Peach Bottom 2
2Q/2010 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Apr 02, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Corrective Action to Address Multiple Slow Control Rods with Adverse Scram Pilot Solenoid Valve Diaphragms
A self-revealing, Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," occurred when PBAPS failed to identify and correct a condition adverse to the quality. Specifically, an issue related to control rod drive scram solenoid pilot valve (SSPV) diaphragms, as described in vendor documents and NRC generic communication, was not corrected after several slow control rods were identified during scram time testing between 2004 and 2010. Consequently, 21 slow rods were identified during Unit 2 scram time testing that was conducted from January 30 to January 31, 2010. PBAPS immediately performed maintenance to replace the defective SSPV Diagrams on all 21 Unit 2 slow control rods by February 1, 2010, and successfully performed post-maintenance scram time testing. Additionally, the issues were entered into the PBAPS CAP.

This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems (MS) 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. Using the phase 1 worksheet in Attachment 4 of IMC 0609, "Significance Determination Process," the inspectors determined that the finding affected the MS cornerstone and was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of safety system function, and was not associated with any external events. The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification & resolution (PI&R), CAP, because PBAPS did not thoroughly evaluate previously identified conditions adverse to the quality of the SSPV diaphragms, such that the resolution addressed the cause and extent-of-condition (EOC). (Section 1R12) [P.1(c)]

Inspection Report# : 2010002 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: FIN Finding
Failure to Follow Procedures and Implement the Exelon Nuclear Cable Condition Monitoring Program For Non Safety Related Control And Power Cables Within The Scope Of The Maintenance Rule.
The inspectors identified a finding for the failure to follow the Exelon fleet procedure for cable monitoring (ER-AA-3003) of non-safety-related cables within the scope of the 10 CFR 50.65 (the Maintenance Rule). Specifically, PBAPS had reported to the NRC that they were implementing this procedure for cables within the scope of GL 2007-01; however, actions were not specified to identify or remediate the cause of repetitive flooding and restore the function of the degraded electrical manhole/vault drain systems. PBAPS initiated IR 1016075 to enter the issues associated with this finding into the CAP.

This finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone and the associated cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. This finding was evaluated in accordance with IMC 0609.04, Phase 1 –

“Initial Screening and Characterization of Findings” and was determined to be of very low safety significance because it did not represent an actual loss of safety function or contribute to external event core damage sequences. This finding had a cross-cutting aspect in the area of PI&R, Operating Experience, because Exelon did not adequately implement and institutionalize industry operating experience through changes to station processes and procedures [P.2 (b)]. Specifically, work order instructions were inadequately scoped in that they were limited to manholes with safety-related cables and did not include all manholes with Maintenance Rule power cables contrary to the scope identified in ER-AA-3003 or GL 2007 01.

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Continuously Submerged Cables Design Deficiency
The inspectors identified an NCV of 10 CFR, Part 50, Appendix B, Criterion III, “Design Control,” because PBAPS has not maintained safety-related power cables (including low voltage cables) in an environment for which they were designed and tested. Specifically, PBAPS did not adequately select and review for suitability of application of materials a 480 volt ac power cable feeding a safety-related motor control center (E424 O A) that has been in a submerged environment in manhole 35 for an extended period of time and at least since 2002. Additionally, PBAPS personnel did not take actions to properly evaluate and mitigate the effects of long term submergence of these safety-related electrical power cables.

This finding is more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone and the associated cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. This finding was evaluated in accordance with IMC 0609.04, Phase 1 – “Initial Screening and Characterization of Findings” and was determined to be of very low safety significance because it did not represent an actual loss of safety function nor contribute to external event core damage sequences. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because Exelon did not thoroughly evaluate problems such that the resolutions addressed causes including evaluating for operability conditions adverse to quality. Specifically, station personnel did not adequately evaluate the impacts on operability and service life of operating the cables submerged in water for an extended period of time [P.1(c)].

