

Peach Bottom 3 4Q/2005 Plant Inspection Findings

Initiating Events

Significance:  Mar 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Scope Outer Intake Structure Trash Racks Into The Maintenance Rule Program Based on Site Specific Operating Experience

The inspectors identified a very low safety significance (Green), NCV of 10 CFR 50.65, paragraph b(2)(iii). Specifically, Peach Bottom Atomic Power Station (PBAPS) did not scope the outer intake structure trash racks into the Maintenance Rule when past station events showed elevated levels of debris blockage on the trash racks would upset plant stability and increased the likelihood of a scram on both units due to loss of main condenser vacuum.

This finding is greater than minor because it was associated with the protection against external factors attribute of the Initiating Events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability during power operations. The finding is of very low safety significance (Green) because it did not affect both the likelihood of a plant transient and unavailability of mitigation equipment or functions. Specifically, PBAPS personnel were able to recover intake basin level during the January 2004 and January 2005 icing events prior to a scram being procedurally required.

A contributing cause to the failure is related to the identification subcategory of the Problem Identification and Resolution cross-cutting area because PBAPS did not identify the requirement to scope the intake structure trash racks into the Maintenance Rule.

Inspection Report# : [2005002\(pdf\)](#)

Mitigating Systems

Significance:  Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Post-Maintenance Testing did not Identify Restricted HPSW Flow on Residual Heat Removal Heat Exchanger

The inspectors identified a Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XI, Test Control, for not adequately testing the high pressure service water (HPSW) sub-system following a valve replacement. The post-maintenance test did not account for the known degraded condition of the 3B residual heat removal (RHR) heat exchanger HPSW outlet throttle valve. The leaking valve allowed unmeasured bypassing flow to occur while recording the sub-system flow of the 3D HPSW loop. PBAPS entered this performance deficiency into their corrective action program (CAP). Planned corrective actions include revising the surveillance test procedure and re-sizing the orifice plate that is located downstream of the 3D RHR HX.

The finding is greater than minor because it is associated with the procedure quality attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences. Improper test control on two occasions following the design change to MO-3-10-89D and the downstream orifice plates, did not identify that HPSW flow through this loop was below the design basis flow of 4500 gpm. The finding was determined to be a Green finding of very low safety significance using Phase 1 of the SDP, since the finding is a qualification deficiency confirmed not to result in a loss of function. The cause of this finding is related to the cross-cutting element of problem identification and resolution.

Inspection Report# : [2005005\(pdf\)](#)

Significance:  Mar 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Recognize the Loss of Function of the Station Blackout Transformer Tap Changer and the Impact on the SBO Power Supply to the Emergency Buses following a SBO

A self-revealing Green NCV of 10 CFR 50.63, "Loss of All Alternating Current Power," was identified for PBAPS's inadequate station blackout coping analysis for the configuration that existed from September 14 until December 1, 2004. Lack of design documentation and administrative controls resulted in inadequate configuration control of the SBO system that would have de-energized the power feed to its control power circuit following a station blackout event.

This finding is greater than minor because it was associated with the configuration control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of safe shutdown systems to respond to a station blackout event. The finding is of very low safety significance (Green) because the issue was a design deficiency of a defense in depth support system to long-term heat removal that was subsequently verified not to represent an actual loss of safety function.

A contributing cause for the inadequate configuration control was related to the organization subcategory in the Human Performance cross-cutting area, in that procedure and design documents did not support maintaining SBO system operability.

Inspection Report# : [2005002\(pdf\)](#)

G

Significance: Mar 03, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Unit 3 HPCI Inoperability Resulted from Inadequate Procurement of Commercial Grade Dedication Services for Reinstallation of Previously Installed HPCI Flow Controller.

A self-revealing (Green) non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion IV, "Procurement Document Control," was identified for PBAPS's inadequate procurement of quality services for the commercial grade dedication of the Unit 3 HPCI electronic flow controller. The installed power supply was not properly identified for replacement due to age related degradation, and failed while installed in the Unit 3 HPCI.

