Indian Point 2
1Q/2008 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: FIN Finding
FAILURE TO IMPLEMENT CORRECTIVE ACTIONS ASSOCIATED WITH AGING CAPACITOR DEGRADATION IN A POWER SUPPLY FOR THE MAIN FEEDWATER SUCTION PRESSURE TRANSMITTER
A self-revealing Green finding was identified because Entergy did not implement corrective actions for an adverse condition associated with aging critical power supplies. The inspectors determined that the failure to implement corrective actions was a performance deficiency because it was controry to the requirements of Entergy's procedure EN-LI-102, "Corrective Action Process." Entergy placed this issue in the corrective action program and initiated actions to replace all single-point vulnerable instrument power supplies and all high critical instrument power supplies at both Indian Point Unit 2 and Indian Point Unit 3 that have not already been replaced.

The inspectors determined this finding was more than minor because it wass associated with the Equipment Performance attribute of the Initiang Events cornerstone, and it impacted the cornerstone; and it impacted the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety systems. Specifically, aging capacitors caused the failure of the power supply to the feedwater low suction pressure transmitter, which caused a reduction of main boiler feed pump speeds and resulted in operators initiating a manual reactor trip on February 28, 2007. The inspectors evaluated the significance of this finding usning Phase 1 of IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was determined to be of very low safety significance (Green) because, while it was a transient initiator that resulted in a reactor trip, it did not contribute to the likelihood that mitigation equipment or functions would not be available.
Inspection Report# : 2007005 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to provide an adequate procedure for installing cable termination lugs on the 21 service water pump motor cables.
A self-revealing, non-cited violation (NCV) of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified for failure to provide an adequate procedure for installing cable termination lugs on the 21 service water pump motor cables. As a result, Entergy maintenance personnel installed undersized terminal lugs for the 21 service water pump motor jumper cables on January 26, 2000, which resulted in a high resistance connection that degraded over time and eventually caused the cables to fail while the pump was in service on January 27, 2008. Entergy entered this issue into the corrective action program, replaced the jumper cables with insulated bus bars, tested the motor for damage, and changed Engineering Standard ENN-EE-S-008-IP, “IPEC [Indian Point Energy Center] Electrical Cable Installation Standard,” to ensure the use of correctly-sized terminal lugs in the future. [Entergy also plans to perform an extent of condition review that includes thermography and visual inspections of other safety related motor cable terminations.]

The inspectors determined that this finding was more than minor because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone; and, it affected the objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Entergy failed to provide adequate procedural steps to ensure that the 21 service water pump was installed with appropriate

electrical connectors. The inspectors evaluated the significance of this finding using Phase 1 of Inspection Manual Chapter 0609, Appendix A, “Determining the Significance of Reactor Inspection Findings for At-Power Situations,” and determined that it was of very low safety significance (Green) because it was not a design or qualification deficiency; it did not represent a loss of system safety function of a single train for greater than its Technical Specification allowed outage time; and it did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events.

Inspection Report# : 2008002 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IDENTIFY DEGRADED FIRE BARRIER IN EDG BUILDING
The inspectors identified a Green non-cited violation (NCV) of Unit 2 license condition 2.K. because Entergy failed to identify a degraded fire barrier in the emergency diesel generator (EDG) room. Specifically, the inspectors identified a backflow preventer valve in an EDG sump that could not perform its function due to a large allen wrench that was positioned in a manner that would prevent the valve from shutting. Entergy removed the tool, verified functionality of the valve, and entered this condition into the corrective action program.

The inspectors determined that this finding was more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems cornerstone; and, it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was evaluated using Phase 1 of Inspection Manual Chapter (IMC) 0609 Appendix F, “Fire Protection Significance Determination Process.” The inability of the backflow prevent alve to perform its function represented "moderate" degradation based on the size of the drain line, and the distance between the EDG sumps. The inspectors determined that this issue was of very low safety significance (Green) because the degradation of the fire barrier was ‘moderate,’ and there was a non-degraded automatic, water-based fire suppression system in the affected fire area.

