Indian Point 2
1Q/2014 Plant Inspection Findings

Initiating Events

Mitigating Systems

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 Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Assess and Manage Risk Associated with Reactor Testing Below Normal Operating Conditions
The inspectors identified an NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.65(a)(4), requirements for monitoring the effectiveness of maintenance, when Entergy did not assess and manage the risk associated with reactor protection testing with Unit 3 below normal operating pressure. Specifically, on March 27, 2013, with Unit 3 just having entered Mode 3 and while raising reactor coolant system (RCS) temperature, required risk management actions were not taken regarding a reactor protection system test, and due to a problem with the test equipment, a low pressure safety injection (SI) actuated. Entergy operators took action to mitigate the SI, and the event was entered into the corrective action program (CAP) as CR IP3 2013 2115. A root cause evaluation was initiated to determine the acceptability of conducting this test with the plant at low pressure in Mode 3 and address extent of condition.

The finding 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. In addition, in accordance with IMC 0612, Appendix E, Example 7.f, had the risk assessment for the testing been done using Entergy's risk procedure, the assessment would have determined the impairment of the low pressure SI interlocks and would have placed the plant in an administrative higher risk condition (Orange). The finding was evaluated using IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," and determined to be of very low safety significance (Green) when the risk assessment was performed correctly with the resulting actual incremental core damage frequency deficit determined to be very small, less than 1E 6. The inspectors determined this finding had a cross-cutting aspect in Human Performance, Work Control, when Entergy personnel did not take risk insights, job site conditions such as the plant pressure, technical specification requirements, and an inaccurate pressurizer level indication into consideration when preparing for testing along with the need for contingencies.
Inspection Report# : 2013003 *(pdf)*

Significance: G Jun 30, 2013

Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct a Condition Adverse to Quality Affecting Pressurizer Safety Valves
The inspectors identified an NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," when Entergy failed to correct a condition adverse to quality associated with the Unit 3 pressurizer safety valves (PSVs). Specifically, following valve lift setpoint failures in 2005 and 2008, Entergy did not complete a cause determination and establish corrective actions. As a result, a PSV (PCV-468) removed from Unit 3 in 2011, lifted at higher than its setpoint pressure due to spring fatigue. Following the 2011 failure, Entergy performed a cause investigation and initiated a corrective action to include spring rate testing in the inspection of the safety valves.

The finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. 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 determined that no cross-cutting aspect was applicable to this performance deficiency because this finding was not indicative of current licensee performance.
Inspection Report# : 2013003 *(pdf)*

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Appropriate Procedures for Response to Safety Injection Actuation at Low Temperature
The inspectors identified an NCV of 10 CFR 50, Appendix B, Criterion V, "Procedures," when Entergy did not maintain appropriate written procedures for responding to an inadvertent SI on Unit 3 when below the normal operating RCS temperature. As a result, operators did not comply with procedure requirements when responding to an inadvertent SI event on March 27, 2013. During a review of the event by the inspectors, procedure deficiencies were identified which have the potential to lead to a more significant safety concern. Entergy personnel documented the March 27 event in their CAP as CR IP3-2013-2115 and initiated a root cause evaluation.

The finding was more than minor because, if left uncorrected, the procedure deficiencies have the potential to lead to a more significant safety concern related to exceeding vessel integrity pressure limitations if a charging pump was started in solid conditions below 380°F. 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 finding was assigned a cross-cutting aspect in the area of Human Performance, Resources, because Entergy staff did not ensure that design documentation and procedures were adequate to assure nuclear safety.
Inspection Report# : 2013003 *(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

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 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 : May 30, 2014