

Oyster Creek

1Q/2012 Plant Inspection Findings

Initiating Events

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Abnormal operating procedure conflicts with technical specification requirement

The inspectors identified a Green NCV of Technical Specification (TS) 6.8.1a, “Procedures and Programs,” for improperly implementing technical specifications requirements into abnormal operation procedures for the reactor recirculation system. The inspectors determined this procedural inadequacy was a performance deficiency that was within Exelon’s ability to foresee and correct. Exelon’s revised the abnormal operating procedure for the reactor recirculation system to restore compliance as a corrective action. Exelon entered this issue into the corrective action program for resolution as IR 1323171.

There were no similar examples in Appendix E to Inspection Manual Chapter (IMC) 0612, but the inspectors determined this finding was more than minor because this performance deficiency could be reasonably viewed as a precursor to a significant event and if left uncorrected, this performance deficiency would have the potential to lead to a more significant safety concern. Specifically, if the recirculation loop was returned to service after being isolated while the reactor was at power, then a significant cold water transient could occur which could result in a reactor trip as described in UFSAR Section 15.4.4. This finding affects the configuration control attribute of the Initiating Events cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors determined that this finding was a transient initiator that did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Therefore, the inspectors determined the finding to be of very low safety significance (Green).

The inspectors determined that it was not appropriate to assign a cross-cutting aspect to this finding as the performance deficiency had existed since the original issue of the procedure in 2000 and was not indicative of current performance. (Section 1R11)

Inspection Report# : [2012002](#) (*pdf*)

Mitigating Systems

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Risk management actions not implemented to manage increased online risk during a surveillance test

The inspectors identified a Green NCV of 10 CFR 50.65(a)(4), “Requirements for monitoring the effectiveness of maintenance at nuclear power plants,” when Exelon did not implement risk management actions to manage the risk associated with the performance of surveillance activities on containment spray system 1. The inspectors determined that not implementing risk management actions to mitigate an increased overall maintenance risk was a performance deficiency that was within Exelon’s ability to foresee and correct.

Exelon’s immediate corrective actions included resetting the crew clock and briefing the remaining operating crews on the details of this event. Exelon entered this issue into the

corrective action program for resolution as IR 1324575.

The inspectors determined that this issue is more than minor because it is similar to example 7.g in Inspection Manual Chapter (IMC) 0612, Appendix E, “Examples of Minor Issues” in that key safety functions were significantly degraded without sufficient compensation. The inspectors determined that this finding affected both the Mitigating Systems and Barriers Integrity cornerstones. The inspectors used Inspection Manual Chapter 0609, Appendix K, “Maintenance Risk Assessment and Risk Management Significance Determination Process,” flowchart 2, Assessment of Risk Management Actions,” to analyze the finding. As this finding is a 10 CFR 50.65(a)(4) performance issue associated with risk management actions only and the ICDP is not $>1E-6$, the inspectors determined that the finding is of very low safety significance (Green).

This finding has a crosscutting aspect in the area of Human Performance, Work Practices, because Exelon’s supervisory oversight of work activities did not support nuclear safety.

[H.4.(c)] (Section 1R13)

Inspection Report# : [2012002](#) (pdf)

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish New Reference Values in Accordance with ASME Code

The inspectors identified a Green NCV of 10 CFR Part 50.55a, Codes and Standards, because Exelon did not complete an adequate analysis when establishing a new reference value for the A containment spray pump in accordance with the American Society of Mechanical Engineer (ASME) Operation and Maintenance (OM) Code Subsection ISTB 4.6. The inspectors determined that Exelon’s failure to correctly establish a new reference value for the A containment spray pump in accordance with the requirements of ASME OM Code Subsection ISTB 4.6 was a performance deficiency. Exelon entered this issue into the corrective action program for resolution as IR 1281326.

This finding is more than minor because it is similar to IMC 0612 Appendix C Example 3.j in that there was a reasonable doubt that the system met ASME operability requirements due to the inadequate evaluation. Additionally, the inspectors determined that this issue was more than minor because it affected the procedure quality attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors determined this finding was not a design qualification deficiency resulting in a loss of functionality or operability, did not represent an actual loss of safety function of a system or train of equipment, and was not potentially risk-significant due to a seismic, fire, flooding, or severe weather initiating event. Therefore, the finding is considered to be of very low safety significance.

This finding has a cross-cutting aspect in the area of Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, because Exelon did not fully follow the ASME requirements in Subsection ISTB 4.6, New Reference Values.

