Indian Point 2
3Q/2014 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Sep 30, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Evaluate Degraded Condition of the 22 Station Battery Capacity
The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Entergy personnel did not adequately implement procedure EN-OP-104, "Operability Determination Process," Step 5.5, to assess the operability and degraded condition of the 22 station battery capacity. Specifically, Entergy personnel did not identify the degraded/non-conforming condition or evaluate the condition relative to support functions for Technical Specification (TS) Surveillance Requirement (SR) 3.8.6.6.

The finding was more than minor because it is associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, after inspectors questioned the operability determination, the degraded condition was identified and resulted in the 22 station battery being declared OPERABLE but DEGRADED. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green), because the finding was not a design or qualification deficiency, did not represent a loss of system safety function, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating event. Entergy placed this issue into the corrective action program (CAP) as condition report (CR)-IP2-2014-04825 and performed an immediate operability determination followed by a request for an exigent change in TS requirements. The inspectors assigned a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because Entergy did not thoroughly evaluate the condition of the 22 station battery capacity. Specifically, Entergy did not identify the degraded/non-conforming condition or evaluate the condition relative to support functions for TS SR 3.8.6.6.
Inspection Report# : 2014004 *(pdf)*

Significance: G Mar 31, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Incomplete Risk Assessment While Pressurizer Safety Valves Were Being Removed
The inspectors identified an NCV of 10 CFR Part 50.65(a)(4) when Entergy did not adequately re-assess and manage risk when planned maintenance was not completed as scheduled. Specifically, IPEC staff did not re-assess the risk when the scheduled activity to remove pressurizer safety valves was delayed and did not inform the control room operators in the change in plant configuration due to the delayed maintenance activity. As a result, for about one shift, the control room operators were not aware of reactor coolant system (RCS) status (intact vs. not intact) and could have

been challenged in the completing recovery actions in the event of loss of residual heat removal (RHR) cooling. This issue was entered into the licensee's corrective action program as CR-IP2-2014-1986.

Not having re-assessed risk when safety valve removal was delayed and not keeping the control room operators aware of plant status due to the delayed maintenance activity resulted in the operators not knowing RCS status (intact vs. not intact) for about 8 hours, which was contrary to Entergy's procedural requirements and was a condition reasonably within Entergy's ability to foresee and correct and was a performance deficiency. The performance deficiency was more than minor because if left uncorrected, operator response to a loss of decay heat removal could lead to an incorrect decision which could adversely affect or delay recovery actions. The inspectors evaluated the finding using IMC 0609, Attachment 0609.04, "Initial Characterization of Findings," which directed the inspectors to screen the finding through IMC 0609, Appendix G, "Shutdown Operations," using Attachment 1, Checklist 2, "PWR [pressurized-water reactor] Cold Shutdown Operation: Loops Filled and Inventory in Pressurizer." No deficiencies were identified in Checklist 2 which required a phase 2 or phase 3 quantitative assessment as the licensee maintained adequate mitigation capability. The inspectors concluded this finding had a cross-cutting aspect in the area of Human Performance, Work Management, when the licensee work process did not identify changing risk during removal of the pressurizer safety valves and manage the need for coordination between the work group and operations. Specifically, no controls were in place during the delay in pressurizer safety removal to ensure control room operators remained informed of the status of the reactor coolant system. The lack of coordination could have impacted operators' ability to respond to a loss of RHR event.
Inspection Report# : 2014002 *(pdf)*

Significance: G Mar 31, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Inappropriate Procedural Controls When Stopping Residual Heat Removal (RHR) Without Assurance that Reactor Coolant System (RCS) Loops Were Filled and Available for Natural Circulation Cooling
The Inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when Entergy used a test procedure that was not appropriate to the circumstances and the operating loop of RHR was stopped during the conduct of the test. The test procedure did not assure technical specification (TS) requirements were met for an operating loop of RHR when steam generators were not available for backup decay heat removal. This issue was entered into the licensee's corrective action program as CR-IP2-2014-2709.

