UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
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KING OF PRUSSIA, PA 19406-1415

May 6, 2011

Mr. Michael J. Pacilio
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION - NRC INTEGRATED INSPECTION REPORT 05000277/2011002 AND 05000278/2011002

Dear Mr. Pacilio:

On March 31, 2011, the U. S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. The enclosed integrated inspection report documents the inspection results, which were discussed on April 29, 2011, with Mr. Thomas Dougherty 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.

Based on the results of this inspection, one finding of significance was identified. This finding was determined to involve a violation of NRC requirements. Additionally, two licensee-identified violations which were determined to be of very low safety significance are listed in this report. However, because of the very low safety significance and because the findings have been entered into your correction action program (CAP), the NRC is treating the findings as a non-cited violations (NCVs), consistent with Section 2.3.2 of the NRC's Enforcement Policy.

If you contest any of the 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, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, U. S. NRC, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at the PBAPS. If you disagree with the cross-cutting aspect to the finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I and the NRC Senior Resident Inspector at PBAPS. The information you provide will be considered in accordance with Inspection Manual Chapter (IMC) 0305.

In accordance with Title 10 of the Code of Federal Regulations (CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) 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 Website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

Paul G. Krohn

Paul G. Krohn, Chief
Projects Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000277/2011002 and 05000278/2011002
w/Attachment: Supplemental Information

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Sincerely,

/RA/
Paul G. Krohn, Chief
Projects Branch 4
Division of Reactor Projects

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REGION I

Docket Nos.:	50-277, 50-278
License Nos.:	DPR-44, DPR-56
Report No.:	05000277/2011002 and 05000278/2011002
Licensee:	Exelon Generation Company, LLC
Facility:	Peach Bottom Atomic Power Station, Units 2 and 3
Location:	Delta, Pennsylvania
Dates:	January 1, 2011 through March 31, 2011
Inspectors:	F. Bower, Senior Resident Inspector A. Ziedonis, Resident Inspector C. Crisden, Emergency Preparedness Specialist J. D'Antonio, Senior Operations Engineer T. Fish, Senior Operations Engineer S. Hammann, Senior Health Physicist J. Schoppy, Senior Reactor Inspector
Approved by:	Paul G. Krohn, Chief Reactor Projects Branch 4 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000277/2011002, 05000278/2011002; 01/01/2011 - 03/31/2011; Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3; Other Activities.

The report covered a three-month period of inspection by resident inspectors and announced inspections by a regional emergency preparedness specialist, two senior operations engineers, a senior health physicist, and a senior reactor inspector. One self-revealing finding was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using 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. Cross-cutting aspects associated with findings are determined using IMC 0310, "Components Within The Cross-Cutting Areas," dated February 2010. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstones: Barrier Integrity

- Green. A Green self-revealing NCV of Technical Specification (TS) 5.4.1 "Procedures" was identified, because PBAPS's procedures for refueling equipment operation and core alterations were inadequate to prevent a fuel bundle from contacting a core spray inspection (CSI) submarine device while the fuel bundle was being transported from the core to the spent fuel pool (SPF). In particular, system operating (SO) procedure 18.1.A-2, "Operation of Refueling Platform," and fuel handling (FH) procedure 6C, "Core Component – Core Transfers," did not provide sufficient procedure steps, precautions, or human performance tools to prevent contact while the refueling platform was operated in the automatic mode and when core components were in close proximity to obstructions and interferences.

  The inspectors determined that the finding was more than minor because the finding was associated with the Procedure Quality attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone's objective to provide reasonable assurance that physical design barriers (i.e., fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although no fuel damage occurred during this event, the inadequate procedure resulted in a FH event that could have impacted the cladding and affected the cornerstone's objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. IMC 0609, "SDP," Attachment 0609.04, "Phase 1-Initial Screening and Characterization of Findings," was used to evaluate the significance of the finding. Attachment 0609.04, Table 4a, was used to evaluate the impact of the finding on fuel clad integrity. Appendix G was considered for the evaluation, but was not used because it does not directly address fuel clad integrity. Based on the results of fuel sipping done in February 2011, PBAPS concluded that there was no damage to the clad integrity of the impacted fuel bundle that was permanently discharged to the SFP. Since the finding did not affect SFP cooling or inventory and since there was no damage to fuel clad integrity from the impact with the CSI submarine, the finding was determined to be of very low safety significance (Green).

The finding has a cross-cutting aspect in Human Error Prevention Techniques in the Work Practices component of the Human Performance area. Specifically, PBAPS FH procedures did not require human error prevention techniques that were commensurate with the risk of moving fuel in close proximity to obstructions and interferences. (Section 4OA5.1) [H.4(a)]

Other Findings

Two violations of very low safety significance, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's CAP. These violations and the licensee's corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 2 began the inspection period at 100 percent rated thermal power (RTP) where it generally remained until the end of the inspection period, except for brief periods to support planned testing, maintenance, and rod pattern adjustments.

Unit 3 began the inspection period at 100 percent RTP where it generally remained until the end of the inspection period, except for brief periods to support planned testing, maintenance, and rod pattern adjustments.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04 - 5 Samples)

.1 Partial Walkdown (71111.04Q - 4 Samples)

a. Inspection Scope

The inspectors performed a partial walkdown of four systems to verify the operability of redundant or diverse trains and components when safety-related equipment was inoperable. The inspectors performed walkdowns to identify any discrepancies that could impact the function of the system and potentially increase risk. The inspectors reviewed selected applicable operations procedures, walked down system components, and verified that selected breakers, valves, and support equipment were in the correct position to support system operation. Documents reviewed during the inspection are listed in the Attachment. The four systems reviewed were:

- Unit 3 high pressure coolant injection (HPCI) during reactor core isolation cooling (RCIC) planned maintenance;
- Unit 3 'A' train of residual heat removal (RHR) during 'B' train planned maintenance;
- Unit 2 'A' train of core spray (CS) during 'B' train planned maintenance; and
- Unit 3 'B' train of RHR during 'A' train planned maintenance.

b. Findings

No findings were identified.

.2 Complete Walkdown (71111.04S - 1 Sample)

a. Inspection Scope

The inspectors performed a complete walkdown of the accessible portions of the Unit 2 'B' train of the CS system to verify adequate alignment of the system to successfully perform its safety function, to satisfy TS 3.5.1 operability, and to assess general material condition of the system in the plant. Inspector walkdowns were performed in all accessible portions of the plant during full power operation, including the main control

room panels. The inspectors reviewed system drawings and operating procedures to verify that the system alignment was properly translated into procedures and drawings. The inspectors discussed system operation with the plant operators, and reviewed issue reports to verify that Unit 2 CS system 'B' train issues were properly being identified, evaluated, and corrected. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q - 6 Samples)

.1 Fire Protection - Tours (5 Samples)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment. The inspectors reviewed areas to assess whether PBAPS had implemented the Peach Bottom Fire Protection Plan (FPP) and adequately: controlled combustibles and ignition sources within the plant; maintained fire detection and suppression capability; and maintained the material condition of passive fire protection features. For the areas inspected, the inspectors also verified that PBAPS had followed the Technical Requirements Manual (TRM) and the FPP when compensatory measures were implemented for out-of-service (OOS), degraded or inoperable fire protection equipment, systems, or features. The inspectors verified: that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient combustible materials were managed in accordance with plant procedures; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. Documents reviewed during the inspection are listed in the Attachment. The inspectors toured the following areas:

- Unit 3 'A' and 'C' RHR rooms – elevations 116' and 91'-6" (Fire Zones 11 and 12A);
- Unit 2 'A' and 'C' CSI and pump rooms – elevations 116' and 91'-6" (Fire Zones 5A, 5B and 5F);
- Unit 3 'B' and 'D' RHR rooms – elevations 116' and 91'-6" (Fire Zones 9 and 10);
- Hydrogen cylinder storage (Fire Zone 150); and
- Unit 2 radwaste building, reactor building closed-cooling water (RBCCW) room – elevation 116'-0".

.2 Fire Drill (1 Sample)

a. Inspection Scope

On March 16, the inspectors observed the performance of a fire drill scenario in the Unit 3 turbine building, 166' elevation, reactor feed pump / chiller area (Fire Zone 78L). The inspectors observed the drill to determine the readiness of the plant fire brigade to respond and combat fires. The inspectors focused the inspection of the fire brigade response, donning of the protective gear, fire brigade leader command and control, radio communication between the fire brigade leader and main control room, execution of the

"two-in, two-out" approach, conformance with the fire drill scenario, execution of the drill objectives, and returning of firefighting equipment to a state of readiness.

The inspectors observed the post-drill critique to determine whether weaknesses and/or failures were appropriately identified, thoroughly and openly discussed in a self-critical manner, and that appropriate training and learning opportunities were identified and discussed. The inspectors also verified that issues discussed at the post-drill critique were appropriately documented to develop corrective actions for future training. The inspectors verified that RT-F-101-922-2, "Fire Drill," was completed to record the fire drill scenario that was used, measure performance of the drill objectives, and capture the critique results. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R06 Internal Flood Protection (71111.06 - 1 Sample)

Underground Cables (1 Sample - Underground Cables)

a. Inspection Scope

The Exelon Nuclear Cable Condition Monitoring Program is controlled under procedure ER-AA-3003, "Cable Condition Monitoring Program." The annual preventive maintenance inspection of all manholes containing safety-related and Maintenance Rule (MR) scoped cables was begun during this inspection period (work order (WO) R1174133). From this inspection population, the inspectors selected three manholes (MH-40, 16A, and 16B) containing underground safety-related cables and one manhole (MH-004) containing underground cables within the scope of the MR as an internal flood protection measures sample for review. The inspectors directly observed the interior of the subject manholes and the associated cabling after the covers had been removed to determine whether cables in each of the four manholes inspected were submerged. The inspectors reviewed the work instructions to verify that PBAPS's inspections verify through direct observation: whether the cables in manholes are submerged in water; that the cables and/or splices and their supports are not damaged or degraded; and that the manhole drainage system, if installed, is functioning properly. The inspectors verified that issue reports (IRs) were being initiated for identified discrepancies and were entered into the CAP. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No new findings were identified since NCVs 05000277 and 278/2009005-01 were previously issued.

1R07 Heat Sink Performance (71111.07 - 1 Sample)

a. Inspection Scope

The inspectors selected for review the thermal performance testing of the Unit 2 'A' RHR room cooler as one annual sample. This safety-related water (emergency service water (ESW)) to air heat exchanger (HX) is needed to provide the ventilation flow and cooling that assures operability of the pump room's engineered safeguards equipment and the

associated auxiliary equipment. To verify the readiness and availability of the fan cooling unit, the inspectors reviewed the data collected by RT-I-033-631-2, "RHR Room Cooler ESW Heat Transfer Test," for any obvious problems or errors. The inspectors independently verified that the test data was correctly transferred into the HX performance computer model and verified that the test acceptance criteria were met. The inspectors also verified that the acceptance criteria were supported by the design basis calculation, PM-0958, "RHR/CS Pump Room Temperatures (post-loss-of-coolant accident) for 95° F River Temperature," Revision 2. Additionally, the inspectors reviewed selected portions of the "Balance HX Utility Theoretical and Verification Manual," that supports the HX performance computer model used by PBAPS. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 - 3 Samples)

.1 Resident Inspector Quarterly Review (71111.11Q - 1 Sample)

a. Inspection Scope

On January 31, 2011, the inspectors observed a simulator-based licensed operator evaluation, during requalification training, to assess licensed operator performance and the evaluator's post-scenario critique. The inspectors evaluated crew performance in the areas of:

- Clarity and formality of communications;
- Ability to take timely actions;
- Prioritization, interpretation, and verification of alarms;
- Procedure usage;
- Timely control board manipulations with a focus on high-risk operator actions;
- Shift supervisor command and control, including identification and implementation of TSs, event classification and emergency response actions; and
- Group dynamics involved in crew performance.

The inspectors verified that any crew performance issues and weaknesses were discussed in the post-scenario critique. The inspectors also verified simulator physical fidelity, to ensure that the simulator arrangement closely paralleled the main control room. Documents reviewed during the inspection are listed in the Attachment. These activities constituted one quarterly licensed operator requalification training program inspection sample.

b. Findings

No findings were identified.

.2 Biennial Limited Senior Reactor Operator (LSRO) Requalification Program (71111.11B - 1 Sample)

a. Inspection Scope

On March 7, 2011, one NRC region-based inspector conducted an in-office review of the results of licensee-administered comprehensive written exams for the LSRO Requalification Program for 2010. The inspection assessed whether pass rates were consistent with the guidance of NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance SDP." The inspector verified that:

- Individual pass rates on the written exam were greater than or equal to 80 percent. (Pass rate was 80 percent); and
- Two individuals who failed the original written exam passed their remediation exam.

b. Findings

No findings were identified.

.3 Biennial Licensed Operator Requalification Program (71111.11B - 1 Sample)

a. Inspection Scope

The following inspection activities were performed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, Inspection Procedure (IP) Attachment 71111.11, "Licensed Operator Requalification Program," Appendix A, "Checklist for Evaluating Facility Testing Material," and Appendix B, "Suggested Interview Topics."

