July 21, 2005

Mr. Christopher M. Crane
President and CNO
Exelon Nuclear
Exelon Generation Company, LLC
200 Exelon Way KSA 3-E
Kennett Square, PA 19348

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION - NRC INTEGRATED INSPECTION REPORT 05000277/2005003 AND 05000278/2005003

Dear Mr. Crane:

On June 30, 2005, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your Peach Bottom Atomic Power Station Units 2 and 3. The enclosed integrated inspection report documents the inspection findings which were discussed on July 12, 2005, with Mr. R. Braun and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents two findings of very low safety significance (Green). These findings were determined to involve violations of NRC requirements. However, because of their very low safety significance and because they were entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs), in accordance with Section VI.A of the NRC's Enforcement Policy. If you contest any NCVs in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Peach Bottom facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures will be available electronically for public inspection in the NRC Public Document

Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (The Public Electronic Reading Room).

Sincerely,

/RA/ Samuel Hansell signing for
Mohamed Shanbaky, Chief
Projects Branch 4
Division of Reactor Projects

Docket Nos.: 50-277, 50-278
License Nos.: DPR-44, DPR-56

Enclosure: Inspection Report 05000277/2005003 and 05000278/2005003
w/Attachment: Supplemental Information

cc w/encl:
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Plant Manager, Peach Bottom Atomic Power Station
Regulatory Assurance Manager - Peach Bottom
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REGION I

Docket Nos.:	50-277, 50-278, 72-29
License Nos.:	DPR-44, DPR-56
Report No.:	05000277/2005003 and 05000278/2005003
Licensee:	Exelon Generation Company, LLC
Facility:	Peach Bottom Atomic Power Station (PBAPS) - Units 2 and 3
Location:	1848 Lay Road Delta, Pennsylvania
Dates:	April 1, 2005 - June 30, 2005
Inspectors:	F. Bower, Senior Resident Inspector D. Schroeder, Resident Inspector M. Gray, Senior Resident Inspector - Hope Creek N. McNamara, Emergency Preparedness Inspector R. Prince, Health Physicist S. Chaudhary, Senior Reactor Inspector J. Tallieri, Reactor Inspector
Approved by:	Mohamed M. Shanbaky, Chief Projects Branch 4 Division of Reactor Projects

CONTENTS

SUMMARY OF FINDINGS

IR 05000277/2005-003, 05000278/2005-003; 04/01/2005 - 06/30/2005; Peach Bottom Atomic Power Station, Units 2 and 3; Maintenance Effectiveness and Operability Evaluations, and PIR Cross Cutting Areas.

The report covered a 13-week period of inspection by the resident inspectors, regional reactor inspectors, a regional emergency preparedness inspector, and a regional health physicist. Two Green non-cited violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, Reactor Oversight Process, Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

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

  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 that 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 significance determination process (SDP) analysis determined that this finding 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)

- Green. A self-revealing (Green) NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified because PBAPS did not accomplish activities affecting quality in accordance with the prescribed station procedure, LS-AA-105, "Operability Determinations," Revision 1. Specifically, procedure instructions to declare a component inoperable upon discovery of leakage from a Class 2 component pressure boundary for Unit 2 HPCI were not accomplished in a timely manner. The leak was repaired using approved weld procedures, and Unit 2 HPCI was returned to service.

  This finding is greater than minor because it is associated with the Equipment Performance attributes of reliability and availability and the finding affected the

Mitigating Systems cornerstone objectives to ensure the availability, reliability, and capability of systems that respond to initiating events 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 finding was of very low safety significance because the Unit 2 HPCI system was unavailable for less than three days as a result of this issue.

One contributing cause to the failure was related to the identification subcategory of the Problem Identification and Resolution cross cutting area because PBAPS's identification and documentation of the operability issue was not timely. Specifically, the valve steam leak was a through-wall leak in a class two component and not a packing leak as originally suspected and documented in the issue reporting system (IR 348745).

A second contributing cause for the delay in declaring the 2-MO-14 valve and the Unit 2 HPCI system inoperable was related to the resources subcategory in the Human Performance cross-cutting area because PBAPS personnel sufficiently knowledgeable to address ASME Code pressure boundary leakage were not consulted to address the operational leakage. (Section 1R15)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Both Unit 2 and Unit 3 began the inspection period operating at full power. On May 6, 2005, Unit 2 commenced a power reduction for planned maintenance that included main condenser water box cleaning and a condensate pump motor replacement. Unit 2 returned to full power on May 10. On May 13, 2005, Unit 3 commenced a power reduction for planned summer readiness maintenance that included main condenser waterbox cleaning. Unit 3 returned to full power on May 15, 2005. Both units were at full power for the remainder of the period, except for brief periods during planned testing and rod pattern adjustments.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (1 Sample)

a. Inspection Scope

Summer Seasonal Readiness. The inspectors reviewed Peach Bottom Atomic Power Station's (PBAPS) preparation for the summer period, from May 15 through September 15. The review was performed to verify the adequacy of procedure WC-AA-107, "Seasonal Readiness," and PBAPS's implementation of this procedure. The reviews were conducted during the period from May 20 to May 24. The inspectors discussed these actions with PBAPS's maintenance and engineering personnel. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (4 Samples)

a. Inspection Scope

Partial System Walkdowns. The inspectors performed three partial system walkdowns during this inspection period to verify system and component alignment and to note any discrepancies that could impact system operability. The partial walkdowns included verification of the alignment of selected portions of redundant or backup systems and risk-significant systems that were recently realigned following an extended system outage, maintenance, modification, or testing. The inspectors reviewed selected valve positions, electrical power availability, and the general condition of major system components. This inspection activity represented three samples. The partial walkdowns included the following systems:

- E1, E2, E3, and E4 emergency diesel generators (EDGs) during Unit 2 Startup Transformer Outage on May 3, 2005
- E2, E3, and E4 EDGs during E1 Outage on May 16, 2005

- Unit 2 'B' loop of residual heat removal (RHR) during RHR 'A' loop maintenance on May 18, 2005

Complete System Walkdown. During the week of June 13, 2005, the inspectors performed one complete emergency service water (ESW) system walkdown to verify proper system alignment and configuration control. The inspectors reviewed valve positions, electrical power availability, and the general condition of the ESW components. The inspectors independently verified the ESW system alignment using Check Off List (COL) System Operation (SO) 33.1.A-2, "Emergency Service Water System," and System Operation 33.1.A, "Emergency Service Water System Setup for Normal Standby Operation." In addition, the inspectors also reviewed the Updated Final Safety Analysis Report (UFSAR), system design drawings, and issues tracked by the system health report (condition reports, work orders, action requests, and maintenance rule issues). These reviews were conducted to identify discrepancies that could impact system operability. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