The failure to accomplish testing using a procedure that ensured RCS loops were available for backup decay heat removal prior to stopping the operating RHR pump was a performance deficiency within the licensee's ability to foresee and correct and should have been prevented. The finding was more than minor because if left uncorrected, would have the potential to become a more significant safety concern, specifically, a loss of decay heat removal cooling should the RHR pump fail to restart during the test without assurance that steam generators were available to remove decay heat. The inspectors evaluated the finding using IMC 0609, Attachment 0609.04, "Initial Characterization of Findings," which directed the inspectors to screen the finding through IMC 0609, Appendix G, "Shutdown Operations," using Attachment 1, Checklist 1, "PWR Hot Shutdown Operation: Time to Core Boiling <2 Hours." No deficiencies were identified in Checklist 1 which required a phase 2 or phase 3 quantitative assessment as the licensee maintained adequate alternate mitigation capability and the finding screened to be of very low safety significance (Green). The inspectors concluded this finding had a cross-cutting aspect in the area of Human Performance, Design Margin, because the licensee did not put special attention in place to maintain safety-related equipment; specifically, when conducting testing that removed power from the running RHR loop without assurance that RCS loops remained filled and available for backup core cooling.
Inspection Report# : 2014002 *(pdf)*

Significance: G Jul 20, 2012

Identified By: NRC
Item Type: VIO Violation
Failure to Protect Safe Shutdown Equipment from the Effects of Fire
The inspectors identified a finding of very low safety significance (Green), involving a cited violation of lndian Point Unit 2 Operating License Condition 2.K to implement and maintain all aspects of the approved fire protection program. Specifically, ENO failed to protect required post-fire safe shutdown components and cabling to ensure one of the redundant trains of equipment remained free from fire damage as required by 10 CFR Part 50, Appendix R, Section lll.G.2. In lieu of protecting a redundant safe shutdown train, ENO utilized unapproved operator manual actions to mitigate component malfunctions or spurious operations caused by postulated single fire-induced circuit faults. ENO submitted an exemption request (M1090770151) on March 6, 2009, in which it sought exemption from requirements of Paragraph lll.G.2, to permit the use of OMAs upon which it had been relying for safe-shutdown in a number of fire areas. However, several OMAs within the exemption request were denied because ENO failed to demonstrate that the OMAs were feasible and reliable, or to appropriately evaluate fire protection defense-in-depth. ENO's performance deficiency delayed achieving full compliance with fire protection regulations and adversely affected post-fire safe shutdown. ENO has entered this issue into the corrective program for resolution. The inspectors found the manual actions in addition to roving fire watches in all affected areas to be reasonable interim compensatory measures pending final resolution by ENO.

ENO's failure to protect components credited for post-fire safe shutdown from fire damage caused by single spurious actuation is considered a performance deficiency. The performance deficiency was more than minor because it affected the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to an external event to prevent undesirable consequences in the event of a fire. Specifically, the use of operator manual actions during post-fire safe shutdown is not as reliable as normal systems operation which could be utilized had the requirements of 10 CFR Part 50, Appendix R, Section lll.G.2 been met and, therefore, prevented fire damage to credited components and/or cables. The inspectors used IMC 0609, Appendix F, Fire Protection Significance Determination Process, Phase 1 and a Senior Reactor Analyst conducted a Phase 3 evaluation, to determine that this finding was of very low safety significance (Green). This finding does not have a cross cutting aspect because the performance deficiency was not considered indicative of current licensee performance.

Inspection Report# : 2012009 *(pdf)*

Barrier Integrity

Significance: G Mar 31, 2014
Identified By: NRC
Item Type: NCV NonCited Violation
Spent Fuel Pool Fuel Assembly Interference Events
The inspectors identified an NCV of 10 CFR 50, Appendix B, Criterion V, when IPEC staff failed to follow fuel handling procedures which ensure that the correct spent fuel pool configuration is used in the development of the core offload plan, ensure that a cell location is visually verified as empty prior to loading, and ensure an evaluation is performed for any situation that results in a large or unexplained change in spent fuel handling machine (SFHM) load which resulted in two fuel assembly interference events in the Unit 2 spent fuel pool. This issue was entered into the licensee's corrective action program (CAP) as CR-IP2-2014-1462.

This finding is more than minor as it represented a challenge to the human performance attribute of the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding) protect the

public from radionuclide releases caused by accidents or events. In accordance with IMC 0609, "Significance Determination Process (SDP)," Appendix A, "The Significance Determination Process for Findings At-Power," "Barrier Integrity Screening Questions," Section D, "Spent Fuel Pool," the finding screened to be of very low safety significance (Green) when all screening questions were answered "no." The event did not result in adverse impact to the decay heat removal capabilities of the spent fuel pool; the event did not result in detectible release of radionuclides; and the event did not result in the loss of spent fuel pool water inventory. The inspectors assigned a cross-cutting aspect in the Human Performance, Avoid Complacency, when the licensee staff failed to recognize and plan for the possibility of mistakes and failed to implement appropriate error reduction tools.
Inspection Report# : 2014002 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Sep 30, 2014
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Maintain Radiation Exposure ALARA During Refueling Activities
A self-revealing finding (FIN) of very low safety significance (Green) was identified due to Entergy having excessive unintended occupational collective exposure. This resulted from performance deficiencies in planning and work control while performing reactor coolant pump (RCP) work activities during the Unit 2 refueling outage. Inadequate work planning and control resulted in unplanned, unintended collective exposure due to conditions that were reasonably within Entergy's ability to control and prevent. The work activity performance deficiencies resulted in the collective exposure for these activities increasing from the planned dose of 7.269 person-rem to an actual dose of 13.742 person rem. Entergy entered this issue into their CAP as CR-IP2-2014-02558.