A review was conducted of recent operating history documentation found in inspection reports, licensee event reports (LERs), and the licensee's CAP. The inspectors also reviewed specific events from the licensee's CAP which indicated possible training deficiencies, to verify that they had been appropriately addressed. The senior resident inspector was also consulted for insights regarding licensed operators' performance. These reviews did not detect any operational events that were indicative of possible training deficiencies.

The operating tests for the week of March 7, 2011, were reviewed for quality and performance.

On March 18, 2011, the results of the annual operating tests for year 2011 were reviewed to determine if pass fail rates were consistent with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance SDP." The review verified the following:

- Individual pass rates on the dynamic simulator test were greater than 80 percent. (Pass rate was 98.4 percent);
- Crew pass rates were greater than 80 percent. (Pass rate was 100 percent);
- Individual pass rates on the job performance measures (JPM) of the operating examination were greater than 80 percent. (Pass rate was 100 percent); and

- More than 75 percent of the individuals passed all portions of the examination. (98.4 percent of the individuals passed all portions of the examination).

Observations were made of the dynamic simulator examinations and JPMs administered during the week of March 7, 2011. These observations included facility evaluations of crew and individual performance during the dynamic simulator examinations and individual performance of seven JPMs.

The remediation plans for two written failures (the comprehensive written was administered in February and March of 2010) were reviewed to assess the effectiveness of the remedial training.

Two license reactivation records were reviewed to ensure that 10 CFR 55.53 license conditions and applicable program requirements were met.

Operators, instructors, and training/operation's management were interviewed for feedback on their training program and the quality of training received.

Simulator performance and fidelity were reviewed for conformance to the reference plant control room.

A sample of records for requalification training attendance, program feedback, reporting, and medical examinations were reviewed for compliance with license conditions, including NRC regulations.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q - 2 Samples)

a. Inspection Scope

The inspectors evaluated PBAPS's work practices and follow-up corrective actions for safety-related structures, systems, and components (SSC's) and identified issues to assess the effectiveness of PBAPS's maintenance activities. The inspectors reviewed the performance history of SSCs and assessed PBAPS's extent-of-condition (EOC) determinations for those issues with potential common cause or generic implications to evaluate the adequacy of the PBAPS's corrective actions. The inspectors assessed PBAPS's problem identification and resolution (PI&R) actions for these issues to evaluate whether PBAPS had appropriately monitored, evaluated, and dispositioned the issues in accordance with Exelon procedures, including ER-AA-310, "Implementation of the MR," and the requirements of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance." In addition, the inspectors reviewed selected SSC classifications, performance criteria and goals, and PBAPS's corrective actions that were taken or planned, to evaluate whether the actions were reasonable and appropriate. Documents reviewed during the inspection are listed in the Attachment. The inspectors performed the following two samples:

- Unit 2 - Primary Containment Isolation Valves MR (a)(1) Determination (IR 1165384); and

- Manhole Water Intrusion System Deficiencies (IR 1179383).

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 7 Samples)

a. Inspection Scope

The inspectors evaluated PBAPS's implementation of the Maintenance Risk Program with respect to the effectiveness of risk assessments performed for maintenance activities that were conducted on SSC's. The inspectors also verified that PBAPS managed the risk in accordance with 10 CFR Part 50.65(a)(4) and procedure WC-AA-101, "On-line Work Control Process." The inspectors evaluated whether PBAPS had taken the necessary steps to plan and control emergent work activities and to manage overall plant risk. The inspectors selectively reviewed PBAPS's use of the online risk monitoring software and daily work schedules. Documents reviewed during the inspection are listed in the Attachment. The activities selected were based on plant maintenance schedules and systems that contributed to risk. The inspectors completed seven evaluations of maintenance activities on the following:

- Unit 3 essential bus E-13 overcurrent relay replacement (WO 1151273);
- Unit 3 reactor protection system (RPS) motor-generator (MG) set voltage adjustments (troubleshooting, rework and test (TRT) 11-02);
- Unit 2 HPCI maintenance (Clearance 10002255) concurrent with breaker E-342 maintenance (Clearance 10002265);
- Unit 3 RCIC unavailability and yellow on-line risk condition due to planned maintenance (Clearance 11000074);
- Unit 3 'B' train of RHR unavailability and yellow on-line risk condition due to planned maintenance (Clearance 10002305);
- Risk management actions associated with Unit 2 'B' CS planned maintenance (Clearance 100011446); and
- Unit 2 post-accident monitoring (PAM) power supply (IRs 1170369 and 1170050).

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15 - 7 Samples)

a. Inspection Scope

The inspectors reviewed seven issues to assess the technical adequacy of the operability determinations, the use and control of compensatory measures, and compliance with the licensing and design bases. Associated adverse condition monitoring plans (ACMPs), engineering technical evaluations, and operational and technical decision making (OTDM) documents were also reviewed. The inspectors verified these processes were performed in accordance with the applicable administrative procedures and were consistent with NRC guidance. Specifically, the inspectors referenced procedure OP-AA-108-115, "Operability Determinations," and

NRC IMC Part 9900, "Operability Determinations & Functionality Assessments for Resolutions of Degraded or Nonconforming Conditions Adverse to Quality or Safety." The inspectors also used TSs, TRM, Updated Final Safety Analysis Report (UFSAR), and associated design basis documents (DBDs) as references during these reviews. Documents reviewed during the inspection are listed in the Attachment. The following degraded equipment issues were reviewed:

- Switch # 3G3 increase heating on 'C' phase ball side finger (IR 1164998);
- OTDM for independent spent fuel storage installation (ISFSI) Cask #50 seal weld repair plan (IR 1129931);
- 3 'A' RHR HX - RHR (shell) to high pressure service water (HPSW) (tube) leak (IR 694879);
- E-4 emergency diesel generator (EDG) governor actuator speed knob not set to value required by surveillance test (ST) (IR 1174526);
- OD 11-02 for MO-26A leakage (IR 1178455);
- OD 11-01 for General Electric safety communication 11-01 impact on Unit 2 marathon control blades (IR 1177911); and
- Part 21 for Fairbanks Morse engine bearings (IR 1172280).

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 - 2 Samples)

.1 Permanent Modifications (1 Sample)

a. Inspection Scope

The inspectors reviewed one permanent modification to verify that modification implementation did not place the plant in an unsafe condition. The review was also conducted to verify that the design bases, licensing bases, and performance capability of risk significant SSCs had not been degraded as a result of these modifications. The inspectors verified the modified equipment alignment through control room instrumentation observations; UFSAR, drawings, procedures, and WO reviews; staff interviews; and plant walkdowns of accessible equipment. Documents reviewed are listed in the Attachment. The following engineering change request (ECR) for a permanent modification was reviewed:

- ECR 11-00062, ECR Required to Revise Calculation 49-48/F (Standby Liquid Control Tanks and Pump Suctions Seismic Analysis).

b. Findings

No findings were identified.

.2 Temporary Modifications (1 Sample)

a. Inspection Scope

The inspectors reviewed the following temporary modification to ensure that it did not adversely affect the availability, reliability, or functional capability of any risk significant SSCs, and to verify that modification implementation did not place the plant in an unsafe condition. The inspectors reviewed the applicable ECR, supporting documentation, and discussed the modification with engineering and maintenance, and operations personnel. The control of the modifications was compared to the regulatory requirements, regulatory guidance documents for on-line leak repairs, industry standards, and PBAPS procedural requirements. The inspectors also verified that the leak repair plan was consistent with the modification documentation, and that the drawings and the post-installation testing was adequate. Documents reviewed during the inspection are listed in the Attachment.

ECR 10-00405, Pressure Seal Steam Leak.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 - 6 Samples)

a. Inspection Scope

The inspectors reviewed completed test records or observed selected post-maintenance testing (PMT) activities. The inspectors verified whether the tests were performed in accordance with the approved procedures or instructions 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 evaluate whether the test demonstrated that components satisfied the applicable design and licensing bases and the TS requirements. The inspectors reviewed the recorded test data to verify that the acceptance criteria were satisfied. Documents reviewed during the inspection are listed in the Attachment. The inspectors reviewed six PMTs performed in conjunction with the following maintenance activities:

- Unit 3 'C' HPSW pump, valve and flow and functional in-service test (IST) following pump replacement and PI-3-32-3381A (C0235988 and M1789109);
- Standby gas treatment system (SBGTS) filter train 'B' testing following planned maintenance (WO R1153751);
- Unit 2 'B' RBCCW HX maintenance (WO R0930987);
- Control rod (CR) stroke speed timing and CR scram timing on Unit 3 CR 46-39 after corrective maintenance to rod drift (WO C0236428-05);
- E-3 EDG standby lube oil pump motor starter replacement (WO M1792292); and
- Unit 2 RCIC pump, valve, flow and unit cooler functional and IST following testing and maintenance on MO-2-12-018 (WO R0931306).

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 - 8 Samples)

a. Inspection Scope (6 Routine Surveillances; 1 RCS Leak Detection; and 1 IST Sample)

The inspectors reviewed or observed selected portions of the following STs, 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 TS requirements, and were capable of performing design basis functions. Documents reviewed during the inspection are listed in the Attachment. The eight STs reviewed or observed included:

- ST-O-020-560-2/3, Units 2 & 3 - Reactor Coolant Leakage Test (RCL) [1 RCS Leakage Sample];
- ST-O-010-301-3, 'A' RHR Pump, Valve, Flow, and Unit Cooler Functional and IST, performed 01/11/11 [1 IST Sample];
- ST-O-014-301-3, CS LOOP 'A' Pump, Valve, Flow, and Cooler Functional and IST, performed 01/19/11;
- M-018-107, Control of Fuel Bundle Vacuum Sipping, performed 01/10/11 – 02/04/11;
- ST-M-09A-601-2, SBGTS Filter Train 'B,' performed 02/19/11;
- SI2M-60F-RT11-A2M2, Response Time Test of Main Steam Line High Radiation Scram Channels, performed 03/04/11;
- ST-O-052-703-2, E-3 Diesel Generator 24 Hour Endurance Test, performed 03/10 - 11/2011; and
- ST-O-023-350-2, HPCI Valve Alignment and Filled and Vented Verification, performed 03/15/2011, 03/17/2011, and 03/18/2011.

b. Findings

No findings were identified.

Emergency Preparedness (EP)

1EP2 Alert and Notification System (ANS) Evaluation (71114.02 - 1 Sample)

a. Inspection Scope

A review of the Peach Bottom ANS was conducted to assess current maintenance and testing practices. The inspectors reviewed ANS maintenance and testing procedures, maintenance and test records, and the updated Peach Bottom ANS design report to ensure Exelon's compliance with design report commitments for system maintenance and testing. A sample of condition reports (CRs) pertaining to the ANS was reviewed for causes, trends, and corrective actions. During the inspection, the inspectors interviewed the ANS System Manager to discuss system performance and upgrades. The inspection was conducted in accordance with NRC IP 71114, Attachment 2. Planning Standard, 10 CFR 50.47(b)(5) and the related requirements of 10 CFR 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization (ERO) Staffing and Augmentation System (71114.03 - 1 Sample)

a. Inspection Scope

The inspectors conducted a review of Peach Bottom's ERO augmentation staffing requirements and the process for notifying and augmenting the ERO. This was performed to ensure the readiness of key licensee staff to respond to an emergency event and to ensure Exelon's ability to activate their emergency facilities in a timely manner. The inspectors reviewed the Peach Bottom Emergency Plan, Peach Bottom ERO duty roster, station augmentation reports, and CRs related to the ERO staffing augmentation system. The inspectors also reviewed a sampling of ERO responders training records to ensure training and qualifications were up-to-date. During emergency events and exercises, the Emergency Offsite Facility is staffed by Exelon Mid-Atlantic corporate staff. A review of the corporate ERO duty roster, augmentation results, and training records was also conducted. The inspection was conducted in accordance with NRC IP 71114, Attachment 3. Planning Standard, 10 CFR 50.47(b)(2) and related requirements of 10 CFR 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes (71114.04 - 1 Sample)

a. Inspection Scope

Since the last NRC inspection of this program area, Exelon implemented various changes to their standard Emergency Plan, the Peach Bottom Emergency Plan Annex, and implementing procedures. Exelon had determined that, in accordance with 10 CFR 50.54(q), any change made to the Plan, and its lower-tier implementing procedures, had not resulted in any decrease in effectiveness of the Plan, and that the revised Plan continued to meet the standards in 50.47(b) and the requirements of 10 CFR 50, Appendix E. The inspectors reviewed all EAL changes, including changes to the security EALs as endorsed by Nuclear Energy Institute (NEI) 99-02, Revision 5. A sample of emergency plan changes, including the changes to lower-tier emergency plan implementing procedures, were evaluated for any potential decreases in effectiveness of the Standard Emergency Plan and the Peach Bottom Emergency Plan Annex. However, this review by the inspectors was not documented in an NRC Safety Evaluation Report (SER) and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety. The inspection was conducted in accordance with NRC IP 71114, Attachment 4. The requirements in 10 CFR 50.54(q) were used as reference criteria.

b. Findings

No findings were identified.