1. Routine Plant Area Tours (9 Samples)

a. Inspection Scope

The inspectors reviewed the PBAPS Fire Protection Plan, Technical Requirements Manual, and the respective pre-fire action plan procedures to determine the required fire protection design features, fire area boundaries, and combustible loading requirements for the areas examined during this inspection. The fire risk analysis was reviewed to gain risk insights regarding the areas selected for inspection. The inspectors then performed walkdowns of the following areas to assess the material condition of active and passive fire protection systems and features. The inspection was also performed to verify the adequacy of the control of transient combustible material and ignition sources, the condition of manual firefighting equipment, fire barriers, and the status of any related compensatory measures. This inspection activity represented nine samples. The following nine fire areas were reviewed for impaired fire protection features:

- Unit 3 reactor core isolation coolant (RCIC) room (Fire Zone 63)
- Unit 3 reactor sump pump room (Fire Zone 64)
- Unit 2 reactor sump pump room (Fire Zone 61)
- Unit 2 high pressure coolant injection (HPCI) room (Fire Zone 59)
- Unit 2 RCIC room (Fire Zone 60)
- 3D residual heat removal (RHR) pump and heat exchanger room (Fire Zone 9)
- 3B RHR pump and heat exchanger room (Fire Zone 10)
- 3C RHR pump and heat exchanger room (Fire Zone 11)
- 3A RHR pump and heat exchanger room (Fire Zone 12A)

The inspectors verified that inspector-identified housekeeping and radiation posting issues (Issue 342876) noted during these walkdown inspections were entered into the corrective action program (CAP). Documents, procedures and drawings reviewed during the inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (1 Sample)

External Flood Protection

a. Inspection Scope

The inspectors reviewed PBAPS's external flood analysis for the Unit 2 and Unit 3 high pressure service water (HPSW) rooms. The inspectors used design bases document (DBD) P-T-07, "External Hazards," to conduct this review. The inspectors walked down selected areas of the Unit 2 and Unit 3 HPSW rooms to verify external flooding design features were as described in DBD P-T-07 and USFAR, Section 12, "Structures and Shielding." This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (1 Sample)

a. Inspection Scope

The inspectors verified the readiness of the 2D residual heat removal (RHR) heat exchanger by checking critical operating parameters and heat exchanger maintenance records. Test performance for this heat exchanger was observed, and the data was reviewed for any obvious problems or errors. Additional heat exchanger instrumentation was added for the performance of this test, as the installed instrumentation had previously yielded inconclusive test results. Satisfactory results were obtained from this test. Operability Evaluation 04-008 was closed and the temperature restrictions were removed from the 2D RHR heat exchanger based on the satisfactory test results. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (1 Sample)

1. Quarterly Observation of Licensed Operator Requalification Training

a. Inspection Scope

On April 20, 2005, the inspectors observed licensed operator performance in the simulator during operator requalification training. The first simulator scenario observed was OT 102, Reactor High Pressure Caused by a Main Steam Isolation Valve (MSIV) Slow Closure. The second scenario observed was OT-111, "Reactor Low Pressure Caused by an Electrohydraulic Control (EHC) System Malfunction" and involved the operators performing T-100 scram procedure. The inspectors observed and evaluated the operators' performance and verified that any performance errors were detected and discussed in the post-scenario critiques. The inspectors focused on the control room supervisor's satisfactory completion of critical tasks, including proper and timely identification and classification of emergencies. The inspectors also evaluated whether the operators adhered to Technical Specifications, the emergency plan, and the emergency operating procedures. The inspectors discussed the training, simulator scenario, and critique with operators, shift supervision, and training instructors. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Implementation (2 Samples)

1. Unit 3 High Pressure Coolant Injection (HPCI) Flow Controller (1 Sample)

a. Inspection Scope

The inspectors reviewed follow-up actions for the loss of function of the Unit 3 high pressure coolant injection (HPCI) flow controller that was documented in Issue Report (IR) 308116. The inspectors reviewed the effectiveness of PBAPS's support of maintenance on the flow controller. This review included an assessment of work practices and potential for common cause failures. The apparent cause evaluation and corrective actions for the Unit 3 HPCI flow controller's internal power supply failure were reviewed. This inspection activity represented one sample.

b. Findings

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

Description. On March 3, 2005, during a main control room panel walk down, the reactor operator found the Unit 3 HPCI flow controller display without indication. PBAPS personnel determined that the cause of the blank display was a failed power supply in the controller and resulted in the Unit 3 HPCI being inoperable. This was the second Unit 3 HPCI flow controller failure in a year that was caused by a failed power supply circuit board. Following the first failure, which occurred on March 17, 2004, Peach Bottom learned from the manufacturer that the power supplies for the Siemens Moore Model 352 controller have a life expectancy of seven to twelve years. Peach Bottom decided to replace power supplies of this type that had been in service for more than seven years.

The four HPCI and RCIC flow controllers in Units 2 and 3 are Siemens Moore Model 352 controllers. Three of the four controllers and power supplies (Unit 2 HPCI and RCIC, and Unit 3 RCIC) were replaced, but the Unit 3 HPCI controller was not identified for replacement. The Unit 3 HPCI controller was previously replaced in March 2004, with a component that was removed from the PBAPS simulator after eight years in service.

In December 2002, PBAPS procured a service from a qualified vendor to dedicate this previously used commercial grade component for safety-related usage. The documents developed to procure the dedication service did not specify refurbishment of this previously used commercial grade component. An engineering screening and evaluation for services procured for this controller also was not conducted as specified in Exelon Procedure SM-AA-300. This dedicated controller, with eight years of previous service in the simulator, was returned to the warehouse as a spare until it was installed in the Unit 3 HPCI controller. The preliminary failure analysis report for the March 3, 2005 failure has determined that the internal power supply of the flow controller failed due to age-related degradation, one year after installation in the plant, in addition to eight years of service in the simulator. This failure mechanism had previously been identified as an issue (209005) on March 17, 2004.

Analysis. PBAPS's failure to specify refurbishment during the dedication process or recognize shortened service life of the electronic flow controller was identified as a performance deficiency. This issue is greater than minor because it is associated with the operability, availability and reliability of a mitigating system, and affects the equipment performance attribute of the mitigating systems cornerstone to ensure the availability, reliability, and capability of systems to respond to an initiating event to prevent undesirable consequences. Traditional enforcement is not required because the finding did not have actual safety consequences, did not have the potential for impacting the NRC's ability to perform its regulatory function, and there were no willful aspects of the violation. The Phase 1 screening using the SDP worksheet required a Phase 2 SDP analysis because the finding represented an actual loss of safety function of a single train system. Since the Unit 3 HPCI system was unavailable for less than three days as a result of this issue, the Phase 2 analysis determined the risk significance of the finding to be of very low safety significance (Green).

Enforcement. 10 CFR 50, Appendix B, Criterion IV, "Procurement Document Control," requires, in part, "measures shall be established to assure adequate quality is suitably included or referenced in the documents for the procurement of services." Exelon Procedure SM-AA-300, Procurement Engineering Support Activities, Section 4.1.1, requires a procurement engineering evaluation to provide the basis for procuring services to dedicate commercial grade components as safety-related. Contrary to the above, PBAPS personnel did not perform a procurement engineering evaluation to support the procurement of commercial grade dedication services for a non-safety-related Siemens Moore Model 352 flow controller that was removed from the simulator, after eight years in service, for safety-related end use. Specifically, the procurement of the commercial grade dedication service did not identify that any of the electronic controller's components required refurbishment. Because this finding is of very low safety significance (Green) and has been entered into Exelon's corrective action program (IR 308116), this violation is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy **(NCV 05000278/2005003-01, Unit 3 HPCI Inoperability Resulted from Inadequate Procurement of Commercial Grade Dedication Services for Reinstallation of Previously Installed HPCI Flow Controller)**.

