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

May 12, 2010

Mr. Charles G. Pardee
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 05000277/2010002 AND 05000278/2010002

Dear Mr. Pardee:

On March 31, 2010, 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 19, 2010, with Mr. William Maguire 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 self-revealing finding of very low safety significance (Green) was identified. The finding was determined to involve a violation of NRC requirements. Additionally, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. Due to the very low safety significance of the finding, and because the finding has been entered into your corrective action program (CAP), the NRC is treating the finding as a non-cited violation (NCV), consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the NCV 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. In addition, if you disagree with the characterization of the cross-cutting aspect of 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 1 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).

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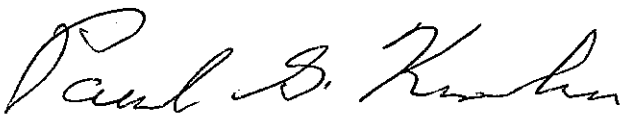

Paul G. Krohn, Chief
Projects Branch 4
Division of Reactor Projects

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

Enclosures: Inspection Report 05000277/2010002 and 05000278/2010002
w/Attachment: Supplemental Information

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Sincerely,
/RA/
Paul G. Krohn, Chief
Projects Branch 4
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.:	50-277, 50-278
License Nos.:	DPR-44, DPR-56
Report No.:	05000277/2010002 and 05000278/2010002
Licensee:	Exelon Generation Company, LLC
Facility:	Peach Bottom Atomic Power Station, Units 2 and 3
Location:	Delta, Pennsylvania
Dates:	January 1, 2010 through March 31, 2010
Inspectors:	F. Bower, Senior Resident Inspector A. Ziedonis, Resident Inspector T. Fish, Senior Operations Engineer E. Huang, Reactor Inspector S. Pindale, Senior Reactor Inspector 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 05000277/2010002, 05000278/2010002; 01/01/2010 - 03/31/2010; Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3; Maintenance Effectiveness.

The report covered a three-month period of inspection by resident inspectors and announced inspections by a senior operations engineer, two senior reactor inspectors, and one 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 Inspection 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.

Cornerstone: Mitigating Systems

- Green. A self-revealing, Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," occurred when PBAPS failed to identify and correct a condition adverse to the quality. Specifically, an issue related to control rod drive scram solenoid pilot valve (SSPV) diaphragms, as described in vendor documents and NRC generic communication, was not corrected after several slow control rods were identified during scram time testing between 2004 and 2010. Consequently, 21 slow rods were identified during Unit 2 scram time testing that was conducted from January 30 to January 31, 2010. PBAPS immediately performed maintenance to replace the defective SSPV Diagrams on all 21 Unit 2 slow control rods by February 1, 2010, and successfully performed post-maintenance scram time testing. Additionally, the issues were entered into the PBAPS CAP.

  This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems (MS) cornerstone, and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the phase 1 worksheet in Attachment 4 of IMC 0609, "Significance Determination Process," the inspectors determined that the finding affected the MS cornerstone and was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of safety system function, and was not associated with any external events. The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification & resolution (PI&R), CAP, because PBAPS did not thoroughly evaluate previously identified conditions adverse to the quality of the SSPV diaphragms, such that the resolution addressed the cause and extent-of-condition (EOC). (Section 1R12) [P.1(c)]

Other Findings

A violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's CAP. This violation 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 power was reduced to approximately 55 percent, on January 29, to perform a control rod pattern adjustment and testing. The control rod scram time testing identified 21 control rods that were slow when compared to Technical Specifications (TSs) requirements. Following corrective maintenance on the control rod hydraulic control units (HCUs), the unit was returned to 100 percent RTP on February 2, where it remained until a trip of the 'A' recirculation pump on February 3 resulted in an unplanned power reduction to 40 percent. On February 4, the unit was returned to 100 percent RTP where it remained until March 12, when power was reduced to 74 percent to support planned control rod HCU maintenance. The unit was returned to 100 percent RTP on March 15, where it remained until the end of the inspection period.

Unit 3 began the inspection period at 100 percent RTP where it generally remained until January 15, when power was reduced to 60 percent to perform main turbine control valve and main feed pump maintenance. The unit was returned to 100 percent RTP on January 17, where it generally remained until March 5, when power was reduced to 74 percent to support planned control rod HCU maintenance. On March 8, the unit returned to 100 percent RTP where it remained until March 19, when power was reduced to 87 percent to support planned control rod HCU maintenance. The unit was returned to 100 RTP on March 22, where it remained until the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 - 1 Sample)

.1 Event: Severe Winter Storm

a. Inspection Scope

The inspectors reviewed the site response and performance on February 11, 2010, immediately following a severe winter snowstorm on February 10, 2010. The inspectors toured the outside protected area, walked down the protected area boundary, plant intake structure, and emergency diesel generator (EDG) buildings, to assess the site conditions following the severe snowstorm. The inspectors discussed overall site security readiness, including any compensatory measures for the existing snow conditions, with the security shift manager to assess the adequacy of the station's physical protection. The inspectors discussed the status of the electrical grid and plant operational conditions with the operations shift manager. Additionally, the inspectors reviewed procedures for severe weather preparation, main control room logs, and condition reports (CRs). Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04Q - 4 Samples; 71111.04S - 1 Sample)

.1 Partial Walkdown (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 are listed in the Attachment. The four systems reviewed were:

- Unit 3 High-Pressure Coolant Injection (HPCI) during Unit 3 Reactor Core Isolation Cooling (RCIC) System Outage in Work Week 1004;
- Unit 3 'A' Residual Heat Removal (RHR) during 'B' RHR Loop Outage in Work Week 1005;
- Unit 2 HPCI during Unit 2 RCIC System Outage in Work Week 1010; and
- Units 2 & 3 E-4 Diesel Generator during E-2 Unavailability in Work Week 1014.

b. Findings

No findings of significance were identified.

.2 Complete Walkdown (1 Sample)

a. Inspection Scope

The inspectors performed a complete walkdown of the accessible portions of the Unit 3 RCIC system, verifying that accessible breakers, valves, and support equipment were properly aligned to support system operation, and to verify that material conditions in the plant would not challenge system operation. The inspectors reviewed system operating procedures and piping and instrumentation drawings to verify that the system alignment was appropriately translated into procedures and drawings. The inspectors discussed system operation with the plant operators, and discussed system issues and maintenance with the system engineer. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q - 5 Samples; 71111.05A - 1 Sample)

.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 2 Reactor Building (RB) Sump Pump Room, Elevation 88' (Fire Zone 61);
- Unit 2 RB 'B' and 'D' Core Spray Room, Elevation 91'-6" (Fire Zone 5D);
- Unit 2 RB General Area, Elevation 165' (Fire Zone 5J);
- Unit 3 RB South Control Rod Drive Equipment and East Corridor, Elevation 135' (Fire Zone 13P); and
- Unit 3 RB General Area, Elevation 165' (Fire Zone 13J).

b. Findings

No findings of significance were identified.

.2 Fire Brigade Drill (1 Sample)

a. Inspection Scope

On March 5, the inspectors observed the performance of a fire drill scenario in the Unit 3 turbine building, 116' elevation, lubricating oil tank room (Fire Zone 88). The inspectors observed the drill to determine the readiness of the plant fire brigade to respond and combat fires. The main objective of the drill was to test the fire brigade's performance of the "two-in, two-out" approach for interior fire fighting when a member of the brigade was instructed to simulate an incapacitated state. The inspectors focused the inspection on 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 fire fighting 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 whether 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 of significance were identified.

1R06 Flood Protection Measures (71111.06 - 1 Sample)

.1 Underground Cables (1 Sample)

a. Inspection Scope

The Exelon Nuclear Cable Condition Monitoring Program is controlled under procedure ER-AA-3003, "Cable Condition Monitoring Program." The inspectors selected three manholes (MH-26, 35 and 61) with underground cables as an internal flood protection measures sample for review. The manholes were inspected under the following work control documents: action request (AR) A1744854, work order (WO) M1744676, and AR A17448853. PBAPS selected these manholes for inspection to aid in determining the EOC and corrective actions (issue report (IR) 1022206) for NCV 05000277, 278/2009005-01, "Continuously Submerged Cables Design Deficiency," that was identified in the fourth quarter of 2009.

The inspectors directly observed the interior of the subject manholes and the associated cabling after the covers had been removed. The inspectors reviewed the work instructions to ensure that PBAPS's inspections verified through direct observation: whether the cables in manholes were submerged in water; that the cables and/or splices and their supports were not damaged or degraded; and that manhole drainage system, if installed, were functioning properly. During this sample, the inspectors observed that a portion of the cables in each of the three manholes were submerged. The inspectors also observed that the annual preventive maintenance inspection of all manholes containing safety-related and Maintenance Rule scoped cables was begun during this inspection period (WO R1132250). A list of documents reviewed is included in the Attachment.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07A - 1 Sample)

a. Inspection Scope

Based on a plant specific risk assessment and a review of IRs in the CAP, the inspectors reviewed PBAPS's program for maintenance and testing of the Unit 2 'B' RHR room cooler. Specifically, the review included the program for testing and analysis of the 'B' RHR room cooler, 2FE058, over several periods of cleaning and testing from 2003 to 2010. The inspectors reviewed test results, CRs, and calculations to verify that the safety function of the RHR room cooler was maintained. The following inspection constituted one sample:

- Unit 2 'B' RHR Room Cooler 2FE058

During this review, the inspectors evaluated an issue (IR 1020991) which was entered into the CAP regarding the unsatisfactory results of the 2 'B' RHR room cooler heat transfer test performed on January 4, 2010.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q - 1 Sample; 71111.11B -1 Sample)

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

a. Inspection Scope

On March 15, 2010, the inspectors observed two crews of operators in PBAPS's simulator during crew-led licensed operator training in preparation for requalification operating examinations. The inspectors review was conducted to verify that operator performance was adequate and to evaluate the following areas:

- Crew's clarity and formality of communications;
- Ability to take timely actions in the conservative direction;
- Prioritization, interpretation, and verification of annunciator alarms;
- Correct use and implementation of abnormal and emergency procedures;
- Control board manipulations;
- Oversight and direction from supervisors; and
- Ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The inspectors noted that the crews' implemented combinations of several transient and special event response procedures including the following:

- T-101, Reactor Pressure Vessel Control, Revision 19;
- T-102, Primary Containment Control, Revision 18;
- T-111, Level Restoration, Revision 12;
- T-112, Emergency Blowdown, Revision 15;
- T-103, Secondary Containment Control, Revision 16; and
- SE-11, Loss of Off-Site Power, Revision 13.

This inspection constitutes one quarterly licensed operator requalification program sample per Inspection Procedure (IP) 71111.11.

b. Findings

No findings of significance were identified.

2 In-office Review of Licensee Administered Annual Operating Tests and Written Exams (71111.11B - 1 Sample)

a. Inspection Scope

On March 23, 2010, the inspector performed an in-office review of results of licensee-administered annual operating tests and comprehensive written exams for 2010. The inspection assessed whether pass rates were consistent with the guidance of NRC IMC 0609, Appendix I, "Operator Requalification Human Performance SDP." The inspectors verified that:

- Crew failure rate was less than 20 percent. (Crew failure rate was 0 percent);
- Individual failure rate on the dynamic simulator test was less than or equal to 20 percent. (Individual failure rate was 0 percent);
- Individual failure rate on the walk-through test was less than or equal to 20 percent. (Individual failure rate was 1.4 percent);
- Individual failure rate on the comprehensive written exam was less than or equal to 20 percent. (Individual failure rate was 2.8 percent); and
- Overall pass rate among individuals for all portions of the exam was greater than or equal to 75 percent. (Overall pass rate was 95.8 percent).

