# Indian Point 3
# 3Q/2016 Plant Inspection Findings

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## Initiating Events

**Significance:** G Sep 23, 2016
Identified By: Self-Revealing
Item Type: FIN Finding
**345 kV Insulator Failure Causes Reactor Trip**
A green self-revealing finding of ENN-EP-G-004, “Switchyard and Large Power Transformer Preventive Maintenance Guidelines,” occurred in that preventive maintenance (PM) was not performed as required on the W96 345kV line insulators. Specifically, the semi-annual corona surveys to identify degradation of insulators were not performed for line W96, which led to an insulator failure and resulted in an automatic trip of the reactor. Entergy replaced the damaged insulator and added the W96 line to the corona survey PM work order.

Inspectors determined that Entergy did not perform PMs in accordance with ENN-EP-G-004, “Switchyard and Large Power Transformer Preventive Maintenance Guidelines,” on the 345kV insulators, which is a performance deficiency that was reasonably within Entergy’s ability to foresee and correct and should have been prevented. Specifically, the lack of PMs on the insulators allowed the insulators to degrade to a point where the condition of the insulator combined with environmental conditions led to a flashover event and a reactor trip. This finding is more than minor because it is associated with the Initiating Events cornerstone attribute of equipment performance, and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure of the insulator led to a reactor trip. In accordance with IMC 0609.04, “Initial Characterization of Findings,” and Exhibit 1 of IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” the inspectors determined that this finding was of very low safety significance (Green) because the finding did not cause both a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined that the finding had a cross-cutting aspect in Human Performance, Avoid Complacency, because Entergy did not recognize and plan for the possibility of mistakes, latent issues, and inherent risk. Specifically, Entergy performed a site review ensuring appropriate PMs were in place, and did not identify that the PM for the insulator was not being performed.

Inspection Report# : 2016009 *(pdf)*

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## Mitigating Systems

**Significance:** G Jun 30, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
**Failure to Follow Operability Determination Procedure for Unit 3 Baffle-Former Bolts**
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Entergy did not adequately accomplish the actions prescribed by procedure EN-OP-104, “Operability Determination Process,” for a degraded condition associated with the Unit 3 baffle-former bolts.

Specifically, Entergy incorrectly concluded that no degraded or non-conforming condition existed related to the Unit 3 baffle-former bolts and exited the operability determination procedure. Entergy subsequently performed the remaining steps in the procedure and provided appropriate justification for their plans to examine the baffle-former bolts at the next Unit 3 refueling outage (RFO). Entergy's immediate corrective actions included entering the issue into its corrective action program (CAP) as CR-IP3-2016-01961 and documenting an operability evaluation to support the basis for operability of the baffle-former bolts and the emergency core cooling system (ECCS).

This performance deficiency is more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). 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 screened the finding for safety significance and determined it to be of very low safety significance (Green), because the finding did not represent an actual loss of system or function. After inspector questioning, Entergy performed an operability evaluation, which provided sufficient bases to conclude the Unit 3 baffle assembly would support ECCS operability. This finding is related to the cross-cutting aspect of Problem Identification and Resolution, Operating Experience, because Entergy did not effectively evaluate relevant internal and external operating experience. Specifically, Entergy did not adequately evaluate the impact of degraded baffle bolts at Unit 3 when relevant operating experience was identified at Unit 2.
Inspection Report# : 2016002 *(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 Indian Point Unit 3 Operating License Condition 2.H 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 (M1090760993) 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 ntered 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 postfire safe shutdown is not as reliable as normal systems operation which could be utilized had the requirements of 10 CFR 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 occurred greater than three years ago when the exemption request was

submitted to the NRC on March 6, 2009, and is not indicative of current licensee performance.
Inspection Report# : 2012008 *(pdf)*

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## Barrier Integrity

**Significance:** G Mar 31, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
**Failure to Adequately Implement Risk Management Actions for the Containment Key Safety Function**
The inspectors identified an NCV of Title 10 of the Code of Federal Regulations (10 CFR) 50.65(a)(4) because Entergy did not effectively manage the risk associated with refueling maintenance activities. Specifically, Entergy did not demonstrate they could implement their planned risk management action to restore the containment key safety function within the time-to-boil using the equipment hatch closure plug. Entergy wrote CR-IP2-2016-01503 and CR-IP2-2016-01883 to address this issue.

This performance deficiency is more than minor because it impacted the barrier performance attribute of the Barrier Integrity cornerstone and affected the objective to provide reasonable assurance that containment protects the public from radionuclide releases caused by accidents or events. Specifically, Entergy did not demonstrate that they could install the hatch plug within the time-to-boil and that the plug would seal the equipment hatch opening, which affected the reliability of containment isolation in response to a loss of shutdown cooling or other event inside containment. The inspectors determined the finding could be evaluated using Attachment 0609.04, “Initial Characterization of Findings.” Because the finding degraded the ability to close or isolate the containment, it required review using IMC 0609, Appendix H, “Containment Integrity Significance Determination Process.” Since containment status was not intact and the finding occurred when decay heat was relatively high, it required a phase two analysis. Since the leakage from containment to the environment was less than 100 percent containment volume per day, the finding screens as very low safety significance (Green). A subsequent demonstration showed that the hatch plug provided an adequate seal with the containment hatch opening. The inspectors concluded this finding had a cross-cutting aspect in the area of Human Performance, Documentation, because Entergy did not maintain complete, accurate, and up to date documentation related to the use of the hatch plug. Specifically, they tested the seal integrity without using a work order (WO), and made pen-and-ink changes to the procedure without processing a procedure change form.
Inspection Report# : 2016001 *(pdf)*

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## 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.

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## Miscellaneous

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