2. Routine Maintenance Effectiveness Issues (1 Sample)

a. Inspection Scope

The inspectors reviewed the follow-up actions for issues identified on systems, structures, or components (SSCs) and the performance of those SSCs to assess the effectiveness of PBAPS's maintenance activities. This inspection activity represented one sample. The following equipment performance issue was reviewed:

- Unit 2 Reactor Feed Pump Turbine Lube Oil Coolers Are Fouling (IR 343176)

Documents, procedures, and drawings reviewed during the inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (8 Samples)

a. Inspection Scope

The inspectors reviewed PBAPS's planning and risk management actions for planned and emergent work activities to assess PBAPS's management of overall plant risk. The activities selected were based on plant maintenance schedules and systems that contributed to risk. As applicable, the inspectors reviewed PBAPS's probabilistic safety assessment risk evaluation results forms and compared the risk assessment results and the risk management actions against the requirements of 10 CFR 50.65(a)(4) and the

information in Regulatory Guide 1.182, Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants, and WC-AA-101, "On-line Work Control Process." The inspectors verified that risk assessments were performed when required and appropriate risk management actions were identified. The inspectors also reviewed control room operating logs, walked down protected equipment and maintenance locations, and interviewed personnel. These reviews were performed to determine whether PBAPS properly assessed and managed plant risk and performed activities in accordance with applicable Technical Specification and work control requirements. This inspection activity represented eight samples. The following eight planned and emergency work activities were reviewed:

- E1 Emergency Diesel Generator (EDG) Run (WO R0996526)
- 'A' Standby Gas Treatment (SBGT) Filter Train Testing (WO R0996171)
- E4 EDG Lube Oil Filter Pressure Switch Tubing Replacement (WO M1519195)
- E4 EDG Replace Lube Oil Strainer Pressure Switch Tubing (WO M1519190)
- Unit 2 Electrohydraulic Control (EHC) Filter Replacement on June 16, 2005 (WO M1519101)
- Addition of Plugging Media to the Unit 3 Circulating Water System (WO C0213999)
- MO-2-23-014 - Repair Leaking Plug (WO C0213614)
- Emergency Service Pump Breaker investigation (WO C0211308)

Documents, procedures, and drawings reviewed during the inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (5 Samples)

1. Unit 2 High Pressure Coolant Injection (HPCI) Operability Evaluations (1 Sample)

c. Inspection Scope

The inspectors reviewed the following Issue Reports (IRs) associated with the Unit 2 HPCI system to assess the adequacy of the evaluations and compliance with the licensing and design bases. The inspectors used the Technical Specification (TS), the Technical Requirements Manual, and the Updated Final Safety Analysis Report as references during these reviews. The inspectors reviewed the apparent cause evaluation and extent of condition review to assess their adequacy. This inspection activity represented one sample. The issues reviewed included:

- Wisping Steam Leak on Unit 2 MO-14 Valve (IR 326706)
- Unit 2 HPCI MO-14, Steam Leak (IR 328880)
- Unplanned HPCI TSA Due to Small Steam Leak (IR 328735)
- HPCI Turbine Steam Supply Valve - MO-2-23-014 (AR A1512641)

- Technical Evaluation Rigor Issues (IR 348745)
- Evaluate Difference between TRM 3.10 and LS-AA-105 (IR 328880)
- MO-2-23-014 - Disassemble, Inspect Internals (WO R0786125)

b. Findings

Introduction. A self-revealing (Green) NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified because PBAPS did not accomplish activities affecting quality in accordance with the prescribed station procedure, LS-AA-105, "Operability Determinations," Revision 1. Specifically, procedure instructions to declare a component inoperable upon discovery of leakage from Class 2 component pressure boundary were not accomplished in a timely manner.

Description. On April 20, 2005, an equipment operator (EO) identified steam leaking from the Unit 2 HPCI steam admission valve (2-MO-14). This valve is located overhead in the HPCI room. An issue report (IR 326706) and action request (A1512641) were originated to place a suspected packing leak into the corrective action program (CAP). Although Operations recognized that the leak could degrade over time without corrective action, the valve was considered operable since the packing leak did not appear to be affecting HPCI or any adjacent components.

On April 21, 2005, a system manager and a motor operated valve program manager inspected 2-MO-14. The inspection identified a new equipment deficiency in that the leak was through the leak-off plug and was not a packing leak as previously suspected. The inspectors noted that the leak-off plug was in the bonnet of the 2-MO-14. The new deficiency was discussed with operations shift personnel and engineering management, but a new issue report was not originated in the CAP. Performance of an operability determination in accordance with LS-AA-105 was considered but was not performed. PBAPS personnel knowledgeable and responsible for implementation of the ASME Code programs were not available.

On April 25, 2005, the ASME Code program manager reviewed the issue and determined that the leakage was thru the ASME Code Class 2 pressure boundary. The inspectors confirmed that this was consistent with the applicable code specifications documented on the welder information data sheets. Work order (R0786125) was used to install and seal weld the threaded plug in the 2-MO-14 leakoff port. Operations entered the 72-hour Technical Requirements Manual (TRM) specification 3.10, "Structural Integrity," to evaluate the structural integrity of this ASME Code Class 2 boundary. Approximately four and a half hours later, following an operability review, the Unit 2 HPCI system was declared inoperable but available. Technical Specifications 3.5.1 was entered based on instructions in LS-AA-105, "Operability Determinations," Revision 1, step 4.5.10.5, which states, in part, upon discovery of leakage from a Class 1, 2, or 3 component pressure boundary (i.e., pipe wall, valve body, pump casing, etc.) declare the component inoperable. LS-AA-105 continues and notes that the only exception is for Class 3 moderate energy piping as discussed in Code Case N513. Also, on April 25, 2005, PBAPS appropriately reported this event under 10 CFR 50.72(b)(3)(v)(D), event number 41638.

Analysis. Because PBAPS did not accomplish activities affecting quality in accordance with the prescribed station procedure, LS-AA-105, the issue was identified as a performance deficiency and was considered a finding. Specifically, the HPCI 2-MO-14 valve and system were not declared inoperable upon discovery of leakage through a seal weld that was classified as an ASME Code Class 2 pressure boundary. This issue was greater than minor because it is associated with the equipment performance attributes of reliability and availability and it affected the mitigating systems cornerstone objectives to ensure the availability, reliability, and capability of Unit 2 HPCI to respond to initiating events to prevent undesirable consequences. Traditional enforcement is not required because the finding did not have actual safety consequences, did not have the potential for impacting the NRC's ability to perform its regulatory function, and there were no willful aspects of the violation. The Phase 1 screening using the SDP worksheet required a Phase 2 SDP analysis because the finding represented an actual loss of safety function of a single train system. The Phase 2 analysis determined the risk significance of the finding to be of very low safety significance (Green).

