

## Peach Bottom 2

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### Initiating Events



**Significance:** Sep 28, 2002

Identified By: NRC

Item Type: FIN Finding

#### **FAILURE TO IDENTIFY THAT THE 2BH003 RIGGING HOIST HAD NOT BEEN ADEQUATELY LOAD TESTED PRIOR TO INITIALLY LIFTING THE 'B' RECIRCULATION PUMP MOTOR**

The inspectors identified a finding of very low safety significance because Exelon failed to identify that the 2BH003 rigging hoist had not been adequately load tested prior to initial use. During the 2R14 refueling outage, on September 21, 2002, a chain broke in the 2BH003 rigging hoist and the 2 'B' recirculation pump motor, weighing approximately 48,000 pounds, fell approximately ten inches onto the pump/motor stand.

Exelon committed to meet the requirements of ANSI B30.2-1967, that required 2BH003 be tested to at least 125 per cent of rated load prior to initial use. The 2BH003 rigging hoist had only been tested to 100 per cent of rated load prior to initial use. The finding was determined to be of very low safety significance because the 2 'B' reactor coolant system barrier and the permanent reactor coolant system piping and component supports were not damaged when the motor fell. Also, the 'B' subsystem of shutdown cooling was in-service; the reactor vessel level was greater than 22 feet above the top of the vessel flange; and the reactor coolant system time-to-boil was approximately 36 hours during this event.

Inspection Report# : [2002005\(pdf\)](#)

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### Mitigating Systems



**Significance:** Sep 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **INADEQUATE RIGGING PROCEDURE FOR THE 'B' RECIRCULATION PUMP MOTOR LIFT**

The inspectors identified a non-cited violation (NCV) of very low safety significance of Technical Specification 5.4.1, "Procedures." Maintenance procedure M-C-700-332, "Rigging and Handling Heavy Loads," used for lifting the 2 'B' recirculation pump motor, did not contain any instructions requiring that the 'A' subsystem of residual heat removal shutdown cooling to be operable during the motor lifts. The licensee's analysis of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," noted the need for 'A' subsystem of shutdown cooling to be operable when lifting the 'B' recirculation pump motor. During the 2R14 refueling outage, a chain broke in the 2BH003 rigging hoist and the 2 'B' motor, weighing approximately 48,000 pounds, fell approximately ten inches onto the pump/motor stand. The 'A' subsystem of residual heat removal was inoperable during this event. This NCV was determined to be of very low safety significance because the 'B' subsystem of shutdown cooling remained in-service during this event.

Inspection Report# : [2002005\(pdf\)](#)



**Significance:** Jun 29, 2002

Identified By: NRC

Item Type: FIN Finding

#### **INADEQUATE PNEUMATIC ISOLATION OF THE EMERGENCY DIESEL GENERATOR (EDG) CARDOX (CARBON DIOXIDE) SYSTEM FOLLOWING THE CARDOX INJECTION IN THE E-3 EDG BAY**

The inspectors identified a finding of very low safety significance (Green) because Exelon did not adequately isolate the pneumatic portion of the emergency diesel generator (EDG) cardox (carbon dioxide) fire suppression system following the unexpected cardox injection into the E-3 EDG room on June 2, 2002. This inadequate isolation would permit a pneumatic trip and lock-out of any one of the operable E-1, E-2 or E-4 EDGs if a spurious cardox actuation signal was generated for the respective room of that EDG. The finding was determined to be of very low safety significance because it did not result in an actual loss of safety function. The E-1, E-2 and E-4 EDGs remained operable during all troubleshooting activities and restoration of the E-3 EDG to an operable condition.

Inspection Report# : [2002004\(pdf\)](#)



**Significance:** Jun 21, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

### **TRIP PROCEDURES INCONSISTENT WITH PLANT SPECIFIC ANALYSIS**

The team identified a finding concerning an inadequate emergency operating procedure (EOP) for returning the suction of the high pressure coolant injection (HPCI) pump to the condensate storage tank (CST) to ensure the self cooled HPCI lube oil temperatures would remain within the analyzed limit. This issue was associated with the HPCI safety function during a postulated anticipated transient without scram. The issue was considered to be of very low safety significance (Green) based on a Phase 1 evaluation of the Significance Determination Process since there was no actual loss of the HPCI system, and was determined to be a non-cited violation (NCV) of the Peach Bottom Technical Specifications, Section 5.4.1.b., "Procedures."