The finding was more than minor because it was associated with the Program and Process attribute of the Occupational Radiation Safety cornerstone and adversely affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation. Additionally, the performance deficiency was more than minor based on a similar example (6.i) in Appendix E of IMC 0612; in that, the actual collective dose exceeded 5 person-rem and exceeded the planned, intended dose by more than 50 percent. Entergy placed this issue into the CAP as CR-IP2-2014-02558 and completed a root cause evaluation. The finding had a cross-cutting aspect in the area of Human Performance, Teamwork, in that the work groups did not coordinate activities, which involved job site activities, that adversely impacted radiological safety. Specifically, higher source term due to not delaying the start of work to reduce reactor coolant system (RCS) activity levels following the crud burst and the inability to properly sequence the installation of shielding packages with the work activities resulted in collective exposures that exceeded estimates by greater than 50 percent.
Inspection Report# : 2014004 *(pdf)*

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Mar 26, 2014
Identified By: Licensee
Item Type: VIO Violation
SL-III Problem - Indian Point Emergency Diesel Generator (EDG) fuel oil storage tank (FOST) and the reserve fuel oil storage tank (RFOST) sample data falsification (EA-13-076)
NOTICE OF VIOLATION

During an NRC investigation conducted between March 30, 2012, and March 26, 2013, violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

A. Indian Point Nuclear Generating Unit 2 (IP2) Technical Specifications (TS) 5.5.11 and Indian Point Nuclear Generating Unit 3 (IP3) TS 5.5.12, "Diesel Fuel Oil Testing Program," in part, require verification every 92 days that total particulate concentration of the fuel oil in the onsite and reserve storage tanks is less than or equal to 10 mg/l.

IP2/3 TS 3.8, "Electrical Power Systems," Section 3.8.3, "Diesel Fuel Oil and Starting Air," requires that whenever the total particulate concentration of fuel oil in the fuel oil storage tanks (FOSTs) exceeds the limit, it must be restored within limits within 7 days (30 days for the reserve fuel oil storage tank (RFOST)), otherwise, the associated diesel generators must be immediately declared inoperable.

IP 2/3 TS 3.0.3 states that when a TS Limiting Condition of Operation is not met and the associated Actions are not met, action shall be initiated within 1 hour to place the unit, as applicable, in: MODE 3 within 7 hours, MODE 4 within 13 hours, and MODE 5 within 37 hours.

Contrary to the above, on or about February 2, 2012, Entergy Nuclear Operations (ENO) identified that test results for a November 18, 2011, fuel oil sample from the IP 22 FOST and for a December 1, 2011, fuel oil sample from the IP RFOST indicated total particulate concentration for both tanks was in excess of the Technical Specification limits of 10 mg/l. Although the total particulate concentration for these systems had not been demonstrated to be within limits within 7 days and 30 days, respectively, ENO did not declare the associated diesel generators inoperable and did not place the units in MODE 3 within 7 hours, MODE 4 within 13 hours, and MODE 5 within 37 hours.

B. 10 CFR 50.73(a)(2)(B) requires the holder of an operating license to, within 60 days after discovery, submit a Licensee Event Report to the NRC for any operation or condition which was prohibited by the plant's Technical Specifications.

IP2 TS 5.5.11/IP3 TS 5.5.12, "Diesel Fuel Oil Testing Program," in part, require verification every 92 days that total particulate concentration of the fuel oil in the onsite and reserve storage tanks is less than or equal to 10 mg/l.

IP2/3 TS 3.8, “Electrical Power Systems,” Section 3.8.3, “Diesel Fuel Oil and Starting Air,” requires that whenever the total particulate concentration of fuel oil in the reserve fuel oil storage tank (RFOST) exceeds the limit, it must be restored within limits within 30 days, otherwise, the associated diesel generators must be immediately declared inoperable.

IP 2/3 TS 3.0.3 states that when a TS Limiting Condition of Operation is not met and the associated Actions are not met, action shall be initiated within 1 hour to place the unit, as applicable, in: MODE 3 within 7 hours, MODE 4 within 13 hours, and MODE 5 within 37 hours.

TS 5.4, “Procedures,” Section 5.4.1, states, 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 (except as provided in the quality assurance program described or referenced in the Updated FSAR for Unit 2).

