Oyster Creek
1Q/2009 Plant Inspection Findings

Initiating Events

Significance: G Nov 07, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Conduct of Maintenance Procedure Not Properly Implemented
A self-revealing non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," occurred when Exelon did not perform an adequate self-check and did not properly use test equipment during 480 VAC breaker maintenance on November 7. Specifically, during the maintenance, a human performance error occurred causing a phase to phase fault and an arc flash, and resulted in the loss of safety related equipment and an automatic halon system actuation in the 480 VAC room. In response, Exelon entered this issue into the corrective action program and implemented actions to address work practice deficiencies.

The finding is more than minor because it is associated with the human performance attribute of the initiating events cornerstone and affected the 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. Using Appendix G, "Shutdown Operations Significance Determination Process," of Manual Chapter 0609, "Significance Determination Process," the finding was determined to have very low safety significance (Green) because it did not increase the likelihood of a loss of reactor coolant system (RCS) inventory, did not affect the licensee's ability to terminate a leak path or add inventory to the RCS, or degrade the licensee's ability to recover decay heat removal in the event it was lost. The performance deficiency had a cross-cutting aspect in the area of human performance because Exelon did not properly implement human error prevention techniques, such as self and peer checking [H.4(a)]. (Section 1R12)

Inspection Report# : 2008005 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Improper Valve Reassembly Results in Instrument Air Transient
A self-revealing finding was identified when AmerGen improperly reassembled the inlet valve actuator on the 'C & D' instrument air dryers which damaged its o-ring and subsequently resulted in an instrument air transient on March 24, 2008. This finding was determined not to be a violation of NRC requirements. AmerGen's corrective actions included repairing the air dryer inlet valve by replacing the failed o-ring and providing training on o-ring installation to maintenance personnel.

The finding was more than minor because it was associated with the equipment performance attribute of the initiating events cornerstone and affected the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. In accordance with inspection manual chapter (IMC) 0609.04, "Phase 1 – Initial Screen and Characterization of Findings," the inspectors conducted a Phase 1 SDP screening and determined that a detailed Phase 2 evaluation was required to assess the safety significance because the finding contributed to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. The finding was determined to be of very low safety significance based upon the Phase 2 evaluation. The performance deficiency had a cross-cutting aspect in the area of human performance because training was not adequate to ensure proper reassembly of the valve actuator by maintenance personnel [H.2(b)]. (Section 1R12)

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Instrument Air Transient Due to Insufficient Preventive Maintenance on Service Air Compressors
A self revealing finding occurred when the suction air filters to the '1-1' and '1-2' service air compressors became clogged with debris which affected the availability and reliability of the compressors on April 25, 2008. In 2001, AmerGen implemented a modification which involved replacing the service air compressors. During the modification process, AmerGen removed preventive maintenance tasks for the suction air filters without adequate technical justification. AmerGen's corrective actions included replacing the inlet air filters, taking action to create a PM to inspect/replace the air filters and reviewing the extent of condition with respect to similar plant modifications. This finding was of very low safety significance and determined not to be a violation of NRC requirements.

The finding was more than minor because it was associated with the equipment performance attribute of the initiating events cornerstone and affected the 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 finding was assessed in accordance with IMC 0609.04, "Phase 1 – Initial Screen and Characterization of Findings." The inspectors performed a Phase 1 screening and determined that a Phase 2 evaluation was required to assess safety significance because the finding contributed to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. A Region 1 senior reactor analyst (SRA) determined that a Phase 2 evaluation was not suited to assess this event. A Phase 3 analysis was performed by the SRA and the finding was determined to be of very low safety significance. The inspectors did not identify a cross cutting aspect for this finding because the performance deficiency had occurred several years ago and is not indicative of current performance. (Section 1R12)

Inspection Report# : 2008003 *(pdf)*

Mitigating Systems

Significance: G Sep 29, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Scaffold Installation Procedure Not Properly Implemented
Green. The inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because AmerGen did not properly implement scaffolding control procedural requirements on August 11, 2008. Specifically, AmerGen did not perform engineering evaluations for scaffolding constructed within the minimum allowed distance of safety-related equipment to determine its acceptability. AmerGen's corrective actions included: modifying or removing scaffold, conducting a briefing on this issue to all scaffold builders and supervisors, and scheduling a second brief for scaffold builders who arrive at Oyster Creek prior to the upcoming refueling outage.

