Oyster Creek
2Q/2010 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Unexpected power drop when transferring mode of control of recirculation pump
A self-revealing NCV of Oyster Creek Technical Specification 6.8.1, “Procedures and Programs,” occurred when Exelon did not properly implement procedures to transfer the “D” reactor recirculation pump from local manual to remote manual control which resulted in an unplanned reduction in reactor power on August 6. Operations personnel misread the scoop tube position indicator on “D” reactor recirculation pump motor generator set and did not properly match it with the speed indicated on the remote controller in the control room as required by the procedure, resulting in a reduction in recirculation flow and a reduction in reactor power. Exelon’s corrective actions included restoring “D” reactor recirculation pump speed, replacement of the existing unmarked scoop tube position indicators with numbered position indicators and a revision of the procedure 301.2 “Reactor Recirculation System” to include cautions and additional information on how to read the scoop tube position indicators. This issue has been entered into Exelon’s corrective action program.

This finding was more than minor because it was similar to example 4.b in Inspection Manual Chapter 0612, Appendix E and resulted in a power reduction of 3%. Additionally, the finding was more than minor in accordance with IMC 0612, Appendix B (Section 1-3), “Issue Screening,” because it was associated with the human performance attribute of the initiating events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with IMC 0609.04 (Table 4a), “Phase 1 – Initial Screening and Characterization of Findings,” the finding was determined to be of very low safety significance (Green) because the finding affected the initiating events cornerstone and was a transient initiator contributor that did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The performance deficiency had a cross-cutting aspect in the area of human performance, work practices [IMC 0305, Aspect H.4.(a)], because Exelon did not effectively implement human error prevention techniques, such as self and peer checking. Specifically, Exelon did not effectively use peer checking when determining the position of the reactor recirculation pump motor generator set scoop tube and the operators proceeded in the face of uncertainty when faced with poorly marked scoop tube position indicators. (Section 4OA3)

Inspection Report# : 2009004 *(pdf)*

Significance: G Aug 13, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify and Correct a Degraded Condition Leading to #1 EDG Inability to Perform Its Safety Function
The NRC identified a finding of very low safety significance (Green) that involved a non-cited violation (NCV) of 10 CFR50, Appendix B, Criterion XVI, “Corrective Action,” because Exelon did not identify and correct a degraded condition which resulted in subsequent inoperablility that would have prevented the #1 emergency diesel generator (EDG) from automatically performing its safety function. Specifically, the troubleshooting activity following the July 12, 2009, event, conducted prior to restart on July 15, 2009, did not identify the degraded operation of Generator Breaker Close (GBC) relay contacts. Continued degradation of these relay contacts subsequently resulted in the #1 EDG output breaker not closing during surveillance testing on August 3, 2009. The team found that Exelon replaced the GBC relay and its base and conducted an adequate post-maintenance test, returning the #1 EDG to an operable condition on August 5, 2009. Exelon entered this issue into the corrective action program.

The finding was more than minor because it was associated with the equipment reliability attribute of the Mitigating Cornerstone and it adversely affected the associated cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). A Phase 3 SDP analysis determined that the finding was of very low safety significance (Green), during the 16 day exposure period, in that there was a reasonable probability that operators would have successfully locally closed the output breaker. This finding had a cross-cutting aspect in the area of human performance, decision making [IMC 0305, Aspect H.1(a)], because the safety-significant and risk-significant decisions concerning the #1 EDG were not completed in a systematic process to ensure safety is maintained.
Inspection Report# : 2009009 *(pdf)*

Mitigating Systems

Significance: G Aug 13, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Control Foreign Material in the Shell Side of the 'B' Isolation Condenser
The NRC identified a self-revealing finding of very low safety significance (Green) that involved an NCV of Oyster Creek Technical Specification 6.8.1, “Procedures and Programs,” because Exelon did not adequately implement a safety- related maintenance activity. Specifically, foreign material exclusion (FME) control requirements during maintenance in November 2008 were not properly implemented which allowed foreign material to enter the ‘B’ Isolation Condenser (IC) level instrumentation piping. This resulted in the unavailability of the IC due to erratic water level indication during the July 12, 2009 event. The team found that Exelon took adequate corrective actions to restore the ‘B’ IC’ to an operable condition including back-flushing the instrumentation piping, calibrating the instrument, and revising the surveillance procedure to incorporate back-flushing of the instrument piping during surveillances. Exelon entered this issue into their corrective action program.

The finding was more than minor because it was associated with the human performance attribute of the Mitigating Systems Cornerstone and it adversely affected the associated cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). A Phase 3 SDP analysis determined that this finding was of very low safety significance (Green), during the 233 day exposure period, in that there was a reasonable probability that the operators could have successfully used the ‘B” IC. The finding was identified to have a cross-cutting aspect in the area of human performance, work practices [IMC 0305, Aspect H.4(c)], because Exelon did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.