1EP5 Correction of EP Weaknesses (71114.05 - 1 Sample)

a. Inspection Scope

The inspectors reviewed a sampling of self-assessment procedures and reports to assess Exelon's ability to evaluate their Peach Bottom EP Performance and program. The inspectors also reviewed drill reports, a 10 CFR 50.54(t) audit, and an EP performance report. A sampling of CRs initiated by Exelon at Peach Bottom from drills and audits between June 2010 and February 2011 were reviewed. The inspectors also conducted a similar review for the Mid-Atlantic EP corporate functions. This inspection was conducted in accordance with NRC IP 71114, Attachment 5, Planning Standard, 10 CFR 50.47(b)(14) and the related requirements of 10 CFR 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06 - 1 Sample)

.1 Simulator Training Observation (1 Simulator Training Sample)

a. Inspection Scope

During swing shift hours on January 31, 2011, the inspectors observed the classification and notification aspects of a licensed operator requalification training examination scenario in the PBAPS simulator. The scenario was conducted, in part, to provide drill and exercise performance (DEP) opportunities for the DEP performance indicator (PI). The inspectors reviewed the conduct of the simulator exercise to identify any weaknesses and deficiencies in classification and notification activities. The inspectors observed the evaluation, classification, and notification of the simulated events to ensure they were accurate, timely, and were done in accordance with EP-AA-1007, "Exelon Nuclear Radiological Emergency Plan Annex for PBAPS." The inspectors verified that the drill evaluators correctly counted the drill's contribution in the calculation of the DEP PI. The inspectors verified that training evaluators captured the results for the DEP PI. The inspectors also verified that any weaknesses or deficiencies were captured and discussed during the critique of the training exercise, in order to properly identify and correct any weaknesses. Documents reviewed during the inspection are listed in the Attachment. The following simulated event was classified during this training exercise:

- MS3 - Site Area Emergency, Failure of RPS Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a RPS Has Been Exceeded and Manual Scram Was NOT Successful.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151 - 9 Samples)

Cornerstone: Initiating Events

.1 Mitigating Systems PIs (71151 - 6 Samples)

a. Inspection Scope

The inspectors reviewed a selected sample of the PBAPS's information submitted for the six Mitigating Systems PIs listed below to assess the accuracy and completeness of the data reported to the NRC for these PIs. The PI definitions and the guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 6, and Exelon procedure LS-AA-2200, "Mitigating System Performance Index Data Acquisition and Reporting," Revision 3, were used to verify that procedure and reporting requirements were met. The inspectors reviewed raw PI data collected from October 2009 through September 2010 and compared graphical representations from the applicable PI reports to the raw data to verify the data was included in the report. The inspectors also examined a selected sample of operations logs, LERs, CAP records, equipment clearances, and MR data to verify the PI data was appropriately captured for inclusion into the PI report and that the individual PIs were correctly calculated. Documents reviewed during the inspection are listed in the Attachment.

Units 2 and 3

- Unplanned SCRAMS per 7,000 Critical Hours;
- Unplanned SCRAMS with Complications; and
- Unplanned Power Changes per 7,000 Critical Hours.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

.2 Review of Peach Bottom's EP PIs (71151 - 3 Samples)

a. Inspection Scope

The inspectors reviewed data for Peach Bottom's EP PIs, which are: (1) Drill and Exercise Performance (2) ERO Drill Participation; and (3) ANS Reliability. The inspectors reviewed the PI data and its supporting documentation from the second quarter of 2010 through the fourth quarter of 2010 to verify the accuracy of the reported data. The review of these PIs was conducted in accordance with NRC IP 71151, using the acceptance criteria documented in NEI 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 6.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (PI&R) (71152 - 1 Sample)

.1 Review of Items Entered into the CAP

a. Inspection Scope

As required by IP 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed screening of all items entered into the licensee's CAP. This was accomplished by reviewing the description of each new action request (AR) / IR and attending daily management review committee meetings.

b. Findings

No findings were identified.

.2 Corrective Actions for Multiple Slow CRs (1 Annual Sample)

a. Inspection Scope

In January 2010, Exelon identified a total of 21 slow CRs at Unit 2 while performing scram time testing to meet TS surveillance requirements (SRs) 3.1.4.2 and 3.1.4.3 (see NRC Inspection Report 05000277/2010002, Section 1R12). Exelon determined that the degradation of Viton-A scram solenoid pilot valve (SSPV) diaphragms, installed in 1995, caused the CRs to be slow between CR notch positions 48 and 46. This inspection focused on Exelon's problem identification, evaluation, and resolution associated with the Viton-A SSPV replacements at both units and scram time testing performance trending (Exelon IR 1023827).

The inspectors reviewed Exelon's associated root cause analysis (RCA), EOC review, and short and long-term corrective actions. The inspectors observed portions of SSPV replacement preventive maintenance on four, Unit 3 hydraulic control units (HCUs) and conducted several walkdowns of HCUs at both units to assess the material condition, maintenance practices, and configuration control. The inspectors also reviewed scram time testing results, performance monitoring and surveillance procedures, engineering evaluations, laboratory analysis reports, related industry operating experience (OE), and HCU maintenance history. The inspectors also directly inspected the internal diaphragms from three, Unit 3 SSPVs, installed in 1997 and removed in March 2011, to independently validate Exelon's RCA assumptions associated with which SSPVs contained Viton-A diaphragms.

The inspectors reviewed a sample of CR related problems that Exelon identified and entered into the CAP since February 2010. The inspectors reviewed these issues to verify an appropriate threshold for identifying issues and to evaluate the effectiveness of corrective actions. In addition, the inspectors reviewed corrective action IRs written on issues identified during the inspection to verify adequate problem identification and

incorporation of the problem into the CAP. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings were identified. The inspectors concluded that Exelon had taken timely and appropriate action in accordance with the PBAPS TSs, operating and administrative procedures, and Exelon's CAP. The inspectors determined that Exelon's associated RCA was sufficiently thorough and based on testing (including independent laboratory analysis), sound engineering judgment, and relevant industry OE. Exelon's assigned corrective actions were aligned with the identified causal factors, adequately tracked, appropriately documented, and completed as scheduled.

Based on the documents reviewed, plant walkdowns, and discussions with engineering personnel, the inspectors noted that Exelon personnel identified problems and entered them into the CAP at a low threshold. In response to several minor issues identified by the inspectors, Exelon personnel promptly initiated IRs and/or took immediate action to address the issue.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153 – 3 Samples)

.1 (Closed) LER 05000277/2010002-00, Improperly Fastened Rod Hanger Results in Inoperable Subsystem of ESW (1 Sample)

On September 22, 2010, Engineering personnel determined that a rod hanger (33HB-S143) supporting the discharge pipe of the 'A' ESW pump had not been carrying adequate pipe load prior to recent upgrades of the ESW discharge pipe support system during the week of September 13, 2010. It was determined that the rod hanger condition, prior to September 13, 2010, would have been unacceptable due to its degraded seismic capability. The degraded condition of rod hanger 33HB-S143 only affected the 'A' ESW subsystem during postulated seismic conditions. Since this condition was caused by inadequate original construction installation, this event is considered to be a condition prohibited by TSs due to one subsystem of ESW being inoperable for a time period longer than allowed by TS. The enforcement aspects of this LER review are documented in Section 4OA7. This LER is closed.

.2 (Closed) LER 05000277/2010003-00, Laboratory Analysis Identifies Safety Relief Valve (SRV) and Safety Valve (SV) Set Point Deficiencies (1 Sample)

Based on information received between September 27 and September 30, 2010, from a laboratory performing SRV and SV as-found testing, PBAPS personnel determined that SRV and SV setpoint deficiencies existed with two SRVs and one SV that were installed during the 18th operating cycle for Unit 2. The two SRVs and one SV were determined to have their as-found setpoints in excess of the TS allowable + 1 percent tolerance. The two SRVs and one SV outside of their TS allowable range were within the American Society of Mechanical Engineers (ASME) Code allowable of + 3 percent tolerance. The cause of these valves being outside of their allowable as-found setpoints is due to setpoint drift. The SRVs and SVs were replaced with refurbished valves for the 19th Unit 2 operating cycle. Additionally, LER 2-10-3 stated that PBAPS will pursue a change to the plant's licensing bases to increase SRV and SV setpoint tolerances. The licensee documented the event in IR 1120516. There were no actual safety consequences

associated with this event. This LER reported three previous LERs (3-07-01, 2-06-02, and 3-05-04) that involved a total of eight SRVs and SVs exceeding their TS + 1 percent set point requirement due to setpoint drift. LER 3-07-01 stated that to be more consistent with industry practices, changes to the PBAPS licensing basis would be considered to allow for SRV and SV setpoint tolerances of ± 3 percent as allowed by the ASME code. The enforcement aspects of this LER review are documented in Section 4OA7. This LER is closed.

.3 Event Notice #46373: HPCI Declared Inoperable (1 Sample)

a. Inspection Scope

On March 16, 2011, PBAPS personnel informed the inspectors that an event notification report was planned to meet the requirements of 10 CFR 50.72(b)(3)(v)(D). Subsequently, on March 17, 2011, Event Notice #46677, reported that PBAPS Unit 2 declared the HPCI system inoperable for a condition found during testing which could cause the system to malfunction when swapping suction sources. While Unit 2 HPCI was aligned to the suppression pool suction flow path, unsatisfactory results were obtained while venting for system fill verification, indicating potential voiding of a portion of the pump discharge piping. Unit 2 HPCI remained available while aligned to its normal suction, the condensate storage tank.

At the end of the inspection period, PBAPS's evaluation of this event, under IR 1188457, was ongoing.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 (Closed) Unresolved Issue (URI) 05000277, 278/2010004-02, Potentially Inadequate FH Procedures Lead to Personnel Performance Errors While Handling Fuel

a. Inspection Scope

URI 05000277, 278/2010004-02 documented the potential procedure inadequacy issues that allowed inadequate coordination of simultaneous close proximity activities within the reactor vessel during core alterations and personnel performance error issues while handling fuel in the reactor core and the SFP. These events appeared to be examples where inadequate procedures contributed to FH issues. The issue was unresolved pending completion of PBAPS's investigation and cause evaluation processes under the CAP. The inspectors also reviewed corrective action documents (IRs 1115041, 1117854, 1114828, and 1117251) that are listed in detail in the Attachment to this report. In addition, the inspectors discussed the identified problems and evaluation activities with PBAPS personnel.

b. Findings

Introduction: A Green self-revealing NCV of TS 5.4.1 "Procedures" was identified, because PBAPS's procedures for refueling equipment operation and core alterations

were inadequate to prevent a fuel bundle from contacting a CSI submarine device, while the fuel bundle was being transported from the core to the SFP. In particular, SO procedure 18.1.A-2, "Operation of Refueling Platform," and FH procedure 6C, "Core Component - Core Transfers," Revision 63, did not provide sufficient procedure steps, precautions or human performance tools to prevent contact while the refueling platform was operated in the automatic mode and when core components were in close proximity to obstructions and interferences.

Description: On September 19, 2010, during the performance of fuel movement number 302 of P2R18 core shuffle 1, a fuel bundle (JLM491) contacted a CSI submarine device while being transported from the core to the SFP. The refueling crew initiated the move with the refueling platform in the manual mode due to the close proximity of the fuel bundle location to the CSI submarine. The close proximity of the fuel moves to the CSI submarine was due to a change in the fuel movement methodology that allowed fuel moves to occur across all four quadrants of the core during P2R18, instead of moving fuel on a quadrant by quadrant basis which had been the normal practice for previous outages.

The fuel bundle and refueling platform mast were directly adjacent to the CSI submarine's umbilical cord as the fuel bundle was hoisted out of the its core location. Once the refueling platform operator (RPO) believed he was clear of the CSI submarine, he changed the operating mode of the refueling platform from manual to automatic. Then, the refueling platform proceeded in the automatic mode towards the SFP and the fuel bundle made contact with a thruster attached to the rear of the CSI submarine.

On September 18, 2010, during fuel moves for P2R18 core shuffle 1, a second safety spotter on the bridge had the bridge stopped to avoid making contact with the CSI submarine. The refueling platform was in automatic operation at the time of this near-miss event, and it was noted in IR 1114828 that the crew's failure to anticipate the path of the bridge in automatic may have contributed to this near-miss condition occurring. The crew stopped fuel movement to review the event. The crew reevaluated whether it was more appropriate to use manual control while in the vicinity of the CSI submarine.

After a review of the fuel and core component handling procedures, the inspectors noted that the procedures did not require a dedicated safety spotter for refueling bridge operations in close proximity to the CSI submarine or other in-vessel obstructions and interferences not protected by the boundary zone computer. Also, the procedures did not provide the refueling platform crew with guidance regarding when manual operation of the platform would be required in lieu of automatic operation or whether independent verification or supervisor approval would be required for changing the refueling platform's mode of operation. The inspectors concluded that the corrective actions for this near-miss event were inadequate to prevent the collision event that occurred on the following night, September 19, 2010.

