**UNITED STATES**
**NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

February 1, 2016

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

SUBJECT: INDIAN POINT NUCLEAR GENERATING – PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000247/2015012 AND 05000286/2015012

Dear Mr. Coyle:

On January 27, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Indian Point Nuclear Generating (Indian Point), Units 2 and 3. The enclosed report documents the inspection results, which were discussed on December 18, 2015, with you and other members of your staff. During that discussion your staff requested to provide additional information for consideration. In-office review of the additional information continued by the NRC, and a telephonic exit meeting was conducted on January 27, 2016, with Mr. R. Burroni and other members of your staff.

This inspection examined activities conducted under your license as they relate to identification and resolution of problems and compliance with the Commission's rules and regulations and conditions of your license. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel.

Based on the samples selected for review, the inspection team concluded that Entergy Nuclear Operations, Inc., (Entergy) was generally effective in identifying, evaluating, and resolving problems. Entergy personnel identified problems and entered them into the corrective action program. Entergy generally prioritized and evaluated issues commensurate with the safety significance of the problems and corrective actions were generally implemented in a timely manner.

Enclosure 2 contains Sensitive Unclassified Non-Safeguards Information. When separated from Enclosure 2, the transmittal document is DECONTROLLED.

Two violations of very low safety significance (Green) are cited in the enclosed inspection report. The details of these violations are documented in Enclosure 2 as they contain security-related information. The NRC evaluated these violations in accordance with the NRC Enforcement Policy, located on the NRC's website at https://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html. The inspectors determined that these findings also involved violations of NRC requirements. However, because of the very low safety significance and because the issues were 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. One cross-cutting aspect was assigned to a violation in the area of Human Performance, Teamwork, because Entergy work groups failed to communicate and coordinate their activities within and across organizational boundaries [H.4]. Additionally, one cross-cutting aspect was assigned to a violation in the area of Problem Identification and Resolution, Resolution, because Entergy failed to take effective corrective actions in a timely manner commensurate with safety significance [P.3].

If you contest any of these non-cited violations, 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. 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 Resident Inspector at Indian Point. As these non-cited violations involve security-related information, your response should be properly labeled and handled accordingly.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter, Enclosure 1, 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 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).

However, the material enclosed herewith contains security-related information in accordance with 10 CFR 2.390(d)(1), and its disclosure to unauthorized individuals could present a security vulnerability. Therefore, the material in Enclosure 2 will not be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS.

Sincerely,

***/RA/***

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

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

Enclosures:
1) (Public) Inspection Report 05000247/2015012 and 05000286/2015012
w/Attachment: Supplementary Information
2) (Non-Public) Security-related Findings **(CONTAINS OFFICIAL USE ONLY – SECURITY-RELATED INFORMATION (OUO-SRI))**

cc w/encl 1; w/o encl 2; w/o OUO-SRI:
Distribution via ListServ

cc w/encl 1, encl 2; w/ OUO-SRI:
D. Gagnon, Site Security Manager, Indian Point
A. Peterson, State Liaison Office Designee, NY State Energy,
Research & Development Authority

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A. Peterson, State Liaison Office Designee, NY State Energy,
Research & Development Authority

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| DLew, DRA | JSchussler, DRP | RidsNrrPMIndianPoint Resource |
| MScott, DRP | BPinson, DRP | RidsNrrDorlLpl1-1 Resource |
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ADAMS Accession No. **ML16033A342**

| ☑ SUNSI Review | | ☑ Non-Sensitive<br>☐ Sensitive | | ☑ Publicly Available<br>☐ Non-Publicly Available | |
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| OFFICE | RI/DRP | RI/DRP | RI/DRP | | |
| NAME | RBarkley/RSB | MFerdas/MSF | GDentel/GTD | | |
| DATE | 01/ 27 /16 | 01/ 29 /16 | 02/ 01 /16 | | |

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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. | 05000247/2015012 and 05000286/2015012 |
| Licensee: | Entergy Nuclear Northeast (Entergy) |
| Facility: | Indian Point Energy Center, Units 2 and 3 |
| Location: | Buchanan, New York |
| Dates: | November 30, 2015, through December 18, 2015<br>Additional In-Office Review January 11 – 27, 2016 |
| Team Leader: | R. Barkley, PE, Senior Project Engineer |
| Inspectors: | S. Rich, Resident Inspector<br>R. Vadella, Reactor Engineer<br>J. Bream, Security Inspector |
| Approved by: | Glenn T. Dentel, Chief<br>Reactor Projects Branch 2<br>Division of Reactor Projects |

Enclosure 1

## SUMMARY

Inspection Report 05000247/2015012 and 05000286/2015012; 11/30/2015 – 12/18/2015; Indian Point Nuclear Generating (Indian Point), Units 2 and 3; Biennial Baseline Inspection of Problem Identification and Resolution using Inspection Procedure 71152. The inspectors identified two findings, both of which contain security-related information.