Inspection Report# : [2002011\(pdf\)](#)

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**Significance:** Jun 21, 2002

Identified By: NRC

Item Type: FIN Finding

### **PRECONDITIONING OF HIGH-PRESSURE COOLANT INJECTIONS (HPCI), REACTOR CORE ISOLATION COOLANT (RCIC) VALVES PRIOR TO INSERVICE TESTING (IST)**

The team identified that the high-pressure coolant injection (HPCI) and Reactor Core Isolation Cooling (RCIC) surveillance procedures incorporated steps which cycled 12 HPCI system valves and 8 RCIC valves, some several times, before the ASME in-service timing test. The team determined that this practice was unrecognized equipment preconditioning which had the potential to mask the as found condition of the valves. The issue was determined to be a finding of very low safety significance (Green) based on a Phase I evaluation of the Significance Determination Process because there was no actual loss of a valve safety function.

Inspection Report# : [2002011\(pdf\)](#)

G

**Significance:** May 18, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

### **INADEQUATE E-4 EMERGENCY DIESEL GENERATOR OPERABILITY DETERMINATION**

The inspectors identified a non-cited violation of very low safety significance (Green) of Technical Specification 5.4.1. Plant personnel did not perform an adequate operability determination in accordance with NOM-C-11.1 "Operability," for a degraded lube oil fitting on the E-4 emergency diesel generator (EDG) that was identified on September 20, 2001. Subsequently, during an EDG test on March 19, 2002, the degraded fitting sheared off causing lube oil to be sprayed into the EDG room and the E-4 EDG to be inoperable. The issue was determined to be of very low safety significance based on a phase 2 risk evaluation in accordance with our significance determination process. The other three emergency diesels were not affected by this failure and both offsite power sources remained operable while the diesel was inoperable.

Inspection Report# : [2002003\(pdf\)](#)

G

**Significance:** Mar 30, 2002

Identified By: NRC

Item Type: FIN Finding

### **DEGRADATION OF THE 2D RHR HEAT EXCHANGER PERFORMANCE WAS NOT RECOGNIZED IN A NOVEMBER 2000 TEST AND THE TESTING INTERVAL OF THE 2B AND 2C HEAT EXCHANGERS EXCEEDED THE PLANNED FOUR YEARS.**

The inspector identified a finding of very low safety significance regarding testing of the 2B, 2C, and 2D RHR heat exchangers. Specifically degradation of the 2D RHR heat exchanger performance was not recognized in a November 2000 test and the testing interval of the 2B and 2C heat exchangers exceeded the planned four years. The finding was determined to be of very low safety significance because the finding did not represent an actual loss of safety function because the heat exchangers were always operable.

Inspection Report# : [2002002\(pdf\)](#)

G

**Significance:** Feb 16, 2002

Identified By: Licensee

Item Type: NCV NonCited Violation

### **LICENSEE DID NOT ADHERE TO A SURVEILLANCE TEST PROCEDURE**

Technical Specification 5.4.1 requires written procedures be established, implemented, and maintained covering activities listed in Regulatory Guide 1.33. Regulatory Guided 1.33 includes procedures for performing surveillance tests on plant equipment. Contrary to the above, on November 16, 2001, operators did not verify compliance with Technical Specification 3.5.1 as required by ST-I-010-100, "Residual Heat Removal (RHR) Loop Logic System Functional Test." Specifically, with the 3'A' loop of RHR inoperable for automatic the low pressure coolant injection, on three separate occasions the operators did not verify compliance with Technical Specification 3.5.1. The first occurred when the 3'B' RHR pump was also inoperable for approximately 30 minutes, the second was when the 3'D' RHR pump was also inoperable for approximately 30 minutes and the third was when the 3'A' core spray loop was also inoperable for approximately 40 minutes. Although all three occasions were contrary to the requirements of Technical Specification 3.5.1, technical specifications were not violated since no required actions were missed during the time frames in which the additional subsystems were inoperable. The licensee entered this issue into their

corrective action program as CR 00083213. This is being treated as a Non-Cited Violation.  
Inspection Report# : [2001015\(pdf\)](#)