Inspection Report# : 2009005 *(pdf)*

Significance: G Aug 07, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Adequate CAs for Grease Applied to DC Contactors
The inspectors identified a non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion XVI, “Corrective Action,” for failure to identify and correct a condition adverse to quality. Specifically, in March 2009, Exelon did not take adequate corrective action to address a procedure deficiency and to ensure that grease inappropriately applied to Cutler Hammer direct current (DC) contactor pivot pins, in an unknown number of DC breakers in the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems at Unit 2 and 3, would be identified and removed in a timely manner. Because the grease could harden over time and cause inadequate DC breaker performance, the inspectors determined that this condition, if left uncorrected, could prevent certain Units 2 and 3 HPCI and RCIC system valves from performing their safety-related function. Exelon entered this issue into their corrective action program as issue report (IR) 950438 and IR 950439
.
The finding affected the Mitigating Systems cornerstone and was determined to be more than minor because the condition, if left uncorrected, could have become a more significant safety concern. By not requiring, by procedure, the removal of all grease from the affected Cutler Hammer DC contactor pivot pins, Exelon did not ensure that all of the potentially affected DC motor-operated valves in the Unit 2 and Unit 3 HPCI and RCIC systems would be available to perform their design functions if called upon. The inspectors evaluated this finding using Phase I of Manual Chapter 0609 and determined the finding to be of very low safety significance (Green) because it was not a design or qualification deficiency confirmed not to result in loss of operability or functionality, did not represent a loss

of system or train safety function, and was not potentially risk significant due to external events. This finding has a cross-cutting aspect in the area of problem identification and resolution, corrective action program, because Exelon failed to take appropriate corrective actions to address a safety issue in a timely manner, commensurate with the safety-significance and complexity [P.1(d)]. Specifically, Exelon did not take appropriate corrective actions to ensure that grease inappropriately applied to Cutler Hammer DC contactor pivot pins would be, by procedure, identified and removed in a timely manner. (Section 4OA2.1.c)

Inspection Report# : 2009008 *(pdf)*

Significance:  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 Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Verification Practices while Handling Fuel and Fuel Components
A Green self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified when PBAPS inadequately implemented human performance tools and verification practices for fuel handling and fuel component handling activities, resulting in a dropped fuel channel in the spent fuel pool (SFP) and a mispositioned fuel bundle in the reactor core during the P3R17 refueling outage (RFO). The inspectors verified that corrective actions were promptly performed, including an operability evaluation and video inspection of the SFP racks, and reactor engineering evaluation for the mis-positioned fuel bundle. Additionally, the issues were entered into the PBAPS CAP.

This finding was more than minor because it was associated with the human performance attribute of the Barrier Integrity cornerstone, and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide release cause by accidents or transients. This finding was determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix M, “SDP Using Qualitative Criteria,” because evaluations performed by PBAPS, and verified by the inspectors, determined that there was no actual degradation to the physical barrier integrity. This finding had a cross-cutting aspect in the area of Human Performance, Work Practices, because PBAPS management and personnel did not effectively communicate human error prevention techniques commensurate with the risk of the assigned tasks, such that the work activities were performed safely [H.4(a)]. Specifically, PBAPS management and personnel did not adequately reinforce the importance of using human performance tools and verification practices, including self-check (STAR), concurrent verification, and independent verification, prior to performance of activities involving fuel component handling.

Inspection Report# : 2009005 *(pdf)*

Significance: G Sep 30, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
PBAPS Failed to Maintain the Capability to Ensure at Least 500 gpm SFP External Make-up flow Was Achievable Within Two Hours.
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 Human Performance (Resources). [H.2(d)]. See inspection report for more details.

Inspection Report# : 2009010 *(pdf)*

Significance: G Sep 30, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Procedure Adherence Results in the Loss of Safety Function of Systems Supplied by the SGIG System
A self-revealing Green NCV was identified for failure to comply with Technical Specification (TS) 5.4.1, "Procedures," which required that procedures be established, implemented, and maintained for the safety grade instrument gas (SGIG) system. Specifically, the SGIG Pressure Building Circuit Outlet Block Valve (HV 0 7C 10) was manipulated without procedure guidance, was out of its normal position, and resulted in the inoperability of certain valves associated with the primary containment and containment atmosphere dilution (CAD) systems for both units.