This U.S. Nuclear Regulatory Commission (NRC) team inspection was performed by three regional inspectors and one resident inspector. The inspectors identified two findings of very low safety significance (Green) during this inspection and classified these findings as non-cited violations (NCVs). Both violations contain security-related information and are documented in Enclosure 2 of the letter that transmitted this inspection report. 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 April 29, 2015. 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 February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Problem Identification and Resolution

The inspectors concluded that Entergy Nuclear Northeast (Entergy) was generally effective in identifying, evaluating, and resolving problems. Entergy personnel identified problems and entered them into the corrective action program (CAP). Entergy generally prioritized issues commensurate with their safety significance. In most cases, Entergy appropriately screened issues for operability and reportability, and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. The inspectors also determined that Entergy typically implemented corrective actions to address the problems identified in the CAP in a timely manner. However, the inspectors identified two security-related violations of NRC requirements.

The inspectors concluded that, in general, Entergy adequately identified, reviewed, and applied relevant industry operating experience to Indian Point's operations. In addition, based on those items selected for review, the inspectors determined that Entergy's self-assessments and audits were thorough.

Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual CAP and Employee Concerns Program issues, the inspectors did not identify any indications that site personnel were unwilling to raise safety issues nor did they identify any conditions that could have had a negative impact on the site's safety conscious work environment.

## REPORT DETAILS

## 4. OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution (71152B)

This inspection constitutes one biennial sample of problem identification and resolution as defined by Inspection Procedure 71152. All documents reviewed during this inspection are listed in the Attachment to this report.

.1 Assessment of Corrective Action Program Effectiveness

a. Inspection Scope

The inspectors reviewed the procedures that described the CAP at Indian Point. To assess the effectiveness of the CAP, the inspectors reviewed performance in three primary areas: problem identification, prioritization and evaluation of issues, and corrective action implementation. The inspectors compared performance in these areas to the requirements and standards contained in Title 10 of the *Code of Federal Regulations* (10 CFR) 50, Appendix B, Criterion XVI, "Corrective Action" and Entergy procedure EN-LI-102, "Corrective Action Program (CAP)".

For each of these areas, the inspectors considered risk insights from the station's risk analysis and reviewed condition reports (CRs) selected across the seven cornerstones of safety in the NRC's Reactor Oversight Process. Additionally, the inspectors attended Operational Focus, Plant Health Committee and Corrective Action Review Board (CARB) meetings. The inspectors selected items from the following functional areas for review: engineering, operations, maintenance, emergency preparedness, radiation protection, chemistry, physical security, and nuclear oversight.

(1) Effectiveness of Problem Identification

In addition to the items described above, the inspectors reviewed system health reports, a sample of completed corrective and preventative maintenance work orders, completed surveillance test procedures, operator logs, and periodic trend reports. The inspectors also completed field walkdowns of various systems on site, such as the Unit 2 and Unit 3 120 volts alternating current distribution systems and associated batteries, the Unit 2 and Unit 3 service water intakes, the Unit 3 charging pumps, the Unit 2 and Unit 3 Appendix R emergency diesel generators, and elements of the Unit 1 City Water system (which supports Units 2 and 3). Additionally, the inspectors reviewed a sample of CRs written to document issues identified through internal self-assessments, audits, emergency preparedness drills, and the operating experience program. The inspectors completed this review to verify that Entergy staff entered conditions adverse to quality into their CAP as appropriate.

(2) Effectiveness of Prioritization and Evaluation of Issues

The inspectors reviewed the evaluation and prioritization of a sample of CRs issued since the last NRC biennial Problem Identification and Resolution inspection completed in November 2013. The inspectors also reviewed CRs that were assigned lower levels of significance that did not include formal cause evaluations to ensure that they were properly classified. The inspectors' review included the appropriateness of the assigned significance, the scope and depth of the causal analysis, and the timeliness of resolution. The inspectors assessed whether the evaluations identified likely causes for the issues and developed appropriate corrective actions to address the identified causes. Further, the inspectors reviewed equipment operability determinations, reportability assessments, and extent-of-condition reviews for selected problems to verify these processes adequately addressed equipment operability, reporting of issues to the NRC, and the extent of the issues.

(3) Effectiveness of Corrective Actions

The inspectors reviewed Entergy's completed corrective actions through documentation review and, in some cases, field walkdowns to determine whether the actions addressed the identified causes of the problems. The inspectors also reviewed CRs for adverse trends and repetitive problems to determine whether corrective actions were effective in addressing the broader issues. The inspectors reviewed Entergy's timeliness in implementing corrective actions and effectiveness in precluding recurrence for significant conditions adverse to quality. The inspectors also reviewed a sample of CRs associated with selected NCVs and findings to verify that Entergy personnel properly evaluated and resolved these issues. In addition, the inspectors expanded the corrective action review to five years to evaluate Entergy's actions to improve the reliability and availability of the charging pumps at both units based on past performance issues with this equipment.

