



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I**
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

August 14, 2012

EA-12-094

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

**SUBJECT: PEACH BOTTOM ATOMIC POWER STATION - NRC INTEGRATED
INSPECTION REPORT 05000277/2012003 AND 05000278/2012003,
NRC OFFICE OF INVESTIGATIONS REPORT 1-2012-011, AND
EXERCISE OF ENFORCEMENT DISCRETION**

Dear Mr. Pacilio:

On June 30, 2012, 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 July 20, 2012, with Mr. Garey Stathes, 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 NRC-identified finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. Additionally, the inspectors reviewed Licensee Event Report 05000278/2011003-00, "Automatic Depressurization System (ADS) Safety Relief Valve Actuator Diaphragm Thread Seal Leak," which described the details associated with Exelon's conclusion that it had not met the required Action Statements of Technical Specification (TS) 3.5.1, Action E.1, for one ADS valve inoperable; and therefore had operated the plant in a condition prohibited by TSs. Although this issue constitutes a violation, the NRC concluded that this issue was not within Exelon's ability to foresee and

correct, Exelon's actions did not contribute to the degraded condition, and actions taken were reasonable to address this matter. As a result, the NRC did not identify a performance deficiency. A risk evaluation was performed and the issue was determined to be of very low safety significance. Based on the results of the NRC's inspection and assessment, I have been authorized, after consultation with the Director, Office of Enforcement, to exercise enforcement discretion in accordance with Section 3.5 of the NRC's Enforcement Policy, "Violations Involving Special Circumstances."

This inspection also reviewed actions regarding the failure to meet a TS requirement for offsite dose calculation identified by a NRC inspector in June 2011. In response, the Region I Field Office, NRC Office of Investigations (OI), initiated an investigation on December 20, 2011, to determine whether a radiochemist, employed by Exelon at the PBAPS, deliberately did not conduct an evaluation required by Peach Bottom's TSs and offsite dose calculation manual. Based on testimonial and documentary evidence gathered during the investigation, the investigators concluded that while a violation of a TS requirement had occurred, in that, the required evaluation had not been performed, a training gap was identified as the cause and OI concluded the radiochemist did not deliberately neglect to perform the evaluations. The safety significance of this violation was previously evaluated by the NRC and documented in NRC Inspection Report 05000277/2011005 and 05000278/2011005 as a Green finding. The enforcement aspects of the Green finding were held open pending the completion of the NRC OI investigation. While this finding involved a violation of NRC requirements, the NRC has determined that this issue is a non-cited violation (NCV) in accordance with the Enforcement Policy because it was not repetitive or willful, compliance was restored in a reasonable period of time, and Exelon has entered this issue into their corrective action program (CAP). The finding and associated violation will be counted as one input into the plant assessment process.

Please note that final NRC documents, such as the investigation report described above, may be made available to the public under the Freedom of Information Act (FOIA) subject to redaction of information appropriate under the FOIA process. Requests under FOIA should be made in accordance with Title 10 *Code of Federal Regulation (CFR)* 9.23, "Request for Records."

Additionally, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance, and because it is entered into your CAP, the NRC is treating this finding as a NCV, consistent with Section 2.3.2 of the NRC's Enforcement Policy. If you contest any NCVs in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the NRC, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC 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 Resident Inspector at the PBAPS.

In accordance with Title 10 of the *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 component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Darrell J. Roberts, Director
Division of Reactor Projects

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

Enclosure: Inspection Report 05000277/2012003 and 05000278/2012003
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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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.: 05000277/2012003 and 05000278/2012003

Licensee: Exelon Generation Company, LLC

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

Location: Delta, Pennsylvania

Dates: April 1, 2012 through June 30, 2012

Inspectors: S. Hansell, Senior Resident Inspector
A. Ziedonis, Resident Inspector
A. Rao, Acting Resident Inspector
S. Barr, Sr., Emergency Preparedness Inspector
J. Caruso, Senior Operations Engineer
J. Furia, Senior Health Physicist
T. Hedigan, Operations Engineer
J. Laughlin, Emergency Preparedness Inspector, NSIR
P. Presby, Senior Operations Engineer
A. Rosebrook, Senior Project Engineer

Approved by: Darrell J. Roberts, Director
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000277/2012003, 05000278/2012003; 04/01/2012 - 06/30/2012; Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3; Surveillance Testing.