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q - 3 Samples)

a. Inspection Scope

The inspectors evaluated PBAPS's work practices and follow-up corrective actions for safety-related structures, systems, and components (SSCs) and identified issues to assess the effectiveness of PBAPS's maintenance activities. The inspectors reviewed the performance history of SSCs and assessed PBAPS's 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 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 Maintenance Rule," 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 are listed in the Attachment. The inspectors performed the following three samples:

- Maintenance Rule Condition Monitoring Criteria for Control Rod Drive System (System 03) Exceeded (IRs 1035955 and 1023827);
- 2 'B' Isophase Bus Fan Tripped (IRs 999398 and 1009277); and
- Detailed Review of Maintenance Backlog for Select Systems within the Scope of the Maintenance Rule.

b. Findings

Introduction: A self-revealing, Green NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," occurred when PBAPS failed to identify and correct a condition adverse to the quality. Specifically, an issue related to control rod drive scram solenoid pilot valve (SSPV) diaphragms, as described in vendor documents and NRC generic

communication, was not corrected after several slow control rods were identified during scram time testing between 2004 and 2010. Consequently, 21 slow rods were identified during Unit 2 scram time testing that was conducted from January 30 to January 31, 2010.

Description: On January 29, 2010, during a planned load drop of Unit 2 to 55 percent power, PBAPS performed scram time testing to meet technical specification (TS) surveillance requirements (SR) 3.1.4.2 and 3.1.4.3. The periodic surveillance testing of a representative sample (10 percent, or 19 of 185) of control rods was performed in accordance with ST-R-003-485-2, "Scram Insertion Timing of Selected Control Rods." Scram times are measured from notch position 48 to four notch positions (46, 36, 26 and 06). TS Table 3.1.4-1, "Control Rod Scram Times," provides the allowable acceptance criteria for scram times to each of the four notch positions. In the initial sample of 19 control rods, three control rods were determined to be slow between control notch positions 48 and 46. As required by the TS Bases, if more than 7.5 percent of the control rods in the sample tested are determined to be "slow," additional control rods are tested until the 7.5 percent criterion is satisfied or until the total number of "slow" control rods exceeds the TS limit of 13. This resulted in all 185 control rods being tested and a total of 21 (11 percent) slow control rods identified.

Additionally, testing identified five adjacent pairs of slow control rods; however, TS 3.1.4 specifies a limit that no more than two slow but operable control rods may occupy adjacent positions. PBAPS identified these as two conditions prohibited by TS 3.1.4 (see Section 4OA3.3). During performance of the surveillance test (ST), the slow control rods were declared inoperable and repairs were performed successfully on all 21 slow controls rods. At no time during the test was the declared number of slow control rods discovered to exceed the TS allowable number.

PBAPS determined that the actual reactivity effects associated with reaching rod position 46 were not significant due to the very small overlap of the blade absorber material and the actively fueled region of the reactor. Degraded scram insertion times at PBAPS required imposing minimum critical power ratio (MCPR) operating limit penalties, in order to ensure adequate safety limit margin. However, MCPR operating limit penalties were only required to be applied to control rods with degraded scram insertion times to notch position 36.

PBAPS captured the slow control rods in their corrective action program via issue report (IR) 1023827, and conducted a root cause evaluation. PBAPS determined that there were two root causes for the multiple slow control rods:

- Engineering personnel missed multiple opportunities to accurately identify and take action to reduce the risk posed by a change in the degradation rate of specific Unit 2 Viton-A SSPV diaphragms; and
- Lack of adequate surveillance test limits and failure to incorporate test results into the hydraulic control unit (HCU) maintenance program.

All 21 slow control rods contained 1995-vintage SSPV diaphragms of the Viton-A material type. Operating experience (OE) reviews performed by PBAPS, and also performed independently and in parallel by the inspectors, identified a 1996 vendor Information Letter (SIL) 584, Supplement 1, describing slower 5 percent scram insertion times (i.e., notch 48 to notch 46) experienced at several boiling water reactors (BWR)

with Viton diaphragm material (material later referred to as Viton-A). The SIL recommended that BWR owners trend SSPV performance over time, and evaluate scram time data. NRC Information Notice 96-07 reiterated the same phenomena of slower 5 percent scram insertion times at several BWRs with Viton diaphragms. PBAPS root cause report also stated that performance monitoring and trending on the scram times was not being performed as required by Exelon procedure ER-AA-2003, "System Performance Monitoring and Analysis;" and that this trending information could have identified the degraded trend, allowing PBAPS personnel to perform corrective actions prior to the 21 Unit 2 control rods being declared TS slow.

Viton-A SSPV diaphragms on all 21 slow control rods were promptly replaced, as previously discussed above, with SSPV diaphragms of the Viton-AB material-type. Viton-AB diaphragms were made available in 1997 by the vendor as a warranty exchange for Viton-A diaphragms. Additionally, PBAPS developed several corrective actions as a result of the root cause report, which included: replacing all remaining Viton-A SSPV diaphragms on Unit 2 and Unit 3 with Viton-AB diaphragms, revising the HCU preventive maintenance (PM) template to establish an appropriate PM frequency for SSPV diaphragms, developing a procedure to formalize HCU system maintenance collection and evaluation of scram time test results, and standardizing actions in response to an adverse performance or trend.

Analysis: The inspectors determined that PBAPS's failure to identify and correct a condition adverse to the quality of performance of Viton-A SSPV diaphragms, as described in vendor documents and NRC generic communication, constituted a performance deficiency. Specifically, 21 control rods were identified to have slow scram times from notch position 48 to notch position 46 during Unit 2 scram time testing that was conducted from January 30 to January 31, 2010. This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating System cornerstone, and adversely affected the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, aged SSPV diaphragms degraded the reliability of 21 control rods that were determined to be slow according to TS requirements.

Using the Phase 1 Worksheet in Attachment 4 of IMC 0609, "Significance Determination Process," the inspectors determined that the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of safety system function, and was not associated with any external events. Additionally, MCPR operating limit penalties were not required to be applied since scram insertion times to notch position 36 met the TS requirements.

The inspectors determined that this finding had a cross-cutting aspect in the area of PI&R, CAP, because PBAPS did not thoroughly evaluate previously identified conditions adverse to the quality of performance of the diaphragms, such that the resolution addressed the cause and EOC [P.1(c)]. The inspectors determined that the performance aspect described by the cross-cutting area was reflective of current performance, because PBAPS identified several slow control rods during scram time testing within the last three years.

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," states in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment and

nonconformances are promptly identified and corrected. Contrary to the above, PBAPS failed to identify and correct a condition adverse to the quality of performance of the SSPV diaphragms, described in vendor documentation and NRC generic communication, after several slow control rods were identified during scram time testing between 2004 and 2010. Specifically, PBAPS did not identify the degrading trend of control rod scram times. Consequently, 21 slow rods were identified during Unit 2 scram time testing that was conducted from January 30 to January 31, 2010. PBAPS promptly performed maintenance to replace the defective SSPVs on all 21 control rods by February 1, 2010, and successfully performed post-maintenance scram time testing. Since this finding was of very low safety significance (Green) and has been entered into the CAP via IR 1023827 (including a root cause analysis) this violation is being treated as an NCV, consistent with Section IV.A of the NRC Enforcement Policy. **NCV 05000277/2010002-01, Inadequate Corrective Action to Address Multiple Slow Control Rods with Adverse SSPV Diaphragms.**

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 6 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 SSCs. The inspectors also verified that the licensee 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. The activities selected were based on plant maintenance schedules and systems that contributed to risk. Documents reviewed are listed in the Attachment. The inspectors completed six evaluations of maintenance activities on the following:

- Emergent Work to Investigate a Possible Unit 2 HCU (14-31) Accumulator Malfunction/Stuck Piston (IR 1025971);
- Emergent Work to Investigate the Cause of the 2 'A' Reactor Recirculation Pump during a Lubricating Oil Pump Swap (IR 1025143);
- Fuel Moves in Unit 2 Spent Fuel Pool (SFP) during Work Week 1002, in Preparation for SFP Rack Badger Testing (WO R1035949 and SO 18.1.A-2);
- Unit 3 Yellow Risk Condition during RCIC System Outage in Work Week 1004;
- Unit 3 Yellow Risk Condition during 'B' RHR Loop Planned Maintenance Outage during Work Week 1005; and
- Availability of the Station Blackout (SBO) Electrical Source with SBO Load Tap Changer in Manual Position 12 (IR 1024358).

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 6 Samples)

a. Inspection Scope

The inspectors reviewed six issues to assess the technical adequacy of the operability evaluations, the use and control of compensatory measures, and compliance with the licensing and design bases. Associated adverse condition monitoring plans, 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 Bases Documents as references during these reviews. Documents reviewed are listed in the Attachment. The following degraded equipment issues were reviewed:

- Contaminated Auxiliary Steam System (AR A1744056);
- OTDM for Unit 2 Control Rod (CR) Scram Times – CR Slow and Inoperable (IR 1023827-03);
- Elevated Tritium in Pre-developed New Monitoring Well #27 Water (IR 1032576);
- Operability of Low Pressure Coolant Injection during Operation of RHR in the Suppression Pool Cooling Mode (IR 189167, Assignment 8);
- Seismic Support for U2/U3 125/250 Volts Direct Current Station Maintenance (Standby) Battery (IR 1012102-02); and
- Operability of the SBO Electrical Source with Alternate Control Power Configuration (Engineering Change Request (ECR) 10-00042).

With regard to IR 1032576, the inspectors reviewed this document to ensure that this new well was drilled to determine the EOC of a groundwater monitoring issue that was previously inspected and documented in NRC Inspection Report 05000277/2009005 and 05000278/2009005, Section 4OA2.3.

b. Findings

No findings of significance 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, particularly from a containment and decay heat removal perspective. 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. The following permanent modification was reviewed:

- ECR 07-000274, Revision 0, 30P038 Pump (Unit 3 HPCI) Outboard Seal Leak

b. Findings

No findings of significance were identified.

.2 Temporary Modifications (1 Sample)

a. Inspection Scope

The inspectors reviewed one temporary modification listed below to ensure that installation of the modifications did not adversely affect systems important to safety. The inspectors compared the modifications with the licensing and design bases in the UFSAR and TS to verify that the modification did not affect system operability, reliability, availability, or adversely affect plant operations. The inspectors ensured that station personnel implemented the modification in accordance with the applicable temporary configurations change process. The inspectors verified the modified equipment alignment through control room instrumentation observations, drawings, procedures, WO reviews and plant walkdowns of accessible equipment, as appropriate. The impact on existing procedures was reviewed to verify PBAPS made appropriate revisions to reflect the temporary changes. The documents reviewed are listed in the Attachment. The following temporary modification was reviewed:

- Unit 2 Main Turbine Thrust Bearing Wear Trip Bypass, Reactor Feed Pump (RFP) Turbine Vibration Thrust Bearing Wear Trip Bypass and Loss of Vibration Indication (WO R1101692).

