Peach Bottom 3
2Q/2011 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 11, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Demonstrate the Capability of the EDG Fuel Oil Transfer Pumps to Fulfill Their Safety Functions Under all Conditions
The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion lll, "Design Control," in that, Exelon did not ensure the ability to transfer fuel oil between underground fuel oil storage tanks. Specifically, Exelon had not performed adequate analyses or testing to demonstrate adequate net positive suction head available (NPSHn) for the EDG fuel oil transfer pumps. In response, Exelon entered this issue into their corrective action program and performed an evaluation to assure the fuel oil transfer pump NPSHA was adequate.

The finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team performed a Phase 1 SDP screening, in accordance with NRC IMC 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in loss of operability or functionality. This finding does not have a crosscutting aspect because the most significant contributor of the performance deficiency is not reflective of current licensee performance. (1R21 .2.1.1)
Inspection Report# : 2011007 *(pdf)*

Significance: G Mar 11, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Temporary Battery Cart Seismic Configuration Deficiency
The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion lll, "Design Control," in that Exelon did not verify the adequacy of the seismic design for temporary battery cells that had been placed in-service in safety-related station batteries that were required to be operable. Specifically, Exelon did not evaluate whether mechanical stress could be transferred from one temporary battery cell to another via rigid bus bars attached to the cell terminal posts and, as a consequence, did not verify that damage to a cell post or cell case would not result during a seismic event. During the inspection period, the temporary battery cells were not in-service and were not required to be operable. In response, Exelon entered this issue into the corrective action program and performed a preliminary calculation to verify seismic adequacy.

This finding was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team performed a Phase 1 SDP screening, in accordance with NRC IMC 0609, Attachment 4, "Phase 1 - lnitial Screening and Characterization of Findings," and determined the finding was of very low safety significance (Green) because it was a design or qualification deficiency confirmed not to result in loss of operability or functionality.

This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because Exelon did not thoroughly evaluate the problem such that the resolution addressed the cause. Specifically, a 2009 issue report identified that the battery cells on the cart did not have seismic spacers between the cells and did not have steel tie-rods installed for a cell clamp assembly, similar to the station battery. The issue report incorrectly determined that plastic tubes in between the two cells would provide an adequate seismic restraint. IMC 0310, Aspect P.1(c)] (1R21.2.1.2)
Inspection Report# : 2011007 *(pdf)*

Significance: G Sep 30, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure Adequate Voltage was Available to Safety-Related Equipment
The inspectors identified a finding of very low safety significance involving a NCV of 10 CFR 50, Appendix B, Criterion III, “Design Control,” in that Exelon did not assure that applicable regulatory requirements and the design basis were correctly translated into specifications, drawings, procedures, and instructions. Specifically, Exelon did not use the safety-related Function 4 degraded grid relay trip setpoint specified in the Technical Specifications (TS) as a design input in calculations to ensure adequate voltage was available to all safety-related components required to respond to a design basis loss-of-coolant accident (LOCA). Instead, Exelon used the results from calculation PE 0121, “Voltage Regulation Study,” to establish the voltage level for system operability. The study credited the use of non-safety related equipment to raise the voltage level. This allowed higher voltages to be used in the design calculations for components than would be allowed by the TS setpoint. The team verified the licensing basis via Task Interface Agreement (TIA) 2009 07 and informed Exelon that the degraded grid relay setpoint must be used for design basis calculations. Exelon entered the issue into the CAP (IR 1119440), performed operability assessments, and established some compensatory measures to restore PBAPS to an operable but non-conforming condition.

The finding is more than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was also similar to example 3j in IMC 0612, Appendix E, in that there was reasonable doubt as to the operability of safety-related components and Exelon was required to perform operability determinations to address potentially inadequate voltage to several safety-related components. The inspectors, including the Region I Senior Reactor Analysts (SRAs), performed a Phase 1 SDP screening, in accordance with NRC IMC 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance (Green) because it was a design deficiency that impacted operability but not functionality, did not represent a loss of system safety.