The report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors and one Office of Nuclear Security and Incident Response (NSIR) emergency preparedness inspector. This report documents one NRC-identified non-cited violation (NCV). The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using IMC 0609, "Significance Determination Process" (SDP). The cross-cutting aspect associated with the finding was determined using Inspection Manual Chapter (IMC) 0310, "Components Within the Cross-Cutting Areas." Findings for which the SDP does not apply may be Green, or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstones: Mitigating Systems

- Green. The inspectors identified a NCV of very low safety significance of Title 10 Code of Federal Regulation (CFR) 50, Appendix B, Criterion XI, "Test Control," because Exelon conducted unacceptable pre-conditioning of the reactor core isolation cooling (RCIC) system during response time testing. The performance deficiency was related to Exelon's surveillance test (ST) procedure which required cold startup of RCIC to reach the rated pump discharge pressure and flow rate within 50 seconds. Exelon procedures required a 72 hour standby period between pump starts to ensure the pump cold start design criteria are satisfied without pre-conditioning. On numerous occasions, when the pump design parameters were not reached in less than 50 seconds on the first attempt, control room operators would routinely perform a second start attempt within a short period of time, typically less than one hour, to adjust the RCIC pump controls and attain the design values in less than or equal to 50 seconds. Exelon performed an extent of condition review of Units 2 and 3 RCIC cold start test data to ensure the current pump, valve, and flow results satisfied the response time testing requirements. The violation was entered into the corrective action program (CAP) as issue report (IR)1364066.

The performance deficiency was more than minor because it was similar to IMC 0612, Appendix E, "Examples of Minor Issues," example 2.a. Specifically, the RCIC cold start ST procedure was not implemented adequately to ensure that the RCIC pump design discharge pressure and flow were reached within the 50 second requirement on the first attempt. The inspectors evaluated the finding using IMC 0609, Attachment 4, "Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance (Green) because all of the mitigating system barrier questions in Table 4.a resulted in a "no" response. The finding included a cross-cutting aspect in the area of Work Practices, Human Performance component, because Exelon did not effectively communicate expectations regarding procedural compliance and personnel following procedures. Specifically, Exelon took credit for the Unit 2 ST performed on April 7, 2011, which started and shutdown RCIC three times in less than 72 hours to satisfy the response time testing acceptance criteria. On January 20, 2011, the same test was performed for Unit 3, when the RCIC system was run two times prior to satisfying the acceptance criteria. Exelon did not identify the unacceptable pre-conditioning of the RCIC system start-up time for either test because

personnel did not follow the In-service Testing (IST) Program Corporate Technical Position procedure. (Section 1R22) [H.4(b)]

Other Findings

One violation of very low safety significance, which was identified by Exelon, has been reviewed by the inspectors. Corrective actions taken or planned by Exelon have been entered into the CAP. This violation and the corrective action tracking number are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 2 began the inspection period at 100 percent power where it generally remained, except for brief periods of main turbine valve testing and minor control rod pattern adjustments, until power was reduced to approximately 85 percent on April 22 to support planned hydraulic control unit (HCU) maintenance and associated control rod pattern adjustment. On April 30, 2012, the unit was returned to 100 percent until May 4, when power was reduced to approximately 60 percent to support planned maintenance and testing associated with annual summer readiness, to recover HCUs from the previous week's maintenance, and to perform the associated control rod pattern adjustment. On May 7, the unit was returned to 100 percent power until May 8, when the unit was reduced to approximately 80 percent power to support a follow-up control rod pattern adjustment and planned maintenance on a single HCU. On May 9, the unit was returned to 100 percent power until May 12, when the unit was reduced to approximately 80 percent power to recover the HCU from the previous week's maintenance and perform the associated control rod pattern adjustment. On May 13, the unit was returned to 100 percent power until May 20, when power was reduced to approximately 90 percent power to support planned HCU maintenance and associated control rod pattern adjustment. On May 21, the unit was returned to 100 percent power until May 25, when power was reduced to approximately 80 percent power to support planned testing and maintenance on a single HCU. On May 26, the unit was returned to 100 percent power until June 1, when the unit was reduced to approximately 80 percent power to recover the HCU from the previous week's maintenance and to perform the associated control rod pattern adjustment. On June 2, the unit was returned to 100 percent power until June 16, when the unit was reduced to approximately 75 percent power to support planned reactor feed pump maintenance and the withdrawal of all control rods for the end-of-cycle (EOC) coastdown period prior to the upcoming planned refueling and maintenance outage. On June 17, the unit was returned to 100 percent power, where it remained until the end of the inspection period.

