

# Peach Bottom 2

## 1Q/2007 Plant Inspection Findings

---

### Initiating Events

**Significance:**  Sep 30, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **Failure to Implement Procedures by Performing Equipment Manipulations Without Instructions**

A self-revealing non-cited violation of Technical Specification (TS) 5.4.1.a, "Procedures," occurred when, during a pre-job walk down, a senior reactor operator (SRO) inappropriately operated an instrument valve without a procedure. This inappropriate valve manipulation resulted in a half Group 1 primary containment isolation logic signal. PBAPS has entered this issue into their corrective action program (CAP) for resolution.

This finding is greater than minor because it is associated with the Initiating Events Cornerstone attribute of human performance and affects the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Inappropriate operation of the instrument valve increased the likelihood of the main steam isolation valve's (MSIV) closing, and a reactor scram with loss of normal heat removal. The finding was of very low safety significance because it did not contribute to both the likelihood of a reactor scram and the likelihood that mitigation equipment or functions would not be available. A contributing cause of the finding has a cross-cutting aspect in the area of human performance work practices because operations personnel did not follow procedures when manipulating a main steam pressure switch instrument vent valve without the use of procedures.

Inspection Report# : [2006004](#) (*pdf*)

---

### Mitigating Systems

**Significance:**  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Non-Technical Specifications Position Incorrectly Credited for Active License Maintenance**

The inspectors identified a NCV of 10 CFR 55.53(e), "Conditions of Licenses," for incorrectly credited individuals with actively performing the functions of a senior operator (SO) while that individual was staffing a position that was not specified in PBAPS's Technical Specifications (TSs). Specifically, PBAPS incorrectly credited individuals with actively performing the functions of a SO while that individual was staffing the work execution control supervisor (WECS) position. The WECS position is not required by PBAPS's TSs. Corrective actions included issuing a cease and desist order to licensed operators to stop crediting time in the WECS position as active time for maintaining their licenses.

The finding is greater than minor because if left uncorrected, it would become a more safety significant safety concern. Specifically, although the WECS performs activities important to safety, the active time credited was not in a position defined by TSs that involved directing the licensed activities of licensed operators. The finding was related to operator license conditions and was determined to be of very low safety significance (Green) because more than 20 percent of the records reviewed had deficiencies.

Inspection Report# : [2007002](#) (*pdf*)

**Significance:**  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

## **Failure to Follow Operability Determinations Procedure**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for a failure to follow administrative procedures for conducting operability evaluations of nonconforming equipment which resulted in an operability determination (OD) that did not demonstrate a reasonable expectation of standby liquid control (SLC) system operability and reliability. Specifically, PBAPS personnel did not address issues regarding pressure pulsations to SLC systems with degraded relief valves.

This finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events. The finding is related to an OD for a qualification deficiency and the OD did not confirm a reasonable expectation of operability per "Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment." However, the finding was determined to be of very low safety significance (Green), based on a Phase 1 screening in Appendix A of IMC 0609, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," because it did not: (1) represent a loss of system safety function; (2) did not represent an actual loss of safety function of a single train; (3) the finding did not result in a loss of safety function for risk significant non-Technical Specification trains of equipment; and, (4) did not screen as potentially risk significant due to external events. This finding has a cross-cutting aspect in the area of human performance because PBAPS personnel did not use conservative assumptions in the operability determination process decision making. This finding was entered into the PBAPS's CAP.

Inspection Report# : [2006005](#) (*pdf*)

**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)

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:**  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Failure to Develop and Implement HPCI Surveillance Testing in a Manner Consistent with Vendor Specified Test Instructions**

A self-revealing NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for inadequate surveillance procedure development that changed the use of a common high pressure coolant injection (HPCI) reactor core isolation cooling (RCIC) line to the torus from its original design purpose as a partial flow flush line to a full flow test line. The cracked piping to the torus was replaced and this issue was placed into the CAP for resolution.

The finding is more than minor because it is associated with the design control attribute of the Barrier Integrity Cornerstone and affected the objective to provide reasonable assurance that physical design barriers (primary containment) protect the public from radio nuclide releases caused by accidents or events. The SDP Phase 1 screening identified that a Phase 2 analysis was needed because the finding affected two Cornerstones, Mitigating Systems and Barrier Integrity. However, the senior reactor analysts (SRAs) conducted a Phase 3 evaluation because the issue was too complex to evaluate using the Plant Specific Phase 2 Notebook. For events (large or medium break loss-of-coolant accidents) with the greatest potential consequence, the SRAs determined that the probability of a large early release remained very low because existing emergency operating procedures direct reactor operators (ROs) to maintain torus level and prevent an increase in core damage frequency by injecting high pressure service water (HPSW) through the residual heat removal (RHR) system. Specifically, the Phase 3 SDP evaluation concluded that this finding was of very low safety significance (Green), represented a very low change in delta core damage frequency (CDF) (low to mid E-8), and a very low change of high E-8 in large early release frequency (LERF) (delta LERF).

Inspection Report# : [2007002](#) (pdf)

**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**

**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)

---

## **Occupational Radiation Safety**

---

## **Public Radiation Safety**

**Significance:**  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

**Exelon Did Not Establish and Implement Adequate Procedures for Quality Assurance of Effluent Monitoring as Required by Technical Specification 5.4.1.**

The inspectors identified a NCV of TS 5.4.1.C for inadequately establishing and maintaining procedures for effluent monitoring. Specifically, the quality assurance (QA) required procedures for effluent monitoring were inadequate to detect non-representative sampling of the 'B' train of the main stack particulate effluents sampling system. This issue was placed in the CAP for resolution.

This finding is greater than minor because it affected the Public Radiation Safety Cornerstone objective to ensure adequate protection of public health and safety. This finding was determined to be of very low safety significance because: 1) it was not a radioactive material control issue, 2) it did involve the effluent release program, 3) there was an impaired ability to assess dose, and 4) public radiation doses did not exceed 10 CFR 50, Appendix I values. The finding has a cross-cutting aspect in the human performance area, resources component because the procedures and training of personnel were inadequate to detect the sample bypass.

Inspection Report# : [2007002](#) (*pdf*)

---

## Physical Protection

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

---

## Miscellaneous

Last modified : June 01, 2007