The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because Entergy personnel routinely conduct tours in the EDG building and had not identified the degraded condition of the backflow preventer valve. (P.1(a))

Inspection Report# : 2007005 *(pdf)*

Significance: G Oct 03, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Degraded 12 Fire Main Booster Pump Cell Fire Door
The inspectors identified a Green non-cited violation (NCV) of License Condition 2.K., fire protection program, because Entergy failed to identify a degraded three-hour rated fire door on the east entrance of the 12 fire main booster pump room. The door was determined to be inoperable due to a misalignment, which prevented the door from fully closing. Entergy entered this issue into their corrective action program, took immediate compensatory actions, realigned the door, and ensured that it would fully close.

The inspectors determined that this finding was more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone; and it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was evaluated using Phase 1 of Inspection Manual Chapter (IMC) 0609 Appendix F, “Fire Protection Significance Determination Process.” The inspectors determined that this issue was of very low safety significance because the degradation of the fire barrier was “moderate” based on the fire door displaying significant degradation affecting its performance or reliability. However, it was still expected to provide some defense-in-depth benefit. Specifically, the fire door was expected to provide a minimum of 20 minutes fire endurance

protection, and the in-situ fire ignition sources and flammable materials were positioned such that the degraded fire door would not be subject to direct flame impingement.

The inspectors determined that the finding had a cross-cutting aspect in the area of problem identification and resolution because Entergy personnel who routinely traverse through or past the fire door had not identified the degraded condition. (P.1(a))
Inspection Report# : 2007004 *(pdf)*

Significance: G Oct 03, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
PROCEDURE INADEQUATE TO ENSURE OPERABILITY OF SI PUMPS DURING VENTING
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Entergy did not ensure that procedures associated with operation of the safety injection (SI) system during venting were appropriate to the circumstances. Specifically, procedure 2-PT-M108, "RHR/SI [residual heat removal/safety injection] System Venting," did not have appropriate controls to ensure the safety injection piping and pumps remained operable during accident conditions. Entergy entered the issue into their corrective action program and revised the venting procedure to ensure operator actions are appropriately evaluated and credited to maintain operability of the system.

The inspectors determined that this finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone; and it impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was evaluated using Phase 1 of IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The inspectors determined this finding resulted in a loss of function of a single train of SI for approximately five minutes. Because the total inoperability time was less than the allowed outage time of 72 hours, and the finding is not potentially risk significant due to a seismic, flooding, or severe weather initiating event, this finding screens as very low safety significance (Green).

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance because Entergy did not ensure that complete, accurate and up-to-date procedures were available. (H.2(c))

Inspection Report# : 2007004 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT CORRECTIVE ACTIONS TO PREVENT EXCEEDING PM FREQUENCY FOR 25 FCU
A self-revealing Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified because Entergy failed to implement effective corrective actions for a condition adverse to quality associated with reduced flow to the containment fan cooler units due to fouling, which resulted from exceeding the periodicity of preventative maintenance activities to clean and inspect the containment fan cooler units. On September 16, 2007, the 25 containment fan cooler unit was declared inoperable due to inadequate service water flow caused by partial fouling of the heat exchanger. Entergy implemented actions to restore service water flow to the 25 containment fan cooler unit, and they entered this issue into their corrective action program to schedule the maintenance on other containment fan cooler units, and to evaluate the appropriate periodicity for the preventative maintenance activity.

The inspectors determined that this finding was more than minor because it was associated with the Structures, Systems, and Components and Barrier Performance attribute of the Barrier Integrity cornerstone; and, it impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the failure to take effective corrective actions to

prevent exceeding the periodicity for the cleaning and inspection of the 25 containment fan cooler unit resulted in partial flow blockage to the component, and a reduction in flow below the value required by Technical Specifications. The inspectors evaluated this finding using IMC 0609, Appendix H, “Containment Integrity Significance Determination Process.” This was determined to be a Type B finding because it potentially impacted containment integrity, but did not result in the increased likelihood of an initiating event. This finding was determined to be of very low safety significance (Green) because it did not impact a function that was important to large early release frequency.