This items was discussed in Inspection Report 2010-005 (Section 4OA3.3)

Inspection Report# : 2010004 *(pdf)*

Significance: G Jun 08, 2000
Identified By: NRC
Item Type: AV Apparent Violation
Assoc Circuit - Reliance on signal spurious assumption of one per system per fire.
PECO's specification for performing circuit analyses of post-fire safe shutdown equipment stipulates that only one spurious actuation for each system affected by any one fire be analyzed. For the areas inspected, the team determined that PECO adequately protected against fire-induced spurious actuations. The team did not identify any additional spurious actuations which would have prevented achieving safe shutdown conditions in the post-fire operating environment.

The assumption that only a single spurious actuation need be considered for any one system for any one fire is an apparent violation of the requirements of Section III.G. and III.L. of Appendix R to 10 CFR 50. PECO entered this issue into their corrective action program and have implemented reasonable compensatory measures. However, the issue of multiple spurious actuations of equipment in a post-fire environment is in contention between the NRC and the nuclear industry. As such, any further enforcement action will be deferred pending final resolution of this issue by

the Nuclear Energy Institute and the NRC staff, in accordance with Enforcement Guidance Memorandum 98-02, Revision 2, issued February 2, 2000.
Inspection Report# : 2000003 *(pdf)*
Inspection Report# : 2007002 *(pdf)*

Significance: N/A Jun 08, 2000
Identified By: NRC
Item Type: AV Apparent Violation
Assoc Circuit - Mechanical Damage from Fire Induced Cable Faults not evaluated.
PECO adopted a licensing position that mechanical damage to alternative shutdown equipment resulting from fire-induced cable faults, as described in Information Notice 92-18, was outside the scope of the licensing and design bases of the facility. As a result, PECO did not evaluate the control circuits of the alternative shutdown equipment to determine if it was susceptible to this problem. Since a detailed review of the alternative shutdown capability at PBAPS was not performed as part of the scope of this inspection, the risk associated with this issue was not established.

This issue is being treated as an apparent violation of Condition 2.C.4 of the operating licenses for both Unit 2 and Unit 3, which requires PECO to implement and maintain the fire protection program described in the NRC Safety Evaluation Reports. PECO has entered this issue into their corrective action program and has implemented reasonable compensatory measures pending final resolution of the issue. However, the issue of mechanical damage to safe shutdown equipment due to fire-induced cable faults is in contention between the NRC and the nuclear industry. As such, any further enforcement action will be deferred pending final resolution of this issue by the Nuclear Energy Institute and the NRC staff, in accordance with Enforcement Guidance Memorandum 98-02, Revision 2, issued February 2, 2000.
Inspection Report# : 2000003 *(pdf)*
Inspection Report# : 2007002 *(pdf)*

Barrier Integrity

Significance: G Mar 31, 2011
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Fuel Handling Procedures Were Inadequate to Prevent Fuel fro mContacting an Obstruction
A Green self-revealing NCV of Technical Specification (TS) 5.4.1 “Procedures” was identified, because PBAPS’s procedures for refueling equipment operation and core alterations were inadequate to prevent a fuel bundle from contacting a core spray inspection (CSI) submarine device while the fuel bundle was being transported from the core to the spent fuel pool (SPF). In particular, system operating (SO) procedure
18.1.A-2, “Operation of Refueling Platform,” and fuel handling (FH) procedure 6C, “Core Component – Core Transfers,” did not provide sufficient procedure steps, precautions, or human performance tools to prevent contact while the refueling platform was operated in the automatic mode and when core components were in close proximity to obstructions and interferences.