One contributing cause to the failure was related to the identification subcategory of the Problem Identification and Resolution cross cutting area because PBAPS's identification and documentation of the operability issue was not timely. Specifically, the valve steam leak was a through-wall leak in a class two component and not a packing leak as originally suspected and documented in the issue reporting system (IR 348745).

A second contributing cause for the delay in declaring the 2-MO-14 valve and the Unit 2 HPCI system inoperable was related to the resources subcategory in the Human Performance cross-cutting area because PBAPS personnel sufficiently knowledgeable to address ASME Code pressure boundary leakage were not consulted to address operational leakage. (IR 328880).

Enforcement. 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality shall be prescribed by documented instructions or procedures of a type appropriate to the circumstances and shall be accomplished in accordance with the instructions or procedures. LS-AA-105, "Operability Determinations," Revision 1, step 4.5.10.5, states, in part, upon discovery of leakage from a Class 1, 2, or 3 component pressure boundary (i.e., pipe wall, valve body, pump casing, etc.) declare the component inoperable. Contrary to the above, between April 21, 2005, and April 25, 2005, PBAPS did not accomplish the activities affecting quality as prescribed in step 4.5.10.5 of procedure LS-AA-105 when the Unit 2, HPCI steam admission valve (MO-14) was not declared inoperable upon discovery of leakage through a seal weld around a threaded plug in the body of a valve that PBAPS had classified as an ASME Code Class 2 pressure boundary. Because this finding is of very low safety significance (Green) and has been entered into Exelon's corrective action program (IRs 328735, 348745, and 352391), this violation is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy **(NCV 05000277/2005003-02, Delayed Inoperability Declaration When Activities Affecting Quality Were Not Accomplished in Accordance with Site Procedures).**

2. Routine Operability Evaluations (4 Samples)

d. Inspection Scope

The inspectors reviewed four issues that were selected based on risk insights to assess the adequacy of the evaluations, the use and control of compensatory measures, and compliance with the licensing and design bases. As applicable, associated adverse condition monitoring (ACM) plans, engineering technical evaluations (TE) and operational and technical decision making (OTDM) documents were also reviewed. The inspectors verified these processes were performed in accordance with the applicable procedures listed in Attachment 1. The inspectors used the Technical Specifications, Technical Requirements Manuals, the Updated Final Safety Analysis Report, and associated Design Basis Documents as references during these reviews. This inspection activity represented four samples. The issues reviewed included:

- Residual Heat Removal System Torus Cooling (Temporary Change 05-1103)
- E1 Emergency Diesel Generator (EDG) Testing - Safety Function Determination Issues (IR 336904)
- Non-Q Parts Installed on E-3 EDG (IR 336646)
- Non-Q Parts Installed on E-1 EDG Basket Strainer (IR 336393)

The inspectors verified that an inspector-identified issue (IR 336562) associated with developing a procedure to investigate unidentified drywell leakage was entered into the corrective action program (CAP). Documents, procedures, and drawings reviewed during the inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds (1 Sample)

d. Inspection Scope

The inspectors conducted a review of the cumulative effects of identified operator work-arounds (OWAs) and operator challenges (OCs) on the reliability, availability, and, potential for misoperation of a single system, or that could affect multiple mitigating systems. The inspectors also reviewed the cumulative effects of OWAs and OCs on the ability of operators to respond in a correct and timely manner to plant transients and accidents. The inspectors also reviewed Exelon Administrative Procedure OP-AA-102-103, “Operator Work-Around Program,” to verify that PBAPS was implementing their methodology for the identification, prioritization, tracking and resolution of OWAs and OCs. This inspection activity represented one sample of the cumulative effects of OWAs.

Documents and procedures reviewed during the inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (1 Sample)

a. Inspection Scope

The inspectors reviewed selected portions of engineering change request (ECR) PB-98-02758-001, Reactor Stability/Power Range Neutron Monitoring (PRNM) Upgrade. The review was conducted to verify that the design bases, licensing bases, and performance capability of risk significant systems and components had not been degraded through this modification. The inspectors observed selected portions of the modification field implementation activities and compared the implementation performance to the design requirements and installation standards. The inspectors reviewed field changes that were made during the installation to confirm that the problems associated with the installation were adequately resolved. The inspectors also verified that the implementation did not impair operating procedure actions, key safety functions and operator response to a loss of key safety functions. The inspectors also reviewed ECR 98-02758 and observed selected portions of the post-modification testing to verify that the plant was maintained in a safe configuration during testing. These selected post-modification testing observations were also conducted to verify that operability was established, to verify that unintended system interactions did not occur and to verify that the test acceptance criteria were met. This inspection activity represented one sample.

The inspectors verified that issues regarding Oscillating Power Range Monitor (OPRM) activation work instruction clarity were entered into the corrective action program (Issues #330923 and #329197). Documents, procedures, and drawings reviewed during the inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (7 Samples)

a. Inspection Scope

The inspectors observed portions of post-maintenance testing activities in the field and reviewed selected test data at the job site. The inspectors observed whether the tests were performed in accordance with the approved procedures and assessed the adequacy of the test methodology based on the scope of maintenance work performed. In addition, the inspectors assessed the test acceptance criteria to verify whether the test demonstrated that the tested components satisfied the applicable design and licensing bases and the Technical Specification requirements. The inspectors reviewed the recorded test data to evaluate whether the acceptance criteria were satisfied. The

inspectors reviewed seven post-maintenance tests performed in conjunction with the following maintenance activities:

- Functional Check of Average Power Range Monitor (APRM) “2" (WO 00197447 - A02)
- Functional Check of APRM “3" (WO 00197447 - A08)
- ‘A’ Control Room Emergency Ventilation (CREV) Test Following Planned Maintenance (WO R0963202-01)
- Unit 2 HPCI Following MO-14 Weld Repair (WO R0786125)
- E1 Diesel Generator Following Planned Maintenance (WO R0934385)
- 3 CD Station Battery Following Cell Changeout (WO C0213872)
- Emergency Service Water (ESW) Functional Inservice Test Following ‘A’ ESW Check Valve Maintenance (WO R0812619-05)

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (6 Samples)

a. Inspection Scope

The inspectors reviewed and/or observed portions of surveillance tests, and compared test data with established acceptance criteria to verify the systems demonstrated the capability of performing the intended safety functions. The inspectors also verified that the systems and components maintained operational readiness, met applicable Technical Specification requirements, and were capable of performing the design basis functions. This inspection activity represented six samples. The surveillance tests reviewed and observed included:

- ST-O-020-560-3, “Unit 3 Reactor Coolant Leakage Test”
- ST-O-052-704-2, “E-4 EDG 24-Hour Endurance Test”
- ST-O-011-301-2, “Standby Liquid Control (SBLC) Pump Functional Test for Inservice Testing (IST)”
- SI2P-13-87-A1CQ, “Calibration Check of RCIC Low Steam Pressure Instrument PS-2-13-87A”
- SI2L-2-85-A1C2, “Calibration Check of Reactor Vessel Compensated Level Instruments LI2-2-3-85A, LI2-2-3-85AX, and PR/LR 2-2-3-404A”
- SI2L-2-72-A1FQ, “Functional Test of Emergency Core Coolant System (ECCS) ‘A’ Compensated Trip System”

The inspectors verified that an inspector-identified issue (IR 331542) regarding charging the SBLC system bladders before recording the bladders’ as-found condition was entered into the CAP. Documents, procedures, and drawings reviewed during the inspection are listed in Attachment 1.

