



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

May 13, 2015

Mr. Bryan Hanson
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 05000277/2015001 AND 05000278/2015001

Dear Mr. Hanson:

On March 31 2015, 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 inspection report documents the inspection results, which were discussed on April 24, 2015, with Mr. Michael Massaro, Peach Bottom Site Vice President, and other members of your staff.

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

This report documents one violation of NRC requirements, which was of very low safety significance (Green). However, because of its very low safety significance, and because it has been entered into your corrective action program (CAP), the NRC is treating the finding as a non-cited violation (NCV), consistent with Section 2.3.2.a 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, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at the PBAPS. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Senior Resident Inspector at PBAPS.

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's Public Document Room or from the

Publicly Available Records component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Fred L. Bower III, Chief
Reactor Projects Branch 4
Division of Reactor Projects

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

Enclosure:
Inspection Report 05000277/2015001 and 05000278/2015001
w/Attachment: Supplementary Information

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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.: 05000277/2015001 and 05000278/2015001

Licensee: Exelon Generation Company, LLC

Facility: Peach Bottom Atomic Power Station, Units 2 and 3

Location: Delta, Pennsylvania

Dates: January 1, 2015 through March 31, 2015

Inspectors: S. Hansell, Senior Resident Inspector
B. Smith, Resident Inspector
E. Burket, Emergency Preparedness Inspector
T. Fish, Senior Operations Engineer
J. Petch, Project Engineer (Acting Resident Inspector)
D. Silk, Senior Operations Engineer

Approved by: Fred L. Bower III, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000277/2015001, 05000278/2015001, 01/01/2015 – 03/31/2015; Peach Bottom Atomic Power Station (PBAPS) Units 2 and 3; Maintenance Effectiveness.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. One NRC-identified finding of very low safety significance (Green) was identified. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP), dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within The Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5, dated February 2014.

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation (NCV) of very low safety significance (Green) of 10 CFR Part 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," because Exelon did not include certain flood indication functions into the scope of the maintenance rule (MR). Specifically, level switches used to indicate flood levels in the Unit 2 and Unit 3 emergency core cooling system (ECCS) rooms were not included in the scope of the MR as required by 10 CFR 50.65 (b)(2)(i) as non-safety related components that are used in plant emergency operating procedures (EOPs). PBAPS entered the issue into their corrective action program (CAP) as issue reports (IRs) 02433897 and 02437502 and scoped the level switches into the MR.

The finding is determined to be more than minor because it is associated with the protection against external factors attribute of the Mitigating Systems cornerstone and affected the cornerstone's objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). In the case of this finding, monitoring of components that provide alarm indication to operators during a flood hazard were not incorporated into the MR. The inspectors also reviewed IMC 0612, Appendix E, "Examples of Minor Issues," and determined the issue was similar to example 7.d; in that, flood detection was not within the scope of the MR and that one of the flood detectors had experienced performance problems during preventive maintenance (PM) testing. The inspectors conducted a Phase 1 screening in accordance with IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance (Green), because the finding was not a design or qualification deficiency, did not represent an actual loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its Technical Specification (TS) allowed outage time, and did not screen as risk significant due to external initiating events. The inspectors determined that the finding had a cross-cutting aspect in the area of Human Performance, Change Management because PBAPS did not use a systematic process for evaluating and implementing a change. Specifically, during PBAPS's MR database update and monitoring criteria development for new functions, PBAPS did not ensure that certain level switches that provide alarms for flooding used in plant EOPs were scoped into the MR despite identifying that it was required. [H.3] (Section 1R12)

REPORT DETAILS

Summary of Plant Status

Unit 2 began the inspection period at 89 percent rated thermal power (RTP) (the pre-extended power uprate 100 percent power limit). On February 7, 2015, Unit 2 down powered from 89 percent to 82 percent to perform scram time testing on control rod 42-43. The unit returned to 89 percent RTP on February 8, 2015. On February 25, 2015, the 'B' reactor feed pump (RFP) tripped on a low main condenser vacuum signal, due to a failure of the low vacuum trip pressure switch. The Unit 2 'B' RFP trip resulted in a reactor recirculation runback to 59 percent RTP. The pressure switch was replaced and the unit returned to 89 percent RTP on February 26, 2015. On March 20, 2015, Unit 2 down powered from 89 percent to 52 percent to perform a control rod sequence exchange. The unit was returned to 89 percent RTP on March 21, 2015. On March 27, 2015, Unit 2 raised power to 92 percent RTP after NRC approval to continue power ascension to the next extended power uprate hold point. The unit remained at 92 percent RTP until the end of the inspection period.

Unit 3 began the inspection period at 100 percent RTP. On January 10, 2015, Unit 3 down powered from 100 percent to 83 percent to perform main steam isolation valve (MSIV) and main turbine testing. The unit returned to 100 percent RTP on January 11, 2015. On January 16, 2015, Unit 3 down powered from 100 percent to 55 percent to perform waterbox cleaning and a control rod sequence exchange. The unit returned to 100 percent RTP on January 17, 2015. On February 19, 2015, the 'B' reactor recirculation pump (RRP) tripped due a faulty capacitor associated with the voltage regulator that resulted in a power reduction to 45 percent RTP. The voltage regulator was repaired and the unit was returned to 100 percent RTP on February 21, 2015. On March 14, 2015, Unit 3 down powered from 100 percent to 33 percent to perform main condenser work and a control rod sequence exchange. The unit was returned to 100 percent RTP on March 16, 2015, and remained at 100 percent RTP until the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Emergency Preparedness, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 1 sample)

Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

The inspectors performed a review of PBAPS's Units 2 and 3 preparations for the onset of adverse weather and extreme cold temperatures from January 7 through January 9, 2015. The inspectors reviewed the implementation of adverse weather preparation procedures before the onset and during extreme cold weather conditions. The inspectors walked down the inner and outer cooling water intake structures and emergency diesel generator (EDG) rooms to ensure system availability. The inspectors verified that operator actions defined in PBAPS's adverse weather procedure maintained the readiness of essential systems. The inspectors discussed readiness and staff availability for adverse weather response with operations and work control personnel.

b. Findings

No findings were identified.

