier analyses techniques and procedures. A single apparent cause was determined for the numerous protective tagging issues considered. The apparent cause was ineffective use of human performance tools and stated:

“In all instances in the set of condition reports reviewed the requirements of EN-OP-102 (Protective and Caution Tagging) were not properly followed and personnel failed to properly implement familiar human performance tools.”

Entergy established several corrective actions from its apparent cause evaluation that are scheduled to complete in July 2014 and a final effectiveness review scheduled for November 2014. The initial corrective actions included immediate actions to change human performance and require strict compliance with procedures such as stand-downs and procedure-in-hand blitzes, require procedure checklists to always be in-hand even during briefings and not just field work, accelerate supervisory field observations through the leadership effectiveness log (LEL) program, and providing updates to the workforce on their progress and improvement. Longer term corrective actions include classroom training, and assessment and effectiveness reviews of the LEL database and tagging performance indicators.

The inspectors determined that Entergy’s overall response to the issue was commensurate with the safety significance, was timely, and the actions taken and planned were reasonable to resolve the human performance issues in protective tagging. The inspectors however noted a few observations related to problem identification and resolution performance:

- The LEL observations by maintenance supervisors and above ends prior to the effectiveness reviews which are scheduled out to November 2014. Reducing the LEL observations to their nominal levels during the time period when effectiveness reviews are still being performed may result in a false positive when looking at trends of negative observations.
- Quarterly updates to the workforce on tagging performance are scheduled until March 2014 with an assessment in May 2014 to determine if workforce updates should continue. The quarterly updates should reasonably continue as long as corrective actions complete and effectiveness reviews are in progress. The last effectiveness review completes in November 2014 and should provide a meaningful update to the workforce and closure on the corrective actions for this longstanding human performance issue related to protective tagging.
- The effectiveness review completed on October 16, 2013, was only intended to review the performance of the maintenance individuals that were involved with the EDG tagging issue on April 15, 2013. As Entergy determined the long standing human performance issues were related to the entire Operations and Maintenance Departments at Units 2 and 3, the effectiveness review should also have reviewed

performance of the entire station and not just the specific individuals involved with the error on April 15, 2013.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 3 samples)

Unit 2

- .1 (Closed) Licensee Event Report (LER) 05000247/2013-001-00: Manual Reactor Trip as a Result of Decreasing Steam Generator Water Levels Caused by the Trip of Both Heater Drain Tank Pumps During Air Operated Valve Diagnostic Testing

On February 13, 2013, operators inserted a manual reactor trip in anticipation of an automatic trip due to lowering steam generator levels. Entergy's investigation found that planned diagnostic testing on a heater drain valve caused in-service heater drain tank large dump valves to open, resulting in a trip of the heater drain pumps and reduced flow through the main feedwater pumps to the steam generators. The lowering of steam generator levels would have caused an automatic reactor trip had the operators not intervened. The resident inspectors responded to the control room at the time of the event and observed the operator's response to the trip including performance of the emergency operating procedures. On review of the event, a finding was identified associated with maintenance practices during testing of the heater drain air operated valve. This finding was documented as Finding 05000247, 05000286/2013-002-01: Inadequate Maintenance Procedure Results in a Reactor Trip. The inspectors reviewed Entergy documentation and evaluation of the event in condition report CR-IP2-2013-00721 and verified that maintenance procedures 0-IC-PC-AOV and 0-VLV-404-AOV were revised to require technicians to verify that in-service components will not be affected prior to lifting leads. This LER is closed.