1R23 Temporary Plant Modifications (1 Sample)

a. Inspection Scope

The inspectors reviewed one temporary modification, ECR 05-00273, TCP for 2A Recirc Pump Speed Indication. The inspectors verified that (1) the design bases, licensing bases, and performance capability of risk significant SSCs had not been degraded through these modifications, and (2) that implementation of the modifications did not place the plant in an unsafe condition. The inspectors verified the modified equipment alignment through control room instrumentation observations; UFSAR, drawing, procedure, and work order reviews; and plant walkdowns of accessible equipment. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness [EP]

1EP4 Emergency Action Level and Emergency Plan Changes (1 Sample)

a. Inspection Scope

During the period of April 1 - June 23, 2005, the NRC received and acknowledged the changes made to PBAPS's Emergency Plan (E-Plan) in accordance with 10 CFR 50.54(q), which Exelon Nuclear had determined resulted in no decrease in effectiveness to the Plan and which have been concluded to continue to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR 50. The inspector conducted a sampling review of the Plan changes which could potentially result in a decrease in effectiveness. This review does not constitute an approval of the changes and, as such, the changes are subject to future NRC inspection. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 4, and the applicable requirements in 10 CFR 50.54(q) were used as reference criteria. This inspection activity represented one sample.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluations (71114.06 - 1 Sample)

a. Inspection Scope

The inspectors conducted this inspection to assess: Training quality and conduct, emergency plan procedure implementation, facility and equipment readiness, personnel performance in drills and exercises, organizational and management changes and communications equipment readiness. The primary focus of this inspection was to

verify PBAPS's critique of classification, notification and protective action recommendation (PAR) development.

On June 28, 2005, the inspectors observed a full scale drill in the control room simulator and the technical support center (TSC). The drill scenario simulated events at the independent spent fuel storage installation (ISFSI), a security-related event, and a reactor event. The reactor event started with thermal-hydraulic instabilities and progressed until three barriers, fuel cladding, reactor coolant system and containment, were lost. The inspectors observed licenced operator adherence to the emergency plan implementing procedures, and their response to simulated degraded plant conditions to identify weaknesses and deficiencies in classification and notification. The inspectors also observed the transition of responsibility for the emergency response organization (ERO) from the shift manager in the simulated control room to the TSC. The inspectors observed PBAPS's critique of the drill to evaluate PBAPS's identification of weaknesses and deficiencies. The inspectors compared PBAPS's identified issues against the inspectors' observations to determine whether PBAPS adequately identified problems and entered them into the corrective action program. This inspection activity represented one sample. The documents and procedures reviewed during the inspection are listed in Attachment 1.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (1 Sample)

1. Routine Review and Screening of Identification and Resolution of Problems

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific Human Performance or program issues for follow-up, the inspectors performed routine screening of issues entered into the licensee's CAP. This review was accomplished by reviewing copies of IRs, attending daily screening meetings, and accessing PBAPS's computerized database.

2. Annual Sample Review - Root Cause of Unit 2 HPCI Turbine Governor Bearing Failure (1 Sample)

a. Inspection Scope

The inspector reviewed the corrective actions associated with the Unit 2 high pressure coolant injection (HPCI) turbine governor bearing failure that occurred on May 14, 2004. This issue was originally inspected in NRC IR 2004-003 (NCV 05000277/2004003-02).

On May 14, 2004, the main control room received a HPCI turbine bearing low oil pressure alarm during post maintenance testing. The governor end bearing sustained significant damage due to lack of oil, and the bearing and turbine rotor were replaced. Exelon's root cause investigation team determined that the HPCI turbine governor end journal bearing oil supply valve had been mispositioned. There was a known weakness in the design of these valves for this oil system, where small adjustment to the valve position could result in large changes in flow rate. Exelon had not implemented corrective actions to develop a process or annotate procedures to control valves which should have the valve operator removed to prevent accidental repositioning. As a result, although the valve operators were removed by 1989 in accordance with industry operating experience, the operators were later replaced to correct what was believed to be a deficiency.

The inspector reviewed Exelon's root cause investigation report and subsequent corrective actions to determine whether Exelon's actions were adequate to address the configuration control issue, as well as the decision made in May 2004 to restart HPCI without first examining for damage to the bearing. This restart attempt was aborted before starting the turbine, due to an unrelated motor operated valve failure, and no further damage to the system occurred. The inspector reviewed OP-AA-106-101-1006, "Operational and Technical Decision Making Process," Revision 1, and observed a Plant Oversight Review Committee meeting where this process was used. The inspector also interviewed the system manager and walked down the HPCI system on both units to ensure the valve operators were removed and controlled in accordance with Exelon's locked valve list.

b. Findings and Observations

No findings of significance were identified.

Observations. The inspector reviewed other corrective actions planned by Exelon to improve the station's use of industry operating experience and other generic communications, not specifically related to the HPCI issue. The inspector noted that these actions were contained in the HPCI root cause condition report, not a separate condition report, and that the due dates for these actions have been extended several times.

4OA3 Event Followup

The inspectors reviewed the following Licensee Event Report (LER) and related documents listed in Attachment 1, to verify the accuracy of the LER, the appropriateness of the corrective actions and to determine whether violations of requirements or generic issues existed.

1. (Closed) Licensee Event Report (LER) 05000278/2005-001-00 Loss of High Pressure Coolant Injection (HPCI) System Function as a Result of Inoperable Flow Controller

On March 3, 2005, during the performance of routine main control room panel walk downs for the high pressure coolant injection (HPCI) system, licensed Operations personnel discovered that the HPCI system flow controller faceplate had a blank indicator reading. The flow controller was determined to not be able to perform its HPCI flow control function and HPCI was declared inoperable. Subsequent troubleshooting of the HPCI system confirmed that the HPCI system flow controller was inoperable resulting in the HPCI system not being capable of developing sufficient flow rates if it had been required for a design basis event. The flow controller was replaced and the HPCI system was satisfactorily tested and returned to an operable status on March 4, 2005. Additional corrective actions are being evaluated in accordance with the corrective action program, including the need to ensure appropriate rebuilding of components sent to off-site vendors for dedication. The inspectors review of this event was documented in Section 1R12 of the report. The licensee documented the problem in CR 308116. This LER is closed.