1R04 Equipment Alignment

Partial System Walkdowns (71111.04Q – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following four systems:

- Unit 3 'A', 'B', 'C', and 'D' core spray (CS) during 'A' residual heat removal (RHR) maintenance outage on January 13, 2015
- E-1, E-2, and E-4 EDGs during E-3 maintenance outage on January 28, 2015
- Unit 2 reactor core isolation cooling (RCIC) with high pressure coolant injection (HPCI) out-of-service (OOS) on February 4, 2015
- E-2, E-3, and E-4 EDG during E-1 24-hour endurance run on February 5, 2015

The inspectors selected these systems based on their risk-significance relative to the Reactor Safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the Updated Final Safety Analysis Report (UFSAR), TS, work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether PBAPS staff had properly identified equipment issues and entered them into the corrective action program (CAP) for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection.1 Resident Inspector Quarterly Walkdowns (71111.05Q - 5 samples)a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that PBAPS controlled combustible materials and ignition sources were controlled in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for OOS,

degraded or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Unit 2 RCIC room on February 4, 2015
- Unit 2 'B' and 'D' CS rooms on February 12, 2015
- Unit 3 refuel floor on February 25, 2015
- Unit 2 'A' and 'C' RHR pump and heat exchanger (HX) room on March 26, 2015
- Unit 3 'A' and 'C' RHR pump and HX room on March 26, 2015

b. Findings

No findings were identified.

.2 Drill Observation (71111.05A – 1 sample)

a. Inspection Scope

The inspectors observed a fire brigade drill scenario conducted on January 14, 2015, that simulated a fire in the Unit 3 turbine building. The simulated fire was staged near the turbine building closed cooling water HXs. The inspectors evaluated the fire brigades' initial response time, proper retrieval of required gear and equipment, and implementation of fire-fighting strategies. The inspectors verified that PBAPS personnel identified deficiencies, openly discussed them in a self-critical manner at the debrief, and took appropriate corrective actions to improve performance. The inspectors evaluated specific attributes as follows:

- Proper use of turnout gear and self-contained breathing apparatus
- Employment of appropriate fire-fighting techniques
- Sufficient fire-fighting equipment brought to the scene
- Effectiveness of command and control
- Search for victims and propagation of the fire into other plant areas
- Smoke removal operations
- Utilization of pre-planned strategies
- Adherence to the pre-planned drill scenario
- Drill objectives met

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

Internal Flooding Review

a. Inspection Scope

The inspectors reviewed the UFSAR, the site flooding analysis, and plant procedures to assess susceptibilities involving internal flooding. The inspectors also reviewed the CAP to determine if PBAPS identified and corrected flooding problems and whether operator actions for coping with flooding were adequate. The inspectors focused on the

Unit 3 'C' RHR room on January 9, 2015, to verify equipment located below the flood line would not impact system availability or any safety functions. The inspectors also verified the adequacy of the watertight door seals, sump pumps, and room flooding alarms.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 – 3 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed a licensed operator requalification training simulator scenario involving a steam leak in the Unit 2 drywell followed by an electrical fault causing the E-32 bus to lockout. Specifically, the inspectors observed the steam leak followed by several equipment problems which required operators to perform an emergency blowdown to protect the Unit 2 containment. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of emergency classifications made by the shift manager and the TS action statements entered by the shift technical advisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors performed control room observations on Unit 3 'B' RRP recovery on February 20 and February 21, 2015. The inspectors evaluated operator performance during the one hour Unit 3 'B' RRP re-start on February 22, 2015. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. Additionally, the inspectors assessed the ability of the crew to identify and document crew performance problems.

b. Findings

No findings were identified.

.3 Licensed Operator Requalification (71111.11B)

a. Inspection Scope

The following inspection activities were performed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and Inspection Procedure (IP) Attachment 71111.11, "Licensed Operator Requalification Program and Licensed Operator Performance."

Examination Results

Requalification exam results (operating test, only) for year 2015 were reviewed to determine if pass/fail rates were consistent with the guidance of NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance SDP." The review verified that the failure rate (individual or crew) did not exceed 20 percent.

- The overall individual operator failure rate was 3.17 percent
- The overall crew failure rate was 0.00 percent

Written Examination Quality

The inspectors reviewed a sample of comprehensive written exams that facility staff previously administered to the operators in February and March 2014.

Operating Test Quality

The inspectors reviewed operating tests, scenarios, and job performance measures (JPMs) associated with three different examination weeks.

Licensee Administration of Operating Tests

The inspectors observed facility training staff administer dynamic simulator exams and JPMs during the week of February 23, 2015. These observations included facility evaluations of crew and individual operator performance during the simulator exams and individual performance of JPMs.

Exam Security

The inspectors assessed whether facility staff properly safeguarded exam material, and whether test item repetition was excessive.

Remedial Training and Re-examinations

The inspectors reviewed two remedial training packages and the associated re-exams for two operators who failed the JPM portion of their 2015 operating test.

Conformance with License Conditions

License reactivation and license proficiency records were reviewed to ensure that Title 10 of the *Code of Federal Regulations* (10 CFR) 55.53 license conditions and applicable program requirements were met. The inspectors also reviewed a sample of

records for requalification training attendance, and a sample of medical examinations for compliance with license conditions and NRC regulations.

Simulator Performance

Simulator performance and fidelity were reviewed for conformance to the reference plant control room. A sample of simulator deficiency reports was also reviewed to ensure facility staff addressed identified modeling problems.

Problem Identification and Resolution

The inspectors reviewed recent operating history documentation found in inspection reports, licensee event reports, the licensee's CAP, NRC End-of-Cycle and Mid-Cycle reports, and the most recent NRC plant issues matrix. The resident staff was also consulted for insights regarding licensed operators' performance. The inspectors focused on events associated with operator errors that may have occurred due to possible training deficiencies.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12 – 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structures, systems, and components (SSCs) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance WOs, and MR basis documents to ensure that PBAPS was identifying and properly evaluating performance problems within the scope of the MR. For each sample selected, the inspectors verified that the SSC was properly scoped into the MR in accordance with 10 CFR 50.65 and that the (a)(2) performance criteria established by the PBAPS staff were reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2) status. Additionally, the inspectors ensured that PBAPS staff was identifying and addressing common cause failures that occurred within and across MR system boundaries.