(4) Trending

The inspectors reviewed Indian Point's processes for identifying and addressing emergent and existing adverse trends in equipment and human performance. The inspectors reviewed department and site trend reports, maintenance rule performance monitoring reports, and (a)(1) action plans and evaluations as required by 10 CFR 50.65. The inspectors also attended a Plant System Health Committee meeting.

b. Assessment

(1) Effectiveness of Problem Identification

Based on the selected samples, plant walkdowns, and interviews of site personnel in multiple functional areas, the inspectors determined that Entergy identified problems and entered them into the CAP. Approximately 25,000 CRs were initiated by Entergy staff at Indian Point between November 2013 and October 2015. The inspectors observed supervisors at the CARB meetings appropriately questioning and challenging CRs to ensure clarification of the issues. Based on the samples reviewed, the inspectors determined that Entergy trended equipment and programmatic issues, and appropriately identified problems in CRs. The inspectors verified that conditions adverse to quality

identified through this review were entered into the CAP as appropriate. In response to several questions and equipment observations identified by the inspectors during plant walkdowns, Entergy personnel initiated CRs and/or took action to address the issues. However, the inspectors noted the following observation (discussed below):

Unit 2 Source Range Instrument Modification not Fully Tested

Entergy wrote CR-IP2-2014-2618 to document the discovery of the Unit 2 nuclear instrument source range monitor fuses being removed contrary to design modification EC-42090 following the spring 2014 outage. Follow-up actions for the CR identified that the testing and calibration procedure for the nuclear instrumentation was not updated following installation of this modification during the 2014 outage. The inspectors identified that the CR did not identify that the post-maintenance test for the design modification was not performed correctly as a result of the failure to update the calibration procedure. Specifically, a previous revision of the calibration procedure was used during the post-maintenance test that failed to verify operation of the nuclear instrumentation following completion of the design modification. Entergy created CR-IP2-2015-5742 to document this issue, and made plans to conduct the post-maintenance test at the next refueling outage (the next available opportunity). Since Entergy confirmed the operability of the modification (i.e., installation of a knife switch in the control room to avoid having to pull the fuse remotely) based on other available data, this post-modification testing performance deficiency was considered to be minor.

(2) Effectiveness of Prioritization and Evaluation of Issues

The inspectors determined that, in general, Entergy appropriately prioritized and evaluated issues commensurate with the safety significance of the identified problem. Entergy screened CRs for operability and reportability, categorized the CRs by significance, and assigned actions to the appropriate department for evaluation and resolution. The CR screening process considered human performance issues, radiological safety concerns, repetitiveness, adverse trends, and potential impact on the safety conscious work environment.

Based on the sample of CRs reviewed, the inspectors found that operability and reportability determinations were generally performed when conditions warranted and in most cases, the evaluations supported the conclusion. Causal analyses appropriately considered the extent of condition or problem, generic issues, and previous occurrences of the issue. Root cause evaluations (RCEs) and apparent cause evaluations (ACEs) reviewed were completed when required and received management review prior to approval. The inspectors noted the following observations regarding Entergy's prioritization and evaluation of issues (discussed below):

City Water Line Corrosion

The inspectors toured a section of the city water line in the Unit 1 utility tunnel. The City Water System is a non-safety-related backup water supply to the auxiliary feedwater system and also refills the fire water storage tanks at both units; thus the system has risk significance and it is a Technical Specification required system for Unit 3. Since the construction of Unit 1, condensation on the uninsulated piping as

well as water dripping on the system piping from utility tunnel ceiling joint leaks over many years caused the piping exterior to corrode in certain areas inside the utility tunnel. Short sections of the piping have been replaced due to past leaks, and a number of sections have been cleaned and wrapped in a carbon fiber and epoxy coating that structurally reinforces the line and prevents future external corrosion. The tunnel ceiling joints have also been sealed along half its length, preventing future water intrusion and subsequent corrosion. However, the inspectors noted that short, localized sections of the city water pipe remain heavily corroded, and will not be replaced or recoated for the foreseeable future. The most critical section noted was a 16" elbow near the entrance to the utility tunnel at the 45' elevation. Engineering was able to provide thickness measurements of short sections of the city water line, as well as the adjacent fire water header, but most dated back to 2008. Moreover, the wall thickness data provided showed substantial wall thinning in the areas checked; no data was available for the city water line elbow, or other nearby city water line segments, that were the most heavily corroded. The inspectors noted that without wall thickness measurements of the most heavily corroded sections of city water line, this piping could develop leaks at these locations before it is cleaned and wrapped with the coating noted above. This issue was considered minor because the city water line is not safety-related, and since the piping is cement-lined and operated at low pressure, any future leakage would be expected to be limited. In response, Entergy entered this observation in its CAP as CR-IP2-2015-5744.