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 - 7 Samples)

a. Inspection Scope

The inspectors observed and reviewed completed test records for selected post-maintenance testing (PMT) activities. The inspectors observed 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 are listed in the Attachment. The inspectors reviewed seven PMTs performed in conjunction with the following maintenance activities:

- WO C0231377, performed on January 2, 2010, to conduct American Society of Mechanical Engineers (ASME) Section XI VT-2 Examination of Emergency Service Water (ESW) piping following code repair;
- Diagnostic testing of Unit 2 HPCI MO-2-23-058 and MO-2-23-025 during Work Week 1003;
- Partial SI3A-2-RPS-B1FQ, Functional Test of Reactor Protection System (RPS) 'B' Card File, following replacement of Unit 3 Reactor Vessel Level Indicating Switch LIS-3-02-099B on January 21, 2010, following Spurious Unit 3 half group 1 isolation on January 21, 2010;
- ST-O-013-301-3, Unit 2 RCIC Pump, Valve, and Flow In-Service Test, performed on January 22, 2010, following a planned system maintenance outage;
- Partial IC-C-11-04067, Testing and/or Replacement of Agastat Series GP, TR, and 7000 Series Relays, following replacement of Unit 2 'A' Recirculation Pump Motor-Generator Set Lube Oil Pump Time Delay Relay 2A-K29A after completion of troubleshooting associated with the 2 'A' Recirculation Pump trip on February 3, 2010;
- Diagnostic testing of Unit 2 RHR MO-2-10-016A and MO-2-10-016C during Work Week 1008; and
- ST-O-052-212-2, E-2 Diesel Generator Slow Start Full Load and IST, performed during Work Week 1014.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 7 Samples)

a. Inspection Scope (5 routine surveillances, 1 RCS Leak Detection, and 1 IST Sample)

The inspectors reviewed and 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 are listed in the Attachment. The seven STs reviewed or observed included:

- ST-O-020-560-2/3, Units 2 & 3, Reactor Coolant Leakage Test [1 RCS Leakage Sample];
- ST-C-095-846-2, Revision 3, Gamma Isotopic Analysis of Unmonitored Liquid Effluents;
- RT-R-004-995-2, Revision 1, Unit 2, Boraflex Surveillance Using the Badger Test Device, performed during Work Week 1003;
- ST-O-52G-975-2, Units 2 & 3, Revision 2, Diesel Generator Lube Oil Inventory Verification, performed 01/14/10, 01/16/10, 01/17/10, and 01/18/10;
- ST-O-033-310-2, Revision 8, ESW Booster and Emergency Cooling Water (ECW) Pump and Valve Functional Inservice Test, performed 03/05/10;
- ST-O-052-151-3, E1 D/G Simulated Unit 3 Emergency Core Cooling System (ECCS) Signal Auto Start with Offsite Power Available, performed 03/11/10; and
- Sample of Primary Containment Isolation System (PCIS) Group 1 Surveillance Instruction Conformance to Generic Letter (GL) 96-01: Testing of Safety-Related

Logic Circuits, in response to IR 665892: Surveillance Instruction Test Strokes Main Steam Isolation Valve (MSIV) Unnecessarily, and IR 1034965: PCIS Group 1 Risk Mitigation during Testing.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator (PI) Verification (71151 - 6 Samples)

Cornerstone: Initiating Events and Barrier Integrity

.1 Initiating Events PIs (71151 - 6 Samples)

a. Inspection Scope

The inspectors sampled PBAPS's submittals for the PIs listed below for Units 2 and 3 for the period from January 2009 through December 2009. PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used to verify the accuracy of the PI data. The inspectors reviewed selected portions of the operating logs and raw PI data, and selected applicable licensee event reports (LERs) and CAP documents from the period for each PI specified below. The inspectors compared graphical representations from the most recent PI report to the raw data and used the performance indicator definition in the NEI guideline to verify that the data were correctly reflected in the report. The following six PI samples were reviewed:

Units 2 and 3

- Unplanned Scrams per 7,000 Critical Hours; (IEO1)
- Unplanned Scrams With Complications; and (IEO3)
- Unplanned Power Changes per 7,000 Critical Hours. (IEO4)

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (PI&R) (71152 - 2 Samples)

.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 AR/IR and attending daily management review committee meetings.

b. Findings

No findings of significance were identified.

.2 Annual Sample: Corrective Actions to Address Trip of Circuit Breaker 34-35 in Conjunction with #1 Transformer Failure (1 In-Depth, Annual Review Sample)

a. Inspection Scope

The inspectors focused on PBAPS's problem identification, evaluation, and resolution of the corrective actions to investigate the unknown cause of the trip circuit breaker 34-35 in conjunction with the #1 transformer failure (IR 811332). On July 24, 2008, a fire was discovered on the alpha phase of the #1 transformer. The SU-35 and 34-35 circuit breakers tripped resulting in the loss of two out of the three offsite lines. Both units remained online and no power was lost to any safety-related equipment.

The inspectors reviewed PBAPS's immediate and follow-up actions, apparent cause evaluation, extent of condition review, and corrective actions. The inspectors conducted interviews with site personnel, completed a walkdown of related switchyard equipment, reviewed CRs, plant drawings, engineering change reviews, and vendor manuals. The documents reviewed during this inspection are listed in the Attachment.

b. Findings & Observations

No findings of significance were identified.

The inspectors determined that PBAPS appropriately identified that the failure of circuit breaker 34-35 should not have resulted from the failure of the #1 transformer. PBAPS's apparent cause review determined that the breaker trip was due to a spurious operation of the remote manual trip circuit in response to the ground disturbance experienced with the phase-to-ground fault of the #1 transformer. PBAPS initiated and completed a design change to the circuit that was determined to prevent recurrence of this issue in the future. PBAPS also completed an EOC review and did not find any other circuit breakers in the switchyard that could be prone to the same circuit issue. In addition, Exelon initiated another review (IR 840291) to examine whether or not there was an independent offsite line concern.

Based on the information available, the inspectors determined that the latent error in the remote manual trip circuit design was the result of a modification, which changed the number of available TS qualified offsite sources from two to three. The modification created a vulnerability to ground transients in the remote trip circuit by having two metal oxide varistors (MOV) on each side of the manual trip coil tied to ground and one MOV in parallel with the manual trip coil. MOVs are designed to handle lightning strikes and ground transients as they shunt current away from the protective device, which in this case was the manual trip coil. However, the original protection design required simultaneous actuation of the MOVs to work. The phase-to-ground created by the #1 transformer failure, created a ground transient larger than that of a normal lightning strike which triggered one of the MOVs tied to the ground to actuate before the other two. This completed a path for the manual trip coil to actuate and open the 34-35 breaker.

To fix this vulnerability, Exelon removed the two MOVs tied to ground on both sides of the relay coil and kept the MOV in parallel with the relay coil in. This new protection design has been successful in dealing with lightning strikes and ground transients since implemented. Since there were no failures of the 34-35 circuit breaker or related operating experience between 1994-2008, the inspectors determined that it was not reasonably within the licensee's ability to foresee and correct the original design vulnerability. Therefore, the inspectors did not identify and performance deficiencies.

.3 Annual Sample: ESW Piping Integrity (1 In-Depth, Annual Review Sample)

a. Inspection Scope

This inspection focused on Exelon's problem identification, evaluation, and resolution concerning several small pinhole leaks discovered in 6" ESW piping in July 2008 (IR 798807). The affected ESW piping was common to both units and supplied cooling to the EDG coolers. In addition, ESW also supplies cooling to the ECCS room coolers, core spray pump motor oil coolers, and RHR pump seal coolers. Due to the common suction source (Conowingo Pond) and similarity in operating characteristics, the EOC review included the high pressure service water (HPSW) system. The HPSW system for each unit provides cooling water for the RHR heat exchangers under post-accident conditions.

The inspector reviewed Exelon's associated root cause analysis (RCA), EOC review, and short and long-term corrective actions. The inspector conducted several walkdowns of accessible ESW and HPSW piping at both units to assess the material condition, EOC, and configuration control. These areas included: the EDGs, the emergency cooling water (ECW) pump, the emergency cooling tower (ECT), the ESW booster pumps, the ESW and HPSW pumps, the ECCS room coolers, the core spray pumps, and portions of the RHR heat exchangers. The inspector also reviewed ultrasonic test results, operating and IPs, engineering evaluations, related industry OE, and plant drawings. Documents reviewed are listed in the Attachment.

b. Findings & Observations

No findings of significance were identified.

The inspector concluded that Exelon had taken timely and appropriate action in accordance with ASME Code requirements and their CAP. The inspector determined that engineering's associated RCA was sufficiently thorough and based on the best available information, laboratory analysis, engineering analysis, and relevant industry OE. Exelon's assigned corrective actions were aligned with their identified causal factors, adequately tracked, appropriately documented, and completed as scheduled. The inspector noted that Exelon's Management Review Committee demonstrated appropriate engagement and safety focus throughout the process (initial corrective action IR assignment, RCA review, action tracking, and effectiveness reviews).

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

.1 Unit 2 - 'A' Reactor Recirculation Pump Trip (1 Sample)

a. Inspection Scope

On February 3, during a planned Unit 2 'A' reactor recirculation pump motor generator (MG) set lubricating oil pump swap, power was reduced to 40 percent when Unit 2 experienced a trip of the 'A' recirculation pump due to a faulty logic relay (see Section 1R13, 1R19, and 4OA3.1). Control rods were inserted per procedure to reduce power to approximately 40 percent during single loop operation. The faulty relay was replaced, and Unit 2 returned to 100 percent on February 4.

Prior to the planned MG set lubricating oil pump swap, operators conducted a pre-job brief and discussed the MG set lubricating oil circuitry. During a pump swap, a low lubricating oil pressure alarm condition could occur momentarily, resulting in a main control room alarm. Operators then have 15 seconds to reset the alarm prior to a trip of the reactor recirculation pump on the low oil pressure signal. If the alarm cannot be reset within 5 seconds, the control switch for the running lube oil pump has to be placed in 'off' to reset the reactor recirculation pump trip logic. During performance of the MG set lube oil pump swap, the low oil pressure condition occurred momentarily, and the alarm was received. The unit reactor operator attempted to reset the alarm two times without success. The reactor operator then reported to the unit supervisor that the alarm would not reset. The plant reactor operator then prepared to place the control switch for the running lube oil pump to the off position. Before the control switch was actually placed in 'off,' the reactor recirculation MG set drive motor breaker tripped on the sealed-in low oil pressure signal. Peach Bottom conducted a root cause evaluation for the operators actions (IR 1026936), and a functional failure cause determination evaluation (IR 1025143) for the failed logic relay. Laboratory analysis concluded that the failed relay was attributed to a manufacturing defect, specifically, actuator pin burrs that were created during the machining process.

Although operators completed all the required system operating procedure steps, they did not perform them within the strict time requirements specified in the procedure. However, the pump trip would not have occurred if the logic relay did not fail to perform its function due to a manufacturing defect. Accordingly, the inspectors concluded that it was not reasonably within the licensee's ability to foresee and prevent the trip of the Unit 2 'A' reactor recirculation pump. Therefore, the inspectors did not identify any performance deficiencies.

b. Findings

No findings of significance were identified.