PBAPS performed a causal evaluation of the September 19, 2010, event that documented that the refueling crew was aware of the proximity of the fuel moves to the CSI submarine. It was noted that the crew decided to place the refueling platform in the manual mode; however, they did not discuss when the refueling platform could be placed back into the automatic mode and no crew member was assigned to verify a clear path from the core to the SFP. The evaluation also noted that, prior to returning to their stations to check the next location for fuel bundle JLM491, the LSRO and fuel

spotter did not assist the RPO in verifying that the travel path was clear. Due to the close proximity of the fuel bundle to the CSI submarine, a fourth crew member, a safety spotter, did not have adequate time to warn the RPO of the impending contact. The inspectors reviewed SO procedure 18.1.A-2, "Operation of Refueling Platform," and noted an inconsistency in the requirements for assigning safety spotters. Step 2.7 requires a dedicated safety spotter when the reactor cavity work platform (RCWP) hoist is installed inside the refueling platform boundary zone, but Step 3.14 only requires consideration of a dedicated safety spotter if unique equipment, such as in-vessel inspection or repair equipment may become an obstruction. Step 3.10.2 requires travel paths to be clear before moving core components, but neither SO 18.1.A-2 nor FH procedure 6C, "Core Component – Core Transfers," specify the crew member(s) responsible for this step. The procedures also do not specify whether human performance tools, such as, peer, independent, or concurrent verification of a clear path is required before refueling platform movement is commenced.

The inspectors also noted that SO 18.1.A-2 did not provide guidance or requirements regarding circumstances when the manual and automatic modes of refueling platform movement should used. A note associated with Step 4.7.11 states that the platform should be placed in automatic immediately following verification of grapple engagement for maximum efficiency of refueling platform movement. Although the associated caution states that initiating automatic operation prior to verifying a clear path may result in core component contact, as the above noted, the procedure does not assign responsibility for determining or verifying a clear path. Based on the above, the inspectors concluded that PBAPS's FH procedures, as implemented, did not provide sufficient barriers or defense-in-depth to prevent the fuel bundle from contacting the CSI submarine device.

Analysis: The performance deficiency was that PBAPS's procedures for refueling equipment operation and core alterations were inadequate to prevent a fuel bundle from making contact with a CSI submarine device, while the fuel bundle was being transported from the core to the SFP. The inspectors determined that the finding was more than minor because the finding was associated with the Procedure Quality attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone's objective to provide reasonable assurance that physical design barriers (i.e., fuel cladding) protect the public from radionuclide releases caused by accidents or events. Although no fuel damage occurred during this event, the inadequate procedure resulted in a FH event that could have impacted the cladding and affected the cornerstone's objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. IMC 0609, "SDP," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," was used to evaluate the significance of the finding. Attachment 0609.04, Table 4a, was used to evaluate the impact of the finding on fuel clad integrity. Appendix G was considered for the evaluation, but was not used because it does not directly address fuel clad integrity. Based on the results of fuel sipping done in February 2011, PBAPS concluded that there was no damage to the clad integrity of the impacted fuel bundle that was permanently discharged to the SFP. Since the finding did not affect SFP cooling or inventory and since there was no damage to fuel clad integrity from the impact with the CSI submarine, the finding was determined to be of very low safety significance (Green).

The finding has a cross-cutting aspect in Human Error Prevention Techniques in the Work Practices component of the Human Performance area. Specifically, PBAPS FH

procedures did not require human error prevention techniques that were commensurate with the risk of moving fuel in close proximity to obstructions and interferences (H.4(a)).

Enforcement: TS 5.4.1, "Procedures," requires that written procedures shall be established, implemented, and maintained covering the activities recommended in NRC Regulatory Guide (RG) 1.33, "Quality Assurance (QA) Program Requirements," Appendix A, November 1972. RG 1.33, Appendix A, Section B, "General Plant Operating Procedures," specifies procedures for Refueling Equipment Operation and Core Alterations. Contrary to the above, on September 19, 2010, during performance of move 302 of P2R18 core shuffle 1, PBAPS's procedures for refueling equipment operation and core alterations, as established, implemented and maintained, were inadequate to prevent a fuel bundle from contacting a CSI submarine device, while the fuel bundle was being transported from the core to the SFP. Specifically, SO procedure 18.1.A-2, "Operation of Refueling Platform," Revision 22, and FH procedure 6C, "Core Component – Core Transfers," Revision 63, did not provide sufficient procedure steps, precautions or human performance tools necessary to ensure that fuel and core components would not encounter any obstructions or interferences. In particular, the procedures, as implemented, were inadequate to prevent contact while the refueling platform was operated in the automatic mode and when core components were in close proximity to obstructions and interferences not protected by the boundary zone computer. Corrective actions included entering the issue into the CAP, stopping FH until a prompt investigation was completed, and briefing crews on the event before FH resumed. Because this finding was of very low safety significance (Green) and PBAPS has entered it into their CAP via IR 1115041, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000277, 278/2011002-01, FH Procedures Were Inadequate to Prevent Fuel from Contacting an Obstruction)**

.2 Cask #50 Lid Seal Weld Repair (60853 - 1 Sample)

Background

Cask #50 was loaded with spent fuel in accordance with Certificate of Compliance (CoC) 1027, Amendment 1, issued October 30, 2007. The loaded cask was placed on the ISFSI pad in May 2010. On September 4, 2010, an alarm was received indicating low helium pressure for Cask #50. On September 5, 2010, the helium over pressure system was measured to be 40 pounds per square inch gauge (psig) and was then recharged to 75 psig. On September 9, 2010, the cask was transported to the refuel floor of Unit 3. The licensee put in place a monitoring plan to record and chart the helium pressure of the cask on a daily basis. The monitoring program revealed the cask continued to slowly leak helium. The licensee began troubleshooting and on October 22, 2010, the licensee was able to identify the source of the helium leak as the lid seal weld. The lid seal weld is performed during the cask manufacturing stage, therefore, it is considered a manufacturing defect. The licensee worked with the cask manufacturer, Transnuclear, Inc., to prepare a repair plan.

a. Inspection Scope

The inspectors were on-site February 3-4, 2011, to perform an inspection of the repair of the lid seal weld. The inspectors observed and evaluated the welding and nondestructive examination (NDE) to determine whether the Peach Bottom staff and

contractors had developed the capability to properly repair and perform NDE of a pin hole size leak identified in a seal weld of a one-half inch diameter plug in the lid of ISFSI cask TN-68-50-A. Because the plug being repaired was similar to two other seal-welded plugs, the inspectors reviewed the work to confirm adequacy of these other two plugs.

The inspectors observed the process for locating the leaking plug, grinding for leak removal, the welding equipment setup, welding of the plug repair area, the magnetic particle testing (MT) equipment, and the helium leak testing station. The scope, plans, and equipment setup for helium leak testing of the plug areas, and the helium leak testing were reviewed. The materials used for welding were verified to be compatible with the lid and plug compositions, and were confirmed to meet the welding procedure. The inspectors also examined the welding equipment, observed welding in progress and observed the weld surface. The inspectors reviewed the controls on localized temperature increase by preheating and welding and noted that limits to the extent of heating were established by a specific engineering-based calculation. The inspectors discussed the work steps and plans with those involved in the repair of the weld. The inspection included verification that the activities were accomplished in accordance with the commitments and requirements contained in the Safety Analysis Report (SAR), the NRC's SER, the CoC, the ASME Code, as well as the licensee's QA program, and 10 CFR Part 72.

The inspectors reviewed the repair plan, 10 CFR 72.48 review, cask lid drawings, welder qualification records, procedures for welding, visual weld examination, MT testing, loading and transport operations, and helium leak tests. The calculation for the thermal analysis of the seal weld rework was reviewed by an engineer in the Office of Nuclear Material Safety and Safeguards (NMSS).

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

.1 Quarterly Resident Exit Meeting Summary

On April 29, 2011, the resident inspectors presented the inspection results to Mr. Thomas Dougherty and other PBAPS staff, who acknowledged the findings. Mr. P. Krohn, Chief, USNRC, Region 1, Division of Reactor Projects, Branch 4, attended this quarterly inspection exit meeting. The inspectors asked the licensee whether any of the information discussed as being included in the report should be considered proprietary. No proprietary information was identified.

.2 Management Meetings

The inspection results for the inspection of the Spent Fuel Cask #50 lid seal weld repair were discussed with Garey Stathes, Plant Manager, and other members of the PBAPS staff via teleconference on March 15, 2011.

The inspection results for the inspection of the Licensed Operator Requalification Program were discussed on March 11, 2011, with members of the PBAPS staff.

The inspection results for the inspection of the Peach Bottom EP PIs were discussed on February 18, 2011, with Mr. T. Dougherty, Site Vice President, and other members of the PBAPS staff. After the inspectors conducted the Exelon Mid-Atlantic corporate EP inspection, an exit meeting was conducted on February 22, 2011, with V. Cwietniewicz, Mid-Atlantic EP Manager, and other plant staff to discuss the results and observations of the corporate inspection.

The inspection results for the inspection of the PBAPS SSPV issues were discussed on March 25, 2011, with Mr. Thomas Dougherty, Site Vice President, and other members of Exelon management. The inspector verified that no proprietary information is documented in this feeder.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy, for being dispositioned as a NCV:

- In Modes 1, 2 and 3, with one ESW subsystem inoperable for more than seven days, TS Limiting Condition for Operation (LCO) 3.7.2, condition C, requires the unit to be in Mode 3 within 12 hours and in Mode 4 within 36 hours. Contrary to the above, since original construction and prior to September 13, 2010, an engineering evaluation determined that the 'A' ESW subsystem was inoperable due to the degraded seismic capability of rod hanger 33HB-S143 that only affected the 'A' ESW subsystem. During upgrades to the ESW discharge pipe support system during the week of September 13, 2010, PBAPS personnel identified that the original installation of the rod hanger had not been carrying adequate pipe load. This condition was considered as a condition prohibited by TS due to one subsystem of ESW being inoperable for greater than the time period allowed by TS. The cause of the event was due to an inadequate design drawing. PBAPS documented this issue in the CAP as IRs 1114812 and 1118711. Since there was no actual loss of safety function as a result of this event, this issue is of very low (Green) safety significance. The LER associated with the event was documented in Section 4OA3.1.

- TS LCO 3.4.3 requires the safety function of 11 valves (any combination of SRVs and SVs) to be operable during operational Modes 1, 2, and 3 or else be in Mode 3 within 12 hours and in Mode 4 within an additional 36 hours. Contrary to the above, two SRVs and one SV were determined to have their as-found setpoints in excess of the TS allowable tolerance, thus leaving 10 operable SRVs and SVs. The SRVs and SVs were replaced with refurbished valves for the 19th Unit 2 operating cycle. Additionally, LER 2-10-3 stated that PBAPS will pursue a change to the plant's licensing bases to increase SRV and SV setpoint tolerances to the ASME Code allowable + 3 percent tolerance. The licensee documented the event in IR 1120516. Since there was no actual loss of safety function as a result of this event, this issue is of very low (Green) safety significance. The LER associated with the event was documented in Section 4OA3.2.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Exelon Generation Company Personnel

T. Dougherty, Site Vice President
G. Stathes, Plant Manager
J. Armstrong, Regulatory Assurance Manager
T. Moore, Site Engineering Director
P. Navin, Operations Director
J. Kovalchick, Security Manager
P. Cowan, Work Management Director
L. Lucas, Chemistry Manager
R. Holmes, Radiation Protection Manager
T. Wasong, Training Director
C. Goff, Operations Training Manager

NRC Personnel

P. Krohn, Branch Chief
F. Bower, Senior Resident Inspector
A. Ziedonis, Resident Inspector
C. Crisden, Emergency Preparedness Specialist
J. D'Antonio, Senior Operations Engineer
T. Fish, Senior Operations Engineer
S. Hammann, Senior Health Physicist
J. Schoppy, Senior Reactor Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened/Closed

05000277, 278/2011002-01	NCV	FH Procedures Were Inadequate to Prevent Fuel from Contacting an Obstruction (Section 4OA5.1)

Closed

05000277/2010002-00	LER	Improperly Fastened Rod Hanger Results in Inoperable Subsystem of ESW (Section 4OA3.1)

05000277/2010003-00	LER	Laboratory Analysis Identifies SRV and SV Set Point Deficiencies (Section 4OA3.2)
05000277, 278/2010004-02	URI	Potentially Inadequate FH Procedures Lead to Personnel Performance Errors While Handling Fuel (Section 4OA5.1)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

COL 23.1.A-3, Revision 22, HPCI System
M-365, Sheet 2, Revision 65, HPCI System, Unit 3
COL 10.1.A-3A, Revision 16, RHR System Setup for Automatic Operation LOOP A
M-361, Sheet 3, Revision 68, RHR System, LOOP A, Unit 3
COL 14.1.A-2A, Revision 11, CS System LOOP A
M-362, Sheet 1, Revision 62, CS System, LOOP A, Unit 2
COL 10.1.A-3B, Revision 19, RHR System Setup for Automatic Operation LOOP B
M-361, Sheet 4, Revision 68, RHR System, LOOP B, Unit 3
COL 14.1.A-2B, Revision 9, CS System LOOP 'B'
M-361, Sheet 1, Revision 62, Piping and Instrumentation Diagram - CS Cooling System
SO 14.1.A-3, Revision 5, CS System Alignment for Automatic or Manual Operation
ST-O-014-355-2, Revision 1, CS LOOP 'B' Valve Alignment and Filled and Vented Verification
IR 1187481, 2B CS LOOP Discharge Pressure Lower than Normal
IR 1136912, 2D CS Pump Discharge Pressure 5 psig Lower than Previous Test
IR 1137361, PSO3 End of Shift Critique for 11/05/10 through 11/07/10
IR 721877, CS High Pressure
*IR 1190726, Humming from Scram Solenoid Valves
*IR 1190731, Humming From Scram Solenoid Valve for HCU 34-15