Refueling Outage Dose Contingency Plans

While reviewing the RCE performed for CR-IP2-2014-2558 for greatly exceeding the cumulative radiation exposure estimate in refueling outage 2R21 (an NRC finding in 2014), the inspectors noted that Entergy's fleet procedure EN-RP-110-06, "Outage Dose Estimating and Tracking," requires the site radiation protection ALARA [as low as is reasonably achievable] group to develop contingency plans for additional controls that may be required due to increases in source term. The inspectors identified that this was not done for refueling outage 2R21 in 2014 even though there had been high particulate loading in the Unit 2 reactor coolant system for months before the outage. This issue was not identified in the RCE even though contingency plans may have reduced exposure during the outage, and therefore the failure to comply with the procedure may have been a contributing cause. Additionally, there were also no contingency plans developed for 3R18 in 2015, and at the time of the inspection there were no contingency plans developed for 2R22 in 2016, although the Unit 2 source term continues to be elevated. Entergy captured this issue in CR-IP2-2015-5745. There is no violation associated with this observation because this was a failure to meet a self-imposed standard since EN-RP-110-06 is a non-quality related procedure, and the cumulative exposure for 3R18 was within estimates. Finding 05000247/2014-004-01, "Failure to maintain radiation exposure ALARA during refueling activities," captures the performance deficiency associated with cumulative radiation exposure in 2R21 (Agencywide Documents Access and Management System Accession No. ML14314A052).

(3) Effectiveness of Corrective Actions

The inspectors concluded that corrective actions for identified deficiencies were generally timely and adequately implemented. For significant conditions adverse to quality, Entergy identified actions to prevent recurrence. The inspectors concluded that in most cases, corrective actions to address the sample of NRC NCVs and findings since the last problem identification and resolution inspection were timely and effective. However, the inspector identified one minor violation associated with health physics records storage that is discussed below:

- On September 19, 2013, Entergy discovered that procedurally required records documenting respiratory protection equipment inspections were not completed between June 2011 and May 2013. Entergy performed a lower-tier ACE and concluded that the apparent cause was that current and former radiation protection support supervisors did not fully understand the requirements associated with completion and submittal of the records when the monthly equipment inspections were completed. During the inspection, the team requested the records associated with the most recently completed monthly inspection. Entergy was not able to retrieve the records from their document storage system, Merlin, because no records had been entered since November 2014. The team identified that corrective actions associated with CR-IP2-2013-3860 were not effective in correcting the identified issue. Entergy was able to retrieve the records from the radiation protection support supervisor, who had been unaware that the inspection records needed to be stored in Merlin. The team determined that this was a minor violation of 10 CFR Part 50, Appendix B, Criterion XVII, "Quality Assurance Records," because records of the completion of inspections were not stored in a way that ensured they would be identifiable and retrievable. Because Entergy was ultimately able to produce the records, this violation is minor. Entergy captured this performance deficiency under CR-IP2-2015-4759 and CR-IP2-2015-5743 and took corrective action to enter the inspection records into Merlin.

(4) Trending

The inspectors reviewed Entergy's processes for identifying and addressing emergent and existing adverse trends in equipment and human performance. Entergy was able to identify trends at a low level using their department trending process. These trends were rolled up to station level on a quarterly basis, and action and monitoring plans were developed as appropriate. Additionally, the station's maintenance rule performance monitoring program was generally effective in evaluating system performance and identifying trends. The CARB also identified potential trends during their screening meeting and elevated the significance level low level issues based on the identification of potential trends.

c. Findings

No findings were identified.

2. Assessment of the Use of Operating Experience

a. Inspection Scope

The inspectors reviewed a sample of CRs associated with review of industry operating experience to determine whether Entergy staff appropriately evaluated the operating experience information for applicability to Indian Point and had taken appropriate actions, when warranted. The inspectors also reviewed evaluations of operating experience documents associated with a sample of NRC generic communications to ensure that Entergy staff adequately considered the underlying problems associated with the issues for resolution via their CAP. In addition, the inspectors observed various plant activities to determine if the station considered industry operating experience during the performance of routine and infrequently performed activities.

b. Assessment

The inspectors determined that Entergy staff, in general, appropriately considered industry operating experience information for applicability, and used the information for corrective and preventive actions to identify and prevent similar issues when appropriate. The inspectors determined that operating experience was appropriately applied and lessons learned were communicated and incorporated into plant operations and procedures when applicable.

c. Findings

No findings were identified.