**Significance:** N/A Jun 08, 2000

Identified By: NRC

Item Type: AV Apparent Violation

#### **POST-FIRE SAFE SHUTDOWN CIRCUIT ANALYSES**

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\(pdf\)](#)



**Significance:** G Jun 08, 2000

Identified By: NRC

Item Type: AV Apparent Violation

#### **POST-FIRE SAFE SHUTDOWN CIRCUIT ANALYSES**

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\(pdf\)](#)

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## **Barrier Integrity**



**Significance:** G Dec 28, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Lack of Preventative Maintenance on Critical Ventilation Dampers**

The inspectors identified a non-cited violation of very low safety significance. The non-cited violation of Technical Specification 5.4.1 is due to the licensee's failure to adequately establish or maintain preventive maintenance activities and procedures on critical, safety-related ventilation dampers for the Control Room Emergency Ventilation (CREV), Standby Gas Treatment (SBGT), and reactor building ventilation systems. Peach Bottom procedure, A-C-28, "Preventative Maintenance Program" requires preventative maintenance activities on critical equipment, such as these dampers. The licensee discontinued preventive maintenance on critical, safety-related ventilation dampers in 1988. This NCV was determined to be of very low safety significance because individual damper failures, to date, have not impacted CREV, SBGT or other safety-related systems due to damper and system redundancy. A contributing cause to the length of time that Exelon did not identify this issue was related to the Problem Identification and Resolution cross-cutting area. Peach Bottom plant personnel did not identify the lack of preventative maintenance for safety-related dampers following several damper failures at Peach Bottom and a 1999 generic issue related to these dampers identified to the Peach Bottom staff by the licensee's Limerick Generating Station. The causal relationship between this finding and the cross-cutting area was that plant personnel did not identify that preventative maintenance was not being performed on safety-related dampers and, as a result, some individual dampers degraded to a point where they could not perform their intended functions.

Inspection Report# : [2002006\(pdf\)](#)



**Significance:** G Mar 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**A NON-CITED VIOLATION OF T.S. 5.4.1 FOR AN INADEQUATE EMERGENCY OPERATING PROCEDURE WHICH DID NOT DIRECT RE-INITIATION OF DRYWELL SPRAYS AT AN APPROPRIATE PRIMARY CONTAINMENT PRESSURE.**

The inspector identified a non-cited violation of technical specification 5.4.1 for an inadequate emergency operating procedure. Emergency operating procedure T-102, "Primary Containment Control" was inadequate because the procedure did not direct the operators to re-initiate drywell sprays after drywell sprays were terminated if containment pressure again increased. The finding was of very low safety significance because there was no actual open pathway in the physical integrity or actual reduction in the atmospheric control of the reactor containment. T-102 was only used during training and was not entered for conditions requiring actual use of drywell sprays.

Inspection Report# : [2002002\(pdf\)](#)

## Emergency Preparedness



**Significance:** Jul 01, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**EXELON'S FORMAL CRITIQUE OF THE FEBRUARY 14, 2002, EMERGENCY PREPAREDNESS EXERCISE FAILED TO IDENTIFY AND CORRECT PERFORMANCE DEFICIENCIES**

(By letter dated November 26, 2002 Final Significance Determination for Green and White Findings and A Notice of Violation at Peach Bottom.) The inspector identified a non-cited violation of 10 CFR 50, Appendix E, IV.F.2.g because the critique did not identify all relevant weaknesses and performance lapses during the emergency preparedness exercise on February 14, 2002. Crew performance lapses in communicating reactor water level information to the ED were relevant to the ED's responsibilities in classifying the event. Specifically, information that reactor water level had gone below the top of the fuel should have been provided to shift management and the ED to be considered in conjunction with contemporaneous changes in plant radiological conditions that were being interpreted. Nonetheless, the NRC concludes that, even without the reactor water level information, the ED made a proper classification of General Emergency Conditions in an acceptable time frame. Hence, the critique inadequacies did not involve failures to identify problems with any RSPS and are properly classified as a Green issue.