.2 (Closed) LER 05000278/2009-07-00, Oil Leak from MSIV Dashpot Results in Short Valve Stoke Time (1 Sample)

On September 18, 2009, an engineering evaluation determined that the outboard MSIV AO-3-01A-086A did not meet its required TS minimum closure time of greater or equal to three seconds. This determination was based on MSIV stroke time testing performed on September 14, 2009, with the unit in Mode 3 entering the P3R17 outage. This condition

was considered as a condition prohibited by TS since there was evidence that the condition had existed during plant operations. The cause of the event was due to not requiring preventive maintenance for the MSIV oil dashpot needle control valve. Based on troubleshooting during the refueling outage, it was determined that when the oil dashpot stroked, a small amount of oil would leak from the o-ring seal around the stem of the 3/4" needle control valve. Over time, this resulted in insufficient oil in the dashpot causing inadequate dampening of the MSIV motion. The leaking MSIV oil dashpot needle control valve was replaced. The licensee planned to upgrade the PM programs to ensure that the Units 2 and 3 MSIV needle control valves receive appropriate preventive maintenance in the future outages. There were no actual safety consequences associated with this event. PBAPS determined that this condition did not have a significant affect on the safety analysis and the plant never operated outside of the safety analysis. There were no previous similar LERs identified. The enforcement aspects of this issue are discussed in Section 4OA7. The inspectors reviewed this LER and did not identify any additional violations or NRC requirements. This LER is closed.

.3 (Closed) LER 05000277/2010-01-00, Multiple Slow Control Rods Results in Condition Prohibited by TS (1 Sample)

With the unit operating in Mode 1 at 60 percent power for a planned load drop to perform maintenance and testing, a total of 21 control rods were identified to experience slow scram times from notch position 48 to 46 during testing on January 30 and 31, 2010. TS state that the number of slow operable control rods shall be limited to 13. All 185 control rods on Unit 2 were ultimately scram time tested during the surveillance test. During performance of the surveillance test, control rods were declared inoperable for repair; therefore, at no time during the test did the declared number of slow control rods exceeded the TS allowed number. This condition was reportable since the number of slow control rods that existed during Mode 1 exceeded the number allowable by TS. Additionally, there were five pairs of adjacent slow operable control rods identified during testing, thus exceeding the TS allowance of two adjacent slow rods. Finally, this condition was also reportable due to common cause inoperability, since multiple rods were inoperable in the control rod drive system during Mode 1 operations.

The cause of this event was determined to be a degradation of the 1995-vintage Viton-A diaphragms of the SSPV associated with all 21 slow control rods, and inadequate performance monitoring associated with the SSPVs. The degradation of these diaphragms resulted in delays in control rod motion, which caused the control rod notch 48 to notch 46 scram time to be slow. There were no stuck control rods and all control rods were capable of scramming to a fully inserted notch position within the TS required time. PBAPS determined there was no significant adverse impact to the control rod drive reactivity safety function. All 21 slow control rods were removed from service, the SSPV diaphragms were replaced, and the rods were re-tested satisfactorily and returned to service. There were no previous LERs involving conditions prohibited by TS with slow control rods. Previous concerns with SSPV diaphragms at PBAPS occurred in the past. The enforcement aspects of this issue are discussed in Section 1R12. The inspectors reviewed the LER and did not identify any additional violations of NRC requirements. This LER is closed.

4OA6 Meetings, Including Exit

.1 Quarterly Resident Exit Meeting Summary

On April 19, 2010, the resident inspectors presented the inspection results to Mr. W. Maguire and other PBAPS staff, who acknowledged the findings. Mr. P. Krohn, Chief, USNRC, Region I, Division of Reactor Projects, Branch 4, attended this quarterly inspection exit meeting. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy for being dispositioned as a NCV:

- TS Limiting Condition for Operation 3.6.1.3, Condition A, requires a main steam line flow path to be isolated within eight hours when one MSIV is inoperable in Modes 1, 2, and 3. TS 3.6.1.3, Condition F, requires the unit to be in Mode 3 within 12 hours, and Mode 4 within 36 hours, if Condition A cannot be met. Contrary to the above, on September 18, 2009, an engineering evaluation determined that the outboard MSIV AO-3-01A-086A did not meet its required TS minimum closure time of greater or equal to three seconds. This determination was based on MSIV stroke time testing performed on September 14, 2009, when entering the P3R17 outage. This issue was considered as a condition prohibited by TS since there was evidence that the condition had existed during plant operations. The cause of the event was due to not requiring preventive maintenance for the MSIV oil dashpot needle control valve. PBAPS documented this issue in the CAP as IR 964717. Since PBAPS analysis concluded this condition did not have a significant affect on the safety analysis and the plant never operated outside of the safety analysis, this issue is of very low (Green) safety significance. The LER associated with the event was documented in Section 4OA3.2 of this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Exelon Generation Company Personnel

W. Maguire, Site Vice President
G. Stathes, Plant Manager
J. Armstrong, Regulatory Assurance Manager
M. Weidman, Acting Engineering Director
R. Franssen, Work Management Director
J. Kovalchick, Security Manager
L. Lucas, Chemistry Manager
P. Navin, Operations Director
R. Holmes, Radiation Protection Manager
T. Wasong, Training Director

NRC Personnel

P. Krohn, Branch Chief
F. Bower, Senior Resident Inspector
A. Ziedonis, Resident Inspector
T. Fish, Senior Operations Engineer
E. Huang, Reactor Inspector
S. Pindale, Senior Reactor Inspector
J. Schoppy, Reactor Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened/Closed

05000277/2010002-01	NCV	Inadequate Corrective Action to Address Multiple Slow Control Rods with Adverse SSPV Diaphragms (Section 1R12)

Closed

05000278/2009-07-00	LER	Oil Leak from MSIV Dashpot Results in Short Valve Stoke Time (Section 4OA3.2)
05000277/2010-01-00	LER	Multiple Slow Control Rods Results in Condition Prohibited by TS (Section 4OA3.3)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

OP-PB-108-111-1001, Revision 4, Preparation for Severe Weather
OP-AA-108-111-1001, Revision 4, Severe Weather and Natural Disaster Guidelines
MA-PB-1003, Revision 6, Winter Readiness and Storm Response Guidelines for the Peach Bottom Facility
ST-O-51H-200-2, Revision 12, SBO Line Operability Verification
IR 1028516, Winds Greater than 50 MPH Experienced During Snowstorm
IR 1028669, Component Inaccessible
IR 1030216, LTA Storm Preparation for Accommodating Essential Personnel

Section 1R04: Equipment Alignment

A/R A1060149, ISEG 96-38-Revision of Peach Bottom Unit 3 HPCI Steam Supply Line Vibration
ECR 96-00776, Unit 3 HPCI Steam Supply Line and Drain Pot Drain Line Shake
ECR 97-00593, TPA for Unit 3 Main Steam Line 'B' Pressure Pulsation Study
COL 23.1.A-3, Revision 21, HPCI System
M-365, Sheet 1, Revision 62, HPCI System P&ID
M-365, Sheet 2, Revision 64, HPCI System P&ID
PBAPS HPCI Steam Supply Pipe Vibration Evaluation Results, dated 03/26/98
SIR-98-097, Revision 0, November 18, 1998, Letter from Larry S. Dorfman to Ken Hudson: Limerick and Peach Bottom Main Steam Line Piping Vibration Investigation, Phase 1 Report, SIR 98-10, February 1998
SO 23.7.A-3, Revision 7, HPCI System Automatic Initiation Response

COL 10.1.A-3B, Revision 18, RHR System Setup for Automatic Operation Loop B
COL 54.1.1, Revision 1, 4160 Volt Emergency Auxiliary Switchgear
COL 56E.1.A-3, Revision 15, 480 Volt Emergency Motor Control Center System
IR 1021823, Grade 4 Stem Lube on MO-3-10-015B
IR 1019466, U3 RHR CHK-3-10-48B Disc ETA Will Not Support TSA
M-361, Sheets 3 and 4, Revision 68, RHR P&ID

M-365, Sheet 1, Revision 62, P&ID: HPCI System
M-365, Sheet 2, Revision 64, P&ID: HPCI System
SI2F-23-76-XXCQ, Calibration Check of HPCI Steam Line High Flow Instrument DPIS 2-23-76, Performed 03/08/10
SO 23.1.A-2 COL, Revision 26, HPCI System
SO 23.7.A-2, Revision 7, HPCI System Automatic Initiation Response

IR 1049040, E4 Manual Starting Air Reservoir Low
IR 1049127, E4 Diesel Generator Jacket Coolant Joint Leakage
COL 52A.1.A-4, Revision 15, E4 Diesel Generator Normal Standby
COP 52C.1.A-4, Revision 11, E4 Diesel Generator Starting Air System Startup
COL 52D.1.A-4, Revision 8, E4 Diesel Generator Fuel Oil System Operation
M-37, Sheet 1, Revision 44, P&ID - Diesel Generator Auxiliary Systems (Starting Air System)
M-37, Sheet 2, Revision 37, P&ID - Diesel Generator Auxiliary Systems (Air Coolant and Jacket Coolant Systems)
M-37, Sheet 3, Revision 36, P&ID - Diesel Generator Auxiliary Systems (Lube Oil System)

M-37, Sheet 4, Revision 40, P&ID - Diesel Generator Auxiliary Systems (Diesel Fuel Oil System)
SO 52A.1.A, Revision 14, Diesel Generator Lineup for Automatic Start

PBAPS Radiation Contamination Survey Records, Survey #10-113, Unit 3 Torus Room Catwalk, Dated 01/08/10
SO 13.1.B-3 COL, Revision 2, RCIC System Control Board Lineup
SO 13.1.A-3 COL, Revision 14, RCIC System

Section 1R05: Fire Protection

A-486, Sheet 1, Revision 6, Barrier Plans at Elevation 135'
A-487, Sheet 2, Revision 0, Barrier Plans at Elevation 165'
PF-61, Revision 2, Unit 2 RB Sump Pump Room, Elevation 88'
PF-5D, Revision 2, Unit 2 RB 2 'B' and 2 'D' Core Spray Room, Elevation 91'-6"
PF-5J, Revision 3, Unit 2 RB General Area, Elevation 165'
PF-13P, Revision 3, Unit 3 RB South CRD Equipment and East Corridor Elevation 135'
PF-13J, Revision 2, Unit 3 RB General Area, Elevation 165'

EP-AA-1007, Revision 18, Table PBAPS 3-1: Emergency Action Levels (EAL) Matrix
FF-01, Revision 15, Fire Brigade
Fire Drill Scenario 2010-003, Class B Fire in Unit 3 Lube Oil Tank Room, Performed 03/05/10
IR 1021075, OIO-Fire Brigade Drill EAL Improvement Opportunity
IR 1026334, PSO4 First Quarter Fire Drill Failure on 02/02/10
ON-114, Revision 17, Actual Fire Reported in the Power Block, Diesel Generator Building, Emergency Pump, Inner Screen or ECT Structures
OP-AA-201-003, Revision 11, Fire Drill Performance
Narrative Logs, Dayshift, 03/05/2010
RT-F-101-022-2, Fire Drill, Dated 03/05/10
IR 1047196, Fire Protection – Multiple Spurious Operations