- .2 (Closed) LER 05000247/2013-002-00: Safety System Functional Failure of the Onsite Emergency Diesel Generators Due to Maintenance on the Emergency Fuel Oil Supply Line During Tagout of the Normal Line

On April 16, 2013, operations personnel at IPEC discovered that internal inspection work on the 23 EDG day tank fuel oil (FO) fill stop valve DF-17-4 was performed on April 15 without tagout protection. Valve DF-17-4 is in the emergency FO supply line and was intrusively inspected concurrently with the normal FO supply line header tagged out for approved work on valve DF-17-5. This condition could potentially allow EDG makeup FO to escape out of the disassembled valve DF-17-4 bonnet and result in inadequate FO flow to the 21 and 22 EDG FO day tanks. Entergy entered the issue into the CAP as CR-IP2-2013-01366 and established several interim actions to prevent similar human performance errors from recurring during maintenance and tagout activities. Entergy completed a root cause evaluation and established additional long term corrective actions. Entergy determined the root causes of the event were: 1) procedure non-compliance with protective tagging and work package processes; and 2) inadequate implementation of maintenance from a work readiness standpoint. The LER and associated root cause evaluation were reviewed for accuracy, the appropriateness of corrective actions, violations of requirements, and generic issues. The generic issues are discussed in section of 4OA2.1 of this report. The enforcement aspects of this issue are discussed in Section 4OA7. The inspectors did not identify any new issues during review of the LER. This LER is closed.

Unit 3.3 (Closed) LER 05000286/2013-002-00: Safety System Functional Failure and Common Cause Inoperability of the Emergency Core Cooling System Due to Violation of Containment Sump Debris Barrier Integrity

On March 4, 2013, at 0415 (after entering Mode 4 at 0347) Radiation Protection (RP) personnel entered the reactor containment building to install plastic protective fencing to support outage maintenance. The work crew chose to enter the inner crane wall (ICW) area through a single gate sump barrier access point associated with the emergency core cooling system (ECCS). The installation of the fence material and use of the ICW access point were contrary to the design basis when the plant was in Modes 4 and challenged the functionality of the ECCS recirculation sump debris barrier which is designed to support mitigation of the consequences of an at-power accident. Entergy staff identified the condition at 0445 and secured the single gate sump barrier access point; however, the plastic RP fencing remained installed contrary to design requirements. When the unit reached Mode 5 at 0852, the ECCS recirculation sump debris barrier was no longer required. The plastic RP fencing was replaced in accordance with design configuration while in Mode 5 prior to return to Mode 4. Entergy staff captured this event in condition reports CR-IP3-2013-0975 and CR-IP3-2013-1273. Inspectors reviewed the event report, associated procedures and design documentation, cause evaluations, and closed corrective actions. 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 or the supplement. This LER is closed.

4OA6 Meetings, Including Exit

On January 8, 2014, the inspectors presented the inspection results to Mr. John Ventosa, 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 violations of very low safety significance (Green) were identified by Entergy personnel and were violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as NCVs:

- Unit 2 Technical Specification, 5.4.1.a., "Procedures," requires in part that written procedures shall be established, implemented, and maintained covering the applicable requirements and recommendations of Appendix A of Regulatory Guide 1.33, Revision 2. Appendix A of Regulatory Guide 1.33 includes administrative procedures for safety-related equipment control, e.g. locking and tagging. EN-OP-102, "Protective and Caution Tagging," was an Entergy administrative procedure for locking and tagging. Step 5.11[6] required that the tagout holder shall ensure a walk down of the applicable portion of the tagout is performed prior to starting work. Contrary to this requirement, on April 15, 2013, the tagout holders for disassembling a diesel fuel valve, DF-17-4, did not walk down the associated tagout. The DF-17-4 tagout was not hung and a walk down would have identified that adequate boundaries for personnel and equipment protection were not established. Work performed on DF-17-4 rendered the 21 and 22 EDGs inoperable for about 90