Inspection Report# : 2007005 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT CORRECTIVE ACTIONS FOR DEGRADED CONTAINMENT FAN COOLER UNIT SERVICE WATER FLOW
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” because Entergy failed to implement corrective actions to monitor a condition adverse to quality associated with degradation of service water flow rates to the fan cooler units following the failure of surveillance test 2-PT-Q016, "Containment fan cooler Unit Cooling Water Flow Test," Revision 1, on September 16, 2007. Entergy's corrective actions, which had been developed following failure of the 25 containment fan cooler unit to pass the surveillance flow acceptance criteria on September 16, 2007, included compensatory measures for operations personnel to monitor service water flow to the containment fan cooler unit and to increase the frequency of the quarterly surveillance test. Operations personnel recorded the five containment fan cooler unit service water flow rates in the unit narrative logs, but did not effectively monitor the service water flow rates. Consequently, Entergy failed to identify degrading service water flow and take action prior to the containment fan cooler units being rendered inoperable due to insufficient flow on October 14, 2007. Entergy entered this issue into the corrective action program and updated their action plan to begin systematic trending of service water flows to the containment fan cooler units until the next refueling outage.

The inspectors determined this finding was more than minor in accordance with IMC 0612, Appendix E, "Examples of Minor Issues," Example 3.g, because the failure to implement a corrective action contributed to the service water flows being out-of-specification to all five containment fan cooler units. The inspectors evaluated this finding using IMC 0609, Appendix H, “Containment Integrity Significance Determination Process.” This was determined to be a Type B finding because it potentially impacted containment integrity, but did not result in the increased likelihood of an initiating event. This finding was determined to be of very low safety significance (Green), because it did not impact a function that was important to large early release frequency.

The inspectors determined that this finding has a cross-cutting aspect in the area of problem identification and resolution because Entergy did not effectively implement corrective actions for a condition adverse to quality associated with degradation of service water flow to containment fan cooler units. (P.1(d))

Inspection Report# : 2007005 *(pdf)*

Significance: G Oct 03, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
UNTIMELY CORRECTIVE ACTIONS TO REPAIR A DEGRADED SERVICE WATER FLOW INSTRUMENT
The inspectors identified a non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, “Corrective Actions,” in that, Entergy did not implement timely corrective actions for a degraded condition associated with the 25 Containment Fan Cooler Unit (FCU) flow indicator. Specifically, the failure to take timely corrective actions for the degraded service water flow indicator for the 25 FCU, initially identified in October 2006, resulted in the inability to ensure that sufficient service water flow was available for the component to perform its intended function. Subsequently, it was identified that a reduced service water flow condition did exist. Entergy entered the issue into their corrective action program and implemented corrective actions to restore adequate indication of service water flow to the 25 FCU. Entergy is evaluating maintenance practices to determine the appropriateness of a periodic blow-down of the transmitter impulse lines to prevent sediment buildup.

The inspectors determined that this finding was more than minor because it was associated with the structure, system, and component and barrier performance attribute of the Barrier Integrity cornerstone; and it impacted the cornerstone objective of providing reasonable assurance that the physical design barrier (containment) protects the public from radionuclide releases caused by accidents or events. This finding was evaluated using IMC 0609, Appendix H, "Containment Integrity Significance Determination Process." This was determined to be a Type B finding because it potentially impacted containment integrity but did not result in the increased likelihood of an initiating event. This finding was determined to be of very low safety significance because, while it could impact late containment failure, it did not impact a function that was important to large early release frequency.

The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because Entergy did not thoroughly evaluate the condition when initially identified. (P.1(c))

Inspection Report# : 2007004 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : June 05, 2008