The inspectors determined that the finding was more than minor because the finding was associated with the Procedure Quality attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone’s objective to provide reasonable assurance that physical design barriers (i.e., fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although no fuel damage occurred during this event, the inadequate procedure resulted in a FH event that could have impacted the cladding and affected the cornerstone’s objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. IMC 0609, “SDP,” Attachment 0609.04, “Phase 1-Initial Screening and Characterization of Findings,” was used to evaluate the significance of the finding. Attachment 0609.04, Table 4a, was used to evaluate the impact of the finding on fuel clad integrity. Appendix G was considered for the evaluation, but was not used because it does not directly address fuel clad integrity. Based on the results of fuel sipping done in February 2011, PBAPS concluded that there was no damage to the clad integrity of the impacted fuel bundle that was permanently discharged to the SFP. Since the finding did not affect SFP cooling or inventory and since there was no damage to fuel clad integrity from the

impact with the CSI submarine, the finding was determined to be of very low safety significance (Green).

The finding has a cross-cutting aspect in Human Error Prevention Techniques in the Work Practices component of the Human Performance area. Specifically, PBAPS FH procedures did not require human error prevention techniques that were commensurate with the risk of moving fuel in close proximity to obstructions and interferences. (Section 4OA5.1) [H.4(a)]

Inspection Report# : 2011002 *(pdf)*

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Main Steam Isolation Valve Test Control
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion Xl, "Test Control." The inspectors determined that PBAPS's test control of ST-O-07G-470-3, "Main Steam lsolation Valve (MSIV) Closure Timing," Revision 15, was inadequate to demonstrate satisfactory performance of MSIVs during power operations. PBAPS entered this issue into the CAP via lRs 1140706 and 1141888. This finding was more than minor because it is similar to examples 3.j and 3.k of IMC 0612, Appendix E. Specifically, in the absence of further engineering evaluation, there was reasonable doubt of MSIV operability at power operations, based upon cold stroke time testing results. This finding impacted the Barrier Integrity cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers, such as containment, protect the public from radionuclide releases caused by accidents or plant events. Using IMC 0609, 'SDP," Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, the inspectors determined that this violation screened to Green (very low safety significance) because the finding did not reprdsent an actual open pathway in the physical integrity of reactor containment. The inspectors concluded that this finding had a cross-cutting aspect in the area of Problem ldentification and Resolution (Pl&R), CAP component. Specifically, the licensee did not thoroughly evaluate the test control problems such that the resolution ensured MSIV operability and addressed the cause and e
Inspection Report# : 2010005 *(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

Significance: SL-IV Nov 10, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inaccurate Personnel History Questionnaire
a former contract outage employee at Peach Bottom deliberately failed to disclose on a Personal History Questionnaire (PHQ), a previous, non-nuclear employment from which he had been terminated for a positive FFD test, in order to gain unescorted access (UA) to Peach Bottom. As a result of the investigation, the NRC determined that, on September 8, 2008, the contract employee did fail to disclose his prior employment with the non-nuclear company on the PHQ, and also failed to provide information about the positive FFD test. However, after considering the information developed during the investigation, the NRC concluded that it did not have sufficient evidence to conclude that the individual's failures were deliberate. Nonetheless, as a result of these failures by the contract employee, Exelon granted the individual UA to Peach Bottom from September 11, 2008, until September 28, 2008. Exelon learned of the individual's positive FFD in August 2009, when the contract employee attempted to gain UA to Progress Energy's Crystal River Nuclear Generating Plant 3 (Crystal River)

Although the contract employee did not enter any Vital Areas at Peach Bottom and also did not perform work on any safety-related equipment during the time he was granted access, the contract employee's actions caused Exelon to be in violation of NRC requirements, specifically: 1) 10 CFR 50.9, which states in part that information required by the Commission's regulations, orders, or license conditions to be maintained by the licensee shall be complete and accurate in all material respects; and, 2) 10 CFR 73.56(c) and Section 9.1 of the Peach Bottom Physical Security Plan, both of which state, in part, that the licensee's access authorization program must provide high assurance that the individuals who are granted unescorted access are trustworthy and reliable. Although Exelon was unaware of the contract employee's omission of information regarding the positive FFD test, Exelon is responsible for the adequacy of its Physical Security Plan and background checks to identify past actions and appropriately evaluate the trustworthiness and reliability of applicants for UA. (This item was also discussed in Inspection Report 2010-004.)

Inspection Report# : 2010009 *(pdf)*

Last modified : October 14, 2011