- Unit 2 and Unit 3 level switches for flooding used in EOPs on January 14, 2015
- EDG standby lube oil and jacket water system thermostat failure on March 24, 2015

b. Findings

Introduction: The inspectors identified a NCV of very low safety significance (Green) of 10 CFR Part 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," because PBAPS did not include certain flood indication functions into the scope of the MR. Specifically, level switches used to indicate flood levels in the Unit 2 and Unit 3 ECCS rooms were not included in the scope of the MR as required by 10 CFR 50.65 (b)(2)(i) as non-safety related components that are used in plant EOPs.

Description: PBAPS enters EOP T-103 Sheet 1, Revision 19, "Secondary Containment Control," if control room operators receive either a Unit 2 or Unit 3 reactor building (RB) area water level alarm. Table SC/L-2, Water Level – Alarm and Action Levels, lists the HPCI, RCIC, RHR, CS, and torus rooms as potential rooms where water level during a flood is required to be monitored and controlled per EOP T-103. PBAPS relies on a single Magnetrol buoyant float switch, in each of the ECCS rooms listed on Table SC/L-2 to actuate and trigger a control room alarm that alerts operators to enter EOP T-103 and execute the appropriate steps.

On January 7, 2015, the inspectors reviewed IR 2433897, which stated that the float switch for the Unit 3 'C' RHR room, LS-3922C, had to be manipulated several times before actuating during its scheduled four-year preventative maintenance (PM) functional check. LS-3922C floated, but the switch did not actuate during the first test. The PBAPS technician manipulated the switch with a rod and was able to actuate the switch. The technician retested the switch. During the second test, the switch was refloated but it took several minutes for the switch to actuate. During the third retest, the switch actuated immediately and passed its acceptance criteria. The inspectors engaged PBAPS personnel and inquired about the testing of the level switches along with their performance history. PBAPS concluded that LS-3922C was either mechanically bound, slightly out of calibration, or the level switch was not elevated sufficiently to result in the expected actuation.

The inspectors attempted to review the MR functional failure data, performance criteria, and MR system health report but could not locate or retrieve the information from the MR data base. After inquiring with PBAPS's MR coordinator, the inspectors determined that the level switch, along with other similar switches, were not scoped into the MR. IR 2437502 was written on January 14, 2015, and a work group evaluation (WGE) was completed on February 2, 2015 to evaluate why the level switches were not scoped into the MR.

Between 2009 and 2013, the implementation of the MR became standardized across the Exelon Nuclear Fleet and PBAPS changed from a system-based scoping MR to a function-based scoping MR. During this time period, each system was re-evaluated for specified MR functions and monitoring. In a MR expert panel meeting on August 26, 2011, the level switch functions for LS-3922C and other similar components were identified by the expert panel as needing to be scoped in the MR. The expert panel decision was to include the level switches from various systems into a single system function, emergency service water (ESW) function number 33-3. This was not completed. The WGE concluded that although the impacted system numbers were identified, the system manager responsible for processing function number 33-3 was not notified to process the switches into the MR database. Since providing flood indication is not typically a function for ESW, the system manager did not know to add this function as part of the change to the function-based scoping for his system. As a result, the level switches were not scoped into the monitoring program, no performance criteria was created, and no risk ranking was assigned.

As corrective actions for the WGE, PBAPS scoped the level switches into the MR, performed a crew clock reset to communicate the necessary information to all of PBAPS's engineers, and developed a risk ranking and performance criteria for the specified level switches.

Analysis: The inspectors identified a performance deficiency, in that PBAPS personnel did not scope level switches which provide inputs for use in plant EOPs in the MR. Traditional enforcement does not apply since there were no actual safety consequences, impacts on the NRC's ability to perform its regulatory function, or willful aspects of the finding. The finding is determined to be more than minor because it is associated with the protection against external factors attribute of the Mitigating Systems cornerstone and affected the cornerstone's objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, a failure of the level switches would delay identifying a flooding condition in the ECCS rooms. In the case of this finding, monitoring of components that provide alarm indication to operators during a flood hazard was not incorporated into the MR. The inspectors also reviewed IMC 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, and determined the issue was similar to example 7.d, in that flood detection was not within the scope of the MR and that level switch LS-3922C experienced performance problems during PM testing. In accordance with IMC 0609.04, "Initial Characterization of Findings," dated June 19, 2012, and Exhibit 2 of IMC 0609, Appendix A, "The SDP for Findings At-Power," dated June 19, 2012 the inspectors determined that the finding was of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not represent an actual loss of system safety function, did not represent an actual loss of safety function of a single train for greater than its TS allowed outage time, and did not screen as risk significant due to external initiating events.

The inspectors determined that the finding had a cross-cutting aspect in the area of Human Performance, Change Management because PBAPS did not use a systematic process for evaluating and implementing a change. Specifically, during PBAPS's MR database update and monitoring criteria development for new functions, PBAPS did not ensure certain level switches that provide alarms for flooding used in plant EOPs were scoped into the MR. (H.3)

Enforcement: 10 CFR Part 50.65, "Requirements for Monitoring the Effectiveness of Maintenance of Nuclear Power Plants," requires, in part, that the scope of the monitoring program include non-safety related SSCs that are used in plant EOPs. Contrary to the above, from August 26, 2011 to February 2, 2015, PBAPS did not scope into the monitoring program components used in EOPs to detect potential flooding in certain rooms in the Unit 2 or Unit 3 RBs. Because this finding is of very low safety significance, and PBAPS has entered it into their CAP (IR 02433897 and IR 02437502), this violation is being treated as an NCV, consistent with section 2.3.2 of the NRC's Enforcement Policy. **(NCV 05000277;278/2015001-01, Failure to Scope Flood Detection Level Switches into the MR)**

