

## Peach Bottom 2 2Q/2006 Plant Inspection Findings

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### Initiating Events

**Significance:** N/A Dec 09, 2005

Identified By: NRC

Item Type: FIN Finding

**Supplemental Inspection for Peach Bottom Unit 2 White PI for Scrams With Loss of Normal Heat Removal.**

Overall, the inspectors concluded that Exelon adequately addressed the problem identification and problem resolution attributes of NRC inspection procedure 95001. The inspectors did not identify any common root causes for the three scrams. Minor weaknesses were noted associated with root cause characterization, and the timeliness and adequacy of documenting potentially similar problems in the corrective action program. None of these weaknesses adversely impacted Exelon's conclusions or corrective actions. Some examples of these problems were similarly identified and discussed in Exelon's focused area self assessment, which was completed several weeks prior to the NRC's supplemental inspection.

The U.S. Nuclear Regulatory Commission (NRC) performed this supplemental inspection to assess Exelon's evaluation in response to a White performance indicator (PI) in the initiating events cornerstone. Peach Bottom Unit 2 crossed the threshold from Green to White for Scrams With Loss of Normal Heat Removal in the fourth quarter of calendar year 2004. This supplemental inspection assessed Exelon's problem identification, cause evaluation and corrective actions associated with the Unit 2 Scrams With Loss of Normal Heat Removal PI. Based on the results of this inspection, no findings of significance were identified.

Therefore, consistent with the guidance in NRC Inspection Manual Chapter (IMC) 0305, Operating Reactor Assessment Program, the performance indicator associated with Loss of Normal Heat Removal will only be considered in assessing plant performance until it crosses below the threshold, returning it to a Green characterization.

Inspection Report# : [2005008\(pdf\)](#)

**G**

**Significance:** Sep 30, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Inadequate Procedure Adherence During Surveillance Testing of the Unit 2 Main Turbine Mechanical Trip Valve**

A self-revealing non-cited violation (NCV) of Technical Specification (TS) 5.4.1.a was identified because a reactor trip resulted when operators did not implement established procedure adherence standards during recovery from an aborted routine test. The licensee entered the deficiency with procedure adherence into their corrective action program for resolution. A contributing cause of the finding is related to the cross-cutting element of human performance, in that operators did not perform the appropriate portions of the restoration section, did not initiate a temporary procedure change and did not seek technical support after receiving an unexpected result.

The finding is greater than minor because it resulted in a reactor trip and is associated with the Initiating Events Cornerstone and the respective attribute of human performance. Although the finding contributed to a reactor trip, the inspectors determined that it was of very low safety significance (Green) because the likelihood that mitigation equipment or functions were not available did not increase.

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

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### Mitigating Systems

**G**

**Significance:** Apr 21, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**Non-Conservative High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) Pumps Test Acceptance Criteria**

The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, Test Control. The team determined that the licensee had failed to ensure that the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) pump hydraulic performance test procedures had acceptance criteria that incorporated the limits from applicable design documents. If the HPCI pump had degraded to the lower limit of the test acceptance criteria, it would not have been able to meet the design basis discharge pressure and flow requirements. Following the identification of the issue the licensee entered the issue into the corrective action program and verified the operability of the pumps based on actual test results. Additionally, the licensee intends to change the test procedures.

The finding was more than minor because it affected the procedure quality attribute associated with the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of the HPCI and RCIC systems, which are both mitigating systems. The team reviewed this finding

using the Phase 1 SDP worksheet and determined the finding was of very low safety significance (Green), because subsequent analyses determined that the pumps were capable of meeting the design basis discharge pressures and flows.

Inspection Report# : [2006009\(pdf\)](#)



**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\(pdf\)](#)

**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



**Significance:** Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate Annual Operating Test Administered at Limerick**

The inspectors identified a finding of very low safety significance (Green) non-cited violation (NCV) of 10 CFR 55.59(a)(2)(ii) for an inadequate annual operating test that was administered at Limerick for Peach Bottom and Limerick Senior Reactor Operators Limited to Fuel Handling (LSROs). Exelon procedures and commitments made by the licensee in 1991 require questions on job performance measures (JPMs) to explore the differences, if any, in task performance between Limerick and Peach Bottom. Three of the five JPMs had significant differences in the way the task is performed at Limerick versus the same task at Peach Bottom. These three JPMs should have had questions to explore these differences, but did not. Exelon has entered this issue into their corrective action program (CAP) for resolution.

The inspectors determined that the inadequate annual operating test administered at Limerick for Peach Bottom and Limerick LSROs was more than minor because it was associated with the human performance attribute and affected the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding is Green because the inadequate annual operating test did not have an adverse impact on operator actions such that safety related equipment was made inoperable during normal operations or in response to a plant transient.

Inspection Report# : [2006003\(pdf\)](#)

## Emergency Preparedness

G**Significance:** Jun 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**Exelon Did Not Maintain Respiratory Protective Equipment in Accordance with Manufacture's Guidance and Regulatory Requirements.**

The inspectors identified a Green NCV of 10 CFR 50.47(b)(10) was identified for failure to maintain protective measures for emergency workers. On April 20, 2006, the NRC identified a ready-for-use self-contained breathing apparatus (SCBA), in the main control room, with a partially separated regulator air diffuser. This NRC observation revealed that program procedures for inspection of SCBAs were not in accordance with the manufacture's guidance for maintenance and inspection of SCBAs. Exelon removed the SCBA from service, entered this issue into its CAP, and conducted an extent of condition review.

This finding is more than minor because if left uncorrected damaged components may be missed during other SCBAs inspections. Using the Emergency Preparedness Significance Determination Process, the inspectors determined that the finding was Green because the failure to meet a regulatory requirement and maintain onsite respiratory protective equipment, in accordance with regulations, is specifically identified in NRC Manual Chapter 0609, Appendix B, as an example of a 10 CFR 50.47(b)(10) finding of very low safety significance. The licensee's 10 CFR 20.1703 required quality assurance program for respiratory protection equipment did not require complete inspection of the SCBAs. Although the finding did involve an emergency planning standard, the standard was not degraded in that additional devices were available, and an extent of condition review did not identify any additional examples.

Inspection Report# : [2006003\(pdf\)](#)G**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\(pdf\)](#)

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## Occupational Radiation Safety

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## Public Radiation Safety

G**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\(pdf\)](#)

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## Physical Protection

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

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## 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 : August 25, 2006