Based on the above, the inspectors determined that manipulating the SGIG Pressure Building Circuit Outlet Block

Valve (HV 0 7C 10) without procedure guidance was a performance deficiency that was reasonably within PBAPS's ability to foresee and prevent. The inspectors concluded that the manipulating HV 0 7C 10 without a procedure was a more than minor finding because it was associated SSC and barrier performance attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that the containment would protect the public from radionuclide releases caused by accidents or events. Specifically, certain valves associated with the primary containment and containment atmosphere dilution (CAD) systems could not be operated as designed due to this valve being out of its normal position. Traditional enforcement does not apply since there were no actual safety consequences or potential for impacting the NRC=s regulatory function, and the finding was not the result of any willful violation of NRC requirements. Accordingly, the inspectors assessed the finding in accordance with IMC 0609, SDP, Attachment 0609.04, Phase 1 – "Initial Screening and Characterization of Findings," Table 4a, for the Containment Barrier cornerstone. The finding was determined to be of very low safety significance (Green) since the finding did not represent an actual open pathway in the physical integrity of the reactor containment (isolation valves).

The inspectors determined that this finding had a cross cutting aspect in the area of Human Performance, Work Practices component, because human error prevention techniques, such as peer and self checking, were inadequately used to prevent mispositioning the SGIG Pressure Building Circuit Outlet Block Valve (HV 0 7C 10). (Section 4OA3.3) (IMC 0305 Aspect H.4(a))
Inspection Report# : 2009004 *(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: N/A Aug 07, 2009
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
The inspectors concluded that Exelon was generally effective in identifying, evaluating and resolving problems. Specifically, Exelon personnel identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with the safety significance. For most cases, Exelon appropriately screened issues for operability and reportability and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. Corrective actions taken to address the problems identified in Exelon's corrective action process were typically implemented in a timely manner. However, for one issue reviewed by the inspectors, inadequate implementation of corrective actions resulted in one NRC-identified finding.

The inspectors also concluded that, in general, Exelon adequately identified, reviewed, and applied relevant industry operating experience to Peach Bottom Atomic Power Station (PBAPS) operations. In addition, based on those items selected for review by the inspectors, Exelon's audits and self-assessments were thorough and probing.

Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employee concerns program issues, the inspectors did not identify any concerns that site personnel were not willing to raise safety issues nor did they identify conditions that could have had a negative impact on the site's safety conscious work environment.

Inspection Report# : 2009008 *(pdf)*

Significance: SL-IV Jul 09, 2009
Identified By: NRC
Item Type: VIO Violation
Operator willfully reading unauthorize material in the Main Control Room
A Primary Reactor operator (PRO) was identified by your staff to be reading the novel on a computer while on watch in the Peach Bottom MCR on July 16, 2007. Your procedure, referenced in the Notice, states that non-job-related reading materials, including novels, are not permitted in the Operations
Department areas and that the use of the computers must be limited to company-related work.
The NRC became aware of this issue during a Safety Conscious Work Environment (SCWE) inspection conducted in March 2008, as part of the follow-up to the finding of inattentive security officers (Inspection Report 2008-405, ML081490058).

Since this finding involved deliberate misconduct by a licensee employee, it was characterized using the NRC Traditional Enforcement Process. Comparing this issue to the examples in Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," this violation is similar to example 2(f) in that a licensee procedural requirement was not met. In this example, the issue is minor because it represents a failure to implement a procedural requirement that had no safety impact under the given situation. Given that the PRO was able to respond to plant conditions while reading the novel, for approximately ten minutes, and was not the primary plant reactor operator (a watchstation relied upon to detect safety significant abnormal plant conditions), there was minimal safety impact due to the PRO's actions. Although this violation would normally be minor, since the PRO's actions were determined to be deliberate by the NRC, the Severity Level (SL) of the violation has been increased to SL IV, in accordance with Section 2.10.f, of the NRC Enforcement Manual. Further, because the violation involves deliberate actions and the PRO is considered to be a licensee official as defined in the NRC Enforcement Policy, this violation is being cited.

This finding was determined to not be indicative of current plant performance; therefore, no cross-cutting aspect was identified.
Inspection Report# : 2009009 *(pdf)*

Last modified : September 02, 2010