RG 1.33, Rev.2, App A recommends chemical and radiochemical control procedures to prescribe the nature and frequency of sampling and analyses. Implementing Procedure EN-CY-101, “Chemistry Activities,” includes guidance related to chemistry sampling and analysis. Section 5.5 states that out of specification conditions should be identified and corrective actions initiated as quickly as possible. Implementing Procedure 0-CY-1210, “Organization and Responsibilities of the Chemistry Department,” includes guidance related to chemistry sampling and analysis. Step 4.1.4 requires a condition report to be initiated to report any condition exceeding any procedural limits.

Contrary to the above, on or about February 2, 2012, ENO staff identified that, on two occasions: 1) fuel oil sample test results had been received indicating total particulate concentrations that exceeded TS limits of 10 mg/l; 2) the total particulate concentration for these systems had not been returned to within limits within the TS-required timeframe; and 3) the associated diesel generators had not been declared inoperable or the units placed in the appropriate operating modes. However, the ENO staff did not initiate condition reports or otherwise report the condition such that a Licensee Event Report could be written. Specifically the ENO staff identified that: 1) on July 13, 2011, Entergy received an RFOST sample result indicating total particulate concentration of 13.4 mg/l, and the parameter was not restored to within limits until September 2, 2011; and, 2) on December 30, 2011, Entergy received an RFOST sample result indicating total particulate concentration of 13.2 mg/l, and, as of February 5, the parameter had not been restored to within limits. The NRC was not informed via an LER that the plant was operating in a condition prohibited by its TS until August 20, 2012, more than 60 days after discovery by the ENO staff.

These violations are categorized collectively as a SL III problem (Enforcement Policy Example Section 6.1).

The NRC has concluded that information regarding the reason for the violations, the corrective actions taken and planned to correct the violations and prevent recurrence and the date when full compliance was achieved is already adequately addressed on the docket in in the NRC letter dated December 18, 2013, and in the letter forwarding this Notice of Violation (Notice). However, if the description therein does not accurately reflect your position or your corrective actions, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 within 30 days of the date of the letter transmitting this Notice of Violation. In that case, or if you choose to respond, clearly mark your response as a “Reply to a Notice of Violation,” and send it to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S., Nuclear Regulatory Commission, Region I, 2100 Renaissance Boulevard, King of Prussia, PA 19406, and a copy to the Resident Inspector at Indian Point Nuclear Generating Units 2 and 3.

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC’s document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without

redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 29th day of April 2014

Inspection Report# : 2013011 *(pdf)*

Significance: N/A Nov 08, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Submit a Required 10 CFR 50.73 Report
The inspectors identified a Severity Level IV non-cited violation (NCV) of 10 CFR 50.73 (a)(2)(i)(B) for failure to make a required report to the NRC. Specifically in 2008, a section of essential service water piping was identified to be below the American Society of Engineers (ASME) code case N 513 minimum pipe wall thickness to ensure structural integrity was maintained and therefore, the system was determined to have been inoperable. This condition existed longer than the technical specification allowed system outage time for essential service water. Therefore, this should have been reported in 2008 as operations in a condition prohibited by technical specifications under 10 CFR 50.73 (a)(2)(i)(B) within 60 days of the date of discovery.

The inspectors determined that the failure to submit a notification required by 10 CFR 50.73 (a)(2)(i)(B) is a performance deficiency which was reasonably within Entergy's ability to foresee and correct and should have been prevented. Because the issue had the potential to affect the NRC's ability to perform its regulatory function, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using example 6.9.d.9 from the NRC Enforcement Policy, the inspectors determined that the violation was a Severity Level IV (more than minor concern that resulted in no or relatively inappreciable potential safety or security consequence) violation. The information in the 10 CFR 50.73 report that was not submitted would not have adversely impacted any regulatory decisions by the NRC. Because this violation involves the traditional enforcement process and does not have an underlying technical violation that would be considered more-than-minor, inspectors did not assign a cross-cutting aspect to this violation in accordance with IMC 0612, Appendix B.
Inspection Report# : 2013012 *(pdf)*

Significance: N/A Nov 08, 2013
Identified By: NRC
Item Type: FIN Finding
PI&R Report Summary
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, entered them into the corrective action program at a low threshold, and in general, prioritized issues commensurate with their safety significance. 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 implemented corrective actions to address the problems identified in the corrective action program in a timely manner. However, the inspectors identified one violation of NRC requirements in the area of problem evaluation that was not reflective of current performance.
The inspectors concluded that Entergy adequately identified, reviewed, and applied relevant industry operating experience to Indian Point 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 corrective action program 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.
Inspection Report# : 2013012 *(pdf)*

Last modified : November 26, 2014