This finding was more than minor because it was associated with the external factors attribute of the mitigating systems cornerstone and affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding was also similar to example 4.a in NRC Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports, " Appendix E, "Examples of Minor Issues," because AmerGen routinely did not perform evaluations for scaffolds constructed within the minimum allowed distance of safety related equipment. In accordance with IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because it was not a design or qualification deficiency which resulted in a loss of operability or functionality, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The performance deficiency had a cross-cutting aspect in the area of human performance because AmerGen did not follow procedures and obtain engineering

evaluations for scaffold that did not meet the requirements contained in procedures for scaffold installation in the plant [H.4(b)]. (Section 1R15)

Inspection Report# : 2008004 *(pdf)*

Significance: G Jun 30, 2008
Identified By: NRC
Item Type: FIN Finding
Potential Preconditioning of Core Spray Valves Prior to ASME In-service Test
The inspectors identified that AmerGen had scheduled surveillance tests in a sequence that would have resulted in unacceptable preconditioning of valves within the core spray system on May 19, 2008. This finding was determined not to be a violation of NRC requirements. AmerGen's corrective actions involved reordering the scheduling sequence of the tests and reviewing upcoming (next 60 days) work control schedules to identify potential preconditioning.

The finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the objective to ensure the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, preconditioning of valves could mask their actual as-found condition and result in an inability to verify their operability, as well as make it difficult to determine whether the valves would perform their intended safety function during an event. In accordance with IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance because it was not a design or qualification deficiency which resulted in a loss of operability or functionality, did not represent a loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its technical specification allowed outage time, did not represent an actual loss of safety function of one or more non-technical specification trains of equipment designated as risk-significant for greater than 24 hours, and was not potentially risk significant due to a seismic, flooding or severe weather initiating event. The performance deficiency had a cross-cutting aspect in the area of human performance because AmerGen did not appropriately coordinate work activities to support long term equipment reliability [H.3(b)]. (Section 1R22)

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Diesel Driven Fire Pump Unavailable Due to Improper Testing
A self revealing finding occurred when AmerGen did not properly implement a functional test procedure for the '1-1' diesel driven fire pump on November 7, 2007. Specifically, operations personnel did not accurately measure the speed of the pump while performing the functional test which resulted in the pump being declared inoperable and unavailable for greater than three weeks during troubleshooting by AmerGen personnel. This finding was of very low safety significance and determined to be a non-cited violation (NCV) of technical specification 6.8, "Procedures and Programs." AmerGen's corrective actions included providing additional training to operators to accurately monitor speed of the diesel with a stroboscope and revising the procedure to include vendor guidance for measuring diesel speed.

The finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the inspectors conducted a Phase I SDP screening and determined that the finding was of very low safety significance (Green). The finding was of low safety significance because there was no loss of safety function due to the availability of the redundant diesel driven fire pump. The inspectors also reviewed this issue in accordance with IMC 0609, Appendix F, "Fire Protection Significance Determination Process," to confirm the above results. The finding was determined to be of very low safety significance (green) because it was assigned a low degradation rating due to availability of other fire protection pumps. The performance deficiency had a cross-cutting aspect in the area of human performance because training was not adequate to ensure the proper use of the stroboscope by operations personnel during testing [H.2 (b)]. (Section 4OA2)

Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 27, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Review the Impact of Site Staffing Changes to the Fire Protection Program
The team identified that in July 2002, AmerGen failed to review a change to personnel resources that would increase the time necessary to complete an NRC approved hot shutdown repair after a fire in the A 480V switchgear room. Specifically, AmerGen eliminated the need for onsite electrical or instrument and controls technician staffing at all times. This finding was determined to be of very low safety significance (Green) and a NCV of Oyster Creek Nuclear Generating Station Facility Operating License condition 2.C.(3) Fire Protection. AmerGen's immediate corrective actions for this issue included assessing current call-in processes to verify the hot shutdown repair would be completed by qualified personnel within the safe shutdown analysis time requirement.

The team determined that this finding was more than minor because it was associated with the external factors attribute (fire) of the mitigating systems 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, AmerGen did not analyze the reduction in personnel readiness for an adverse impact on implementing a hot shutdown repair to Bus USS 1B2 within the safe shutdown analysis time requirement. This finding was also similar to more than minor example 3.i in NRC Inspection Manual Chapter (IMC) 0612, Power Reactor Inspection Reports, Appendix E, Examples of Minor Issues. The team assessed this finding in accordance with NRC IMC 0609, Appendix F, Fire Protection Significance Determination Process. This finding screened to very low safety significance (Green) in phase 1 of the SDP because it was assigned a low degradation rating. A low degradation rating was assigned because actual emergency response organization call-in and drive-in data demonstrated that the hot shutdown repair would most likely be completed within the safe shutdown analysis time requirement. (Section 1R05.01)

Inspection Report# : 2008008 *(pdf)*

Barrier Integrity

Significance: G Nov 06, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Core Alterations Performed Without the Required Configuration of Source Range Nuclear Monitors
The inspectors identified an NCV of Technical Specification 3.9.D "Refueling", when Exelon performed core alterations without the required configuration of operable source range monitors (SRM). Specifically, Exelon installed two fuel assemblies in a reactor quadrant when the required configuration of SRMs was not operable. In response, Exelon entered this issue into the corrective action program and implemented actions to revise the reactor refueling procedure.