* - Indicates NRC Identified

Section 1R05: Fire Protection

PF-11, Revision 3, Unit 3 Reactor Building, 3 'C' RHR Pump Room and HX Room – Elevation 91'-6" and 116'
PF-12A, Revision 2, Unit 3 Reactor Building, 3 'A' RHR Pump Room and HX Room – Elevation 91'-6" and 116'
PF-5A, Revision 2, Unit 2 Reactor Building, 2 'A' and 2 'C' CS Room – Elevation 91'-6"
PF-5F, Revision 3, Unit 2 Reactor Building, CS Instrument Room – Elevation 116'-0"

PF-9, Revision 2, Unit 3 Reactor Building, 3 'D' RHR Pump and HX Room – Elevation 91'-6" and 116'
PF-10, Revision 1, Unit 3 Reactor Building, 3 'B' RHR Pump and HX Room – Elevation 91'-6" and 116'
*IR 1179067, Small Air Leak off of Pressure Regulator Downstream of HV-3-36B-55090H
PF-150, Revision 5, Hydrogen Cylinder Storage
IR 1188300, Manhole # 16 Cover Found with No Fire Resistant Sealant
IR 1188303, Manhole # 17 Cover Found with No Fire Resistant Sealant
IR 1188304, Manhole # 18 Cover Found with No Fire Resistant Sealant
IR 1188306, Manhole # 19 Cover Found with No Fire Resistant Sealant
IR 1188313, Caulk Missing from Fire Seals at Manholes #'s 16, 17, 18, and 40
PF-4B, Revision 4, Unit 2 Radwaste Building, RBCCW Room – Elevation 116'-0"
Fire Drill Scenario 2011-005, Reactor Feed Pump Fire, Performed 03/16/11
PF-78L, Revision 4, Unit 3 Turbine Building, Reactor Feed Pump Turbine/Chiller Area - Elevation 165'-0"
EP-AA-1007, Revision 20, Radiological Emergency Plan Annex for PBAPS
RT-F-101-022-2, Revision 3, Fire Drill, Performed 03/16/11
TQ-AA-224-F020, Revision 0, Course Attendance Sheet – Fire Drill Critique, performed 03/16/2011
OP-AA-201-003, Revision 12, Fire Drill Performance, Attachment 1, Fire Drill Record Station
OP-AA-201-003, Revision 12, Fire Drill Performance
ON-114, Revision 17, Actual Fire Reported in the Power Block, Diesel Generator Building, Emergency Pump, Inner Screen or Emergency Cooling Tower (ECT) Structures
FF-01, Revision 15, Fire Brigade
IR 1183333, Hard to Hear and Talk with Current Radios in Noisy Areas
*IR 1188581, Improvement Opportunity Identified for Fire Drill
Narrative Logs, Dayshift, 03/16/2010

* - Indicates NRC Identified

Section 1R06: Flood Protection Measures

IR 1187606, 5 ½ feet of Water in Manhole (MH)-004
IR 1187614, 30 inches of Water in Manhole (MH)-003
IR 1188313, Caulk Missing from Fire Seals at Manholes #'s 16, 17, 18, and 40
IR 1188078, Manhole #1 Missing Screws in Cover Plate
IR 1188197, Water and Foreign Material in MH-040
IR 1188224, 26 inches of Water in MH-016A and 36 inches in MH-016B
IR 1187438, Electrical Cable Manhole (006) High Water Level Alarm
IR 1186841, Electrical Cable Manhole (009) High Water Level Alarm
IR 1184529, Electrical Cable Run Manhole (009) High Water Level Alarm
IR 1186172, Electrical Cable Run Manhole (025D) High Water Level Alarm
IR 1186171, Electrical Cable Run Manhole (035) High Water Level Alarm
IR 1185847, Electrical Cable Run Manhole (035) High Water Level Alarm
IR 1185854, Low Battery Voltage Indicated on LT-2-70A-045 (Manhole 045)
IR 1185849, Low Battery Voltage Indicated on LT-2-70A-025A (Manhole 025A)
IR 1186372, Manholes Which Are Filled with Cement
IR 1186172, Electrical Cable Run Manhole Alarm (MH-25D)
IR 1186171, Electrical Cable Run Manhole Alarm (MH-35)
IR 1185854, Low Battery Voltage Indicated on LT-2-70A-045 (Manhole 045)
IR 1185849, Low Battery Voltage Indicated on LT-2-70A-025A (Manhole 025A)

IR 1192766, Manhole MH-026B Exceeds its Alarm Threshold
IR 1192251, Manhole 26 Deficiencies
IR 1192178, Deficiencies in Manhole 25
IR 1192182, Manhole 025B Level Transmitter Has Low Battery Voltage
IR 1192192, Manhole 026A Level Transmitter Has Low Battery Voltage
IR 1192195, Manhole 25C Deficiencies
IR 1192768, Manhole MH-025A Is In Alarm Needs to be Pumped Out
IR 1191923, MH-025C Is Displaying Alarm
IR 1191300, MH-035 In Alarm – Level 27"
IR 1189256, 25" of Water in Manhole 090 Touching Cables
IR 1189199, 21" of Water in Manhole 089 Touching Cables
IR 1195237, Manhole Covers in Travel Paths May Not Meet Load Ratings
IR 1194910, MH-060 Level Indication In Alarm

Section 1R11: Licensed Operator Requalification Program

PSEG 1112R, Revision 1, Inadvertent High Pressure Coolant Injection (HPCI) Injection, Drywell Chilled Water Header Leak, and Hydraulic ATWS
OT-104, Revision 24, Positive Reactivity Insertion
T-101, Sheet 1, Revision 19, Reactor Pressure Vessel Control
T-117, Sheet 1, Revision 16, Level Power Control
T-215-2, Revision 4, CR Insertion by Withdraw Line Venting
T-216-2, Revision 8, CR Insertion by Manual Scram or Individual Scram Test Switches
T-220-2, Revision 5, Driving CRs during Failure to Scram
T-240-2, Revision 9, Termination and Prevention of Injection into the Reactor Pressure Vessel
IR 1169864, Training - One Half of PSO3 did not get an Out-of-the-Box Evaluation
IR 1168918, Provide Technical Support for Trip Procedure Revisions
IR 1158607, DEP Failure during Licensed Operator Requalification Out-of-the-Box Evaluation
IR 1163954, Licensed Operator Requalification Training Out-of-the-Box Evaluation Failure
IR 1150671, Two of Ten Limited Senior Reactor Operators Failed NRC Biennial Written Exam
LSRO-1811: PBAPS 2010 LSRO NRC Comprehensive Exam

Additional Documents
Memorandum to Paul G. Krohn thru Samuel L. Hansell from Joseph M. D'Antonio, PBAPS Feeder for Inspection Reports 05000277/2011002 and 05000278/2011002, dated March 10, 2011

Memorandum to Paul G. Krohn thru Samuel L. Hansell from Todd Fish, PBAPS Feeder for Inspection Reports 05000277/2011002 and 05000278/2011002, dated March 25, 2011

Section 1R12: Maintenance Effectiveness

IR 384941, ILRT Identifies Leakage from AO-82
IR 1112639, AO-2-20-083 - Failed Off Scale Leakage during LLRT
IR 1112860, AO-2-07B-2502A Failed LLRT ST/LLRT 20.07B.03 Off Scale High
IR 1112867, AO-2-07B-2502B Failed LLRT ST/LLRT 20.07B.05 Off Scale High
IR 920246-03, Update Cable Initiative Change Management Plan
IR 1021032-03, Electric Cable Reliability Management Program
IR 1030481, Submerged Cables Design Deficiency
IR 1030498, Failure to Monitor NSR MR Cables
IR 1039017, Long Term Reliability Management for Wetted Cables

IR 1056715, NER NC-10-008, Yellow, Buried Cable
IR 1108452, Inspect and Pump Out Manhole 91
IR 1152771, LT-2-70A-060 Has Alarmed
IR 1162097, WGE 1152475 - LT Cable Length Required for MH060
IR 1169178, LT-2-70A-060 Has Alarmed and Low Battery
IR 1173934, LT-2-70A-005 Has a Low Battery
IR 1173937, LT-2-70A-046 Has a Low Battery
IR 1173940, LT-2-70A-064 Has a Low Battery
IR 1173950, LT-2-70A-057 Has a Low Battery
IR 1173968, LT-2-70A-006 Has a Low Battery
IR 1183360, PIMS AR to Install Safety-Related MH Level Transmitters is Required
IR 1183367, PIMS AR to Install Maintenance Rule MH Level Transmitters is Required
IR 1185651, PIMS AR to Install New MH Cover and Install LT is Required (MH-003)
IR 1185758, PIMS AR to Install New MH Cover and Install LT is Required (MH-004)
IR 1185653, PIMS AR to Install New MH Cover is Required (MH-006)
IR 1185761, PIMS AR to Install New MH Cover and Install LT is Required (MH-007)
IR 1185655, PIMS AR to Install New MH Cover is Required (MH-008)
IR 1185657, PIMS AR to Install New MH Cover is Required (MH-009)
IR 1185774, PIMS AR to Install New MH Cover and Install LT is Required (MH-010)
IR 1185660, PIMS AR to Install New MH Cover is Required (MH-011)
IR 1185775, PIMS AR to Install New MH Cover and Install LT is Required (MH-012)
IR 1185778, PIMS AR to Install New MH Cover and Install LT is Required (MH-013)
IR 1185776, PIMS AR to Install New MH Cover and Install LT is Required (MH-014)
IR 1185779, PIMS AR to Install New MH Cover and Install LT is Required (MH-015)
IR 1185647, PIMS AR to Install New MH Cover and Install LT is Required (MH-016A)
IR 1185799, PIMS AR to Install New MH Cover and Install LT is Required (MH-016B)
IR 1185802, PIMS AR to Install New MH Cover and Install LT is Required (MH-017A)
IR 1185804, PIMS AR to Install New MH Cover and Install LT is Required (MH-017B)
IR 1185805, PIMS AR to Install New MH Cover and Install LT is Required (MH-018A)
IR 1185807, PIMS AR to Install New MH Cover and Install LT is Required (MH-018B)
IR 1185780, PIMS AR to Install New MH Cover and Install LT is Required (MH-019)
IR 1185781, PIMS AR to Install New MH Cover and Install LT is Required (MH-020)
IR 1185782, PIMS AR to Install New MH Cover and Install LT is Required (MH-021)
IR 1185786, PIMS AR to Install New MH Cover and Install LT is Required (MH-022)
IR 1185662, PIMS AR to Install New MH Cover is Required (MH-025A)
IR 1185664, PIMS AR to Install New MH Cover is Required (MH-025B)
IR 1185665, PIMS AR to Install New MH Cover is Required (MH-025C)
IR 1185666, PIMS AR to Install New MH Cover is Required (MH-025D)
IR 1185668, PIMS AR to Install New MH Cover is Required (MH-026A)
IR 1185669, PIMS AR to Install New MH Cover is Required (MH-026B)
IR 1185670, PIMS AR to Install New MH Cover is Required (MH-026C)
IR 1185661, PIMS AR to Install New MH Cover is Required (MH-026D)
IR 1185835, PIMS AR to Install New MH Cover and Install LT is Required (MH-028)
IR 1185788, PIMS AR to Install New MH Cover and Install LT is Required (MH-029)
IR 1185789, PIMS AR to Install New MH Cover and Install LT is Required (MH-030)
IR 1185672, PIMS AR to Install New MH Cover and Install LT is Required (MH-033)
IR 1185673, PIMS AR to Install New MH Cover and Install LT is Required (MH-034)
IR 1185674, PIMS AR to Install New MH Cover and Install LT is Required (MH-035)
IR 1185790, PIMS AR to Install New MH Cover and Install LT is Required (MH-037)
IR 1185793, PIMS AR to Install New MH Cover and Install LT is Required (MH-038A)
IR 1185795, PIMS AR to Install New MH Cover and Install LT is Required (MH-038B)