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 5 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that PBAPS performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the Reactor Safety cornerstones. As applicable for each activity, the inspectors verified that PBAPS

personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When PBAPS performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk assessment (PRA) engineer to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Yellow risk for Unit 3 'A' RHR OOS on January 13 and 14, 2015
- Yellow risk for E-3 EDG maintenance overhaul on January 27, 2015
- Yellow risk for Unit 3 'B' RHR OOS on February 19, 2015
- Yellow risk for Unit 2 'B' RHR OOS on March 10, 2015
- Yellow risk for E-1 EDG maintenance outage on March 31, 2015

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 6 samples)

a. Inspection Scope

The inspectors reviewed six operability determinations (ODs) for the following degraded or non-conforming conditions:

- Unit 2 circuit breaker, CB-215, backup relay not working on January 5, 2015
- E-1 EDG manual start button trouble on January 8, 2015
- Unit 3 125 volts direct current battery cell broken flame arrestor on February 9, 2013
- Unit 2 'A' RFP solenoid open on February 10, 2015
- Unit 2 'B' RHR discharge valve breaker handle in mid-position on February 12, 2015
- E-4 standby lube oil heater out-of-specification high on March 16, 2015

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the ODs to assess whether TS operability was justified properly and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to PBAPS's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were controlled properly by PBAPS. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 2 samples).1 Temporary Modificationsa. Inspection Scope

The inspectors reviewed the temporary modification listed below to determine whether the modification affected the safety function of systems that are important to safety. The inspectors reviewed 10 CFR 50.59 documentation and post-modification testing results, and conducted field walkdowns of the modification to verify that the temporary modification did not degrade the design bases, licensing bases, and performance capability of the affected system.

- Unit 2 modification for a gag installed on the spline adapters for RHR crosstie valves on February 18 and 19, 2015

b. Findings

No findings were identified.

.2 Permanent Modificationsa. Inspection Scope

The inspectors evaluated a modification to the Unit 3 high pressure service water (HPSW) system connection to the RHR HX supply piping. The inspectors verified that the design bases, licensing bases, and performance capability of the affected systems were not degraded by the modification. In addition, the inspectors reviewed modification documents associated with the upgrade and design change. The inspectors reviewed 10 CFR 50.59 documentation and post-modification testing results, and conducted field walkdowns of the modification.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 - 7 samples)a. Inspection Scope

The inspectors reviewed the post-maintenance tests (PMTs) for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- E-3 EDG run following maintenance outage on January 30, 2015

- Unit 2 'A' RHR testing following maintenance outage on February 12, 2015
- E-4 EDG surveillance test (ST) following bolt torque maintenance on February 17, 2015
- Unit 3 'B' recirculation motor generator (M/G) set surveillance following corrective maintenance on February 22, 2015
- Unit 2 'B' RHR motor-operated valve (MOV) surveillance following maintenance outage on March 16, 2015
- Unit 2 'B' RHR loss of offsite power (LOOP) testing and pump, valve and flow (PV&F) testing following maintenance outage on March 25, 2015
- E-1 EDG run following maintenance outage on March 31, 2015

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 - 5 samples)

a. Inspection Scope (3 routine surveillances; 2 in-service tests (IST))

The inspectors observed performance of STs and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and PBAPS procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following STs:

- Unit 2 'A' RHR PV&F test on January 7, 2015 (IST)
- Station blackout line verification test on January 26, 2015
- E-1 24-hour endurance run on February 5 – 6, 2015
- Unit 2 HPCI PV&F on February 10, 2015 (IST)
- E-4 RHR pump reject test on March 13, 2015

b. Findings

No findings were identified

Cornerstone: Emergency Preparedness (EP)

1EP2 Alert and Notification System Evaluation (71114.02 - 1 sample)

a. Inspection Scope

An onsite review was conducted to assess the maintenance and testing of the alert and Notification System (ANS). During this inspection, the inspectors conducted a review of the ANS testing and maintenance programs. The inspectors reviewed the associated ANS procedures and the Federal Emergency Management Agency approved ANS Design Report to ensure compliance with design report commitments for system

maintenance and testing. The inspection was conducted in accordance with NRC IP 71114, Attachment 2. Title 10 of the CFR 50.47(b)(5) and the related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors conducted a review of the Peach Bottom Emergency Response Organization (ERO) augmentation staffing requirements and the process for notifying and augmenting the ERO. The review was performed to verify the readiness of key Exelon staff to respond to an emergency event and to verify Exelon's ability to activate their emergency response facilities (ERF) in a timely manner. The inspectors reviewed the Peach Bottom Emergency Plan for ERF activation and ERO staffing requirements, the ERO duty roster, applicable station procedures, augmentation test reports, and corrective action reports related to this inspection area. The inspectors also reviewed a sample of ERO responder training records to verify training and qualifications were up to date. The inspection was conducted in accordance with NRC IP 71114, Attachment 3. Title 10 CFR 50.47(b) (2) and related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)

a. Inspection Scope

Exelon implemented various changes to the Peach Bottom Emergency Action Levels (EALs), Emergency Plan, and Implementing Procedures. Exelon had determined that, in accordance with 10 CFR 50.54(q)(3), any change made to the EALs, Emergency Plan, and its lower-tier implementing procedures, had not resulted in any reduction in effectiveness of the Plan, and that the revised Plan continued to meet the standards in 50.47(b) and the requirements of 10 CFR 50 Appendix E.

The inspectors performed an in-office review of all EAL and Emergency Plan changes submitted by Exelon as required by 10 CFR 50.54(q)(5), including the changes to lower-tier Emergency Plan implementing procedures, to evaluate for any potential reductions in effectiveness of the Emergency Plan. This review by the inspectors was not documented in an NRC Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety. The requirements in 10 CFR 50.54(q) were used as reference criteria. The specific documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings were identified.

1EP5 Maintaining Emergency Preparedness (71114.05 - 1 sample)

a. Inspection Scope

The inspectors reviewed a number of activities to evaluate the efficacy of Exelon's efforts to maintain the PBAPS's EP Program. The inspectors reviewed: memorandums of agreement with offsite agencies; the 10 CFR 50.54(q) Emergency Plan change process and practice; PBAPS's maintenance of equipment important to EP; records of evacuation time estimate population evaluation; and provisions for, and implementation of, primary, backup, and alternate ERF maintenance. The inspector also verified Exelon's compliance at PBAPS with new NRC EP regulations regarding the alternative facility capabilities.