Section 1R06: Flood Protection Measures

WO R1132250, SR & Maintenance Rule Manhole Structural and Electrical Inspection
IR 1022206, 480V Safety-related Cable Identified Submerged in Manhole 35
IR 1034612, Create AR to Inspect and Pump MH 035
AR A1744676, 480V Safety-related Cable Identified Submerged in Manhole 35
IR 1031116, Manhole MH035 Found with Unacceptable Water Level
IR 1031608, Drawing Error on C-51 for Manhole 035
IR 1022424, Manhole 026 Inspection and Pump Out
IR 1034611, Create AR to Inspect and Pump MH 26
AR A1744854, Manhole 026 Inspection and Pump Out
AR A1744857, Manhole 026 Inspection and Pump Out
IR 1031180, Manhole MH026 Found with Unacceptable Water Level
IR 1022428, Manhole 61 Inspection and Pump Out
AR A1744853, Manhole 61 Inspection and Pump Out
AR A1744856, Manhole 61 Inspection and Pump Out
IR 1022421, Manhole 18 Inspection and Pump Out
AR A1744855, Manhole 18 Inspection and Pump Out
AR A1744858, Manhole 18 Inspection and Pump Out
IR 1030481, NRC NCV 2009005-01 – Submerged Cables Design Deficiency

IR 1030498, NRC FIN 2009005-02 – Failure to Monitor NSR MR Cables
IR 1016075, Expand Scope of Manhole Dewatering
IR 1033889, Water Found in Manhole MH009
IR 1032903, Water Found in Manhole MH07 during Routine Inspection
IR 1032906, Water Found in Manhole MH064 during Routine Inspection
IR 1032909, Water Found in Manhole MH065 during Routine Inspection
IR 1034982, Water Contacting Cables in Manhole 17 (DAW) Bldg
IR 1034974, Water Contacting Cables in Manhole 16 (DAW) Bldg
IR 1035946, MH-92 Inspection Found Cable in Water and at 4 Inches of Mud
IR 1035543, Water Contacting Cables in Manhole 89 (DAW) Bldg
IR 1037138, Water Found in Manhole (MH041) During Routine Inspection
IR 1037525, Water Covering Cables in Manhole (MH003)
IR 1013730, Submerged Cables in MH 035
IR 1038673, Water Covering Cables in Manhole 006
IR 1039012, Porcelain Supports Missing or Improperly Installed MH091
IR 1039953, Manhole MH013 Not Found
IR 1040008, Manhole MH04 Found with Unacceptable Water Level
IR 1040018, Manhole MH05 Found with Unacceptable Water Level
IR 1040248, Water Contacting Cables in Manhole 25
IR 1040822, Water Found in Manhole 10 – Contacting Cables
IR 1040824, Manway Cover MH030 is a Concrete Block
IR 1041854, Manhole 015 Not Accessible
IR 1043140, Water Contacting Cables in Manhole 131
IR 1043222, Water Contacting Cables in Manhole 80
IR 1043225, MH-103 Not Found
IR 1043391, AS4/BS4 Cables "Highly Aged"
IR 1048012, Engineering Evaluation of Submerged Cable Issue

AR A1422152, SR & Maintenance Rule Manhole Structural and Electrical Inspection
AR A1710806, SR & Maintenance Rule Manhole Structural and Electrical Inspection
AR A1391394, Critical Manholes Do Not Have Associated PM Work
AR A1743002, Expand Scope of Manhole Dewatering

Section 1R07: Heat Sink Performance

2B RHR Room Cooler, 2FE058, Heat Transfer Test Results – System Manager Spreadsheet, 12/17/98 to 02/06/08
ECR 07-00347, Increase the Maximum Post-Loss-of-coolant Accident (LOCA) Room Temperatures for ECCS Rooms
IR 608000, Heat Transfer Test Unsatisfactory, Update PTRM Entry
IR 871970, 2DE057 Heat Transfer Test Unsatisfactory
IR 1020991, 2B RHR Room Cooler (2FE058) Heat Transfer Test Unsatisfactory
PM-0958, RHR/Core Spray Pump Room Temperatures (Post-LOCA) for 95-degree River Temperature
RT-I-033-631-2, Revision 11, RHR Room Cooler ESW Heat Transfer Test, Performed 01/04/10, Evaluated 01/25/10

Section 1R11: Licensed Operator Requalification Program

T-101, Revision 19, RPV Control
T-102, Revision 18, Primary Containment Control
T-111, Revision 12, Level Restoration

T-112, Revision 15, Emergency Blowdown
T-103, Revision 16, Secondary Containment Control
SE-11, Revision 13, Loss of Off-Site Power

Section 1R12: Maintenance Effectiveness

IR 1023827, (Root Cause Report), Unit 2 Control Rod Scram Times – CR Slow/Inoperable
IR 1023827, OTDM Process
IR 1060393, CRD HCU SSPV Diaphragm LER 2-10-01 – INPO Significant
IR 1060396, Exelon R.1 PI - Adverse Trend in PI&R – Evaluation Area

Exelon PCM Templates, BWR HCU
Inside NRC, Volume 18, Number 10, dated May 13, 1996
Federal Register, Volume 69, Number 103, dated Thursday, 05/27/04, NRC: Notice of Opportunity to Comment on Model Safety Evaluation on TS Improvement Regarding Revision to Control Rod Scram Time Testing Frequency in STS 3.1.4
Federal Register, Volume 69, Number 162, dated Monday, 08/23/04, NRC: Notice of Opportunity to Comment on Model Safety Evaluation on TS Improvement Regarding Revision to Control Rod Scram Time Testing Frequency in STS 3.1.4
GENE-C11-00319-1, GE Nuclear Energy: Interim Assessment of Viton Dual-Type SSPV Response Time Delay
Narrative Logs, Friday, January 29, 2010 to Monday, February 1, 2010-04-09
NRC Information Notice 85-27: Notifications to the NRC Operations Center and Reporting Events in LERs
NRC Information Notice 96-07: Slow Five Percent Scram Insertion Times caused by Viton Diaphragms in SSPVs
NRC Information Notice 2003-17: Reduced Service Life of Automatic Switch Company (ASCO) Solenoid Valves with Buna-N Material
NUREG-1022, Revision 2, Section 3.2.7: Event or Condition that Could Have Prevented Fulfillment of Safety Function
Part 21 Report 1997-34-2: Potential Safety-Related Problems with ASCO HV 266000-007J SSPVs
PBAPS License Amendment Request dated 09/15/06
PBAPS Amendments 262 and 266, dated 09/14/07
PBAPS Regulatory Assurance Department Reportability Review, dated January 31, 2010
ST-R-003-485-2, Scram Insertion Timing of Selected Control Rods, Performed 01/30/10, 01/31/10, 02/01/10
TS and Bases Section 3.1.4
TSTF-460-A, Revision 0, TS Task Force Improved Standard TS Traveler
BWR/4 STS, Revision 3.0, Section 3.1.4
UFSAR, Revision 22, Section 3.4, Reactivity Control Mechanical Design

AR A1641729, PM-2 HCU Overhaul
AR A1192037, PM-2 HCU Overhaul
AR A1551674, Document Various CRD Improvements
IR 260026, Slow Start of Scram for Rod 06-35
IR 260427, Control Rod 38-51 Has a Slow Scram Time to Position 46
IR 260433, Control Rod 54-15 Has a Slow Scram Time to Position 46
IR 261968, Control Rod 30-27 Found Slow During Scram Time ST-R-003-485-2
IR 297022, Control Rod 30-27 Found Slow During Scram Time ST-R-003-485-2
IR 297059, Control Rod 10-15 Found Slow During Scram Time ST-R-003-485-2

IR 297064, Control Rod 26-31 Found Slow During Scram Time ST-R-003-485-2
IR 297067, Control Rod 22-43 Found Slow During Scram Time ST-R-003-485-2
IR 297070, Control Rod 46-35 Found Slow During Scram Time ST-R-003-485-2
IR 297072, Control Rod 58-39 Found Slow During Scram Time ST-R-003-485-2
IR 297073, Control Rod 02-19 Found Slow During Scram Time ST-R-003-485-2
IR 321258, BUNA-N Material Determined to be on SSPV 118 for CR 18-19
IR 321263, BUNA-N Material Determined to be on SSPV 118 for CR 18-47
IR 332826, PB 2 Control Rod 18-47 Declared Slow During Scram Timing
IR 357831, Potential PI&R Finding BUNA-N Operability Determination
IR 384082, Control Rod 46-35 Scram Time Slow for ST-R-003-485-3
IR 387139, Control Rod 22-27 Scram Time Slow for ST-R-003-485-3
IR 387140, Control Rod 22-43 Scram Time Slow for ST-R-003-485-3
IR 389299, HCU 18-59 Outlet Valve Leaking By
IR 592655, Rod 38-15 Has a Slow Scram Time to Position 46
IR 673119, Perform Acoustic Monitoring on U3 Scram Inlet/Outlet Valves
IR 683962, Control Rod 54-43 TS Slow
IR 685688, Control Rod 30-35 Slow Scram Time Test
IR 685690, Control Rod 02-23 Slow Scram Time
IR 685702, Control Rod 14-55 TS Slow to Position 46 Scram Time
IR 771270, Control Rod 14-43 TS Slow to Position 46
IR 771279, Control Rod 26-07 Slow to Position 46
IR 771299, Control Rod 18-59 Slow to Position 46
IR 773996, Monitor Scram Times of Unit 2 HCU 14-43, 26-07, and 18-59
IR 779141, PB 3 Control Rod 26-07 Is TS Slow
IR 827036, Control Rod 22-55 Slow to Position 46
IR 827044, Control Rod 34-35 Slow to Position 46
IR 827046, Control Rod 26-03 Slow to Position 46
IR 853560, 2009 PEA Benchmarking – CRD/HCU PCM Template Compliance
IR 1016621, Repeat HCU Maintenance Issues Identified During CCA
IR 1026196, CRD FASA Gaps Identified
IR 1024540, Control Rod EOC Testing Not Timely
IR 1023588, PB 2 Control Rod 22-47 Scram Time is Slow
IR 1023591, PB 2 Control Rod 30-59 Scram Time is Slow
IR 1023592, PB 2 Control Rod 54-15 Scram Time is Slow
IR 1023593, PB 2 Control Rod 42-51 Scram Time is Slow
IR 1023594, PB 2 Control Rod 34-11 Scram Time is Slow
IR 1023596, PB 2 Control Rod 14-23 Scram Time is Slow
IR 1023704, PB 2 Control Rod 22-23 Scram Time is Slow
IR 1023721, PB 2 Control Rod 18-39 Scram Time is Slow
IR 1023725, PB 2 Control Rod 14-35 Scram Time is Slow
IR 1023729, PB 2 Control Rod 42-59 Scram Time is Slow
IR 1023731, PB 2 Control Rod 02-35 Scram Time is Slow
IR 1023734, PB 2 Control Rod 50-35 Scram Time is Slow
IR 1023736, PB 2 Control Rod 58-27 Scram Time is Slow
IR 1023741, PB 2 Control Rod 34-55 Scram Time is Slow
IR 1023821, PB 2 Control Rod 54-43 Scram Time is Slow
IR 1023822, PB 2 Control Rod 34-39 Scram Time is Slow
IR 1023827, U2 Control Rod Scram Times – CR Slow / INOP
IR 1023839, PB 2 Control Rod 34-31 Scram Time is Slow
IR 1023841, PB 2 Control Rod 46-27 Scram Time is Slow
IR 1023847, PB 2 Control Rod 34-19 Scram Time is Slow