Inspection Report# : [2011005](#) (pdf)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to perform acceptance inspection of contractor work results in damage to safety related instrument cable

The inspectors identified a NCV of 10 CFR Part 50, Appendix B, Criterion X, “Inspection,” when Exelon did not conduct a post maintenance inspection of work accomplished by a contractor on main steam isolation valve (MSIV), V-1-10, which resulted in heat damage to the valve position indication cabling causing a ground on the cable and the receipt of a half scram. Exelon’s corrective actions included replacement of the damaged cable, performance of a work group evaluation and revising the main steam insulation work orders to include a caution to not install insulation

on top of cabling.

The finding was more than minor because it affected the design control attribute of the Mitigating Systems Cornerstone of equipment performance to ensure the availability, reliability, and capability of a class I cable. Additionally, this finding is similar to IMC 0612, Appendix E, Example 4.a, in that an evaluation required by procedures was not performed and resulted in a failure in the system. The inspectors evaluated the risk of this finding using IMC 0609, "Significance Determination Process," Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings." The inspectors determined that the finding was of very low safety significance (green) because it did not result in an actual loss of function of the MSIV or the reactor protection system. The inspectors determined that this performance deficiency did not involve a cross cutting aspect as it occurred 4 years earlier and is not indicative of current licensee performance. (Section 1R12)

Inspection Report# : [2011003](#) (pdf)

Significance:  Apr 01, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Control Cables for the Reactor Coolant Inventory Makeup Source Not Protected From Fire Damage

The team identified an NCV of 10 CFR 50, Appendix R, III.G.2, in that Exelon failed to maintain the credited reactor coolant inventory makeup system free of fire damage in the event of a fire in the 'B' 480 volt (V) switchgear room. Specifically, Exelon failed to assure that the 'A' control rod drive (CRD) pump would remain available during 'B'480V switchgear room fire scenarios. Cables associated with the 'A'CRD pump low pressure suction trip are located in the 'B' 480V switchgear room and are not protected by one of the methods specified in 10 CFR 50, Appendix R, Section III.G.2. Fire damage to these cables could result in the trip of the credited 'A' pump and render it inoperable from the control room. Exelon entered this issue into its corrective action program for long term resolution as Issue Report (IR) 01187591 and promptly established compensatory measures (an hourly fire watch) in the 'B' 480V switchgear room. Exelon also promptly performed an extent of condition review to ensure the 'B' CRD pump was not similarly affected for fire areas that credited its remote operation from the main control room.

This finding is more than minor because it is associated with the external factors attribute (fire) of the Mitigating Systems Cornerstone and adversely affects 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). Specifically, the availability of the credited 'A' CRD pump was not ensured for a 'B'480V switchgear room fire scenario. A Senior Reactor Analyst performed a Phase 3 Fire Protection Significance Determination Process analysis and determined that this finding was of very low safety significance (Green). The Phase 3 SDP conservatively assumed the 'A' CRD pump failed for eight separate fire scenarios initiated by electrical ignition sources or transient combustibles. The results of the SDP were largely dominated by the availability of the feedwater and condensate system for reactor coolant inventory control because its circuits were not routed through the 'B' 480V switchgear room. This finding did not have a cross-cutting aspect because the performance deficiency occurred during development of the safe shutdown analysis in the 1980's and is not reflective of current licensee performance.

Inspection Report# : [2011007](#) (pdf)

Barrier Integrity

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Reactivity management procedures not maintained in accordance with industry standards

The inspectors identified a Green NCV of TS 6.8.1a for not maintaining operating procedures in accordance with NRC and industry standards which required prudent, conservative lowering of reactor power prior to performing evolutions which had the potential to affect reactivity. The inspectors determined this procedural inadequacy was a performance deficiency that was within Exelon's ability to foresee and correct. Exelon has documented no immediate corrective actions but has entered this issue into the corrective action program for resolution as IR 1355895.

There were no similar examples in Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," but the inspectors determined this finding was more than minor because it affected the configuration control aspect of the Barrier Integrity cornerstone. Specifically, reactivity control and reactor manipulations are used to preserve the integrity of the fuel cladding in order to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The inspectors used IMC 0609.04, Attachment 1, "Phase 1 - Initial Screening and Characterization of Findings" and determined the finding to be of very low safety significance (Green) because it did not affect the RCS barrier or the fuel barrier.