Unit 3 began the inspection period at 100 percent power until power was reduced to approximately 85 percent power on April 22 to support planned HCU maintenance and associated control rod pattern adjustment. On April 23, the unit was returned to 100 percent power until April 28, when power was reduced to approximately 80 percent power to recover HCUs from the previous week's maintenance and to perform the associated control rod pattern adjustment. On April 29, the unit was returned to 100 percent power until May 13, when power was reduced to approximately 90 percent power to support planned HCU maintenance and the associated control rod pattern adjustment. On May 14, the unit was returned to 100 percent power until May 18, when power was reduced to approximately 60 percent power to support planned maintenance and testing associated with annual summer readiness, to recover HCUs from the previous week's maintenance, and to perform the associated control rod pattern adjustment. On May 20, the unit was returned to 100 percent power until later that day, when power was reduced to approximately 90 percent power to perform a follow-up control rod pattern adjustment. On May 21, the unit was returned to 100 percent power until June 3, when power was reduced to approximately 40 percent to perform balance of plant system in-leakage repairs. Later that day, the unit was returned to 100 percent power, 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 - 2 samples)

.1 Summer Readiness of Offsite and Alternate Alternating Current Power Systems (1 sample)

a. Inspection Scope

The inspectors performed a review of plant features and procedures for the operation and continued availability of the offsite and alternate alternating current (AC) power systems to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed PBAPS's procedures affecting these areas and the communication protocols between the transmission system operator and PBAPS. This review focused on changes to the established program and material condition of the offsite and alternate AC power equipment. The inspectors assessed whether PBAPS established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system. The inspectors evaluated the material condition of the associated equipment by interviewing the responsible system manager, reviewing condition reports (CRs) and open work orders (WOs), and walking down the main power transformers (22 kV to 500kV), the non-vital 13.2 kV switchgear, the number 2 start-up and emergency auxiliary transformer (230 to 13.8 kV), the emergency auxiliary transformers (13.2 to 4.16 kV) and the emergency 4 kV switchgear. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

.2 Readiness for Seasonal Extreme Weather Conditions (1 sample)

a. Inspection Scope

The inspectors performed a review of PBAPS's readiness for the onset of seasonal high temperatures. The review focused on the emergency switchgear, safety-related batteries, the emergency cooling tower (ECT), and the emergency diesel generators (EDGs). The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), technical specifications (TSs), control room logs, and the CAP to determine what temperatures or other seasonal weather could challenge these systems, and to ensure PBAPS personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including PBAPS's seasonal weather preparation procedure, and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during hot weather conditions.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04 - 4 samples)

.1 Partial System Walkdowns (71111.04Q - 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following three systems:

- E-1 and E-2 EDGs after the de-energization of the 2 startup electrical bus on April 6, 2012
- Observed loading of the independent spent fuel storage installation (ISFSI) cask and removal from the spent fuel pool (SFP) on April 30, 2012
- Unit 3 high pressure service water (HPSW) with 'A' HPSW out-of-service (OOS) on May 29, 2012

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 UFSAR, TSs, WOs, 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 CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

.2 Full System Walkdown (71111.04S - 1 sample)

a. Inspection Scope

On April 24 and 25, 2012, the inspectors performed a complete system walkdown of accessible portions of the ECT to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures, STs, drawings, equipment line-up check-off lists, and the UFSAR to verify the system was aligned to perform its required safety functions. The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hanger and support functionality, and operability of support systems. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related CRs and WOs to ensure PBAPS appropriately evaluated and resolved any deficiencies.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q - 5 samples)

.1 Resident Inspector Quarterly Walkdowns

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.

- Plant monitoring system computer room fire on May 1, 2012
- E-23 emergency switchgear room and Unit 3 A/C battery rooms on May 3, 2012
- E-3 EDG room on May 16, 2012
- Cardox room on May 16, 2012
- E-2 EDG room on June 14, 2012

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 - 4 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator requalification simulator training on June 26, 2012, which included three simulated plant events related to reactor low pressure, reactor water level restoration combined with a failure of the reactor to scram, and reactor flooding due to loss of reactor water level instrumentation. The inspectors evaluated operator performance during the simulated events 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 the emergency classification 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
(71111.11 - 1 Sample)

a. Inspection Scope

The inspectors observed the following activities in the main control room:

- Unit 2 main turbine control valve #3 oscillation troubleshooting activities on May 6 (control room observation)

The inspectors observed infrequently performed test or evolution briefings, pre-shift briefings, and reactivity control briefings to verify that the briefings met the criteria specified in Exelon's procedure HU-AA-1211, "Pre-Job Briefings," Revision 7. Additionally, the inspectors observed the post-maintenance test performance to verify that procedure use, crew communications, and coordination of activities between work groups met established expectations and standards.

b. Findings

No findings were identified.