The finding is more than minor because it is associated with the configuration control attribute of the barrier integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, during a time of decreased availability of physical barriers (refueling outage), Exelon performed core alterations without the required configuration of operable SRMs. Using Appendix G, "Shutdown Operations Significance Determination Process," of Manual Chapter 0609, "Significance Determination Process," the finding was determined to have very low safety significance (Green) because it did not increase the likelihood of a loss of reactor coolant system (RCS) inventory, did not affect the licensee's ability to terminate a leak path or add inventory to the RCS, or degrade the licensee's ability to recover decay heat removal in the event it was lost. The performance deficiency had a cross-cutting aspect in the area of human performance, because Exelon did not ensure that the reactor refueling procedures accurately implemented the neutron monitoring requirements contained in the Technical Specifications [H.2(c)]. (Section 1R20)

Inspection Report# : 2008005 *(pdf)*

Emergency Preparedness

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure of the Oyster Creek RAGEMS to Meet the Requirements of the Emergency Plan
The inspectors identified a non-cited violation (NCV) of 10CFR50.54(q), “Conditions of Licenses,” because Exelon did not properly maintain the conditions of the Oyster Creek Emergency Plan. Specifically, Exelon did not implement timely corrective or compensatory actions when the radioactive gas effluent monitoring system (RAGEMS) automatic sampling system was taken out of service from November 2006 through March 2009. Exelon’s corrective actions included replacing solenoid valves in the automatic sampling system and placing the automatic system back in service.

The finding was more than minor because it affected the Emergency Response Organization Performance attribute of the Emergency Preparedness (EP) Cornerstone to ensure that the licensee is capable of implementing adequate measures to protect the public health and safety of the public in the event of a radiological emergency. In accordance with Inspection Manual Chapter (IMC) 0609, Appendix B, “Emergency Preparedness Significance Determination Process,” the inspectors determined the finding to be of very low safety significance (Green). Specifically, the inspectors utilized IMC 0609, Appendix B, Section 4.9 and Sheet 1, “Failure to Comply,” to determine that the failure to satisfy 10 CFR 50.47(b)(9) was a risk-significant planning standard (RSPS) problem; but it was not a RSPS functional failure of the Oyster Creek dose assessment process. Because a time-motion study concluded that a manual iodine and particulate sample could have been obtained under accident conditions without exceeding regulatory dose limits, the inspectors determined that the RSPS function had not been degraded and the failure of the automatic sampling system ultimately would not have affected the outcome of protecting the health and safety of the public. The performance deficiency had a cross-cutting aspect in the area of problem identification and resolution, because Exelon did not take appropriate corrective actions in a timely manner commensurate with its safety significance and complexity. Specifically, the RAGEMS sampling system was not able to satisfy the functions required by the Oyster Creek Emergency Plan for over two years before Exelon took adequate steps to initiate corrective actions [P.1(d)]. (Section 4OA2)

Inspection Report# : 2009002 *(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

Significance: N/A Aug 08, 2008
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
The inspectors concluded that AmerGen was generally effective in identifying, evaluating and resolving problems. AmerGen personnel identified problems and entered them into the Corrective Action Program (CAP) at a low threshold. The inspectors determined that, in general, AmerGen appropriately screened issues for operability and reportability, and prioritized issues commensurate with the safety significance of the problems. Causal analyses appropriately considered extent of condition, generic issues and previous occurrences. Corrective actions for high priority issues were appropriate; however, issues that were forwarded to the work management system (PIMS) for resolution did not consistently receive the same level of rigor and attention that the CAP provided. AmerGen staff exhibited difficulty in following corrective actions through this process and were unable to clearly state how a variety of issues were addressed in PIMS.

AmerGen's audits and focused area self-assessments were generally very thorough and probing. The inspectors concluded that AmerGen adequately identified, reviewed, and applied relevant industry operating experience (OE). Based on interviews and other field observations and discussions, the inspectors concluded that site personnel were willing to raise safety issues and to document them in the CAP.

Inspection Report# : 2008009 *(pdf)*

Last modified : May 28, 2009