- minutes while the 23 EDG was tagged-out for maintenance on DF-17-5. Entergy operations personnel identified this issue on April 16, 2013, when they noted the work order for DF-17-4 was completed with the tagout for the associated work not established. Entergy entered this issue into the CAP as CR-IP2-2013-01366. Entergy personnel reported this condition that could have prevented the fulfillment of the safety function of the onsite EDGs to the NRC in LER 05000247/2013-002-00 (See Section 4OA3). The issue was more than minor because it was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. The inspectors followed the guidance of Inspection Manual Chapter (IMC) 0609, Appendix A, Exhibit 2, step A.2. This states that if the finding represents a loss of system and/or function, go to the Detailed Risk Evaluation section. A senior reactor analyst performed a Detailed Risk Evaluation and determined this issue was of very low safety significance (Green) because of the very short duration (about 90 minutes), the diesel FO day tanks provided at least 53 minutes of 21 and 22 EDG operation, the Unit 2 Station Blackout (SBO)/Appendix R EDG and Unit 3 SBO/Appendix R EDG with its electrical crosstie were available, and maintenance technicians remained at the job site and could have rapidly restored DF-17-4 if an auto-start of the 21 and 22 EDGs occurred.
- 10 CFR 50, Appendix B, Criterion V states, in part, activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to the above, on March 4, 2013, at 0415 at Indian Point Unit 3, a work crew entering the ICW area to install plastic RP fencing violated the design basis and challenged the functionality of the ECCS recirculation sump and debris barrier when they failed to enter the associated location using the procedurally directed access point. This violation is more than minor due to the adverse impact upon the Reactor Safety – Mitigating Systems cornerstone under the attribute configuration control. Entergy staff identified the condition when reviewing the work group activity and captured this event in condition reports CR-IP3-2013-0975 and CR-IP3-2013-1273. Entergy reported this event in LER 05000286/2013-002-00 (See section 4OA3). In accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” Exhibit 2, the finding screened to be of very low safety significance (Green), when all screening questions were answered “no.” The inspectors assumed that the configuration associated with the event would not have caused complete loss of the ECCS recirculation sump function because the lower temperature and pressure associated with the unit in Mode 4 would limit debris generation.

ATTACHMENT: SUPPLEMENTARY INFORMATION

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

N. Azevedo, Code Programs Supervisor
 S. Bianco, Fire Protection Instructor
 R. Burroni, Engineering Director
 T. Chan, Mechanical Systems Supervisor
 J. Dinelli, General Manager Plant Operations
 D. Dewey, Assistant Operations Manager
 R. Dolanksy, ISI Program Manager
 R. Drake, Civil Design Engineering Supervisor
 J. Ferrick, Production Manager
 E. Firth, Performance Improvement Manager
 D. Gagnon, Security Manager
 F. Inzirillo, Training Manager
 J. Kirkpatrick, Director, Regulatory and Performance Improvement
 D. Mayer, Unit 1 Director
 T. McCaffrey, Design Engineering Manager
 B. McCarthy, Operations Manager
 M. Miele, Emergency Planning Manager
 F. Mitchell, Radiation Protection Manager
 R. Tagliamonte, Radiation Protection Manager
 M. Tesoriero, System Engineering Manager
 M. Troy, Quality Assurance Manager
 J. Ventosa, Site Vice President
 R. Walpole, Regulatory Assurance Manager
 D. Williams, Maintenance Manager

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATEDClosedUnit 2

05000247/2013-001-00	LER	Manual Reactor Trip As a Result of Decreasing Steam Generator Water Levels Caused by the Trip of Both Heater Drain Tank Pumps During Air Operated Valve Diagnostic Testing (Section 4OA3.1)
05000247/2013-002-00	LER	Safety System Functional Failure of the Onsite Emergency Diesel Generators Due to Maintenance on the Emergency Fuel Oil Supply Line During Tagout of the Normal Line (Section 4OA3.2)

Unit 3

05000286/2013-002-00 LER Safety System Functional Failure and Common Cause Inoperability of the Emergency Core Cooling System Due to Violation of Containment Sump Debris Barrier Integrity (Section 40A3.3)

LIST OF DOCUMENTS REVIEWED**Section 1R01: Adverse Weather Protection**Procedures

OAP-048 2-SOP-11.5 3-SOP-EL-007 2-SOP-30.1

Condition Reports (CR-IP3-)