4OA4 Cross Cutting Aspects of Findings

1. Cross-references to Cross Cutting Issues Documented Elsewhere

Section 1R15 describes a finding for PBAPS did not accomplish activities affecting quality in accordance with the prescribed station procedure, LS-AA-105, “Operability Determinations,” Revision 1. Specifically, procedure instructions to declare a component inoperable upon discovery of leakage from Class 2 component pressure boundary was not accomplished in a timely manner.

4OA5 Other

4OA5.1. Operation of an Independent Spent Fuel Storage Installation (ISFSI) (1 Sample)

a. Inspection Scope

The inspection consisted of evaluating ISFSI-related activities, including procedures and documentation, characterization of selected fuel assemblies for storage, handling and lifting of heavy loads, and review of personnel training and qualification records associated with the most recent ISFSI fuel loading campaign. The inspection consisted of interviews with personnel, review of PBAPS’s documentation and field observations.

Certificate of Compliance (CoC) number 1027 for the TN-68 dry storage cask system, specifies the parameters that must be met for storage of spent fuel at the Peach Bottom ISFSI. The inspector reviewed licensee procedures and methods for selecting and characterizing spent fuel assemblies selected for storage at the ISFSI. Technical Specifications require selected fuel assemblies be visually inspected, independently identified, be free of cladding defects, and be within specified limits for such parameters as fuel enrichment, burn-up, and decay heat output. The inspector discussed the fuel selection process with personnel and determined that individuals were knowledgeable of the technical specification requirements. Spent fuel assemblies were properly characterized in accordance with technical specification requirements.

The inspector observed fuel handling activities in the Unit 3 reactor building. PBAPS personnel selected fuel assemblies from specific spent fuel storage rack locations for loading into the TN-68 storage cask. The inspector noted that individuals on the refueling bridge verified that the designated spent fuel assembly was selected and placed in the assigned storage location in the cask. The inspector reviewed the fuel loading plan for cask TN-68-28 and verified that the 68 fuel assemblies were loaded per the loading plan. The loaded fuel assemblies were properly selected and loaded in accordance with characterization documents and approved procedures.

The inspector reviewed the work package associated with the loading and preparation of storage cask No. 28. The inspector attended pre-job briefings, observed just-in-time field briefings and overall coordination of ISFSI-related work activities. Pre-job briefings were thorough and effective techniques employed to solicit input and feedback from attendees. All necessary work groups were in attendance at the pre-job briefings. Briefings addressed the importance of effective communications, strict compliance with work documents and procedures, and key safety topics associated with ISFSI work evolutions. The inspector noted that certain ISFSI-related procedures were incorporated into the work package. The field supervisor maintained strict control of the work package and continually verified that procedure steps were followed and completed as required. The inspector noted that just-in-time field briefings were conducted in the field on several occasions. These briefings were conducted before critical steps were implemented (e.g., prior to lifting the loaded cask from the spent fuel pool and whenever significant changes in radiological conditions were anticipated). The field supervisor used these briefings to ensure that workers were prepared for the next activity and tasks properly coordinated before proceeding with the activity.

The inspector observed cask preparation activities prior to lifting the loaded cask from the spent fuel pool. Rigging and placement of the cask lid was performed safely in accordance with the approved work package. The inspector noted appropriate communication between the crane operator, load director and members of the work crew. The inspector reviewed the most recent task work orders for the annual inspection and the frequent crane inspection for the Unit 3 reactor building crane. The work packages were thorough and completed in accordance with approved procedures. The inspector confirmed that the crane operator and rigger were trained in accordance with the requirements of PBAPS's program. The inspector noted that training and qualifications records for these individuals were current. PBAPS personnel stated that rigging materials utilized during the current fuel loading campaign were inspected and approved for use prior to the start of the campaign.

To ensure that heavy loads do not travel over areas of the spent fuel pool where spent fuel is stored, Exelon has designated safe load paths. Various Exelon procedures address the control and movement of heavy loads. The inspector noted that these procedures were comprehensive and contained adequate controls for the movement and handling of heavy loads in the vicinity of spent fuel. The inspector attended the pre-job briefing and noted that controls during the lifting of a heavy load were discussed with appropriate emphasis on safety and safe load pathways. The inspector observed the lifting of a loaded TN-68 cask from the Unit 3 spent fuel pool to the adjacent

preparation stand. Movement of the cask was performed in a deliberate and safe manner. The inspector noted that effective communication was maintained between the load director, crane operator and members of the lifting team while the lift was in progress.

During the movement of the cask from the spent fuel pool on June 22, 2005, the licensee entered a Technical Specification action when one train of the Main Control Room Emergency Ventilation system was declared inoperable as a result of a radiation monitor failure. This action statement required that spent fuel movement activities be suspended until the action was exited. The inspector noted that appropriate communication between the control room and ISFSI field supervisor was maintained during the period of time that the action statement was in effect. The ISFSI field supervisor contacted individuals for assistance and demonstrated conservative decisions and actions while the action statement was in effect.

Exelon had developed an As Low As Reasonably Achievable (ALARA) plan and dose estimates for the current ISFSI fuel campaign which included the loading and movement of 4 casks to the ISFSI. The inspector noted that the ALARA plan was comprehensive with appropriate radiological controls established to minimize personnel exposures. A dose goal of 1000 mrem was established with a stretch goal of 800 mrem. PBAPS completed the current campaign with a collective dose of 785 mrem. The inspector observed effective contamination control techniques and dose control measures implemented in the field. Radiological conditions were effectively communicated to individuals throughout the task. Radiological surveys of the loaded cask were obtained to ensure that radiation levels and contamination levels met the requirements of the CoC for storage of the cask at the ISFSI.

The inspector discussed the involvement of the Nuclear Oversight group in ISFSI-related work activities with station personnel. The inspector reviewed selected surveillance reports and noted that the assessments were comprehensive and targeted key aspects of ISFSI activities. PBAPS performed a comprehensive ISFSI assessment in late 2004 as part of their preparation efforts for the current campaign.

The inspector discussed the retention and maintenance of ISFSI-related records with station personnel and noted that appropriate arrangements had been made to maintain these records in two separate facilities. The inspector verified that selected individuals had received the necessary training in accordance with approved procedures for their ISFSI-related job duties.

b. Findings and Observations

No findings of significance were identified. PBAPS demonstrated the ability to safely load spent fuel into a storage cask. Work activities were performed in accordance with approved procedures and in compliance with technical specification requirements. Spent fuel loaded into storage casks was properly characterized. Storage casks were properly sealed, tested, surveyed and inspected and met the requirements of the CoC.