IR 1023896, PB 2 Control Rod 38-27 Scram Time is Slow
IR 1023911, PB 2 Control Rod 38-47 Scram Time is Slow
IR 1024088, PB 2 Control Rod 02-43 Insertion Time Not Optimal
IR 1024092, PB 2 Control Rod 46-07 Insertion Time Not Optimal
IR 1024094, PB 2 Control Rod 46-23 Insertion Time Not Optimal
IR 1024096, PB 2 Control Rod 14-11 Insertion Time Not Optimal
IR 1024097, PB 2 Control Rod 50-19 Insertion Time Not Optimal
IR 1024098, PB 2 Control Rod 46-47 Insertion Time Not Optimal
IR 1024314, PB 2 Control Rod 14-31 Insertion Time Not Optimal
IR 1024316, PB 2 Control Rod 18-15 Insertion Time Not Optimal
IR 1024490, PB 2 Control Rod 38-43 Insertion Time Not Optimal
IR 1024491, PB 2 Control Rod 42-19 Insertion Time Not Optimal
IR 1024493, PB 2 Control Rod 50-47 Insertion Time Not Optimal
IR 1024495, PB 2 Control Rod 18-11 Insertion Time Not Optimal
IR 1024497, PB 2 Control Rod 18-35 Insertion Time Not Optimal
IR 1024499, PB 2 Control Rod 06-19 Insertion Time Not Optimal
IR 1024503, PB 2 Control Rod 22-11 Insertion Time Not Optimal
IR 1024504, PB 2 Control Rod 34-51 Insertion Time Not Optimal
IR 1024506, PB 2 Control Rod 30-07 Insertion Time Not Optimal
IR 1024507, PB 2 Control Rod 46-07 Insertion Time Not Optimal
IR 1024529, PB 2 Control Rod 38-43 Insertion Time Not Optimal
IR 1024531, PB 2 Control Rod 02-43 Insertion Time Not Optimal
IR 1025842, VITON A Diaphragm Requires Attention on HCU 18-31 – Unit 2
IR 1025844, VITON A Diaphragm Requires Attention on HCU 26-35 – Unit 2
IR 1025850, VITON A Diaphragm Requires Attention on HCU 30-11 – Unit 2
IR 1025854, VITON A Diaphragm Requires Attention on HCU 46-55 – Unit 2
IR 1025858, VITON A Diaphragm Requires Attention on HCU 54-47 – Unit 2
IR 1025860, VITON A Diaphragm Requires Attention on HCU 58-35 – Unit 2
IR 1027147, VITON A Diaphragm Requires Attention on HCU 26-55 – Unit 3
IR 1027149, VITON A Diaphragm Requires Attention on HCU 26-47 – Unit 3
IR 1027150, VITON A Diaphragm Requires Attention on HCU 30-51 – Unit 3
IR 1027151, VITON A Diaphragm Requires Attention on HCU 22-59 – Unit 3
IR 1027155, VITON A Diaphragm Requires Attention on HCU 06-15 – Unit 3
IR 1027156, VITON A Diaphragm Requires Attention on HCU 02-23 – Unit 3
IR 1027157, VITON A Diaphragm Requires Attention on HCU 02-39 – Unit 3
IR 1027159, VITON A Diaphragm Requires Attention on HCU 34-03 – Unit 3
IR 1027161, VITON A Diaphragm Requires Attention on HCU 14-19 – Unit 3
IR 1027162, VITON A Diaphragm Requires Attention on HCU 50-31 – Unit 3
IR 1029366, VITON A Diaphragm Requires Attention on HCU 22-15 – Unit 3
IR 1029368, VITON A Diaphragm Requires Attention on HCU 10-19 – Unit 3
IR 1029371, VITON A Diaphragm Requires Attention on HCU 30-11 – Unit 3
IR 1029375, VITON A Diaphragm Requires Attention on HCU 10-35 – Unit 3
IR 1029376, VITON A Diaphragm Requires Attention on HCU 26-39 – Unit 3
IR 1029382, VITON A Diaphragm Requires Attention on HCU 22-19 – Unit 3
IR 1029384, VITON A Diaphragm Requires Attention on HCU 26-35 – Unit 3
IR 1029387, VITON A Diaphragm Requires Attention on HCU 38-07 – Unit 3
IR 1029392, VITON A Diaphragm Requires Attention on HCU 14-07 – Unit 3
IR 1029395, VITON A Diaphragm Requires Attention on HCU 38-59 – Unit 3
IR 1029399, VITON A Diaphragm Requires Attention on HCU 18-43 – Unit 3
IR 1029404, VITON A Diaphragm Requires Attention on HCU 42-55 – Unit 3
IR 1029408, VITON A Diaphragm Requires Attention on HCU 18-31 – Unit 3

IR 1029411, VITON A Diaphragm Requires Attention on HCU 30-43 – Unit 3
IR 1029414, VITON A Diaphragm Requires Attention on HCU 14-51 – Unit 3
IR 1029418, VITON A Diaphragm Requires Attention on HCU 06-31 – Unit 3
IR 1029423, VITON A Diaphragm Requires Attention on HCU 14-11 – Unit 3
IR 1029441, Unit 3 Control Rods Require Attention
IR 1006541, 2 'B' Isophase Bus Cooler Fan Recurring Trip
IR 1007149, 2 'B' Isophase Bus Cooler Fan Recurring Trip
IR 1008530, Isophase Bus Loss of Cooling Load Reduction
IR 1008400, 2 'A' Isophase Cooler Trip
IR 1008416, Unit 2 Loss of Isophase Bus Cooling Alarm
IR 1009802, 2 'B' Isophase Fan Belts Found Degraded
IR 1015313, Findings of 2 'B' Isophase Cooling Fan during Troubleshooting
IR 1004993, No IR Made For Repeat Trip of 2BE015-DR during 24 Hour Run-in
IR 1016429, 3 'A' Isophase Bus Fan Trip – 3AE015
IR 1025062, Unable to Achieve Expected Belt Tension Results, 2AE015 Fan
IR 1030431, Isophase Bus Fans Equalize Run Times
IR 168589, Unit 2 SCRAM Due to Generator Lockout – Isophase Fan Belt FME

Total Online and Outage Maintenance Backlog – Sorted by System, dated 03/04/10
2010 Corrective, Elective Degraded and Elective Non-Degraded Goals
AR A1746729, Emergency Lights Battery Pack
Audit NOSA-PEA-09-05 (IR 940550), Engineering Design Control Audit, 07/20/09 to 07/30/09
Audit NOSCPA-PB-10-02, Peach Bottom Engineering Performance Report
CC-AA-112, Revision 15, Temporary Configuration Changes
IR 892971, S93 Emergency Lighting Transfer Switch
IR 961459, Productivity Improvement Plan
IR 993332, 30D323 Emergency Lights Not Working Properly
IR 1006972, Procedure CC-AA-112 – Temporary Configuration Changes – is Incoherent
IR 1019801, Main Control Room Deficiencies
IR 1028832, 30D325 One of the Lights Does Not Work
IR 1035819, Two of Four Emergency Lights Failed to Illuminate
IR 103582, Two of Four Emergency Lights Failed to Illuminate
IR 1039022, WANO AFI: Procedure Gap in Temp Configuration Changes
IR 1053156, March 2010 PM.09 Productivity Index Out of Variance
PBAPS Fire Protection Plan, Revision 17, page 3.2-5
RT-O-037-710-2, Revision 4, Complete Safe Shutdown Emergency Lighting Battery Pack Inspection
RT-O-57E-900-2, Revision 12, Emergency Lighting Automatic Transfer Switch Test
WC-AA-106, Revision 10, Work Screening and Processing
UFSAR, Revision 22, Section 10.22: Station Lighting System

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

IR 1025247, Install Temporary Monitoring Equipment (2 'A' RRP)
IR 1025285, Recirc MG Set Lube Oil Logic Vulnerability
IR 1029980, Single Point Vulnerability Review (2 'A' RRP)
IR 1025185, 2-2A-K006 Relay Investigation (2 'A' RRP)
IR 1026936, OPS Lessons Learned from 2 'A' Recirc Pump Trip (Ref 1025143)
IR 1047211, Document NOC Comments on 2A RR PP Trip Root Cause
AR A1745467, 2-2A-K006 Relay Investigation (2 'A' RRP)
WO M1745467, 2-2A-K006 Relay Replacement (2 'A' RRP)

IR 1025186, 2-2A-K029A Relay Investigation (2 'A' RRP)
AR A1745466, 2-2A-K029A Relay Investigation (2 'A' RRP)
WO M1745466, 2-2A-K029A Relay Replacement (2 'A' RRP)

COL 10.1.A-3B, Revision 18, RHR System Setup for Automatic Operation Loop B
COL 54.1.1, Revision 1, 4160 Volt Emergency Auxiliary Switchgear
COL 56E.1.A-3, Revision 15, 480 Volt Emergency Motor Control Center System
M-361, Sheets 3 and 4, Revision 68, RHR P&ID
IR 1019466, U3 RHR CHK-3-10-48B Disc ETA Will Not Support TSA
IR 1021823, Grade 4 Stem Lube on MO-3-10-015B
IR 1028921, Change Management of Load Center Cross-Tie Operations

SO 18.1.A-2, Revision 21, Operation of the Refuel Platform, Attachment 11: Recommended Communications for Fuel Moves in SFP
WO R1035949, Evaluate Unit 2 Fuel Racks Boraflex Effectiveness

OP-PB-108-101-1002, Revision 6, Guidelines for Control of Protected Equipment

Adverse Condition Position Sheet 10-00-005 for SBO Control Power Transformer
AR A1745047, SBO Control Power Transformer Failed
E-5343, Sheet 1, Revision 16, SBO Single Line
ECR 10-00042, Temporary SBO Control Power
ECR 07-00168, Revision 5B to PE-0154: SBO Voltage Regulation
IR 1024538, Online Risk Not Correctly Assessed for SBO Unavailability
IR 1026492, SBO Control Power Transformer Sizing
IR 1028328, SBO Control Power Transformer Failed
Narrative Logs (Control Room Logs) from February 4, 2010
PE-0154, Revision 5B, SBO Voltage Regulation Conowingo Source
P-154, Revision 5B, SBO Voltage Regulation Conowingo Source
P-245, Revision 001A, Modify SBO Undervoltage Trip Function
PEAM-0008, Revision 0, SBO Mechanical Timeline
SE-11, Revision 5, Operating SBO Line during a LOOP Event
SO 51H.2.A, Revision 5, Removing the SBO Bus from Service
ST-O-51H-201-2, Revision 1, SBO Line TS 3.8.1 B.1 Verification
WO C0231853, 00X688 Requires Replacement

Section 1R15: Operability Evaluations

Contaminated Auxiliary Steam System (AR A1744056)
Elevated Tritium in Pre-developed New Monitoring Well #27 Water (IR 1032576)
OTDM for Unit 2 Control Rod (CR) Scram Times – CR Slow and Inoperable (IR 1023827-03)
Operability of Low Pressure Coolant Injection during Operation of RHR in the Suppression Pool Cooling Mode (IR 189167, Assignment 8)
Seismic Support for U2/U3 125/250 Volts Direct Current Station Maintenance (Standby) Battery (IR 1012102-02)
Operability of the SBO Electrical Source with Alternate Control Power Configuration (ECR 10-00042)