.3 Assessment of Self-Assessments and Audits

a. Inspection Scope

The inspectors reviewed a sample of audits, including the most recent audit of the CAP, departmental self-assessments, and assessments performed by independent organizations. The inspectors performed these reviews to determine if Entergy entered problems identified through these assessments into the CAP, when appropriate, and whether Entergy staff initiated corrective actions to address identified deficiencies. The inspectors evaluated the effectiveness of the audits and assessments by comparing audit and assessment results against self-revealing and NRC-identified observations made during the inspection.

b. Assessment

Based on the inspected sample, the inspectors concluded that self-assessments, audits, and other internal Entergy assessments were critical, thorough, and effective in identifying issues. The inspectors observed that Entergy personnel knowledgeable in the subject completed these audits and self-assessments in a methodical manner. The inspectors observed that Nuclear Independent Oversight was critical and identified weaknesses and areas requiring improvement. When progress in improving performance was not being accomplished in a timely manner, Nuclear Independent Oversight escalated the issues. Entergy completed these audits and self-assessments

to a sufficient depth to identify issues which were then entered into the CAP for evaluation. In general, the station implemented corrective actions associated with the identified issues commensurate with their safety significance.

c. Findings

No findings were identified.

.4 Assessment of Safety Conscious Work Environment

a. Inspection Scope

During interviews with station personnel, the inspectors assessed the safety conscious work environment at Indian Point. Specifically, the inspectors interviewed personnel to determine whether they were hesitant to raise safety concerns to their management and/or the NRC. The inspectors conducted interviews with "rank and file" employees from the Operations, Engineering, Maintenance, Health Physics, Chemistry, and Security. The inspectors also interviewed the station Employee Concerns Program coordinator to determine what actions are implemented to ensure employees were aware of the program and its availability with regards to raising safety concerns. The inspectors reviewed several Employee Concerns Program files to ensure that Entergy staff entered issues into the CAP when appropriate.

b. Assessment

During interviews, Entergy staff expressed a willingness to use the CAP to identify plant issues and deficiencies and stated that they were willing to raise safety issues. The inspectors noted that no one interviewed stated that they personally experienced or were aware of a situation in which an individual had been retaliated against for raising a safety issue. All persons interviewed demonstrated an adequate knowledge of the CAP and the Employee Concerns Program. Based on these limited interviews, the inspectors concluded that there was no evidence of an unacceptable safety conscious work environment and no significant challenges to the free flow of information.

c. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On December 18, 2015, the inspectors presented the inspection results to Mr. Larry Coyle, Site Vice President, and other members of the Entergy staff. Entergy requested to provide additional information for consideration after the meeting. In-office review of the additional information continued after the conclusion of the onsite inspection, and the telephone exit meeting was conducted on January 27, 2016, with Mr. Richard Burroni and other members of the Entergy staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

**ATTACHMENT: SUPPLEMENTARY INFORMATION**

## SUPPLEMENTARY INFORMATION

## KEY POINTS OF CONTACT

Licensee Personnel

L. Coyle, Site Vice President
J. Balleta, Operations
J. Breban, Security
C. Bristol, Maintenance
M. Burney, Engineering
G. Carbone, Health Physics
T. Cole, Engineering Projects
G. Dahl, Licensing
L. Eagens, Chemistry
D. Gagnon, Security
L. Glander, Emergency Preparedness
M. Haggstrom, Systems Engineering
F. Kich, Performance Improvement
S. O'Brien, QA Supervisor
C. Patterson, Outage Support
J. Reynolds, Engineering
B. Taggart, Employee Concerns Program
T. Thivierge, Security
R. Walpole, Licensing

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

Opened and Closed

| | |
|---|---|
| NCV 05000247; 05000286/2015012-01 | Security Finding (Enclosure 2) |
| NCV 05000247; 05000286/2015012-02 | Security Finding (Enclosure 2) |