2013-04121 2013-04123 2013-04126 2013-04462 2013-04512 2013-04559
2013-04590 2013-04632 2013-04639 2013-04704 2013-04725 2013-04829

Condition Reports (CR-CNS-)

2013-07075

Maintenance Orders/Work Orders

226961 181009 281550

Section 1R04: Equipment AlignmentProcedures

2-COL-24.1.1, Service Water System, Revision 49
2-PT-Q091, Service Water System Quarterly Alignment Verification, Revision 4
COL 24.1.2, Service Water Essential Header Verification, Revision 14

Condition Reports (CR-IP2-)

2013-00432 2013-03759 2013-04378 2013-04396 2013-04400 2013-04402
2013-04405 2013-04488 2013-04491 2013-04559 2013-04560 2013-04561
2013-04562 2013-04582

Maintenance Orders/Work Orders

00367379 00370388

Drawings

9321-F-2722 Service Water System Sheet 1 of 2, Revision 126
A209762 Service Water System Sheet 2 of 2, Revision 72
B235509, Stress Isometric for Piping Problem SW-463-DG Sheet 1 of 2, Revision 0
B235510, Stress Isometric for Piping Problem SW-463-DG Sheet 2 of 2, Revision 0
B235506, Stress Isometric for Piping Problem SW-406-YD Sheet 1 of 3, Revision 0
B235507, Stress Isometric for Piping Problem SW-406-YD Sheet 2 of 3, Revision 0
B235508, Stress Isometric for Piping Problem SW-406-YD Sheet 3 of 3, Revision 0

Miscellaneous

System Health Report, Service Water, Second Quarter, 2013
Unit 2 Service Water System Walkdown, 9/11/2013
Unit 2 Service Water System Walkdown, 10/29/2013

Section 1R11: Licensed Operator Requalification ProgramProcedures

2-AOP-INST-1, Instrument Controller Failures
 2-AOP-480V-1, Loss of 480 Volt Bus
 2-E-0, Reactor Trip or Safety Injection
 EN-TQ-114, Licensed Operator Requalification Training Program Description
 EN-NS-112, Medical Program
 FR-S.1, Response to Nuclear Power Generation / ATWS
 OAP-032, Operations Training Program
 2013 Unit 3 LOR Annual Operating Exam Sample Plan
 3-PC-OL03B, Pressurizer Level Loop L-460 Channel Calibration, Revision 1
 3-PC-OL03A, Pressurizer Level Loop L-459 Channel Calibration, Revision 3
 3-PC-OL03C, Pressurizer Level Loop L-461 Channel Calibration, Revision 2
 3-PT-Q94A, Pressurizer Level Functional Test – Channel I, Revision 5
 3-PT-Q94B, Pressurizer Level Functional Test – Channel II, Revision 2
 3-PT-Q94C, Pressurizer Level Functional Test – Channel III, Revision 3
 3-IC-PC-I-P-456, Pressurizer Pressure Control Channel II, Revision 11
 IP3-DEE-01-013MC, Recommended Channel Check Acceptance Criteria for Improved
 Technical Specification Compliance
 IPC-Calc-RPC-00318, Pressurizer High Water Level Reactor Trip Instrument Loop
 Accuracy/Setpoint Calculation

Job Performance Measures

005-3A	008-3A	011A	102A-2	0171A	091
065TCA	019	018A	069-6		

Comprehensive Written Exams

SRO 2013-3A	SRO 2013-3V	SRO 2013-3B
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Simulator Scenarios

LOR-SES006	LOR-SES001	LOR-SES007	LOR-SES022
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Condition Reports

2012-166	2012-03993	2013-801	2013-991
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Simulator Performance Tests

Manual Rx Trip, dated March 26, 2013
 Trip of All FW Pumps, dated March 26, 2013
 Closure of All Main Steam Isolation Valves, dated March 26, 2013
 Simultaneous Trip of All Reactor Coolant Pumps, dated March 26, 2013
 Maximum Design Load Rejection, dated March 27, 2013
 Steady State Operability Testing, dated July 3, 2013
 Loss of Operating Charging Pump Reactor Coolant Pump #2 Seal Failure, dated
 August 16, 2013