IR 1185797, PIMS AR to Install New MH Cover and Install LT is Required (MH-038C)
IR 1185800, PIMS AR to Install New MH Cover and Install LT is Required (MH-039A)
IR 1185801, PIMS AR to Install New MH Cover and Install LT is Required (MH-039B)
IR 1185809, PIMS AR to Install New MH Cover and Install LT is Required (MH-039C)
IR 1185818, PIMS AR to Install New MH Cover and Install LT is Required (MH-040A)
IR 1185676, PIMS AR to Install New MH Cover and Install LT is Required (MH-041)
IR 1185810, PIMS AR to Install New MH Cover and Install LT is Required (MH-042)
IR 1185812, PIMS AR to Install New MH Cover and Install LT is Required (MH-043)
IR 1185813, PIMS AR to Install New MH Cover and Install LT is Required (MH-044)
IR 1185677, PIMS AR to Install New MH Cover and Install LT is Required (MH-045)
IR 1185679, PIMS AR to Install New MH Cover and Install LT is Required (MH-046)
IR 1185680, PIMS AR to Install New MH Cover and Install LT is Required (MH-047)
IR 1185815, PIMS AR to Install New MH Cover and Install LT is Required (MH-049)
IR 1185816, PIMS AR to Install New MH Cover and Install LT is Required (MH-050)
IR 1185817, PIMS AR to Install New MH Cover and Install LT is Required (MH-051)
IR 1185820, PIMS AR to Install New MH Cover and Install LT is Required (MH-055)
IR 1185822, PIMS AR to Install New MH Cover and Install LT is Required (MH-056)
IR 1185688, PIMS AR to Install New MH Cover and Install LT is Required (MH-057)
IR 1185871, PIMS AR to Install New MH Cover and Install LT is Required (MH-058)
IR 1185873, PIMS AR to Install New MH Cover and Install LT is Required (MH-059)
IR 1185689, PIMS AR to Install New MH Cover and Install LT is Required (MH-060)
IR 1185691, PIMS AR to Install New MH Cover and Install LT is Required (MH-061)
IR 1185875, PIMS AR to Install New MH Cover and Install LT is Required (MH-062)
IR 1185894, PIMS AR to Install New MH Cover and Install LT is Required (MH-063)
IR 1185692, PIMS AR to Install New MH Cover and Install LT is Required (MH-064)
IR 1185909, PIMS AR to Install New MH Cover and Install LT is Required (MH-065)
IR 1185907, PIMS AR to Install New MH Cover and Install LT is Required (MH-066)
IR 1185912, PIMS AR to Install New MH Cover and Install LT is Required (MH-075)
IR 1185925, PIMS AR to Install New MH Cover and Install LT is Required (MH-076)
IR 1185929, PIMS AR to Install New MH Cover and Install LT is Required (MH-078)
IR 1185935, PIMS AR to Install New MH Cover and Install LT is Required (MH-079)
IR 1185936, PIMS AR to Install New MH Cover and Install LT is Required (MH-080)
IR 1185938, PIMS AR to Install New MH Cover and Install LT is Required (MH-081)
IR 1185940, PIMS AR to Install New MH Cover and Install LT is Required (MH-082)
IR 1185943, PIMS AR to Install New MH Cover and Install LT is Required (MH-083)
IR 1185946, PIMS AR to Install New MH Cover and Install LT is Required (MH-084)
IR 1185948, PIMS AR to Install New MH Cover and Install LT is Required (MH-085)
IR 1185949, PIMS AR to Install New MH Cover and Install LT is Required (MH-086)
IR 1185951, PIMS AR to Install New MH Cover and Install LT is Required (MH-087)
IR 1185955, PIMS AR to Install New MH Cover and Install LT is Required (MH-088)
IR 1185819, PIMS AR to Install New MH Cover and Install LT is Required (MH-089)
IR 1185836, PIMS AR to Install New MH Cover and Install LT is Required (MH-090)
IR 1185821, PIMS AR to Install New MH Cover and Install LT is Required (MH-091A)
IR 1185824, PIMS AR to Install New MH Cover and Install LT is Required (MH-091B)
IR 1185826, PIMS AR to Install New MH Cover and Install LT is Required (MH-091C)
IR 1185830, PIMS AR to Install New MH Cover and Install LT is Required (MH-092A)
IR 1185831, PIMS AR to Install New MH Cover and Install LT is Required (MH-092B)
IR 1185834, PIMS AR to Install New MH Cover and Install LT is Required (MH-092C)
IR 1185957, PIMS AR to Install New MH Cover and Install LT is Required (MH-093)
IR 1185959, PIMS AR to Install New MH Cover and Install LT is Required (MH-094)
IR 1185962, PIMS AR to Install New MH Cover and Install LT is Required (MH-100)

IR 1185974, PIMS AR to Install New MH Cover and Install LT is Required (MH-101)
IR 1185977, PIMS AR to Install New MH Cover and Install LT is Required (MH-102)
IR 1185979, PIMS AR to Install New MH Cover and Install LT is Required (MH-103)
IR 1185981, PIMS AR to Install New MH Cover and Install LT is Required (MH-104)
IR 1186001, PIMS AR to Install New MH Cover and Install LT is Required (MH-106)
IR 1186004, PIMS AR to Install New MH Cover and Install LT is Required (MH-108)
IR 1186008, PIMS AR to Install New MH Cover and Install LT is Required (HH-109)
IR 1186009, PIMS AR to Install New MH Cover and Install LT is Required (MH-112)
IR 1186010, PIMS AR to Install New MH Cover and Install LT is Required (MH-113)
IR 1186013, PIMS AR to Install New MH Cover and Install LT is Required (MH-113)
IR 1186018, PIMS AR to Install New MH Cover and Install LT is Required (MH-126)
IR 1186019, PIMS AR to Install New MH Cover and Install LT is Required (MH-127)
IR 1186029, PIMS AR to Install New MH Cover and Install LT is Required (MH-128)
IR 1186030, PIMS AR to Install New MH Cover and Install LT is Required (MH-129)
IR 1186033, PIMS AR to Install New MH Cover and Install LT is Required (MH-131)
IR 1186034, PIMS AR to Install New MH Cover and Install LT is Required (MH-133)
IR 1186037, PIMS AR to Install New MH Cover and Install LT is Required (MH-134)

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

OP-AA-108-117, Revision 1, Protected Equipment Program
WC-AA-101, Revision 18, On-Line Work Control Process
WO 1151273, E13/134 Bus Meters/Overcurrent
SI3M-54-E13-XXC4, Revision 2, performed 01/16/2011
TRT 11-02, Unit 3 RPS MG Set Voltage Adjustments, performed 01/11/11
IR 1107323, RPS Voltages at 3F (E,G,H) C068 are Below Recommended Values
IR 1150893, RPS Under-Voltage Set point Lacks Design Basis Documentation
IR 1167327, Higher Than Normal Voltage
SO 60F.1.A-3, Revision 10, RPS MG Set and Power Distribution System Startup from Dead Bus Condition
SO 60F.8.A-3, Revision 2, RPS Power Supply Routine Inspection
TS 3.3.8.2, RPS Electric Power Monitoring
Clearance 10002255, Unit 2 HPCI System Outage
Clearance 10002265, Perform Inspection/Adjustment of Elevator Mechanism
IR 1166380, Unit 2 HPCI Completed Outside of Goal
IR 1163752, Inverter Failed During PM
Clearance 10000550, Replace Power Supply
R1033421, Replace Power Supply
OP-AA-108-115, Revision 9,
IR 1170369, Clearance and Tagging Delay in Taking Emergent Clearance Active due to WO Revision
IR 1170050, E/S-8125
IR 1170180, R1033421 Not Performed When Scheduled
NRC IMC Technical Guidance Chapter SSODP, Part 9900: Technical Guidance – OE and Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety
NUREG-1022, Revision 2, Event Reporting Guidelines: 10 CFR 50.72 and 50.73

Section 1R15: Operability Evaluations

AR A1788694, Unit 3 Switch #3G3 Minor Heating 'C' Phase

AR A1791460, Disconnect Switch from North Sub Ring Bus to Unit 3 Generator
ACMP, "Disconnect Switch Conductor Temperature (A, B, C Phases), Ambient Temperature, Load Current, Wind Speed," dated 01/20/2011
OTDM, "Unit 3 500 kV Disconnect Switch SW #3G3 Hot Spots," dated February 1, 2011
IR 1165359, SW #3G3: Increase Heating on 'C' Phase Ball Side Fingers
IR 1166112, SW #3G3: Increase Heating Identified on 'B' Phase Ball Side
IR 1171591, Forced Outage Plan for 3G3 Disconnect
OTDM associated with IR 1129931, ISFSI Cask #50 Weld Repair Plan, Reviewed at Plant Operations Review Committee (PORC) Meeting 01/26/11
10CFR72.48 Applicability and 10 CFR 71 Review, ISFSI Cask #50 Weld Repair, Approved 01/26/11
10CFR72.48 Screening, ISFSI Cask #50 Weld Repair, Approved 01/26/11
10CFR72.48 Evaluation, ISFSI Cask #50 Weld Repair, Approved 01/26/11
ECR 11-00038, Cask 50 Repair Plan Calculation
IR 1129931, ISFSI Cask #50 Helium Leak
IR 1168569, Vendor Manual Update
ISFSAR, Revision 1, Section 2.3.2.1
OTDM, 3 'A' RHR HX Leak Repair, dated January 28, 2010
IR 1174526, Out-of-Date As-Found Value – ST-O-052-414-2
IR 1174276, Issue to Track Permanent Revision to SO 52A.1.A and SO 52A.1.B
IR 1174287, RT-O-052-254-2 – Engine Overspeed Out of Specification
IR 1174448, E-4 EDG Overspeed Trip Speed Too High
IR 1174522, Tracking IR for TC to SO 52A.1.B
IR 1174525, Tracking IR for TC to SO 52A.1.A
ST-O-052-414-2, E-4 Diesel Generator Fast Start and Full Load Test (test record from 2/13/2011)
RT-O-052-254-2, E-4 Diesel Generator Inspection Power Maintenance Functional Test, Revision 24 (three test records from 2/12/2001 and 2/13/2011)
SO 52A.1.A, Diesel Generator Lineup for Automatic Start
SO 52A.1.B, Diesel Generator Operations
Configuration Control Alert Summary IR#:1174526, E-4 EDG Governor Actuator Speed Knob Not Set to Value Required by ST (IR 1174526)
IR 1178455, MO-2-10-026A Potentially Leaking by during ST-O-010-301-2
IR 0495039, Quantification of Leak-by MO-2-10-026B during ST-O-010-306-2
A1305574, Evaluate the Leakage Seen at Stay-full Pressure vs. the Leak-tight Operability Criteria
A1333654, MO-2-10-026B Leaking by during RHR Test
IR 1185163, NOS ID: Op Eval 11-002 Did Not Consider Aggregate Impact
IR 1120924, GE RIC SIL 091, Marathon CR Crack Indications
IR 1130400, Part 21 Interim Report – Crack Indications in Marathon Control Blades
IR 1140672, Part 21 Crack Indications in Marathon CR Blades
IR 1172390, Create AR for Marathon CRB Part 21 Inspections
IR 1177250, Control Blades Exceed Reduced Lifetime Limit in SC 11-01
IR 1177945, General Electric Safety Communication (SC) 11-01 Impact on Unit 3 Marathon Control Blades
IR 1144266, Technical Evaluation 1113291-02 Scope Expanded due to SC 10-19
AR A1794036, Create AR for Marathon CRB Part 21 Inspections
ENS 46348, Part 21 – Crack Indications in Marathon Control Blades, dated February 15, 2011
NRC Part 21 Notification Notice 2011-05-00, Linear Indications (hot tears) on Opposed Piston EDG Bearings, dated 02/07/2011 (ML110460122)
Event Number: 46598, Potential EDG Bearing Failures, dated 02/07/2011

Section 1R18: Plant Modifications

ECR 10-00405, Pressure Seal Steam Leak
ACMP to Monitor Recombiner Steam Flow and Recombiner Steam Supply Pressure, Revision 1, dated 03/07/11
ACMP to Monitor Recombiner Steam Flow and Recombiner Steam Supply Pressure, Revision 2, dated 03/10/11
ASME Section XI 2001 Ed through 2003 Addenda
ASME Code Case N-62-7
CC-AA-404, Revision 8, Maintenance Specification: Application Selection, Evaluation and Control of Temporary Leak Repairs
NRC Part 9900 Technical Guidance: On-Line Leak Sealing Guidelines for ASME Code Class 1 and 2 Components
NRC Generic Letter 90-05, Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2 and 3 Piping
EPRI NMAC NP-6523-D, On-Line Leak Sealing: A Guide for Nuclear Power Plant Maintenance Personnel
M-303, Sheet 1, Revision 73, Main Steam, Bypass and Cross-around
M-351, Sheet 1, Revision 77 Nuclear Boiler
Narrative Logs, Dayshift, Friday, February 11, 2011
Narrative Logs, Dayshift, Sunday, February 27, 2011
Narrative Logs, Nightshift, Tuesday, March 1, 2011
Narrative Logs, Dayshift, Tuesday, March 8, 2011