NRC IE Bulletin 80-10, Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release to the Environment

50.59 Review Coversheet Form for AR A1744056, Contaminated Steam System
50.59 Evaluation No. PB-2010-01-E, Revision 0, Contaminated Auxiliary Steam System Operation
IR 1019819, Torus Dewater Storage Tank Moat Water
IR 1021860, Estimate of TDT Moat Water Was Incorrect
IR 1024949, Heating Steam Condensate Contributing to TDT Moat Water
IR 1026864, Steam from the Auxiliary Boiler May Contain Tritium
IR 1026180, Tritium Found in TDT Heater Water
IR 127546, Conflicting Written Guidance for Boiler Sampling
IR 1030952, Unit 3 CST Heating Coil Leak Tritium Source in Auxiliary Steam
IR 1035386, Temp Aux Boiler Trace Contamination
IR 1035303, Heating Steam System Contributes to Increased Plant Inventory
IR 808183, Evaluation for Well #4 Tritium Increase - ACE
Exelon Letter (W. Maguire) to USNRC Document Control Desk, Groundwater Protection Initiative (GPI) – Voluntary Special Report for Tritium Discovered On-Site, dated July 31, 2009

ARC 223 20C203A C-2, Revision 1, 'A' RHR Pump Trip
ARC 228 20C203BB B-3, Revision 4, RHR Containment Spray Vent Accumulator Low Level
ARC 228 20C203BB B-4, Revision 4, 'A' LPCI Line Vent Accumulator Low Level
ARC 228 20C203BB B-5, Revision 5, 'B' LPBI Line Vent Accumulator Low Level
IR 189167, Operability of RHR While in Test Mode / Torus Cooling
IR 189167, Assignment 8 (Operability Evaluation 04-011), Operability of LPCI during RHR Operation in SPC mode
IR 189167, Assignment 22, Spreadsheet Documenting the RHR System Manager Tracking of Suppression Pool Cooling Run Times
IR 982484, Formal OPEX Review Less Than Adequate
Letter from BWROG to USNRC dated December 20, 2004, Request for Review of NEDO-33150-NP, BWROG RHR Potential for Water Hammer, ML 043560511
M-361, Sheet 1, Revision 81, RHR System P&ID
M-361, Sheet 2, Revision 67, RHR System P&ID
NEDC-32230P, Appendix IV: PBAPS Units 2 and 3 SAFER/GESTR-LOCA Analysis, January 1993
NEDO-33150-NP, Revision 0, BWROG RHR System Potential for Water Hammer
SO 10.1.D-3, Revision 15, RHR System Torus Cooling
ST-O-023-301-2, Revision 53, HPCI Pump, Valve, Flow and Unit Cooler Functional and In-Service Test

IR 1012102, 00D452 Battery Cart Configuration Deficiency
WO M1741479, Maintenance Row of Batteries

Adverse Condition Position Sheet 10-00-005 for SBO Control Power Transformer
AR A1745047, SBO Control Power Transformer Failed
E-5343, Sheet 1, Revision 16, SBO Single Line
ECR 10-00042, Temporary SBO Control Power
ECR 07-00168, Revision 5B to PE-0154: Station Blackout Voltage Regulation
IR 1024538, Online Risk Not Correctly Assessed for SBO Unavailability
IR 1026492, SBO Control Power Transformer Sizing
IR 1028328, SBO Control Power Transformer Failed
Narrative Logs (Control Room Logs) from February 4, 2010
PE-0154, Revision 5B, Station Blackout Voltage Regulation Conowingo Source

P-154, Revision 5B, SBO Voltage Regulation Conowingo Source
P-245, Revision 001A, Modify SBO Undervoltage Trip Function
PEAM-0008, Revision 0, SBO Mechanical Timeline
SE-11, Revision 5, Operating SBO Line during a LOOP Event
SO 51H.2.A, Revision 5, Removing the SBO Bus from Service
ST-O-51H-201-2, Revision 1, SBO Line TS 3.8.1 B.1 Verification
WO C0231853, 00X688 Requires Replacement

Section 1R18: Plant Modifications

ECR 07-000274, Revision 0, 30P038 Pump (Unit 3 HPCI) Outboard Seal Leak
AR A1742005, Unit 2 RFP/RFPT Loss of Vibration Indication in Main Control Room
AR A1717916, 'C' RFPT Indication Bearing Vibration X-Axis Signal Conditioner
GE Rotor Inspection Report, LP 'A' Turbine Number 170X387, September 2008
GE Rotor Inspection Report, LP 'C' Turbine Number 170X387, September 2008
IC-11-03001-2, Calibration Check of Multilog M800A Machinery Monitoring System
IR 1014734, Issue Identified During Replacement of VBM-4770 Power Supply
IR 1014480, Unit 2 RFP/RFPT Loss of Vibration Indication in Main Control Room
LS-AA-104-1000, Revision 5, Exelon 50.59 Resource Manual
WO C0231416, Disable Nuisance Alarm per MR90 A171916-01
WO C0231559, Replace VBM-4770 Power Supply
WO C0229743, Inspect/Repair/Replace 2C RFP Turbine Inboard Bearing
WO R1101692, 20C085 Align and Calibrate TSI Instrumentation

Section 1R19: Post-Maintenance Testing

ECR 09-00581 / A/R A1739265, E-4 EDG Jacket Cooling Water Piping Below Min Wall
IR 793791, Suspected ESW Leak / Pipe Degradation
IR 798807, Perform a RCA for the ESW Piping Issues
IR 1005319, E-4 Jacket Cooling Water Piping Below Min Wall
Work Order C0231377, HV-0-33-519D: Repair First Downstream Elbow
Work Order C0229238-17, Raw Water Piping, Ultrasonic Examination Report Form for ESW Piping in EDG Room #4, Exam Location ID# ISO-2-33-102-E14, Performed 12/14/09

Drawing E-71, Sheet 2, Revision 36, Recirculation MG Set Drive Motor 13.8 kV Circuit Breaker
Drawing M-1-S-2, Sheet 10, Revision 35, Recirculation Pump and Aux Control Systems
IC-C-11-04067, Revision 8, Testing and/or Replacement of Agastat Series GP, TR, and 7000 Series Relays
IR 1017785, Recirculation Lube Oil Pump (2AP137) Trip during 1R4/2R4 Cross-Tie
IR 1025143, 2 'A' Recirculation MG Set Tripped During L.O. Pump Swap
IR 1026936, Ops Lessons Learned From 2A RR PP Trip
Unit 2 'A' Recirculation Data Acquisition System Graphical Trends on February 03, 2010

IR 1019092, C&T: On Shift Revision to Clearance 09002387
IR 1019190, U/3 RCIC Coupling Alignment Off 3.3 Mils
IR 1019197, C&T Emergent Work Order Added to RCIC TSA Clearance
ST-O-013-310-3, RCIC Pump, Valve, and Flow and Unit Cooler Functional and In-Service Test, Performed 01/22/09

IR 1019057, U3 Spurious 'B' Channel Half Group 1 Isolation from Low Level
IR 1019710, FME Found and Removed during Replacement of Card
SI3A-2-RPS-B1FQ (Partial), Revision 7, Functional Test of RPS 'B' Card File, Performed January 21, 2010

MIDAS MO-2-23-058 Diagnostic Test Instructions (As-Found) for Work Week 1003
MIDAS MO-2-23-058 Diagnostic as-Left Setup Review, performed 01/12/10
MIDAS MO-2-23-025 Diagnostic Test Instructions (As-Found) for Work Week 1003
MIDAS MO-2-23-025 Diagnostic as-Left Setup Review, Performed 01/13/10
IR 1015815, PM Inspection Revealed Stem Grease LTA

Certificate of Calibration for MO-2-10-016A Quick Stem Sensor (QSS), completed 02/17/2010
Certificate of Calibration for MO-2-10-016C Quick Stem Sensor (QSS), completed 02/17/2010
ER-AA-302-1008, Revision 7, MOV Diagnostic Test Preparation Instructions
IR 1024736, MO-3-10-016B Diagnostic Test Reveals Cyclic Loading
IR 1030467, MO-2-10-015A Stem Lubricant Grade 4
IR 1030815, MO-2-10-016C Stem Grease Grade 3
IR 1031325, MO-2-10-016A Stem Torque Key Retaining Screw Missing
MIDAS MO-2-10-016A Diagnostic Test Instructions (As-Found) for Work Week 1008
MIDAS MO-2-10-016A Diagnostic as-Left Setup Review, Performed 02/17/10
MIDAS MO-2-10-016C Diagnostic Test Instructions (As-Found) for Work Week 1008
MIDAS MO-2-23-016C Diagnostic as-Left Setup Review, Performed 02/16/10
Teledyne Technical Engineering Procedure, Revision 3: In-Sutu Calibration of Plant Valve Stems Instrumented with Thrust and/or Torque-Sensing Strain Gauge Bridges

AO 52E.3.A, Revision 0, Diesel Generator Jacket Coolant System Fill During a Loss of Off-Site Power
AR A1415409, E-2 Diesel Aux Jacket Coolant Pump Seal Leaks
AR A1750318, Leak on Scavenging Air Cooler Outlet Hose Tap to FG-70822B
E-5-13, Sheet 2, Revision 17, Schematic Diagram of Standby Diesel Engine Generators
IR 1041761, E-2 D/G: KW Load did not Drop with Governor Switch Held in Lower
IR 1041764, Leak on Scavenging Air Cooler Outlet Hose Tap to FG-70822B
IR 1051523, Diesel Generator MOP is Obsolete
IR 1054751, NOS ID: Operations Demand for Formal Evaluations for Operability Determinations
LER 05000458/2005-003-00, River Bend Unit 1, Operation Prohibited by Technical Specifications due to Diesel Generator Malfunction
NRC Information Notice 2007-27: Recurring Events Involving EDG Operability
SO 52.A.1.B, Revision 43, Diesel Generator Operations
SO 52.A.8.A, Revision 49, Diesel Generator Daily Shutdown Inspection
SO 52.A.8.C, Revision 31, Diesel Generator Running Inspection
ST-O-052-121-2, Revision 7, E1 Diesel Generator RHR Pump Reject Test
ST-O-052-212-2, E2 Diesel Generator Slow Start Full Load and IST Test, Performed during Work Week 1014
WO C0232492, 0-52B-MOP(B) & MCR Control Switch Testing / Replacement

Section 1R22: Surveillance Testing

CY-AA-120-420, Revision 9, Auxiliary Boiler Chemistry
IR 1027546, Conflicting Written Guidance for Boiler Sampling
NRC IE Bulletin 80-10, Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release to the Environment
ST-C-095-846-2, Revision 3, Gamma Isotopic Analysis of Unmonitored Liquid Effluents (Record Copy dated November 25, 2009)

RT-R-004-995-2, Revision 1, Boraflex Surveillance Using the Badger Test Device, Performed during Work Week 1003