The inspectors further evaluated Exelon's ability to maintain PBAPS's EP program through their identification and correction of EP weaknesses, by reviewing a sample of drill reports, actual event reports, self-assessments, and 10 CFR 50.54(t) reviews. Also, the inspectors reviewed a sample of EP-related condition reports initiated at PBAPS's from February 2013 through March 2015. The inspection was conducted in accordance with NRC IP 71114.05. Title 10 CFR 50.47(b) and the related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06 - 1 sample)

Training Observation

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on February 25, 2015 which required emergency plan implementation by an operations crew. PBAPS planned for this evolution to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that PBAPS's evaluators noted the same issues and entered them into the corrective action program.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 – 9 samples)

.1 Initiating Events

a. Inspection Scope

The inspectors reviewed PBAPS's information submitted for the initiating events PIs listed below to assess the accuracy and completeness of the data reported to the NRC for these PIs. The PI definitions and the guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 7, and Exelon procedure LS-AA-2001, "Collecting and Reporting of NRC PI Data," Revision 14, were used to verify that procedure and reporting requirements were met. The inspectors reviewed raw PI data collected from January 1, 2014 to December 31, 2014, and compared graphical representations from the applicable PI reports to the raw data to verify the data was included in the report. The inspectors also examined a selected sample of operations logs and plant computer thermal power data trends to verify the PI data was appropriately captured for inclusion into the PI report and that the individual PIs were correctly calculated.

- Units 2 and 3 Unplanned Scrams per 7,000 Critical Hours (IE01)
- Units 2 and 3 Unplanned Scrams with Complications (IE04)
- Units 2 and 3 Unplanned Power Changes per 7,000 Critical Hours (IE03)

b. Findings

No findings were identified.

.2 Emergency Preparedness

a. Inspection Scope

The inspectors reviewed data for the following three EP Performance Indicators (PIs): (1) drill and exercise performance; (2) ERO drill participation; and, (3) ANS reliability. The last NRC EP inspection at PBAPS was conducted in the second calendar quarter of 2014. Therefore, the inspectors reviewed supporting documentation from EP drills and equipment tests from the second calendar quarter of 2014 through the fourth calendar quarter of 2014 to verify the accuracy of the reported PI data. The review of the PIs was conducted in accordance with NRC IP 71151. The acceptance criteria documented in NEI 99-02, "Regulatory Assessment PI Guidelines," Revision 7, was used as reference criteria.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 1 sample)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by IP 71152, “Problem Identification and Resolution,” the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that PBAPS entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended condition report screening meetings.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by IP 71152, “Problem Identification and Resolution,” to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely-related issues that may have been documented by PBAPS outside of the CAP, such as trend reports, PIs, major equipment problem lists, system health reports, MR assessments, and maintenance or CAP backlogs. The inspectors reviewed the PBAPS’s trend report for the first quarter of 2015, conducted under LS-AA-125-1005, “Coding and Analysis Manual,” to verify that PBAPS personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

The inspectors performed a review of issue reports related to E-1, E-2, E-3, and E-4 EDG oil leaks dating back five years. The inspectors evaluated significance of the EDG oil leaks and the associated impact on EDG operability and availability. The inspectors noted an adverse trend related to repetitive leaks from the EDGs’ upper crankcase cover gasket during normal full load operation and the exhaust manifold during extended no load or reduced load operation.

The inspectors also noted and discussed with PBAPS staff a minor adverse trend in rigor and attention to detail in CAP products, including apparent cause evaluations and work group evaluations, but noted that there were no adverse safety consequences as a result of these low level trends. Based on the overall results of the semi-annual trend review, the inspectors determined that PBAPS was appropriately identifying and entering issues into the CAP, adequately evaluating the identified issues, and properly identifying adverse trends before they became more safety significant operability problems.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153 – 1 sample)Plant Eventsa. Inspection Scope

For the plant events listed below, the inspectors reviewed and/or observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems. The inspectors communicated the plant events to appropriate regional personnel, and compared the event details with criteria contained in IMC 0309, "Reactive Inspection Decision Basis for Reactors," for consideration of potential reactive inspection activities. As applicable, the inspectors verified that PBAPS made appropriate emergency classification assessments and properly reported the event in accordance with 10 CFR Parts 50.72 and 50.73. The inspectors reviewed PBAPS's follow-up actions related to the events to assure that PBAPS implemented appropriate corrective actions commensurate with their safety significance.

- Unit 3 'B' Recirculation Trip on February 19, 2015

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On April 24, 2015, the resident inspectors presented the inspection results to Mr. Michael Massaro, Peach Bottom Site Vice President, and other PBAPS staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Exelon Generation Company Personnel

M. Massaro, Site Vice President
P. Navin, Plant Manager
N. Alexakos, Emergency Preparedness Manager
J. Armstrong, Regulatory Assurance Manager
M. Herr, Operations Director
R. Holmes, Radiation Protection Manager
J. McClintock, LOR Training Supervisor
C. Millard, Operations Training Manager
T. Moore, Site Engineering Director
R. Tyler, Simulator Supervisor

NRC Personnel

F. Bower III, Branch Chief
S. Hansell, Senior Resident Inspector
B. Smith, Resident Inspector
E. Burket, Emergency Preparedness Inspector, DRS
T. Fish, Senior Operations Engineer
J. Petch, Project Engineer, DRP
D. Silk, Sr. Operations Engineer

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

05000277; 278/2015001-01	NCV	Failure to Scope Flood Detection Level Switches into the MR (Section 1R12)
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LIST OF DOCUMENTS REVIEWED

* -- Indicates NRC-identified

Section 1R01: Adverse Weather

Procedures

OP-PB-108-111-1001, Preparation for Severe Weather, Revision 13
 OP-AA-108-111-1001, Severe Weather and Natural Disaster Guidelines, Revision 12
 SA-AA-2114, Winter Safety, Revision 3
 OP-AA-108-107-1001, Station Response to Grid Capacity Conditions, Revision 6