## LIST OF DOCUMENTS REVIEWED

### Section 4OA2: Problem Identification and Resolution

Condition Reports

| | | |
|---|---|---|
| CR-IP2-2000-02082 | CR-IP2-2005-03576 | CR-IP2-2006-06849 |
| CR-IP2-2006-06867 | CR-IP2-2006-06883 | CR-IP2-2007-02189 |
| CR-IP2-2009-02850 | CR-IP2-2009-02960 | CR-IP2-2009-03046 |
| CR-IP2-2009-03092 | CR-IP2-2009-03301 | CR-IP2-2009-03888 |
| CR-IP2-2010-00306 | CR-IP2-2010-01734 | CR-IP2-2010-07626 |
| CR-IP2-2011-00677 | CR-IP2-2011-00880 | CR-IP2-2011-01954 |
| CR-IP2-2011-01972 | CR-IP2-2011-03225 | CR-IP2-2011-04473 |
| CR-IP2-2012-00457 | CR-IP2-2012-01811 | CR-IP2-2012-03036 |
| CR-IP2-2012-05258 | CR-IP2-2012-05674 | CR-IP2-2013-00721 |
| CR-IP2-2013-02177 | CR-IP2-2013-02631 | CR-IP2-2013-02850 |
| CR-IP2-2013-02975 | CR-IP2-2013-03860 | CR-IP2-2013-03863 |
| CR-IP2-2013-04074 | CR-IP2-2013-04426 | CR-IP2-2013-04566 |
| CR-IP2-2013-04599 | CR-IP2-2013-04813 | CR-IP2-2013-05163 |
| CR-IP2-2013-05172 | CR-IP2-2014-00029 | CR-IP2-2014-00112 |
| CR-IP2-2014-00123 | CR-IP2-2014-00177 | CR-IP2-2014-00185 |
| CR-IP2-2014-00266 | CR-IP2-2014-00269 | CR-HQN-2014-0291 |
| CR-IP2-2014-00375 | CR-IP2-2014-00396 | CR-IP2-2014-00476 |
| CR-IP2-2014-00544 | CR-IP2-2014-00555 | CR-IP2-2014-00576 |
| CR-IP2-2014-00907 | CR-IP2-2014-01405 | CR-IP2-2014-01599 |
| CR-IP2-2014-01666 | CR-IP2-2014-01748 | CR-IP2-2014-01814 |
| CR-IP2-2014-01880 | CR-IP2-2014-01881 | CR-IP2-2014-01883 |
| CR-IP2-2014-01885 | CR-IP2-2014-01898 | CR-IP2-2014-02014 |
| CR-IP2-2014-02076 | CR-IP2-2014-02097 | CR-IP2-2014-02098 |
| CR-IP2-2014-02301 | CR-IP2-2014-02305 | CR-IP2-2014-02339 |
| CR- IP2-2014-02348 | CR-IP2-2014-02338 | CR-IP2-2014-02558 |
| CR-IP2-2014-02607 | CR-IP2-2014-02618 | CR-IP2-2014-02623 |
| CR-IP2-2014-02752 | CR-IP2-2014-02794 | CR-IP2-2014-02912 |
| CR-IP2-2014-02946 | CR-IP2-2014-02950 | CR-IP2-2014-03230 |
| CR-IP2-2014-03237 | CR-IP2-2014-03251 | CR-IP2-2014-03253 |
| CR-IP2-2014-03429 | CR-IP2-2014-03496 | CR-IP2-2014-03610 |
| CR-IP2-2014-03737 | CR-IP2-2014-03809 | CR-IP2-2014-03828 |
| CR-IP2-2014-03834 | CR-IP2-2014-03895 | CR-IP2-2014-04183 |
| CR-IP2-2014-04267 | CR-IP2-2014-04366 | CR-IP2-2014-04433 |
| CR-IP2-2014-04572 | CR-IP2-2014-04609 | CR-IP2-2014-04645 |
| CR-IP2-2014-04740 | CR-IP2-2014-04785 | CR-IP2-2014-04919 |
| CR-IP2-2014-05025 | CR-IP2-2014-05096 | CR-IP2-2014-05137 |
| CR-IP2-2014-05155 | CR-IP2-2014-05522 | CR-IP2-2014-05575 |
| CR-IP2-2014-05688 | CR-IP2-2014-05732 | CR-IP2-2014-05824 |
| CR-IP2-2014-05897 | CR-IP2-2014-06021 | CR-IP2-2014-06023 |
| CR-IP2-2014-06146 | CR-IP2-2014-06243 | CR-IP2-2014-06695 |
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| CR-IP2-2015-00254 | CR-IP2-2015-00341 | CR-IP2-2015-00474 |
| CR-IP2-2015-01158 | CR-IP2-2015-01214 | CR-IP2-2015-01315 |
| CR-IP2-2015-01372 | CR-IP2-2015-01413 | CR-IP2-2015-01423 |
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| CR-IP2-2015-01591 | CR-IP2-2015-01610 | CR-IP2-2015-01611 |
| CR-IP2-2015-01627 | CR-IP2-2015-01752 | CR-IP2-2015-01790 |
| CR-IP2-2015-01821 | CR-IP2-2015-01943 | CR-IP2-2015-02008 |
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| CR-IP2-2015-02097 | CR-IP2-2015-02346 | CR-IP2-2015-02396 |
| CR-IP2-2015-02409 | CR-IP2-2015-02415 | CR-IP2-2105-02464 |
| CR-IP2-2015-02495 | CR-IP2-2015-02554 | CR-IP2-2015-02555 |
| CR-IP2-2015-02676 | CR-IP2-2015-02692 | CR-IP2-2015-02724 |
| CR-IP2-2015-02733 | CR-IP2-2015-02737 | CR-IP2-2015-02820 |
| CR-IP2-2015-02841 | CR-IP2-2015-02916 | CR-IP2-2015-02940 |
| CR-IP2-2015-02948 | CR-IP2-2015-03020 | CR-IP2-2015-03037 |
| CR-IP2-2015-03054 | CR-IP2-2015-03059 | CR-IP2-2015-03093 |
| CR-IP2-2015-03106 | CR-IP2-2015-03122 | CR-IP2-2015-03123 |
| CR-IP2-2015-03125 | CR-IP2-2015-03126 | CR-IP2-2015-03127 |
| CR-IP2-2015-03162 | CR-IP2-2014-03251 | CR-IP2-2015-03302 |
| CR-IP2-2015-03305 | CR-IP2-2015-03307 | CR-IP2-2015-03597 |
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| CR-IP2-2015-04129 | CR-IP2-2015-04254 | CR-IP2-2015-04275 |
| CR-IP2-2015-04298 | CR-IP2-2015-04318 | CR-IP2-2015-04378 |
| CR-IP2-2015-04501 | CR-IP2-2015-04523 | CR-IP2-2015-04618 |
| CR-IP2-2015-04689 | CR-IP2-2015-04759 | CR-IP2-2015-04885 |
| CR-IP2-2015-05182 | CR-IP2-2015-05274 | CR-IP2-2015-05395* |
| CR-IP2-2015-05402* | CR-IP2-2015-05502 | CR-IP2-2015-05506* |
| CR-IP2-2015-05519 | CR-IP2-2015-05636* | CR-IP2-2015-05653* |
| CR-IP2-2015-05681* | CR-IP2-2015-05694* | CR-IP2-2015-05739* |
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| CR-IP2-2014-06668 | CR-IP3-2010-03879 | CR-IP3-2011-03986 |
| CR-IP3-2011-05021 | CR-IP3-2011-05201 | CR-IP3-2012-01751 |
| CR-IP3-2012-03386 | CR-IP3-2013-00346 | CR-IP3-2013-03987 |
| CR-IP3-2013-03975 | CR-IP3-2013-04470 | CR-IP3-2013-04483 |
| CR-IP3-2013-04661 | CR-IP3-2013-04750 | CR-IP3-2014-00405 |
| CR-IP3-2014-00636 | CR-IP3-2014-01903 | CR-IP3-2014-01978 |
| CR-IP3-2014-02513 | CR-IP3-2014-02674 | CR-IP3-2014-02798 |
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| CR-IP3-2014-03383 | CR-IP3-2015-00442 | CR-IP3-2015-00646 |
| CR-IP3-2015-00840 | CR-IP3-2015-00882 | CR-IP3-2015-01298 |
| CR-IP3-2015-01302 | CR-IP3-2015-01424 | CR-IP3-2015-01426 |
| CR-IP3-2015-01434 | CR-IP3-2015-01452 | CR-IP3-2015-01572 |
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| CR-IP3-2015-02743 | CR-IP3-2015-02921 | CR-IP3-2015-02948 |
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| CR-IP3-2015-04063 | CR-IP3-2015-05408 | CR-IP3-2015-05540 |
| CR-IP3-2015-05787* | | |