RG 1.26, Revision 3, Quality Group Classifications and Standards for Water, Steam and Radioactive Waste Containing Components of Nuclear Power Plants
UFSAR, Revision 22, Section 9.4.4, 9.4.5 and 9.4.6
A1778819, Eval 03, ASME XI R&R Plan
A1793170, Eval 01, Tech Eval for Effect of Loss of Injection Port
IR 1123161, Valve Packing Steam Leak on Steam inlet HV to Recombiner CV
IR 1169530 (and associated OTDM), Steam Leak Getting Worse
IR 1172191, Create FSI for Unit 2 Condenser Conductivity Investigation
IR 1180751, Steam in Unit 2 MVP Room
IR 1180776, Emergent Clearance
IR 1181700, HV-2-08-43037: Develop Alternate Repair / Replacement Plan
IR 1182801, Potential Moisture in the Mechanical Vacuum Pump Motor due to Environment
IR 1182808, Potential Moisture in the Mechanical Vacuum Breakers Motor
IR 1182810, Potential Moisture in the Mechanical Vacuum Breaker Motor
IR 1182815, Potential Moisture in the Offgas to MVP MOV Motor
IR 1182819, Potential Moisture in the Offgas to MVP MOV Motor
IR 1182822, Potential Moisture in the Offgas to MVP MOV Motor
IR 1182825, Potential Moisture in MVP Seal Water Circ Pump Motor
IR 1183911, IR Generated for ACMP for Unit 2 Offgas/Recombiner Steam Leak
IR 1184615, Recommend Placement of AC Unit in U2 MVP Room
IR 1185182, Potential Valve Internal Fouling CV-2-08-4018
IR 1155427, Potential Moisture in MVP Gearbox Oil Reservoir
IR 1186068, Revision 2 to ACMP for Unit 2 Offgas/Recombiner Steam Leak
IR 1189758, Evaluate TC to AO 8.7.B-2
IR 1191727, PHC – Perform Investigation of Cause of the Steam Leak
ECR 11-00062, ECR Required to Revise Calculation 49-48/F (Standby Liquid Control Tanks

and Pump Suctions Seismic Analysis)
Calculation 49-48/F, Revision 1, Standby Liquid Control Tanks and Pump Suctions Seismic Analysis
Welder Information Data Sheet for ECR 11-00062, WO C0237167, dated 03/03/11
CC-AA-501, Revision 1, Exelon Nuclear Welding Program
CC-AA-501-1003, Revision 2, Visual Weld Acceptance Criteria
AR A1700951, Unit 2 Hydraulic Control Unit (HCU) SSPVs: Implement Design Change from Asco to Avco

Section 1R19: Post-Maintenance Testing

A1789109, 3 'C' HPCW Pump Failed PMT
IR 1158929, 3 'C' HPSW Pump Tested in Alert Range
IR 1157328, PSO5 End of Shift Critique
IR 1157318, 3 'C' HPSW Pump Failed PMT
ST-O-032-301-3, Revision 24, HPSW Pump, Valve and Flow Functional and IST, performed 01/05/11
ST-M-09A-601-2, Revision 14, SBGTS Filter Train 'B', performed 01/10/11
R1153751, SBGT Filter Train 'B'
A1552281, 2 'A' RBCCW HX Plugging Limit Reached
IR 1162431, 2 'B' RBCCW HX Plugging Limits Exceeded
IR 1162816, 2 'B' RBCCW HX Flange Face Degraded
IR 1169733, Unit 2 RBCCW MR Train Unavailability Limit Exceeded
R0930987, Perform Eddy Current Test
IR 1161012, SV-3-03A-13123GW for HCU 46-39 is Leaking
IR 1161021, HV-3-03A-13105GW for HCU 46-39 Leaks
IR 1161023, HC-3-03A-13102GW for HCU 46-39 Leaks 20 Drops per Minute
IR 1163090, U3 HCU 46-39 Held in at Double Dashes
IR 1163098, Clearance and Tagging: Clearance Required for U3 HCU 46-39
IR 1164050, Foreign Material Found in 123 DCV on Unit 3 HCU 46-39
IR 1165337, Foreign Material Found in 120 DCV on Unit 3 HCU 46-39
IR 1165571, U3 Control Rod Drive (CRD) Temperatures not changing on Data Acquisition System
AR A1790736, Unit 3 HCU 46-39 Held in at Double Dashes
ARC-311 30C205R D04, Revision 4, Rod Drift
AO 62.1.A-3, Revision 4, Withdrawing and Inserting a CR with a Substitute Position Below the Lower Power Set Point
ON-121, Revision 9, Drifting CR
ON-121 Bases, Revision 11, Drifting CR
Clearance 10002300, Perform PM-1 and PM-2 Overhaul, Calibration, "0" Leak Verification and Scram Time Testing
WO C236428, Replace Directional Control Valves and Calibrate HCU for Unit 3 CR 46- 39
WO R1181668, Perform HCU Overhaul
RT-O-003-990-3, CR Stroke Speed (test record, completed 01/25//2011)
ST-R-003-485-3, CRD Scram Insertion Timing of Selected CRs (test record, completed 01/25//2011)
ST-O-003-470-3, CRD Coupling Integrity Test (test record, completed 01/25//2011)
MA-AA-716-234, Revision 6, FIN Team Process
IR 1170316, End of Shift Critique for PSO5
IR 1168477, E-4 Standby Lube Oil Circulating Pump M-4 Relay Sticking
IR 1168395, E-3 EDG Lube Oil Pump Relay Replacement Lessons Learned

IR 1168357, E-2 Standby Lube Oil Circulating Pump M-4 Relay Sticking
IR 1168007, Add Verification of HS-0-52G-172A (B,C,D) to SO 52A.8.C
IR 1167998, E-3 Diesel Generator Standby Lube Oil Circulating Pump Would Not Turn Off
SO 52A.8.C, Revision 32, Diesel Generator Running Inspection
ST-O-052-413-2, Revision 20, E-3 Diesel Generator Fast Start and Full Load Test
Unified Control Room Log, Friday, January 28, 20100, Day Shift
ST-O-013-301-2, Revision 37, TC 11-026 (hot oil flush) and Partial (hot oil flush not performed), RCIC Pump, Valve, Flow and Unit Cooler Functional and In-Service Test, performed 03/08/2011
A1779249, 20P036 Oil Samples Dark

Section 1R22: Surveillance Testing

ST-O-020-560-2, RCL Test (test record, completed 01/22/2011)
ST-O-020-560-3, RCL Test (test record, completed 01/22/2011)
ST-O-020-560-2, RCL Test (test record, completed 01/29/2011)
ST-O-020-560-3, RCL Test (test record, completed 01/30/2011)
IR 1166402, Unit 2 Unidentified Leakage Trend Showing Rise After Load Drop
IR 1165932, Unit 2 Received Blowdown Relief Valves ('A') Bellows Leaking Alarm
ER-PB-321-1000, Revision 1,
IR 1165839, CS and RHR Comprehensive Test Equipment Requirements
IR 1165856, CS and RHR Testing Using the "TC" Process
ST-O-010-301-3, Revision 29, 'A' RHR Pump, Valve, Flow and Unit Cooler Functional and IST, performed 01/11/11
TC 11-002, Single Use Temporary Change to ST-O-010-301-3, Revision 29: Temporary Change to Acquire Baseline Comprehensive RHR Pump Data In Accordance with ASME Code Requirements
NUREG 1482, Revision 1, Guidelines for IST at Nuclear Power Plants
ST-O-014-301-3, Revision 28, CS LOOP 'A' Pump, Valve, Flow, and Cooler Functional and IST, performed 01/19/11
IR 1044358, NRC ID: Enhancement to CS Pump ST
IR 1164215, 3 'A' CS Pump Flow in Action Range – Black Box UNSAT
IR 1164429, Plant Monitoring System Computer Point H355 Inaccurate
IR 1164512, DPIS 3-14-043A As-Found Data Out of Calibration
IR 1164554, SI3F-14-40-A1C2 Does Not Require Functioning Computer Point
IR 1165839, CS and RHR Comprehensive Test Equipment Requirements
IR 1165856, CS and RHR Testing Using the "TC" Process
R1056481, CB-421, Perform 4 kV Breaker 4-year PM
SI3F-14-40-A1C2, Revision 3, Calibration Check of CS Flow Instruments FT 3-14-40A and FI 3-14-50A
TS Surveillance Requirement 3.5.1.7
ARC 20C075 C-1, Revision 4, Fuel Storage Pool Hi Radiation
IR 1161574, Radiation Protection – Revise M-018-107 to Reflect Changes in RP Controls
IR 1162374, Unit 2 Refuel Platform Fault Lockout
IR 1167035, Historical Foreign Material on Bundle LY6175
IR 1169485, Historical Foreign Material Found During Planned Inspection
ON-124, Revision 14, Fuel Floor and Fuel Handling Problems
M-018-17, Revision 7, Control of General Electric Fuel Bundle Vacuum Sipping, performed 01/10/11 to 02/04/11
IR 1162601, Delay to Fuel Sipping Due to Procedure Requiring a Temporary Change
IR 1162915, Fuel Pool Radiation Monitor not Functioning
ST-M-40D-915-2, Tracer Gas Testing for Control Room Envelope (CRE) Habitability

(CRE Unfiltered Air In-Leakage Testing), performed 02/19/11
Regulatory Guide 1.52, Revision 2, Design, Testing, and Maintenance Criteria for Post – Accident Engineered-Safety-Feature Atmosphere Cleanup System Air Filtration and Absorption Units of Light-Water-Cooled Nuclear Power Plants
IR 1132647, P3R18 - Calibrate DPC-30479-01
IR 1162653, P3R18 – Replace DPC-30479-92
IR 1132659, P2R19 – Calibrate/Replace DPC-20479-01
IR 1132674, P2R19 – Calibrate/Replace DPC-20479-02
IR 1156467, AO-3046902 Did Not Close in the Expected Time
IR 1170186, ST-M-40D-915-2 Under Revision out of Process
SI2M-60F-RT11-A2M2, Revision 6, Response Time Test of Main Steam Line High Radiation Scram Channels, performed 03/04/11
SI2M-60F-RT11-B2M2, Revision 6, Response Time Test of Main Steam Line High Radiation Scram Channels, performed 03/04/11
ST-I-60F-100-2, Revision 7, RPS Logic System Functional Test
ST-O-60F-405-2, Revision 14, MSIV Partial Closure and RPS Input Functional Test
NRC Inspection Report 2010-002, Section 1R22, Inspection Sample Number 7 out of 7
IR 668846, SI2M-60F-RT7-A4M2
IR 668858, SI2M-60F-RT7-B4M2
IR 668860, SI3M-60F-RT7-A4M2
IR 668861, SI3M-60F-RT7-B4M2
IR 1080911, Evaluate Removal of MSL High Radiation Inputs to RPS and PCIS
IR 1172337, Operational Risk Screening for MSL High Radiation Testing
*IR 1191157, Improvements to SFCP and TS Amendment Implementation
*IR 1191573, Surveillance Interval Tracking of LSFTs that Credit CFTs
ST-O-052-703-2, Revision 19, E3 Diesel Generator 24 Hour Endurance Test, performed 03/10-11-2011
Narrative Logs, Dayshift, Friday, March 11, 2011
IR 0917742, E-3 EDG Lube Oil Leak
IR 0979612, E-3 EDG's TS-0587C Has Small Lube Oil Leak
IR 1047934, E-3 EDG Lube Oil Leak from Top Cover
IR 1110168, E-3 Exhaust Temp Out of Specification
IR 1186249, Generator Bearing High Temp Alarm
ST-O-023-350-2, Revision 4, HPCI Valve Alignment and Filled and Vented Verification, performed 03/18/2011 (two times), 03/17/2011 (four times), and 03/15/2011
R1187484, HPCI Valve Alignment/Filled/Vented Verification
R1183648, HPCI Valve Alignment/Filled/Vented Verification (Misc)
R1183647, HPCI Valve Alignment/Filled/Vented Verification (Misc)
R1190744, HPCI Valve Alignment/Filled/Vented Verification (Misc)
R1190745, HPCI Valve Alignment/Filled/Vented Verification (Misc)
R1190806, HPCI Valve Alignment/Filled/Vented Verification (Misc)
R1190786, HPCI Valve Alignment/Filled/Vented Verification (Misc)
IR 1188457, Unit 2 HPCI Suppression Pool Suction Voiding
IR 1189134, As Found Test of RV-2-23B-066 Unsat
IR 1188724, Emergent Clearance Created for CHK-2-23-061
IR 1189067, PSO4 EOS Critique
IR 1188987, HPCI Cooling Water Header Relief Valve Leaking
IR 118993, Clearance and Tagging Emergent Clearance Written for HPCI U2
Narrative Logs, Nightshift, Friday, March 18, 2011
Event Notification 4667, Peach Bottom, HPCI Declared Inoperable

SI2L-23-91-XXFQ, Revision 3, Functional Check of HPCI Suppression Chamber Level Instruments LS 2-23-91A and LS 2-23-91B
SO 23.7.B-2, Revision 7, Transfer of HPCI Pump Suction from CST to Torus

* Indicates NRC-Identified

Section 1EP2: Alert and Notification System Evaluation

Peach Bottom Nuclear Power Plant, Upgraded Public ANS, April 2005
Consolidated Technical Review of Exelon East Updated Design Reports for Three Mile Island, Peach Bottom, Limerick, and Oyster Creek Nuclear Stations, August 15, 2005
EP-MA-121-1002, Exelon East ANS Program, Revision 6
EP-MA-121-1004, Exelon East ANS Corrective Maintenance, Revision 4
EP-MA-121-1005, Exelon East ANS Preventive Maintenance, Revision 3
Test/Maintenance Records data – 3rd quarter 2009 through the 4th quarter 2010