IR 1016344, E1 EDG Lube Oil Storage Tank Low Out-of-Specification
IR 1019333, Oil Level Just ½" above Minimum, Tank Needs Refilled
SO 52A.8.C, Revision 31, Diesel Generator Running Inspection
ST-O-52G-975-2, Revision 2, Diesel Generator Lube Oil Inventory Verification, Performed 01/14/10, 01/16/10, 01/17/10, and 01/18/10

A/R A1692360, ST-O-033-310-2 ESW Booster/ECW PP/VLV Functional IST
ECR 09-00386, Replace & Upgrade 'B' ECT Fan Blades – Age-Related Deterioration
IR 883424, 'A' ESW Booster Pump Tripped during Testing
IR 1038970, E-2 DG Surveillance Run Deferred
GP-23, Diesel Generator Inoperable
M-330, Sheet 1, Revision 35, P&ID: Emergency Cooling System
M-315, Sheet 1, Revision 67, P&ID: ESW and HPSW Systems
OP-PB-108-115, Attachment 4, Page 2 of 6, Revision 1, TS LCO 3.8.7 & 3.8.8 AC Electrical Supported Equipment
PM-0575, Revision 3 and Revision 3a, Verify Emergency Heat Sink has Sufficient Capacity for Removing Heat from the Plant's Systems in the Event the Normal Heat Sink is Unavailable
PM-0677, Revision 1, EDG Operability Curves for Various ESW Flows and Temperatures
PM-989, Revision 2, ESW Flow and Heat Capacity Analysis to Support IST Testing of the MO-O-033-0498 Valve and Booster Pumps
P-S-02, Revision 12, ESW System DBD
RT-O-033-600-2, Revision 17, Flow Test of ESW to ECCS Coolers and Diesel Generator Coolers
SE-3, Revision 19, Loss of Conowingo Pond
SE-11, Attachment P, Revision 8, Generic Load Management Contingencies During LOOP Events
SE-11 Bases, Revision 13, Loss of Off-Site Power - Bases
SO 49.1.B, Revision 13, ECW System Startup
ST-O-033-310-2, Revision 8, ESW Booster and ECW Pump and Valve Functional Inservice Test, Performed 03/05/10
UFSAR Section 10.9, Revision 22, ESW System
UFSAR Section 10.24, Revision 22, Emergency Heat Sink

IR 665892, SI Test Strokes MSIVs Unneccessarily
IR 1004844, Evaluation of Current Group 1 PCIS Testing Practices
IR 1034965, PCIS Group 1 Risk Mitigation during Testing
M-1-S-54, Sheet 7, Revision 82, Electrical Schematic Diagram of the Reactor Protection System
NRC Generic Letter 96-01, Testing of Safety-Related Logic Circuits
NRC Information Notice 99-38, Inadequate Testing of Engineered Safety Features Actuation Systems
NRC Information Notice 88-83, Inadequate Testing of Relay Contacts in Safety-Related Logic Systems
NUREG-1433, General Electric Plants BWR/4, Revision 3, Volumes 1 (STS), 2 (Bases), and NRC-Approved TSTF Revisions
SI2M-60F-RT7-A4M2, Revision 6, Response Time Test of MSIV Closure Scram Channel A
SI2M-60F-RT8-A4M2, Revision 12, Response Time Test of Turbine Stop Valve Closure Scram Channel A and EOC-RPT Input
SI2M-60F-RT11-A2M2, Revision 4, Response Time Test of Main Steam Line High Radiation Scram Channels

SI3A-2-MSL-D1FQ, Revision 4, Functional Test of Main Steam Line High Flow Instrument of RPS 'D' Card File
SI3M-60F-RT7-B4M2, Revision 7, Response Time Test of MSIV Closure Scram
SI3P-2-134-A2CQ, Revision 9, Calibration Check of Main Steam Line Low Pressure Instrumentation PS 3-2-134A and PS 3-2-134C
SI3R-63-251-A1CQ, Revision 17, Electronic Calibration/Functional Check of Main Steam Line Rad Monitor RIS 3-17-251A
ST-I-063-808-2, Revision 1, Main Steam Line Monitor Source Calibration
TS 3.3.1.1, Reactor Protection System Instrumentation
TS 3.3.1.1 Bases, Reactor Protection System Instrumentation
TS 3.3.6.1, Primary Containment Isolation Instrumentation
TS 3.3.6.1 Bases, Primary Containment Isolation Instrumentation

Section 4OA2: Identification and Resolution of Problems

AB-234893, Sheets 1, 2, 3, and 5, Revisions 11, 10, 15, and 10, D.C. Control for #343 SU Xmfr Relays, 13KV Brkr, Circuit Switcher, and 13KV Line
AR A1674811, CB 34-35 Manual Trip Circuit Check
ECR 09-00214, CB #3435 Control Circuit Enhancement, A1706128
E-1 Sheet 1 of 4, Single Line Diagram Station, Rev. 45
Project (Modification) 002254, New Offsite Power Source, PBAPS Units 2 and 3
WO R1020058, CB #3435: Ductor/Inspect/Lube/Calibrate Relays
WO R0727018, CB #3435: Ductor/Inspect/Lube/Calibrate Relays
TSs and Bases
UFSAR, Revision 22

IRs

811332
799684
840291
802467
902332
804514

ACI Project # 011-N-09, Raw Water Systems Audit for Exelon, dated 8/31/09
CY-PB-130-600, Revision 0, Operation of the Service Water and ESW Corrosion Monitoring Racks
CH-715, Revision 8, Operation of ESW Chemical Treatment Injection
ESW & ECT System Walkdown Report, dated 9/25/09 & 11/23/09
ESW System Health Report, dated 10/1/2009 - 12/31/2009
ER-AA-340, Revision 6, GL 89-13 Program Implementing Procedure
ER-AA-340-1001, Revision 7, GL 89-13 Program Implementation Instructional Guide
ER-AA-5400-1001, Revision 2, Raw Water Corrosion Program Guide
HV-0-33-507A, Raw Water Piping Ultrasonic Examination Report, dated 3/10/10
HV-0-33-512A, Raw Water Piping Ultrasonic Examination Report, dated 3/10/10
IR 798807, ESW System Leaks Root Cause Investigation Report, Dated 9/9/08
ISO-2-33-101 V01 D/S, Raw Water Piping Ultrasonic Examination Report, dated 1/2/08
ISO-2-33-102 E01, Raw Water Piping Ultrasonic Examination Report, dated 12/18/09
ISO-2-33-102 E13, Raw Water Piping Ultrasonic Examination Report, dated 12/16/09
ISO-2-33-102 E14 D/S, Raw Water Piping Ultrasonic Examination Report, dated 12/16/09

ISO-2-33-102 R01 D/S 1, 2, Raw Water Piping Ultrasonic Examination Report, dated 12/2/09
ISO-2-33-102 R01 D/S 3, 4, Raw Water Piping Ultrasonic Examination Report, dated 12/2/09
ISO-2-33-102 R02, Raw Water Piping Ultrasonic Examination Report, dated 12/2/09
ISO-2-33-102 R02 Spot 2, Raw Water Piping Ultrasonic Examination Report, dated 12/18/09
ISO-2-33-103 R02, Raw Water Piping Ultrasonic Examination Report, dated 12/2/09
ISO-2-33-103 R02 Spot 2, Raw Water Piping Ultrasonic Examination Report, dated 12/18/09
M-315, Sheets. 1, 2, 4, & 5, Revisions 68, 55, 53, & 57, ESW and HPSW Systems
NRC Information Notice 94-59: Accelerated Dealloying of Cast Aluminum-Bronze Valves Caused by Microbiologically Induced Corrosion, dated 8/17/94
PBAPS Generic Letter 89-13 Program Health Report, 4th Quarter 2009
PEA-06113, Exelon PowerLabs ESW Pipe Elbow Failure Evaluation Report, dated 7/25/08
PLOT-5033, ESW
ST-O-033-635-2, ESW Piping Pressure Test Examination, Performed 7/25/06

IRs

793791	798807	870791	870875
796990	870754	870796	912802
797005	870767	870808	1005319
797011	870772	870816	1019963
798033	870779	870863	
798190	870787	870869	

WOs

C0225613
C0231377
R0755357

*IR 1033009, Part 21 Issued for Cyberex Battery Chargers
*IR 1033093, WWM Overly Conservative with Paragon Risk for Core Spray LSF
IR 1051641, Training for New X-Ray Equipment at MAF

* Indicates NRC-identified

Section 4OA3: Event Followup

IR 1025143, 2A Recirculation MG Set Tripped during Lube Oil Pump Swap
IR 1026936, Operations Lessons Learned from 2A Recirculation Pump Trip

LER 05000278/2009-07-00, Oil Leak from MSIV Dashpot Results in Short Valve Stoke Time
IR 964717, AO-3-01A-086A Failed Minimum Allowed Stroke Time
UFSAR Sections 14.3, 14.5.1.1, 14.5.1.2.1, 14.5.1.3, 14.5.1.3.1, and 14.5.1.2.2

LER 05000277/2010-01-00, Multiple Slow Control Rods Results in Condition Prohibited by TSs

Section 4OA7: Licensee-Identified Violations

LER 05000278/2009-07-00, Oil Leak from MSIV Dashpot Results in Short Valve Stoke Time
IR 964717, AO-3-01A-086A Failed Minimum Allowed Stroke Time
UFSAR Sections 14.3, 14.5.1.1, 14.5.1.2.1, 14.5.1.3, 14.5.1.3.1, and 14.5.1.2.2

LER 05000277/2010-01-00, Multiple Slow Control Rods Results in Condition Prohibited by TSs

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
AR	Action Requests/Assignment Reports
ASME	American Society of Mechanical Engineers
BWR	Boiling Water Reactor
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Report
ECCS	Emergency Core Cooling System
ECR	Engineering Change Request
ECT	Emergency Cooling Tower
ECW	Emergency Cooling Water
EDG	Emergency Diesel Generator
EOC	Extent-of-Condition
ESW	Emergency Service Water
FPP	Fire Protection Plan
GE	General Electric
GL	Generic Letter
HPCI	High-Pressure Coolant Injection
HPSW	High Pressure Service Water
HCU	Hydraulic Control Unit
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
LER	Licensee Event Report
MCPR	Minimum Critical Power Ratio
MG	Motor Generator
MOV	Metal Oxide Varistor (Section 4OA2 only)
MS	Mitigating Systems
MSIV	Main Steam Isolation Valve
NCV	Non-cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OE	Operating Experience
OOS	Out-of-Service
OTDM	Operational and Technical Decision Making
PBAPS	Peach Bottom Atomic Power Station
PCIS	Primary Containment Isolation System
PI	Performance Indicator

PI&R	Problem Identification and Resolution
PM	Preventive Maintenance
PMT	Post-Maintenance Test
RB	Reactor Building
RCA	Root Cause Analysis
RCIC	Reactor Core Isolation Cooling
RFP	Reactor Feed Pump
RHR	Residual Heat Removal
RPS	Reactor Protection System
RTP	Rated Thermal Power
SBO	Station Blackout
SDP	Significance Determination Process
SFP	Spent Fuel Pool
SIL	Services Information Letter
SR	Surveillance Requirement
SSCs	Structures, Systems, and Components
SSPV	Scram Solenoid Pilot Valve
ST	Surveillance Test
TRM	Technical Requirements Manual
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WO	Work Order