CRs

02445704, Rising Unit 2 and Unit 3 Intake Temperatures
 02445732, 4.0 Critique for Rising Unit 2 and Unit 3 Intake Temperatures

Section 1R04: Equipment Alignment

Procedures

SO 14.1.A-2A COL, CS System Loop A, Revision 13
 SO 14.1.A-2B COL, CS System Loop B, Revision 11
 SO 52A.1.A-1 COL, E1 Diesel Generator Normal Standby, Revision 13
 SO 52A.1.A-2 COL, E2 Diesel Generator Normal Standby, Revision 15
 SO 52A.1.A-3 COL, E3 Diesel Generator Normal Standby, Revision 14
 SO 52A.1.A-4 COL, E4 Diesel Generator Normal Standby, Revision 15
 SO 13.1.A-2 COL, RCIC System, Revision 23

Section 1R05: Fire Protection

Procedures

PF-1, Unit 2 RB Building, 2 'A' and 2 'C' RHR Pump and HX Room – Elevation 91'-6"/116'-0", Revision 5
 PF-5D, Unit 2 RB Building 2 'B' and 2 'D' CS Room – Elevation 91'-6", Revision 3
 PF-12A, Unit 3 RB; 3 'A' RHR Pump and HX Room, Elevation 91'-6"/116'-0", Revision 3
 PF-60, Unit 2 RB Building RCIC Room Elevation 91'-6", Revision 4
 PF-78D, Unit 3 Turbine Building Main Corridor – Elevation 116', Revision 10
 PF-79V, Unit 3 Turbine Building Moisture Separator Area – Elevation 116', Revision 6
 RT-F-101-922-2, Fire Drill, Revision 3

Miscellaneous

2015 Fire Brigade Member Qualification Tracking List

Section 1R06: Flood Protection MeasuresCRs

02433897, Had to Float Level Switch Several Times Before Actuating

*024357502, Flooding Indication MR Functions Omitted from MR

Procedures

ER-AA-310, Implementation of the MR, Revision 9

WO

R1176390

Miscellaneous

DS-FP Sheet 744, Level Switch Data Sheet, Revision 63

Section 1R11: Licensed Operator Requalification ProgramProcedures

TQ-JA-150-20, LORT Program Classroom Summary

OP-AA-105-102, NRC Active License Maintenance

TQ-AA-150, Operator Training Programs

TQ-AA-201, Examination Security and Administration

TQ-PB-201-0113, Simulator Examination Security

TQ-AA-155, Conduct of Simulator Training and Evaluation

TQ-AA-306, Simulator Management

Job Performance Measures

308CA	004C	349C	156P	139C	360P
339A	176C	311C	285P	215C	307CA
054P	081C	269CA	068C	049P	332CA
254C	140C	259C			

Comprehensive Written Exams (Previously administered in 2014)

LORT-Exam Week 1 (SRO)

LORT-Exam Week 2 (SRO)

Simulator Scenarios

711R	732R	743R	705R
722R	741R	725R	735R

Simulator Testing

New Software Loading Report for 2014

PBAPS Simulator Transient Performance Tests

ANSI B.1.2.10, Failed Open SRV with a Group 1 and No High Pressure ECCS

ANSI B.1.2.9, Steam Line Rupture in Drywell

ANSI B.1.2.8, LOCA/LOOP

PBAPS Simulator Reactivity Test, SRPT TQ-AA-306-F-19
Simulator Work Request 15466
Simulator Scenario Based Testing Checklist for Scenario 751R

CRs

AR 01513171 AR 01533891 AR 01616013 AR 01676210

Miscellaneous

Control Room Observation, Control Room Logs Dated February 19-20, 2015

Section 1R12: Maintenance Effectiveness

CRs

01652970, TS-0607D Bench Calibration
02473045, TS-0595A Out of Calibration
02473048, TS-0605A Out of Tolerance
01978931, Circuit in Trouble Indication at Local Fire Panel LFP3
01396642, EOID-LL - 0TF10PA/B not Operating Properly
02433897, Had to Float Level Switch Several Times Before Actuating
*024357502, Flooding Indication MR Functions Omitted from MR

Procedures

ER-AA-310, Implementation of the MR, Revision 9

WO

R1176390

Miscellaneous

DS-FP Sheet 744, Level Switch Data Sheet, Revision 63

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

OP-PB-108-101-1002, Attachment A, PBAPS Protected Equipment Tracking Sheet
PI-AA-120, Issue Identification and Screening Process, Revision 1

CRs

02444268, Future NDE Inspections on E-3 EDG Silencer
02444554, E-3 D/G Low Volts PMS Alarm During E-3 D/G Run
02444557, E-3 EDG Gauge Panel Mounted Tachometer Not Working
02444670, E-3 DG Exhaust Temp Differential Temp High Out of Specification
02455076, Walkdown Found Protected Equipment Signs Not Hung in the Field

Section 1R15: Operability Evaluations

CRs

01319627, TI-70908A High Out of Specification IAW SO 52A.8.A
02432168, 215 CB Relay Trouble
02434139, E-1 EDG Gauge Panel "Start" Button Sticks "In" During Air Roll
02450124, PI-81177A 2 'A' Reactor Feed Pump Turbine (RFPT) Trip Header Pressure Indicates Zero

02450701, E-2/424-R-B (8012) for MO-2-10-89B Appears Tripped
02469035, TI-70908D E-4 D/G L.O. Temp Ind High Out of Specification

Section 1R18: Plant Modifications

CRs

02415817, HV-2-10-23453C Operator Spline Adapter Has Vibrated Loose

Drawings

ECR NO. PB-13-00510, Revision 0

Miscellaneous

Letter dated February 10, 2015, from Weir Valves & Controls USA Inc., to US NRC Regarding
PB HV-2-10-23453C Spline Adapters Vibrated Loose – 11/24/14
ECR PB 14-00433-000, HV-2-10-23453C Operator Spline Adapter Has Vibrated Loose