.3 Licensed Operator Regualification Program (71111.11A - 1 sample)

a. Inspection Scope

On April 9, 2012, one NRC region-based inspector conducted an in-office review of the results of the licensee-administered 2012 annual operating tests and comprehensive written examinations. The inspection assessed whether pass rates were consistent with the guidance of NRC Manual Chapter 0609, Appendix I, "Operator Regualification Human Performance SDP." The inspector verified that:

- Crew pass rate was greater than 80 percent. (Crew pass rate was 100 percent.)
- Individual pass rate on the dynamic simulator test was greater than 80 percent. (Individual pass rate was 98.5 percent.)
- Individual pass rate on the job performance measures (JPMs) walk-through portion of the operating test was greater than 80 percent. (Individual pass rate was 98.5 percent.)
- Individual pass rate on the comprehensive written examination was greater than 80 percent. (Individual pass rate was 100 percent.)
- Overall pass rate among individuals for all portions of the examination was greater than or equal to 75 percent. (Overall pass rate was 97.1 percent.)

b. Findings

No findings were identified.

.4 Limited Senior Reactor Operator (LSRO) for Refueling Regualification Program (71111.11 - 1 sample)

a. Inspection Scope

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

A review was conducted of recent operating history documentation regarding fuel handling found in the licensee's CAP. The inspectors also reviewed specific events from the licensee's CAP to determine if possible training deficiencies existed. The inspectors noted repeat instances at PBAPS of fuel handling errors during refueling activities, and reviewed the root cause evaluation and corrective actions that were performed by the facility.

The inspectors evaluated the 2012 Limerick and the 2011 Peach Bottom Limited Senior Reactor Operator (LSRO) refueling operating tests and the 2012 Limerick, 2010 Peach Bottom LSRO biennial written, and 2010 Peach Bottom biennial remediation examinations for quality and compliance with the Examination Standards. Administration of five JPMs to eight operators at Limerick was observed on June 20-21, 2012.

On June 26, 2012, the results of the biennial written examinations at Limerick and annual operating tests for 2012 were reviewed to determine whether pass/fail rates were consistent with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, "Operator Regualification Human Performance SDP." All LSROs passed their annual operating examinations and seven of eight operators (87.5 percent) passed their Limerick LSRO Biennial Written Examination. Performance of all individuals over a two year period was reviewed and indicated no adverse trends. The remediation plans for two individuals' written failure in 2011 were reviewed to assess the effectiveness of the remedial training.

Two years of records for regualification training attendance and license reactivation for all eight LSROs were reviewed for compliance with license conditions and NRC regulations. Medical records for five LSROs were also reviewed.

A sampling of feedback was reviewed and training materials were evaluated for response to this feedback. These materials were also reviewed for incorporation of plant modifications and industry events.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q - 1 sample)a. Inspection Scope

The inspectors reviewed the sample 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 maintenance rule (MR) basis documents to ensure that PBAPS was identifying and properly evaluating performance problems within the scope of the MR. The inspectors verified that the SSC was properly scoped into the MR in accordance with 10 CFR 50.65 and verified 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). Additionally, the inspectors ensured that PBAPS staff was identifying and addressing common cause failures that occurred within and across MR system boundaries.

- E-4 EDG on May 9, 2012

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 4 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 personnel had 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 staff 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 analyst 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.

- Unit 3 B/D safety-related battery system ground investigation on April 18 Unit 2 reactor protection system (RPS) half-scrum and yellow on-line risk condition due to turbine control valve #3 on May 8
- Unit 3 yellow on-line risk condition due to RCIC alternative control panel and remote shutdown panel testing on June 18, 2012
- Unit 2 total turbine control valve indication change on June 19

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 - 5 samples)

a. Inspection Scope

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

- Emergency switchgear and battery room ventilation on May 4, 2012
- Unit 3 'B' and Unit 3 'D' battery ground alarm on April 16, 2012 and May 7, 2012, respectively
- Unit 3 RCIC on April 26, 2012
- E-4 EDG fuel lubricity oil out-of-specification on June 7, 2012
- Unit 2 RPS half scram due to the main turbine No. 3 control valve fast acting solenoid failure on May 7, 2012

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 properly justified 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 properly controlled 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)

Temporary Modifications

a. Inspection Scope

First, the inspectors evaluated the temporary modification to the Unit 2 and Unit 3 batteries to determine whether the modification affected the safety functions of systems that are important to safety. The inspectors reviewed modification documents associated with the upgrade and design change, discussed the modification with engineers, and observed portions of the installation to verify that the temporary modification did not degrade the current design bases, licensing bases, and performance capability of the affected systems.