Inspection Report# : 2009009 *(pdf)*

Barrier Integrity

Significance: G Apr 02, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Adjustments to Maintenance Rule System Performance Criteria not made after Biannual Evaluation
The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.65(a)(3), requirements for monitoring the effectiveness of maintenance at nuclear power plants (maintenance rule), because Exelon did not make adjustments to established performance and condition monitoring goals to ensure that unavailability and reliability of structures, systems and components (SSC) were appropriately balanced. Specifically, Exelon did not ensure that corrective actions identified in a 2006-2007 (a)(3) evaluation to update performance criteria sheets for maintenance rule systems were

adequately implemented. Exelon entered this issue into their corrective action system as IR 1053237.

This finding is not similar to any of the IMC 0612 Appendix E minor examples, but is more than minor because if left uncorrected it would have the potential to lead to a more significant safety concern. Specifically, the failure to implement revised performance criteria could prevent the screening of safety significant systems that have exceeded their performance criteria through a maintenance rule expert panel and prevent Exelon from monitoring degraded components against established goals in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions. This finding is not suitable for evaluation using the Significance Determination Process (SDP) because the performance deficiency did not cause the degraded equipment performance. Findings for which the SDP does not apply may be Green or assigned a severity level after NRC management review. Per the guidance provided in NRC inspection procedure 71111.12, this issue is considered to be a Category II finding and thus, per NRC management review, is considered to be Green. This finding has a cross-cutting aspect in the area of problem identification and resolution (P.3(c)). Specifically, Exelon did not ensure that actions identified in the 2006-2007 (a)(3) assessment to update performance criteria sheets for maintenance rule systems were completed and implemented. (Section 1 R12)
Inspection Report# : 2010002 *(pdf)*

Significance:  Apr 02, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure To Declare The Rod Worth Minimizer Inoperable At The Time Operability Criteria Was Not Met And Enter The Correct Technical Specification Action Statement
An NRC identified NCV of Technical Specification (TS) 6.8.1, Procedures and Programs, was identified when Exelon did not declare the rod worth minimizer (RWM) inoperable prior to completing the withdrawal of the twelfth rod during a reactor startup on July 15, 2009. During the startup, the RWM exhibited difficulty following the movement of control rods, had difficulty following which control rod was selected, and generated a total of 3 rod blocks even though the physical configuration of the control rod positions was in accordance with the control rod withdrawal sequence. Although operations personnel were aware of these malfunctions of the RWM, they believed that the rod blocks being generated were conservative and did not consider the operability criteria contained in the RWM operating procedure. At the beginning of the withdrawal of the twelfth control rod, the RWM generated an improper rod block and began tracking a control rod that had not been selected or withdrawn. The operators were able to clear the rod block and fully withdraw the rod. The operators declared the RWM inoperable based upon the improper rod block that occurred at the beginning of the withdrawal of the twelfth rod, but entered the TS action statement based upon the time that the operability decision was made, which was after the rod was fully withdrawn. Because of this conclusion, the wrong TS action statement was entered and all actions and limitations associated with the correct TS were not completed. This issue has been entered into Exelon's corrective action program.

The finding was more than minor because it was similar to example 2.g of IMC 0612 Appendix E. Additionally, the finding was more than minor because it was associated with the Design Control attribute of the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. In accordance with IMC 0609.04 (Table 4a), "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) because the finding affected the barrier integrity cornerstone and was a fuel barrier

issue. The performance deficiency had a cross-cutting aspect in the area of human performance, decision making [H.1(a)]. because Exelon did not make a safety significant decision using a systematic process when faced with uncertain or unexpected plant conditions. Specifically, Exelon did not consider the operability criteria in procedure 409, "Operation of the Rod Worth Minimizer," when faced with a malfunctioning RWM during the reactor startup on July 15, 2009. (Section 1R15)
Inspection Report# : 2010002 *(pdf)*

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Untimely Corrective Action for the 'B' Spent Fuel Pool Cooling Pump
A self-revealing non-cited violation (NCV) was identified of 10CFR50 Appendix B, Criterion XVI, "Corrective Action" was identified when Exelon did not take timely corrective action to address an identified degrading trend in the performance on the B spent fuel pool cooling pump. Exelon repaired the pump by replacing the impeller and performed a satisfactory in-service test (IST) on December 8, and entered the issue into the corrective action program.

The NCV was not similar to the examples cited in IMC 0612 Appendix E, but the inspectors determined it was more than minor because it was associated with the SSC performance attribute of the barrier integrity cornerstone objective to provide reasonable assurance that the physical design barriers protect the public from radionuclide releases caused by accidents or events by maintaining the functionality of the spent fuel pool cooling system. The inspectors determined this issue was of very low safety significance (Green) because the issue did not result in a loss of cooling to the spent fuel pool where operator or equipment failures could preclude restoration of cooling prior to pool boiling, did not result from fuel handling errors that caused damage to fuel clad integrity or a dropped assembly, and did not result in a loss of spent fuel pool inventory greater than ten percent of the fuel pool volume. The performance deficiency had a cross-cutting aspect in the area of human performance, work control [H.3(b)] because Exelon did not effectively coordinate work activities by implementing actions to communicate, coordinate and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance.
Inspection Report# : 2009005 *(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

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