Section 1R19: Post-Maintenance Testing

Procedures

ST-O-010-306-2, 'B' RHR LOOP Pump, Valve, Flow, and Unit Cooler Functional and Inservice
Test, Revision 43
ST-O-094-400-2, Stroke Time Testing of Valves for Pre-Maintenance or PMT, Revision 4

WOs

R1290346-01

Section 1R22: Surveillance Testing

Procedures

ST-O-51H-201-2, Station Blackout Line TS 3.8.1 B.1 Verification, Revision 4
ST-O-052-701-2, E-1 Diesel Generator 24-Hour Endurance Test, Revision 22
ST-O-052-124-2, E-4 Diesel Generator RHR Pump Reject Test, Revision 8
ST-O-010-301-2, 'A' RHR LOOP PV&F and Unit Cooler Functional and Inservice
Test, Revision 41

CRs

02432864, 'A' RHR Pump Suction Valve Exceeded Stroke Time
02432933, CB-136 Spring Discharge Pin Bent/Weld Broken
02432949, RHR Suction Pressure Gage Downscale Low
02442016, Jacket Water Leak on #8 OCS Cylinder
02442216, TS-0589C Found Out of Calibration During PM
02444234, Unexpected Result During E-3 Logic Test
02446738, Replacement Pump/Motor Different Manufacturer
02448707, E-1 EDG Control Side Turbo Lube Oil Drain Line Weeping Oil
02448710, E-1 EDG Fuel Oil Engine Driven Pump Leaking Oil at Pump Base
02448712, Inadequate Evaluation of NRC Violation
02448713, E-1 EDG Lube Oil Cooler Weeping Oil
02448724, E-1 EDG RTV-0-52G-7249A Weeping Oil at Valve Stem
02448745, E-1 EDG Supercharger Drip Pan Needs to be Repositioned
02448774, E-1 EDG Fuel Weeping From #12 OCS Fuel Injection Pump
02448781, E-1 EDG Engine Driven Lube Oil Pump Discharge Needs Paint

02448808, Puddles of Oil Under the E-3 EDG Remain
02448955, Issue for EDG System MGR to Review Test Data

Miscellaneous

TRMS 3.18, The Conowingo Line Shall Be Available, Revision 3
Amendment No. 210, 3.8.1 AC Sources – Operating

Section 1EP2: Alert and Notification System Evaluation

CRs

1519234 1532298 2466231

Miscellaneous

ANS PM, Airville Repeater, Performed 7/17/14
ANS PM, Cecil County Control Point, Performed 2/25/14
ANS PM, Siren 02, Performed 3/12/14
ANS PM, Siren 41, Performed 5/19/14
Design Report for PBAPS Public ANS, Revision 0
Full Siren Test Results, Performed 6/4/14

Procedures

EP-AA-1000, Exelon Nuclear Standardized Radiological Emergency Plan, Revision 26
EP-AA-1007, Radiological Emergency Plan Annex for PBAPS, Revision 30
EP-MA-121-1002, Exelon East Alert Notification System (ANS) Program, Revision 10
EP-MA-121-1003, Exelon East ANS Siren Monitoring, Troubleshooting, and Testing ANS
Systems, Revision 4
EP-MA-121-1004, Exelon East ANS Maintenance Program, Revision 6

Section 1EP3: Emergency Response Organization Staffing and Augmentation System

CRs

1673082 1548665 1586737 2467618

Drill Reports

ERO Augmentation Drill Memo, 8/13/13 Call in Drill, dated 8/29/13
ERO Augmentation Drill Memo, 11/17/13 Call in Drill, dated 12/02/13
ERO Augmentation Drill Memo, 9/24/14 Call in Drill, dated 10/08/14
ERO Augmentation Drill Memo, 10/13/14 Call in Drill, dated 10/17/14

Miscellaneous

ERO Roster, dated 3/12/15
ERO On-shift Rosters for 12/31/14 & 1/24/15

Procedures

EP-AA-1000, Exelon Nuclear Standardized Radiological Emergency Plan, Revision 26
EP-AA-1007, Radiological Emergency Plan Annex for PBAPS, Revision 30
EP-AA-112-100-F-06, ERO Notification or Augmentation, Revision Q
EP-AA-121-1001, Automated Call-out System Maintenance, Revision 8
EP-AA-122-100-F-13, Call-in Drill (CID) Checklist, Revision B
OP-PB-112-101-1016, Minimum Shift Staffing, Revision 5
TQ-AA-113, ERO Training and Qualification, Revision 23

Section 1EP4: Emergency Action Level and Emergency Plan ChangesMiscellaneous

EP-AA-1000, Exelon Nuclear Standardized Radiological Emergency Plan, Revision 26
 EP-AA-1007, PBAPS Radiological Emergency Plan Annex, Revision 30

Procedures

EP-AA-111, Emergency Classification and Protective Action Recommendations, Revision 19

Section 1EP5: Maintenance of Emergency PreparednessAudits & Self Assessments

AR 2388403, NRC EP Baseline Inspection, Check-in Self-Assessment, dated 1/22/2015
 NOSA-PEA-14-03 (AR 1625247), EP Audit Report, dated 4/09/14
 NOSA-PEA-13-03 (AR 1460469), EP Audit Report, dated 5/01/13

CRs

1460469	1497508	1515183	1526868	1532194	1533369	1533891	1585358
1595107	1623782	1643117	1644803	1645277	1645296	1646128	1647989
1650710	1669620	2443870					

Drill Reports

Evaluation Report, Peach Bottom 2014 NRC Graded Exercise HAB, dated 5/07/14
 Evaluation Report, 7/09/13 Drill, dated 8/08/13
 Evaluation Report, 4/14/14 PB Station PI Drill and 4/21/14 HP Drill, dated 5/08/14
 Evaluation Report, 6/09/14 PB Station PI Drill and 6/18/14 Accountability Drill, dated 7/03/14

Procedures

EP-AA-1000, Exelon Nuclear Standardized Radiological Emergency Plan, Revision 26
 EP-AA-1007, Radiological Emergency Plan Annex for PBAPS, Revision 30
 EP-AA-120-1001, 10 CFR 50.54(q) Change Evaluation, Revision 7
 EP-AA-121, Emergency Response Facilities and Equipment Readiness, Revision 13
 EP-AA-122, Drills and Exercise Program, Revision 16
 PI-AA-125, CAP Procedure, Revision 2