Section 1R12: Maintenance EffectivenessProcedures

EN-DC-203, Maintenance Rule Program, Revision 2
 EN-DC-204, Maintenance Rule Scope and Basis, Revision 3
 EN-DC-205, Maintenance Rule Monitoring, Revision 5

EN-DC-206, Maintenance Rule (a)(1) Process, Revision 3
EN-MP-115, Material Issues and Returns, Revision 3
EN-MP-112, Shelf Life Program, Revision 4

Condition Reports (CR-IP2-)

2012-2340 2013-2850 2013-3244 2013-4352

Maintenance Orders/Work Orders

275669 309936 318759

Miscellaneous

IPEC 10 CFR 50.65 Maintenance Rule Performance Evaluation for IP2 Nuclear Instrumentation System, presented to Maintenance Rule Expert Panel on December 12, 2013
AR 136996 PM Change Form for IP2 Power Range Nuclear Instrument Replacement / Refurbishment
PE 104235 Procurement Evaluation Change Form

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

EN-WM-104 EN-OP-119

Section 1R15: Operability Determinations and Functionality Assessments

Condition Reports (CR-IP2-)

2013-04792

Drawings

252665, Control Building (Component Cooling Water) Control and Air Flow (Unit 2)

Section 1R18: Plant Modifications

Procedures

EN-DC-115, Engineering Change Process, Revision 16
EN-DC-134, Design Verification, Revision 5
EN-DC-136, Temporary Modifications, Revision 10
EN-DC-141, Design Inputs, Revision 14
EN-DC-141, Process Applicability Determination, Revision 13

Drawings

250907, IP2 Electrical Distribution and Transmission System, Revision 31
9321-F-33853, IP3 Electrical Distribution and Transmission System, Revision 18

Miscellaneous

IPEC Feeder 33332, Leg "M" Retirement, Relay Setting Review and Recommendations
ABB 41-971.3M, Type HCB-1 Pilot-Wire Relay System
ABB 41-973.5R, Type PM Line of Relays for Pilot –Wire Monitoring and Transferred Tripping
ABB 41-131Q, Types CR, CRC, CRP and CRD Directional Overcurrent Relays

Section 1R19: Post-Maintenance TestingCondition Reports (CR-IP2-)

2013-4557 2013-4566 2013-4570 2013-4571

Condition Reports (CR-IP3-)

2013-4437

Maintenance Orders/Work Orders

00202650-10	52307719-02	00212253-02	00329613-02
00320015-04	52356878-03	00294758-02	52307905-02
52482571-04	00338395-02	00202650-10	52367301-02
52350341-04	52258085-07	56247499-01	

Section 1R22: Surveillance TestingProcedures

Special Engineering Procedure 300068-01, Procedure for Assembly and Testing of Boron-10 Areal Density Meter at Indian Point Energy Center Unit 2, Revision 0

Section 1EP6: Drill EvaluationCondition Reports (CR-IP2-)2013-4654 2013-4682 2013-4684 2013-4685 2013-4734 2013-4606
2013-4609**Section 2RS8: Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation**Procedures

EN-RW-104, Attachment 9.1, 10 CFR Part 61 Waste Stream Sample Screening and Evaluation for Unit 3 Spent Resin Storage Tank (SRST); Unit 3 Dry Active Waste (DAW); Unit 2 SRST; Unit 2 DAW, Revision 8

Lesson Plan IO-LP-RPCT-7919, Radioactive Material Shipping, Revision 4

0-RP-RWM-903, Solid Radioactive Waste Process Control Program, Revision 2

Condition Reports (CR-IP3-)

2013-01575 2013-02671

Miscellaneous

Focused Self-Assessment Report IP3LO-2012-00072, Radioactive Waste Handling, Storage, and Shipments