This finding has a cross-cutting aspect in the area of Human Performance, Decision Making, where the licensee uses conservative assumptions in decision making and adopts a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. [H.1.(b)] (Section 40A2)

Inspection Report# : [2012002](#) (*pdf*)

Significance: N/A Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to ensure licensed operators met license conditions for medical examinations

Severity Level IV. The inspector identified a Severity Level IV non-cited violation of 10 CFR 55.21, "Medical Examination," for two licensed reactor operators failing to have a medical examination by a physician every two years. This violation was identified by an NRC inspector May 25, 2011 and Exelon entered it into their corrective action program and performed the medical examinations on the two reactor operators.

The inspectors determined that the failure to perform the biennial medical examinations for two licensed reactor operators in accordance with 10 CFR 55.21 was a performance deficiency that was reasonably within Exelon's ability to foresee and correct. Because the issue impacted the regulatory process, in that the medical conditions of two licensed operators were not reviewed and reported to the NRC, thereby delaying the NRC's opportunity to review the matter, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using example 6.4.d.1 from the NRC Enforcement Policy, the inspector determined that the violation was a SL IV (more than minor concern that resulted in no or relatively inappreciable potential safety or security consequence) violation, because Exelon personnel did not perform the medical examinations required by 10 CFR 55.21.

The finding was of very low safety significance because during the time period when the physicals were required to be performed, neither operator had stood watch, and when the physicals were administered on June 2, 2011, all requirements were met. No changes to the conditions on either operator's license were necessary following their physicals. In accordance with Inspection Manual chapter (IMC) 0612, Appendix B, traditional enforcement issues are not assigned cross-cutting aspects. (Section 40A2).

Inspection Report# : [2012002](#) (*pdf*)

Significance:  Apr 01, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

B.5.b. Phase 2 and 3 Mitigating Strategy

This finding, affecting the Barrier Integrity Cornerstone, is related to mitigative measures developed to cope with losses of large areas of the plant; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has a cross-cutting aspect in the area of H.2.(C). See inspection report for more details.

Inspection Report# : [2011009](#) (*pdf*)

Emergency Preparedness

Significance:  Aug 15, 2011

Identified By: NRC

Item Type: FIN Finding

Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval

In response to the NCV and finding, Exelon entered the issue into their corrective action program as IR 01184333 and subsequently implemented Revision 3 of the Oyster Creek Emergency Plan, which restored the EAL HU6 Basis to the Revision 10 (of the pre-Exelon Revision 0 Emergency Plan) guidance, thereby removing the decrease in effectiveness. The inspectors reviewed IR 01184333 and the revised version of the HU6 Basis, and discussed the corrective actions with the Oyster Creek Emergency Preparedness staff.

Inspection Report# : [2011005](#) (*pdf*)

Inspection Report# : [2011503](#) (*pdf*)

Significance:  Aug 15, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Traditional Enforcement Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval

The inspector identified a finding of very low safety significance involving a Severity Level IV NCV of 10 CFR 50.54(q) for failing to obtain prior approval for an emergency plan change which decreased the effectiveness of the plan. Specifically, the licensee modified the Emergency Action Level (EAL) Basis in EAL HU6, which indefinitely extended the start of the 1S-minute emergency classification clock beyond a credible notification that a fire is occurring or indication of a valid fire detection system alarm. This change decreased the effectiveness of the emergency plan by reducing the capability to perform a risk significant planning function in a timely manner.

The violation affected the NRC's ability to perform its regulatory function because it involved implementing a change that decreased the effectiveness of the emergency plan without NRC approval. Therefore, this issue was evaluated using Traditional Enforcement. The NRC determined that a Severity Level IV violation was appropriate due to the reduction of the capability to perform a risk significant planning standard function in a timely manner. The licensee entered this issue into its corrective action program and revised the EAL basis to restore compliance.

The finding was more than minor using IMC 0612, because it is associated with the emergency preparedness cornerstone attribute of procedure quality for EAL and emergency plan changes, and it adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Therefore, the

performance deficiency was a finding. Using IMC 0609, Appendix B, the inspector determined that the finding had a very low safety significance because the finding is a failure to comply with 10 CFR 50.54(q) involving the risk significant planning standard 50.47(bX4), which, in this case, met the example of a Green finding because it involved one Unusual Event classification (EAL HUU).

Due to the age of this issue, it was not determined to be reflective of current licensee performance and therefore a cross-cutting aspect was not assigned to this finding.

Inspection Report# : [2011005](#) (*pdf*)

Inspection Report# : [2011503](#) (*pdf*)

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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