Section 1EP3: Emergency Response Organization Staffing and Augmentation System

EP-AA-1007, Exelon Nuclear Radiological Emergency Plan Annex for PBAPS, Revision 20
EP-AA-1102, ERO Fundamentals, Revision 6
EP-AA-112-100-F-07, Mid-Atlantic ERO Notification or Augmentation, Revision F
TQ-AA-113, ERO Training and Qualification, Revision 17
HU-AA-1081-F-15, Emergency Response Organization Fundamentals, Revision 1
Integrated Diagram of the ERO Notification System
Peach Bottom ERO Duty Roster
1st Quarter Call-In Augmentation Drill Results, 03/8/2010
2nd Quarter Call-In Augmentation Drill Results, 05/25/2010
3rd Quarter Call-In Augmentation Drill Results, 09/9/2010
4th Quarter Call-In Augmentation Drill Results, 11/7/2010
2nd Quarter Call-In/Drive- In Augmentation Drill Results, 6/2/2009
3rd Quarter Call-In Augmentation Drill Results, 09/08/2009
4th Quarter Call-In Augmentation Drill Results, 11/19/2009

Section 1EP4: Emergency Action Level and Emergency Plan Changes

EP- AA-120-1001, 10 CFR 50.54(q) Change Evaluation, Revision 6
LS-AA-104, Exelon 50.59 Review Process, Revision 6

Emergency Plan Change Packages:
07-86, 09-95, 09-106, 10-10, 10-33, 10-109, 10-117, 10-127, 10-135

Section 1EP5: Correction of EP Weaknesses

LS-AA-125, CAP, Revision 15
LS-AA-120, Issue Identification and Screening Process, Revision 17
EP-AA-121, Emergency Response Facilities and Equipment Readiness, Revision 9
PBAPS Assembly and Accountability Drill Evaluation Report, 12/16/10
NOSCPA-PB-10-17 (AR 1127943-35), Peach Bottom EP Performance Report
NOSA-PEA-10-03 (AR 1044991), EP Audit Report, Peach Bottom

Peach Bottom Check-in Self-Assessment Report – NRC EP Exercise Readiness
Peach Bottom FASA Self-Assessment Report
Emergency Preparedness Fleet Summary Report
2010 PB NOS Exit Notes
PBAPS 10/26/10 and 10/27/10 DEP Drills Evaluation Report
3rd Quarter 2009 Focused Area Drill Report
PB Station DEP Drill Findings and Observation Report, 11/9/2009
PBAPS 2010 Training Drill Evaluation Report
PBAPS 2010 Pre-Exercise Evaluation Report
PBAPS 2010 Team 5 DEP Drill Evaluation Report
PBAPS 2010 Graded Exercise Evaluation Report
PBAPS 07/12/2010 ERO Team 4 DEP Drill and 07/14/10 HP/Medical Drill Evaluation Report
Medical Drill Report, 07/14/2010

IRs

01116525	01155656	00963796
01150295	01158607	01167465
01170022	01059347	01135548
01097947	01061369	01121717
01119541	01121709	01159045
01128049	01120527	01025473
00946852	01128049	01138567
01138567	00951461	01040576
01073444	01146251	01163049

Section 4OA1: Performance Indicator Verification

EP-AA-125-1001, EP PI Guidance, Revision 6
EP-AA-125-1002, ERO Performance – PIs Guidance, Revision 6
EP-AA-125-1003, ERO Readiness – PIs Guidance, Revision 7
PI data – 2nd quarter 2010 through the 4th quarter 2010

Section 4OA2: Identification and Resolution of Problems

Assessments
IR 1073953-02, Corporate Assessment on Decision-Making of the PB U2 ST for Scram Timing Performed on January 30, 2010, dated 6/22/10.
IR 994191-01, HCU/CRD Performance Monitoring, Preventive Maintenance, and Resolution to Common HCU/CRD Issues Benchmarking Report, dated 9/17/10

Completed ST Procedures
ST-R-003-485-2, CRD Scram Insertion Timing of Selected CRs, performed 1/22/11
ST-R-003-485-3, CRD Scram Insertion Timing of Selected CRs, performed 8/28/10, 1/8/11, 1/15/11, and 1/25/11

Evaluations and Laboratory Reports
IR 1023827, Revision 1, Multiple CRs Slow to Notch Position 46 Root Cause Report
IR 1035955, Unit 2 CRD HCU (a)(1) Action Plan, dated 4/9/10
IR 1035955-11, Final MREP Approved (a)(2) Determination, dated 1/27/11

IR 1060396, Revision 0, Exelon R.1 PI Adverse Trend in PI&R Evaluation Area Common Cause Analysis Report
NEDC-32646P, SSPV Delayed Response Evaluation, dated August 1996
PEA-81482, Failure Analysis of Four Diaphragms from SSPV, Peach Bottom Unit 2, dated 2/5/10
SwRI Project No. 18.18057.10.166, Chemical Analysis of Deposits on SSPV V118 Exhaust Diaphragms Final Report, dated August 2010
SwRI Project No. 18.18057.10.166, Examination of SSPV V118 Exhaust Diaphragms Final Report, dated June 2010

Issue Reports

*IR 1162655, NRC – Valves Have Wrong Q/A Designation in PIMS

1035955	1121435	1191196	1191232	1191662
1060396	1124523	1191203	1191251	1191694
1070170	1156989	1191207	1191547	1191707
1083343	1157038	1191219	1191599	1191712
1083348	1191179	1191225	1191606	1191738
1121432	1191186	1191229	1191647	1192038

Miscellaneous
BWR HCU PCM Template, dated 7/23/10
LER 05000277/2010-01-00, Multiple Slow CRs Results in Condition Prohibited by TSs dated 3/19/10
HCU Composite Assembly Master Bill of Materials, dated 3/22/11
Stock CD 114-01794, CRDHS Backup Scram Solenoid Valve, dated 3/22/11
Stock CD 114-40190, ASCO MOD-HVA-90-405-2J, dated 3/22/11
Stock CD 114-47377, AVCO SSPV, dated 3/22/11
Stock CD 114-98563, ASCO SSPV, dated 3/22/11
Stock CD 116-32083, ASCO SSPV, dated 3/22/11

OE
GE SIL No. 585, SSPV and Air System Maintenance, dated 1/4/95
NRC Information Notice 2003-17: Reduced Service Life of Automatic Switch Company (ASCO) Solenoid Valves with Buna-N Material, dated 9/29/03
NRC Information Notice 94-71: Degradation of SSPV Pressure and Exhaust Diaphragms, dated 10/4/94
NRC Information Notice 96-07: Slow Five Percent Scram Insertion Times Caused by Viton Diaphragms in SSPVs, dated 1/26/96
NRC Part 21 Report 1997-34-1, Potential Safety-Related Problems with ASCO HV 266000-007/J SSPVs, dated 4/29/97

Procedures
LS-AA-125, Revision 15, Corrective Action Program (CAP) Procedure
LS-AA-125-1001, Revision 8, Root Cause Analysis Manual
LS-AA-125-1004, Revision 5, Effectiveness Review Manual
OP-PB-300-1010, Revision 0, Selection of CRs for Scram Time Testing
RT-X-003-485-2, Revision 0, CRD Scram Time Data Evaluation
ST-R-003-480-2, Revision 12, Average Scram Times for ODYN/B Minimum Critical Power Ration (MCPR) Requirements
ST-R-003-485-2, Revision 25, CRD Scram Insertion Timing of Selected CRs

System Health Reports and Trending
CRD Maintenance History, Units 2 & 3, 12/3/95 – 2/14/11
RT-X-003-485-2, CRD Scram Time Data Evaluation, performed 1/25/11
RT-X-003-485-3, CRD Scram Time Data Evaluation, performed 1/30/11
Scram Time Trend Data PBAPS Unit 2, 2/2/05 – 1/22/11
Scram Time Trend Data PBAPS Unit 3, 10/17/05 – 1/15/11
Unit 2 CRD System Health Report, 10/1/10 – 12/31/10
Unit 3 CRD System Health Report, 10/1/10 – 12/31/10

WOs

A1063001	C0231990	C0232020	C0232030	C0232050
A1088530	C0232011	C0232021	C0232031	C0232051
C0231866	C0232012	C0232022	C0232032	C0232053
C0231984	C0232013	C0232024	C0232033	C0232054
C0231985	C0232014	C0232025	C0232034	C0232055
C0231986	C0232015	C0232026	C0232045	C0232105
C0231987	C0232016	C0232027	C0232047	
C0231988	C0232018	C0232028	C0232048	
C0231989	C0232019	C0232029	C0232049	

Additional Documents

Memorandum to Paul G. Krohn thru Lawrence T. Doerflein, from Joseph G. Schoppy,Jr., PBAPS Feeder for Inspection Reports 05000277/2011002 and 5000278/2011002, dated April 8 2011.

* Indicates NRC-Identified

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

IR 1125359, Reportability Aspects of NRC URI Involving LTCs
IR 1120516, P2R18 MSRV/MSSV As-Found Lift Test Results

Section 4OA5: Other Activities

IR 1115041, P2R18 - Fuel Bundle Came in Contact with CSI Submarine
IR 1117854, P2R18 – Dummy Bundle Came in Contact with Bundle in SFP
IR 1114828, Level 4 Event Refuel Bridge Stopped by Spotter
IR 1117251, P2R18 - Fuel Bundle Channeling
IR 1128280, Reactor Services East Crew Clock Resets
SO 18.1.A-2, "Operation of Refueling Platform," Revision 22
SO 18.1.A-2, "Operation of Refueling Platform," Revision 23
FH-6C, "Core Component – Core Transfers," Revision 63
OU-AB-4001, "BWR Fuel Handling Practices," Revision 4
OU-AB-4001, "BWR Fuel Handling Practices," Revision 5
OU-AB-4002, "Fuel and Core Component Handling Performance Monitoring Process," Revision 0

Additional Documents

Memorandum to Paul G. Krohn thru Judith A. Joustra from Stephen Hammann, PBAPS Feeder for Inspection Reports 05000277/2011002 and 05000278/2011002, dated March 24, 2011.

Section 4OA7: Licensee-Identified Violations

IR 1118711, A ESW Discharge Line Supports – LER Potentially Required
IR 1114812, P2R18 – Support 33HB-S143 Bolting Issues

LIST OF ACRONYMS

ACMPs	Adverse Condition Monitoring Plans
ADAMS	Agency-wide Documents Access and Management System
AR	Action Request
ANS	Alert and Notification System
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CoC	Certificate of Compliance
CR	Control Rod
CRs	Condition Reports
CRD	Control Rod Drive
CS	Core Spray
CSI	Core Spray Inspection
DBD	Design Basis Document
DEP	Drill and Exercise Performance
EAL	Emergency Action Level
ECR	Engineering Change Request
EDG	Emergency Diesel Generator
EOC	Extent-of-Condition
EP	Emergency Preparedness
ERO	Emergency Response Organization
ESW	Emergency Service Water
FH	Fuel Handling
FPP	Fire Protection Plan
HCU	Hydraulic Control Unit
HPCI	High Pressure Coolant Injection
HPSW	High Pressure Service Water
HX	Heat Exchanger
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
ISFSI	Independent Spent Fuel Storage Installation
IST	In-service Test
JPM	Job Performance Measure
LCO	Limiting Condition for Operation
LER	Licensee Event Report

LOOP	Loss of Offsite Power
LSRO	Limited Senior Reactor Operator
MG	Motor Generator
MR	Maintenance Rule
MT	Magnetic Particle Testing
NCV	Non-cited Violation
NDE	Nondestructive Examination
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OE	Operating Experience
OOS	Out-of-Service
OTDM	Operational and Technical Decision Making
PAM	Post-Accident Monitoring
PARS	Publicly Available Records
PBAPS	Peach Bottom Atomic Power Station
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PMT	Post-maintenance Testing
PSIG	Pounds Per Square Inch Gauge
QA	Quality Assurance
RBCCW	Reactor Building Closed Loop Cooling Water
RCA	Root Cause Analysis
RCIC	Reactor Core Isolation Cooling
RCL	Reactor Coolant Leakage
RCWP	Reactor Cavity Work Platform
RG	Regulatory Guide
RHR	Residual Heat Removal
RPO	Refueling Platform Operator
RPS	Reactor Protection System
RTP	Rated Thermal Power
SAR	Safety Analysis Report
SBGTS	Standby Gas Treatment System
SDP	Significance Determination Process
SER	Safety Evaluation Report
SFP	Spent Fuel Pool
SIL	Services Information Letter
SO	System Operating
SR	Surveillance Requirement
SRV	Safety Relief Valve
SV	Safety Valve
SSCs	Structures, Systems and Components
SSPV	Scram Solenoid Pilot Valve
ST	Surveillance Test
SwRI	Southwest Research Institute
TCCP	Temporary Configuration Change Package
TRM	Technical Requirements Manual
TRT	Troubleshooting, Rework, and Test
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Issue
WO	Work Order