Miscellaneous

Instrument Calibration Sheet, LI-2278A, Fixed Screen A Upstream Level, dated 12/11/08
 Instrument Calibration Sheet, RI-8103A, Drywell High Range Gamma Radiation Monitor,
 dated 11/06/08
 KLD TR-731, PBAPS 2014 Population Update Analysis, December 11, 2014

Surveillances

EP-MA-124-1001-F-01, Control Room/Simulator Inventory, Performed 7/03/13
 EP-MA-124-1001-F-02, TSC/OSC Equipment Test – Software and Reference Document
 Inventory, Performed 6/18/14
 EP-MA-124-1001-F-03, Technical Support Center Inventory, Performed 1/26/15
 EP-MA-124-1001-F-04, Operations Support Center Inventory, Performed 1/26/15
 EP-MA-124-1001-F-14, Monthly/Yearly NARS Communications Test, Performed 4/02/14,
 5/07/14, 6/04/14, and 7/02/14
 EP-MA-124-1001-F-24, Quarterly Alternate Reporting Area Phone Test, Performed 11/04/14
 EP-MA-124-F-02, Alternative Facility/Liaison Kit Inventory, Performed 11/12/14

Section 1EP6: Drill Evaluation

Procedures

EP-MA-114-100-F-01, State/Local Event Notification Form, Revision 0

Section 40A1: Performance Indicator Verification

EP-AA-125-1001, EP PI Guidance, Revision 8

EP-AA-125-1002, ERO Performance – PI Guidance, Revision 10

EP-AA-125-1003, ERO Readiness – PI Guidance, Revision 9

EP-AA-125-1004, Emergency Response Facilities & Equipment, Revision 8

LS-AA-2110, Monthly Data Elements for NRC Emergency Response Organization Drill Participation, Revision 6

LS-AA-2120, Monthly Data Elements for NRC Drill/Exercise Performance, Revision 4

LS-AA-2130, Monthly Data Elements for NRC Alert and Notification System Reliability, Revision 5

Section 40A2: Identification and Resolution of Problems

Procedures

MA-PB-763-421, Revision 4

OP-AA-101-113-1004, EDG E-4 Casing Oil Leak While Running, Revision 28

CRs

00272144, E-4 EDG – Small Oil Leak from Air Box Cover

00279159, Loose Nuts on E-3 DG Crankcase Cover

00343566, E-1 EDG Proactive Check of Blower Discharge Flange Bolting

00394629, Exhaust Header Leak on E-2 Diesel

00442781, Excessive Lube Oil Leak at Exhaust Manifold Control Side

00454117, E-1 D/G Crankcase Cover Bolt Loose

00551561, E-4 EDG Top Rail Vibration

00587924, E-3 Diesel Cover Bolting Issues

00589518, OCG012 Housing Cover Bolting

00620297, Engine Access Cover Nut Found Hand Tight

00741815, Evaluate Applied Flange Bolt Torque

00865939, Loose Nuts on E-1 DG Crankcase Cover

00865950, Loose Nuts on E-3 DG Crankcase Cover

00968205, Loose Nut on E-1 DG Crankcase Cover

00980843, Loose Nut on Engine Cover

00980848, Loose Nut on Engine Cover

00980844, Loose Nut on Engine Cover

01648311, E-4 D/G Shutdown

01047934, E-3 EDG Lube Oil Leak from Top Cover

01057754, E-4 EDG Vibration Monitoring Request

01126755, EDG Top Cover Gaskets – Replacement for OEM Gasket

01215912, Lube Oil Leak on E-3 EDG Blower Cover

01399061, E-3 EDG Lube Oil Leak CS Top Cover

01508082, 2013 MCA HSKP – E-2 EDG Top cover Gasket Leakage

02402567, E-1 EDG Top Cover Weeping Oil

00240561, E-2 EDG Exhaust and Lube Oil Leaks

02424792, H2 Leak Identified on Unit 2 T/G (Reference AR A1981761)

02452494, E-4 Casing Oil Leak While Running
 02454701, E-2 EDG Governor Booster Pump Supply Tubing Slope
 02425869, Guidance for Locating Main Generator H2 Leakage
 02455279, Extent of Condition Check of E-1 EDG Top Cover Bolts
 02455269, Extent of Condition Check of E-3 EDG Top Cover Bolts
 02455285, Extent of Condition Check of E-2 EDG Top Cover Bolts
 02455478, OIO Informal Benchmarking LGS EDG Liner Replacement
 02455618, E-1 EDG Top Cover Bolts Found Under Torqued
 02455648, E-3 EDG Top Cover Bolts Found Under Torqued

Miscellaneous

DNA History Plot

Fire Event Report, PBAPS (EDG#4), Dated 2/13/15

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ANS	Alert and Notification System
CAP	corrective action program
CFR	Code of Federal Regulations
CR	condition report
CS	core spray
EAL	emergency action level
ECCS	emergency core cooling system
EDG	emergency diesel generator
EOP	emergency operating procedure
EP	emergency preparedness
ERF	emergency response facility
ERO	emergency response organization
ESW	emergency service water
HPCI	high pressure coolant injection
HPSW	high pressure service water
HX	heat exchanger
IMC	inspection manual chapter
IP	inspection procedure
IR	issue report
JPM	job performance measure
LER	licensee event report
LOOP	loss of offside power
M/G	motor generator
MOV	motor-operated valve
MR	maintenance rule
MSIV	main steam isolation valve
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OD	operability determination

OOS	out-of-service
PARS	publicly available records
PBAPS	Peach Bottom Atomic Power Station
PI	performance indicator
PM	preventive maintenance
PMT	post-maintenance testing
PV&F	pump, valve, and flow
RB	reactor building
RCIC	reactor core isolation cooling
RFP	reactor feed pump
RHR	residual heat removal
RRP	reactor recirculation pump
RTP	rated thermal power
SDP	significance determination process
SSC	structures, systems, and components
ST	surveillance test
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
WGE	work group evaluation
WOs	work orders