4OA5.2. TI 2515/163, Operational Readiness of Offsite Power

a. Inspection Scope

The inspector performed Temporary Instruction 2515/163, Operational Readiness of Offsite Power. The inspector collected and reviewed licensee procedures and supporting information pertaining to the offsite power system specifically relating to the areas of offsite power operability, the maintenance rule (10 CFR 50.65), and the station blackout rule (10 CFR 50.63). The inspector also reviewed this data against the requirements of 10 CFR 50 Appendix A General Design Criterion 17, Electric Power Systems; and Plant Technical Specifications. This information was forwarded to NRR for further review. The documents included in the review are listed in Attachment 1.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

1. Exit Meeting

On July 12, 2005, the resident inspectors presented the inspection results to Mr. R. Braun and other PBAPS staff, who acknowledged the findings. The inspectors confirmed that proprietary information was not included in the inspection report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Exelon Generation Company

R. Braun, Site Vice President
J. Grimes, Plant Manager

C. Behrend, Senior Manager, Plant Engineering
J. Brozonis, Performance Assessor, Nuclear Oversight
J. Cihak, Reactor Engineer, Operations
F. Crosse, Processes Manager, Radwaste
P. Davison, Engineering Director
D. Falcone, Shift Operations Superintendent
D. Foss, Sr. Regulatory Engineer, Regulatory Assurance
B. Kozemchak, Manager - Spent Fuel
K. Langdon, Director, Work Management
M. Lyate, Tech Support Manager, Radiation Protection
J. Mallon, Regulatory Assurance Manager
R. Norris, Manager, Radiation Protection
S. Scalzo, Supervisor - Reactor Services
D. Shortes, ISFSI Process Control Manager
G. Stathes, Maintenance Director

U. S. Nuclear Regulatory Commission

Jason Dreisbach, General Engineer, NRR

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened and Closed

05000278/2005003-01	NCV	Unit 3 HPCI Inoperability Resulted from Inadequate Procurement of Commercial Grade Dedication Services for Reinstallation of Previously Installed HPCI Flow Controller (Section 1R12)
05000277/2005003-02	NCV	Delayed Inoperability Declaration When Activities Affecting Quality Were Not Accomplished in Accordance with Site Procedures (Section 1R15)

Closed

5000278/2005-001-00	LER	Loss of High Pressure Coolant Injection (HPCI) System Function as a Result of Inoperable Flow Controller (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather

AR 1480836
RT-O-040-610-2, Outbuilding HVAC and Equipment Inspection for Summer Operation
Memorandum dated May 13, 2005, Summer Readiness Preparation Status, PBAPS, Units 2 & 3

Section 1R04: Equipment Alignment

AR A1484457
AR A1331158
ST-O-033-300-2, ESW, Valve Unit Cooler, and ECT Fans Functional Inservice Test
PBAPS License Renewal Application, Appendix B, “Aging Management Activities”
IR 166583
AR A1425167
System Operation 33.1.A-2, Checkoff List Emergency Service Water System
System Operation 33.1.A, Emergency Service Water System Setup for Normal Standby Operation
System Operation 33.8.A, Emergency Service Water System Routine Inspection While in Standby Condition

Section 1R05: Fire Protection

PBAPS Fire Protection Program (FPP), Revision 14, dated April 2003
Peach Bottom Fire Risk Analysis, Update Project Summary Report, W0467030802.R01, dated May 28, 2004
Exelon Procedure OP-MA-201-007, Fire Protection System Impairment Control, Revision 2
Prefire Strategy Plan (PF)-64, Unit 3 Reactor Building, 88' Elevation, Reactor Sump Pump Room, Fire Zone 64
PF-59, Unit 2, Reactor Building, High Pressure Coolant Injection Room, 88' Elevation, Fire Zone 59
PF-60, Unit 2, Reactor Building, Reactor Core Isolation Coolant Room, 88' Elevation, Fire Zone 60
PF-61, Unit 2, Reactor Building 88' Elevation, Reactor Sump Pump Room, Fire Zone 61
PF-63, Unit 3 Reactor Building RCIC Room, 88' Elevation, Fire Zone 63

Section 1R07: Heat Sink Performance

RT-X-010-661-2, RHR Heat Exchanger Performance Calculation Test
IR 307538, Assignment 2

Section 1R12: Maintenance Implementation

Monthly Expert Panel Meting Presentation Package, May 25, 2005
Peach Bottom Maintenance Rule Bases Information - System 63, Radiation Monitoring
Peach Bottom Maintenance Rule Bases Information - System 33, Emergency Service Water
Peach Bottom Maintenance Rule Bases Information - System 29B, Service Water Screen Wash
Plant Health Committee System Presentation Material, March 2005, Sections for Radiation Monitoring and Emergency Service Water Systems
Quarterly System Health Report, System 33, Emergency Service Water
Action Request (AR) A1460113
AR A1467504
AR A1275804
IR 216660
IR 216657
IR 246290
IR 242433
IR 254840
IR 299802
IR 337465
IR 343176
IR 229903
IR 230180
IR 233367
IR 116757
IR 220763
IR 308116
IR 209005
GL 91-05 Licensee Commercial Grade Procurement and Dedication Program
SM-AA-300 Procurement Engineering Support Activities
HU-AA-1212 Technical Task/Rigor Assessment, Pre-Job Brief, Independent Third Party Review, and Post-Job Brief
Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation)
ST-O-023-301-3, HPCI Pump, Valve, Flow and Unit Cooler Functional and In-service Test
S13F-23-82-XXC2, Calibration Check of HPCI Flow Instruments
Action Request 1479967
Information Notice 97-16, Preconditioning of Plant Structures, System, and Components Before ASME Code Inservice Testing or Technical Specification Surveillance Testing
IR 331542
Limerick Pre-operational Test Change Notice for SBLC dated February 14, 1989
GE Memo “SLCS Accumulators” dated January 11, 1995
NRC Inspection Manual Part 9900: Technical Guidance, Maintenance - Preconditioning of SSC’s Before Determining Operability
ST-O-011-301-2, Standby Liquid Control Pump Functional Test for IST

DBD P-S-38 Standby Liquid Control System
ECR 99-389 SBLC Discharge RV Site Pressure Discrepancy
Ingersoll-Rand Cameron Hydraulic Data
Susquehanna Calculation EC-053-1001
SSES Calculation EC-053-0503
IR 264621

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

Regulatory Guide 1.160, Monitoring the Effectiveness of Maintenance at Nuclear Power Plants
Regulatory Guide 1.182, Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants
IR 330923
IR 329197

Section 1R14: Personnel Performance During Non-routine Plant Evolutions

IR 328735
IR 326706
Action Request 1512641
Drawing 288-C-VC-1, Sheet 1
RO786125 dated October 18, 2004
ST-O-094-400-2, Stroke Time Testing of Valves for Post-Maintenance Testing
IR 328880
ECR 04-172, Evaluate Material Substitution for MO-2-23-014
ST-O-57B-710-3, 3AD001 and 3CD001 Station Battery Quarterly Inspection
Action Request 1518624
Action Request 1518622
Action Request 1514617
ST-O-57B-750-3 125/250, VDC Station Battery Weekly Inspection
Action Request 1416421
Work Order CO213872
057-003 Battery Cell Charging
IR 336904
RT-O-052-251-2, E1 Diesel Generator Inspection Post-Maintenance Functional Test
ST-O-052-411-2, E1 Diesel Generator Fast Start and Full Load Test
IR 337295