* Denotes condition reports were generated in response to this NRC inspection.

Engineering Documents
EC 42090
EC 49811
IP2 UT Report No. 06UT199
IP2 UT Report No. 06UT200
IP2 UT Report No. 06UT201
IP2 UT Report No. 06UT202
IP2 UT 08-042
IP2 UT 08-043
IP2 UT 08-046
IP2 UT 08-047
IP2 UT 12-028

Operating Experience
LO-WTIPC-2013-00064, CA# 59, NRC Information Notice 2013-009
OE-NOE-2014-00098, NRC Information Notice 2014-12
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OE-NOE-2015-0215 CA-12
WT-WTIPC-2013-00064, CA-00064, NRC Information Notice 2013-17
WT-WTIPC-2014-00055, NRC IN 2014-07

Miscellaneous
AR 137069, Add Preventive Maintenance Programs for the Listed Security UPSs
Control Room Work Orders List 12/4/2015
Control Room Deficiency List 11/29/2015
IPEC CRG Summary Agenda – Monday, November 9, 2015
IPEC Operational Focus Meeting – Monday, November 9, 2015
IPEC Safety Review Committee Meeting 2015-02 Minutes, September 4, 2015
Second Quarter 2014 – Site Lead Team Nuclear Safety Culture Review
First Quarter 2015 – Nuclear Safety Culture Monitoring Panel Meeting Minutes
Employee Concerns Files 2015-0249 & 2015-0861
Nuclear Safety Culture Assessment – Entergy Nuclear June-July 2015
VN-3020, Installation and Operation for 10 and 80 kVA UPS
Plant Health Committee Meeting – Monday, November 9, 2015
Physical Security, Training and Qualification, Safeguards Contingency, and Independent Spent Fuel Storage Installation Security Program, Revision 19
DRN-14-01221
DRN-14-01222
DRN-14-01223
EN-LI-100, Att. 9.1, Process Applicability Determination Form, completed 09/30/2014
White Paper on use of Temporary Jumpers for the Bypass Condition, dated 12/06/2014
10CFR50.65 Maintenance Rule Performance Evaluation/Action Plan – IP2 Chemical & Volume Control System, dated 12/02/2013
10CFR50.65 Maintenance Rule Performance Evaluation/Action Plan – IP3 Chemical & Volume Control System, dated 09/08/2015
10CFR50.65 Maintenance Rule Performance Evaluation/Action Plan – IP2 Chemical & Volume Control System, dated 05/25/2010
Corrective Action Review Board meeting package for 12/15/2015