Focused Self-Assessment Report IP3LO-2013-00025, Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

Quality Assurance Audit Report QA-14/15-2013-IP-01, Radiation Protection/Radwaste

Radioactive Material Shipments: 12-040; 12-128; 13-029; 13-044; 13-172

Section 4OA2: Problem Identification and ResolutionProcedures

EN-LI-119, Apparent Cause Evaluation Process, Revision 16

EN-OP-102, Protective and Caution Tagging, Revision 15

EN-OP-102-01, Protective and Caution Tagging Forms & Checklists, Revision 8
 EN-QV-106, Elevation and Escalation of Nuclear Oversight Concerns, Revision 10

Condition Reports (CR-IP2-)

2010-00031	2010-00111	2010-01367	2010-01795	2010-02746	2010-05968
2010-06070	2010-06071	2010-06796	2010-06992	2011-00235	2011-02881
2012-00272	2012-00274	2012-01700	2012-02228	2012-02491	2012-02681
2012-05426	2012-05694	2012-06670	2013-00311	2013-00312	2013-00314
2013-00345	2013-01366	2013-01456	2013-01952	2013-02084	2013-02319
2013-02648	2013-02653	2013-02662	2013-02751	2013-04832*	2013-04834*

*NRC identified

Condition Reports (CR-IP3-)

2010-01752	2010-03945	2011-00025	2011-00291	2012-00166	2012-00277
2012-00798	2013-01000	2013-01687	2013-02800	2013-03715	2013-04181

Learning Organization Condition Reports

IP3LO-2011-00016	IP3LO-2011-00051	IP3LO-2012-00017	IP3LO-2012-00155
IP3LO-2013-00077	IP3LO-2013-00139		

Maintenance Orders/Work Orders

WO 00330281	WO 00330282
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Miscellaneous

Leadership Effectiveness Logs

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

Procedures

OAP-007, Containment Entry and Egress, Revision 28
 OAP-007, Containment Entry and Egress, Revision 29

Condition Reports (CR-IP3-)

2013-0975	2013-0975 CA-00015	2013-0975 CA-00032	2013-1273
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Miscellaneous

ECR-11684, Reactor Coolant Drain Tank Radiation Protection Fence Specification, Revision 0
 LER 05000286/2013-002-00, Safety System Functional Failure and Common Cause
 Inoperability of the Emergency Core Cooling System Due to Violation of Containment
 Sump Debris Barrier Integrity

Section 40A7: Licensee-Identified Violations

Procedures

OAP-007, Containment Entry and Egress, Revision 28
 OAP-007, Containment Entry and Egress, Revision 29

Condition Reports (CR-IP3-)

2013-0975	2013-0975 CA-00015	2013-0975 CA-00032	2013-1273
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Miscellaneous

ECR-11684, Reactor Coolant Drain Tank Radiation Protection Fence Specification, Revision 0
LER 05000286/2013-002-00, Safety System Functional Failure and Common Cause
Inoperability of the Emergency Core Cooling System Due to Violation of Containment
Sump Debris Barrier Integrity

LIST OF ACRONYMS

ADAMS	Agencywide Document Access and Management System
ATWS	anticipated transient without a scram
CAP	corrective action program
CFR	<i>Code of Federal Regulations</i>
CR	condition report
ECCS	emergency core cooling system
EDG	emergency diesel generator
Entergy	Entergy Nuclear Northeast
FO	fuel oil
FSAR	final safety analysis report
ICW	inner crane wall
IMC	Inspection Manual Chapter
IPEC	Indian Point Energy Center
IST	inservice test
JPM	job performance measure
LEL	leadership effectiveness log
LER	Licensee Event Report
NCV	non-cited violation
NOS	nuclear oversight
NRC	Nuclear Regulatory Commission
PCP	process control program
QA	quality assurance
RP	radiation protection
SI	safety injection
SSC	structure, system, and component
UFSAR	Updated Final Safety Evaluation Report