This finding is greater than minor because it was associated with the Mitigating Systems cornerstone attribute of Equipment Performance and affected the cornerstone objectives to ensure the availability, reliability, and capability of systems to respond to an initiating event to prevent undesirable consequences. Although the finding represented an actual loss of safety function of a single train system, a Phase 2 SDP analysis determined that this find was of very low safety significance because the Unit 3 HPCI system was unavailable for less than three days as a result of this issue. (Section 1R12)

Inspection Report# : [2005003\(pdf\)](#)

G

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\(pdf\)](#)

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\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Significance:  Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Respiratory Equipment Qualifications Current

The inspectors identified an NCV of 10 CFR 50.47(b)(10) because emergency workers required to use respiratory equipment had not maintained their qualifications. The licensee entered the deficiency of not having at least half the operations support center respirator qualified into the corrective action program.

This finding is greater than minor because it affects the readiness attribute of the Emergency Preparedness (EP) Cornerstone. Not maintaining respiratory qualifications current for emergency response organization personnel could impact the EP Cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the public health and safety during a radiological emergency. This finding was determined to be of very low safety significance because it did not constitute a failure to meet a risk significant planning standard.

Inspection Report# : [2005004\(pdf\)](#)

Occupational Radiation Safety

Significance:  Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Radiation Protection Procedures for Drywell Initial Entry in Accordance with TS 5.4.

The inspectors identified an NCV of Technical Specification 5.4 and Regulatory Guide 1.33, 1972, associated with failure to follow initial containment access radiation protection program procedures. Specifically, on September 19, 2005, personnel made an initial entry into the Unit 3 reactor drywell, after reactor shut down, and did not collect and analyze a drywell radiation monitoring system (RMS) sample for airborne particulate and iodine, prior to the entry, as required by Radiation Protection Program Procedure HP-315, Initial Drywell Entry, Rev. 12. PBAPS entered this performance deficiency into their CAP to develop corrective actions for resolution.

The finding is greater than minor, in that, it is associated with the Occupational Radiation Safety Cornerstone attribute of exposure control and affects the cornerstone objective. Specifically, PBAPS could not ensure adequate protection of worker health and safety from exposure to airborne radioactive material. The finding is suitable for SDP review, in that there was a potential for a significantly greater unplanned, unintended dose if airborne radioactivity concentrations had been significantly elevated. Using the Occupational Radiation Safety Significance Determination Process, the finding is of very low safety significance (Green), in that it did not involve an ALARA finding, did not result in an overexposure, did not result in a substantial potential for an overexposure, and did not compromise the ability to assess dose. The two individuals who made the initial entry did not sustain any significant dose.

Inspection Report# : [2005005\(pdf\)](#)

Public Radiation Safety

Significance:  Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

The Licensee Did Not Implement Certain Aspects of its Offsite Dose Calculation Manual Associated with Airborne Radioactivity Sampling and Broad Leaf Vegetation Sampling

The inspectors identified a NCV of TS 5.5.1 for inadequate implementation of provisions in the Offsite Dose Calculation Manual (ODCM). Specifically, one of three airborne radioiodine and particulate samplers, required to be in one of the three highest annual average ground level D/Q areas, in accordance with the ODCM, was not sampling correctly. Alternatively, Exelon did not conduct vegetation or milk sampling at the nearest offsite garden of highest calculated annual average ground level D/Q in accordance with the ODCM. The finding was entered into the licensee's corrective action program.

This finding is greater than minor because it affects the Public Radiation Safety Cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain. Specifically, these conditions resulted in an impaired ability to assess environmental impact. This finding was determined to be of very low safety significance because calculations of public dose commitments did not identify any significant public dose or environment impacts.

Inspection Report# : [2005004\(pdf\)](#)

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

Significance: N/A Jul 29, 2005

Identified By: NRC

Item Type: FIN Finding

Identification and Resolution of Problems

The team determined that the corrective action program at Peach Bottom was adequate. The team determined that Exelon was effective at identifying problems and entering them into the corrective action program (CAP). Once entered into the system, the items were generally screened and prioritized in a timely manner using established criteria. Items entered into the CAP were properly evaluated commensurate with their safety significance. The causal evaluations for equipment issues and events reasonably identified the causes of the problem and developed appropriate corrective actions. However, for some of the issues affecting human performance, the evaluations were not of sufficient depth to identify the base root cause; therefore, the corrective actions did not prevent further human performance errors of a similar nature. In two cases, operability determinations did not consider all the applicable information to support the final conclusion that the equipment was operable. Corrective actions were typically implemented in a timely manner, but the team found that in one case, corrective actions were not adequate to correct the problem, and did not prevent recurrence. Many of the problems the team reviewed were long standing and had been previously identified by internal and external organizations.

Inspection Report# : [2005006\(pdf\)](#)

Last modified : March 03, 2006