Inspection Report# : [2002007\(pdf\)](#)



**Significance:** Jul 01, 2002

Identified By: NRC

Item Type: VIO Violation

**EXELON DID NOT PROPERLY USE THE CLASSIFICATION SCHEME DURING AN ALERT WHEN CARBON DIOXIDE WAS DISCHARGED INTO AN EMERGENCY DIESEL GENERATOR ROOM ON JUNE 2, 2002**

(By letter dated November 26, 2002 Final Significance Determination for Green and White Findings and Notice of Violation) The NRC issued a violation of low to moderate safety significance of 10 CFR 50.54(q), 10 CFR 50.47(b)(2), 10 CFR 50.47(b)(4), and the Exelon Nuclear Emergency Response Plan. Section 2.0 of this Emergency Response Plan states, in part, that the classification system provided in Emergency Response Procedure (ERP)-101, provides for implementation of certain actions immediately applicable to a specific condition, and indicates that the Emergency Director determines the emergency classification and the actions to be taken. On June 2, 2002, the standard emergency classification and action level scheme was not properly used by the operations crew. Specifically, at 12:31 a.m., a condition occurred that warranted an ALERT declaration in accordance with ERP-101 when the fire suppression system inadvertently discharged carbon dioxide, a life threatening gas, into the No. 3 emergency diesel generator room, a plant vital structure. After the shift manager completed actions to assure safe plant conditions and personnel accountability, the shift manager did not then carry out his responsibility to review emergency action levels, classify the event and assume the duties of Emergency Director. In particular, between 12:39 a.m. and 12:47 a.m., the shift manager was engaged in non-emergency response related activities implementing an administrative procedure for calling the licensee's corporate duty officer in order to inform licensee senior management of plant conditions. As a result, there was an undue delay in properly classifying the event and the ALERT classification was not made until 1:02 a.m. Per the emergency preparedness SDP (during an actual event), significance is based on the event classification level, and whether or not there was a failure to implement a risk significant planning standard. During the time period noted above, the shift manager exhibited a performance deficiency that involved a failure to implement a risk significant planning standard during an Alert condition. Such a finding is considered White in accordance with IMC 0609, Appendix B, and has low to moderate importance to safety.

Inspection Report# : [2002007\(pdf\)](#)



**Significance:** Jul 01, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**EXELON DID NOT ACTIVATE THE TSC WITHIN 60 MINUTES FOLLOWING DECLARATION OF AN ALERT ON JUNE 2, 2002**

The inspector identified a non-cited violation of 10 CFR 50.47(b)(2) because during a declared Alert on June 2, 2002, Exelon failed to activate their Technical Support Center (TSC) within 60 minutes as stated in their Nuclear Emergency Plan. Exelon's failure to activate an emergency facility in a timely manner is associated with a significant planning standard and determined to be a violation of very low safety significance using Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Sheet 2.

Inspection Report# : [2002007\(pdf\)](#)

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## Occupational Radiation Safety



**Significance:** Feb 16, 2002

Identified By: Licensee

Item Type: NCV NonCited Violation

### **LICENSEE DID NOT ADHERE TO RADIATION PROTECTION PROCEDURES**

Technical Specification 6.11 requires that the licensee implement radiation protection procedures. Procedure HP-C-310 requires workers to notify radiation protection personnel of radiological problems and follow written and oral radiation protection guidance including notifying radiation protection upon an electronic dosimetry alarm. During early January 2002, at least 5 individuals experienced dosimetry alarms and did not contact radiation protection. The matter was addressed by various corrective actions and entered into the corrective action process (CR No. 93464).

Inspection Report# : [2001015\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection

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## Miscellaneous

Last modified : March 25, 2003