System Health Report for Unit 2 HVAC/Vapor Containment, Q3-2015

Procedures

0-CY-1210, Organization & Responsibilities of the Chemistry Department, Revision 17
0-RP-ALA-203, Outage Cumulative Radiation Exposure (CRE) Estimates and Goals, Revision 0
2-AOP-RSD-1, Rapid Shutdown, Revision 5
2-PC-2Y1, RCS Alternate Safe Shutdown Temperature Monitor Calibration, Revision 8
2-PC-2Y70, Source Range Neutron Flux (N-5143) Chanel Calibration, Revision 7
2-POP-4.1, Operation at Cold Shutdown, Revision 3
2-PT-R014, Automatic Safety Injection System Electrical Load and Blackout Test, Revision 27
2-REF-002-GEN, Section 2.16, Rev. 4 – Installation/Removal of Temporary Rx Head Stand
3-AOP-SSD-1, Control Room Inaccessibility Safe Shutdown Control, Revision 20
EN-DC-115, Engineering Change
EN-DC-128, Fire Protection Impact Review
EN-DC-161, Control of Combustibles
EN-DC-203, Maintenance Rule Program, Revision 3
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-DC-207, Maintenance Rule Periodic Assessment, Revision 3
EN-IS-117, Welding and Cutting
EN-IS-109, Compressed Gas Cylinder Handling and Storage
EN-LI-102, Corrective Action Program, Revision 24
EN-LI-102-02, CR Closeout Review, Revision 9
EN-LI-108-01, 10 CFR Part 21 Evaluations and Reporting
EN-LI-118, Cause Evaluation Process, Revision 21
EN-LI-121-01, Trend Codes, Revision 7
EN-LI-118-13, Organizational & Programmatic Evaluation, Revision 0
EN-LI-118-03, Barrier Analysis, Revision 1
EN-MA-101, Conduct of Maintenance
EN-MA-101-03, Maintenance Work Preparation Process
EN-MA-105, Control of Measuring and Test Equipment
EN-NS-220, Managing the Safety/Security Interference, Revision 1
EN-RP-110-06, Outage Dose Estimating and Tracking, Revision 1
EN-WM-105, Planning, Revision 15
IP-SMM-MA-115, IPEC Calibration and Control of Measuring and Test Equipment (M&TE), Revision 2
PI-AA-120, Issue Identification and Screening Process, Revision 0
RP-STD-37, Outage Cumulative Radiation Exposure (CRE) Estimates and Goals, Revision 0

Self-Assessments and QA Audits

LO-IP3LO-2014-00016, Benchmark for Process Instrumentation Modules and Electric Sub-components
LO-IP3LO-2014-00024, Operator Fundamentals
LO-IP3LO-2014-00116
LO-IP3LO-2015-00027, Work Readiness
LO-IP3LO-2015-00034, Pre-PI&R Focused Assessment
LO-IP3LO-2015-00035, INPO/WANO E&A Readiness
LO-IP3LO-2015-00055, Operations – Procedure Quality and Operator Aids
LO-IP3LO-2015-00111, Indian Point Energy Center PS&O 2015 Self-Assessment
QA-10-2014-IP-1

QA-2-6-2015-IP-1
QA-3-2015-IP-1
QA-7-2015-IP-1
QA-12/18-2015-IP-1
QA-14/15-2015-IP-1
QA-16-2015-IP-1

Work Orders
WO 52433100
WO 00421267
WO 00326696
WO 00127508
WO 00329529
WO 00274582
WO 00261517
WO 00287662
WO 00355404
WO 00329529
WO 00362810

## LIST OF ACRONYMS

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|---|---|
| 10 CFR | Title 10 of the *Code of Federal Regulations* |
| ACE | apparent cause evaluation |
| ALARA | as low as reasonably achievable |
| CAP | corrective action program |
| CARB | corrective action review board |
| CR | condition report |
| IMC | Inspection Manual Chapter |
| NCV | non-cited violation |
| NRC | Nuclear Regulatory Commission, U.S. |
| RCE | root cause evaluation |
| SDP | significance determination process |