Section 1R15: Operability Evaluations

LS-AA-105, Operability Determinations
Exelon Administrative Procedure LS-AA-105, Operability Determinations
CC-AA-309-101, Engineering Technical Evaluations
OP-AA-106-101-1001, Event Response Guidelines
OP-AA-108-111, Adverse Condition Monitoring and Contingency Planning
OP-AA-106-101-1006, Operational and Technical Decision Making Process
IR 315494

IR 261852
OP-AA-106-101-1001, Event Response Guidelines
OP-AA-106-101-1005, Quarantine of Areas, Equipment, and Records
LS-AA-125-1003, Apparent Cause Evaluation Manual
R0786125, MO-2-23-14 - Disassemble, Inspect Internals
C0213614, MO-2-23-14 - Repair Leaking Plug
LS-AA-120, Issue Identification and Screening Process
LS-AA-125, Corrective Action Program (CAP) Procedure
TS Action Log Item 05-2-070
AR A1476378
Work Order CO 211579
T-250-2 RPV Pressure Control Using HPCI with Suction from the CST
T-226-2 Defeating HPCI High Torus Level Suction Transfer and Transferring HPCI Suction to the CST
T-102 Primary Containment Control - Bases
Action Request 1487482

Section 1R16: Operator Work-Arounds

Operator Work-Around Board Meeting Minutes for May 11, 2005, Meeting
Plant Operations Review Board Meeting Number 05-11 Minutes for May 17, 2005

Section 1R17: Permanent Plant Modifications

CC-AA-103, Configuration Change Control

Section 1R19: Post-Maintenance Testing

ST-M-40D-905-2, Control Room Emergency Ventilation Filter Train 'A' Test

Section 1R22: Surveillance Testing

Action Request 902903
SI2L-2-85-A1C2, Calibration Check of Reactor Vessel Compensated Level Instruments LI 2-2-3-85A, LI 2-2-3-85AX, and PR/LR 2-2-3-404A
SI2L-2-72-A1FQ, Functional Test of ECCS 'A' Compensated Trip System
SI2P-13-87-A/B CQ, Calibration Check of RCIC Low Steam Pressure Instrument PS 2-13-87 A/B
SI2P-13-87-C/D 1 CQ, Calibration Check of RCIC Low Steam Pressure Instrument PS 2-13-87 C/D

Section 1R23: Temporary Plant Modification

PB 05-273 TCP for 2A Recirc Pump Speed Indication
Action Request 1512120

Section 1EP4: Emergency Action Level (EAL) and Emergency Plan (E-Plan) Changes

Exelon Standard Emergency Plan and Implementing Procedures
Peach Bottom Annex Emergency Plan

Section 1E6: Drill Evaluations

IR 348063, ERO DEP JPM Performance
IR 349117, EP Drill Schedule Not Communicated to Simulator Scheduler
IR 348689, MCR Not Promptly Notified of TSC Issue
IR 348390, TSC Emergency Ventilation Will Not Start
IR 348087, TSC Normal Ventilation Problems

Section 4OA2: Problem Identification and Resolution

IR 221323
IR 224744
IR 221018
IR 244410
OP-AA-106-101-1006, "Operational and Technical Decision Making Process", Rev. 1
ST-O-023-301-2, "HPCI Pump, Valve, Flow, and Unit Cooler Functional and In-Service Test", performed 3/1/2005
RT-O-23A-450-2, "HPCI Lube Oil System Setup and Functional", performed 3/16/2005
LS-AA-125-1001, "Root Cause Analysis Manual", Rev.4
A-C-008:A (P), "Locked Valve List - PBAPS Unit #2", Rev. 8
A-C-008:C (P), "Locked Valve List - PBAPS Common", Rev. 5

Section 4OA5.1: Operation of an ISFSI

Procedure SF-420, Radiation Protection Requirements During Spent Fuel Cask Loading and Transport Operations
Procedure SF-140, Independent Spent Fuel Storage Training Program Plan
Procedure SF-300, TN-68 Cask Spent Fuel Assemblies Storage Selection and Document Requirements
Procedure SF-220, Spent Fuel Cask Loading and Transport Operations
Routine Tests RT-H-071-901-1 and 901-2, ISFSI Monthly Inspection, Radiation Survey and Quarterly Thermoluminescent Dosimeter (TLD) Exposure Results Review
ECR Number PB 05-0090-000, Update Review Dose Calculations for 2005/2006 (ISFSI)
IR 00208629, Assignment numbers 01, 02, 18, 19, 20, 21, 23, 27 and 28, - Various ISFSI activities
IR 00268159, Assignment numbers 01 and 02 - ISFSI Audit Report (Nov 2004)
Certificate of Compliance Number 1027, Amendment 0, for the Transnuclear, Inc Model TN-68 Dry Storage Cask
Peach Bottom ISFSI Report 72.212 Report
ALARA Plan #05-09, ISFSI Campaign
Recurring Task Work Order R0952781, Annual Inspection of Unit 3 Reactor Building Overhead Crane
Recurring Task Work Order R0999767, Frequent Crane Inspection of Unit 3 Reactor Building Overhead Crane

Exelon Nuclear Procedure MA-AA-716-022, Control of Heavy Loads
PECO Nuclear Procedure A-C-190, Control of Heavy Loads
Exelon Nuclear Procedure M-C-700-332, Rigging and Handling Heavy Loads
Routine Test, RT-W-071-901-2, ISFSI Cask and Storage Area Inspection

Section 4OA5.2: TI 2515/163, Operational Readiness of Offsite Power

Procedure LS-AA-1020, Reportability Reference Manual
LS-AA-1400, Event Reporting Guidelines (10 CFR 50.72 and 50.73)
Procedure WC-AA-101, On-Line Work Control Process
Action Tracking Item 289216-94-02
Procedure WC-AA-101, On-Line Work Control Process
Special Event Procedure SE-16, Grid Emergency
Administrative Guideline, AG-CG-43, Guideline for the Performance of System Outages
Special Event Procedure, SE-11, Loss of Off-Site Power

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
ALARA	as low as reasonably achievable
APRM	average power range monitor
CAP	corrective action program
CoC	certificate of compliance
CR	condition report
CREV	control room emergency ventilation
CST	condensate storage tank
DBD	design base document
EAL	Emergency Action Level
ECR	engineering change request
EDG	emergency diesel generator
EHC	electrohydraulic control
EO	equipment operator
EP	Emergency Preparedness
E-Plan	Emergency Plan
ESW	emergency service water
HPCI	high pressure coolant injection
HPSW	high pressure service water
IR	issue report
ISFSI	independent spent fuel storage installation
LER	licensee event report
MO	motor operated
NCV	non-cited violation
NRC	Nuclear Regulatory Commission
OCs	operator challenges
OSP	offsite power
OWAs	operator work-arounds
PARS	publicly available records system

PBAPS	Peach Bottom Atomic Power Station
RCIC	reactor core isolation coolant
RHR	residual heat removal
SBLC	standby liquid control
SDP	significance determination process
SSC	system, structure, or component
TS	Technical Specification
TSC	Technical Support Center
UFSAR	Updated Final Safety Analysis Report
WO	work order