Second, the inspectors evaluated the temporary modification to the Unit 2 No. 3 main turbine control valve to determine whether the modification affected the safety function of a system that is important to safety. The inspectors reviewed modification documents

and the engineering technical evaluation associated with the design change and discussed the modification with engineers to verify that the temporary modification did not degrade the current design bases, licensing bases, and performance capability of the affected system.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 - 8 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 (DBDs), 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.

- Unit 2 average power range monitor (APRM) voter failure on April 19, 2012
- Unit 3 high-pressure coolant injection (HPCI) maintenance on May 2, 2012
- Unit 3 HPSW maintenance on May 3, 2012
- Unit 2 E-4 EDG maintenance on May 14, 2012
- Unit 2 main turbine control valve #3 cable repairs on May 7, 2012
- E-4 EDG fast start test after planned overhaul on May 14, 2012
- ECT sluice gate maintenance on May 24, 2012
- Unit 3 HPCI following turbine exhaust line drain foreign material removal on June 27, 2012

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 - 6 samples)

a. Inspection Scope (4 routine surveillances, 1 reactor coolant system, and 1 IST sample)

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 RCIC response time test (IST sample) on April 24, 2012
- Unit 2 125/250 VDC battery modified discharge performance testing on May 31, 2012
- Unit 3 HPCI pump, valve, flow and unit cooler functional and in-service test (IST) on May 3, 2012
- Unit 2 core spray (CS) pump, valve, flow testing on May 1, 2012
- Unit 2 residual heat removal (RHR) pump, valve, flow testing on May 22, 2012
- Unit 2 and Unit 3 reactor coolant leakage test (RCS sample) on June 14 and 21, 2012

b. Findings

Introduction. The inspectors identified a NCV of very low safety significance of Title 10 CFR 50, Appendix B, Criterion XI, "Test Control," because Exelon took credit for procedure RT-O-013-725-2/3 by performing ST-O-013-301-2/3 following unacceptable pre-conditioning of the RCIC cold startup time testing. Specifically, Exelon personnel performed multiple startups of the RCIC system in less than 72 hours to demonstrate pump design discharge pressure and flow values were reached within 50 seconds, which did not meet test acceptance criteria and design requirements for a cold start required by RT-O-013-725-2/3.

Description. The function of the RCIC system is to provide makeup water to the reactor vessel during shutdown and reactor isolation in order to prevent the release of radioactive materials to the environment as a result of inadequate core cooling. Exelon's ST procedures ST-O-013-301-2/3, "RCIC Pump, Valve, Flow and Unit Cooler Functional and In-Service Test," Revision No. 38 (Unit 2) and Revision No. 35 (Unit 3) are used to satisfy the once-per-24-month testing requirement of procedure RT-O-013-725-2/3, "RCIC Response Time Test," Revision 9. This procedure requires that the RCIC pump delivers a minimum flowrate of 600 GPM at a discharge pressure of at least 80 PSIG above reactor pressure in less than or equal to 50 seconds after a cold standby start.

On April 24, 2012, the inspectors identified a potential for unacceptable pre-conditioning during the review of the test data in ST procedure ST-O-013-301-2/3. Specifically, procedure Section 6.4, "RCIC Pump, Turbine, and Room Cooler Test," step 6.4.12, data sheet 2, initial parameter states, "start time desired less than equal to 50 seconds at greater than equal to 600 GPM flow and 1228 psig discharge pressure." Procedure RT-O-013-725-2/3, Section 3.3, "Equipment Configuration," step 3.3.3, states the following: "Verify RCIC system has not been run in the last 72 hours prior to the performance of this test."

The inspectors reviewed regulatory position and guidance regarding pre-conditioning, including NRC IMC part 9900: Technical Guidance, "Maintenance Pre-conditioning of SSCs before Determining Operability," and Exelon's procedure ER-AA-321-1007, "In-service Testing Program Corporate Technical Position." IMC Part 9900 and ER-AA-321-1007 state, in part, that unacceptable pre-conditioning is defined as the alteration, variation, manipulation, or adjustment of the physical condition of a SSC before or during a TS surveillance that will alter one or more SSCs operational parameters, which results in acceptable test results. Such changes could mask the actual as-found condition of the SSC and possibly result in an inability to verify the operability of the SSC. In

addition, unacceptable pre-conditioning could make it difficult to determine whether the SSC would perform its intended function during an event in which the SSC might be needed.

Based on the review of the technical guidance, the inspectors determined that, operators implemented ST-O-013-301-2/3 and performed multiple starts of the RCIC system in less than 72 hours to reach the required rated flow and discharge pressure within 50 seconds. The inspectors determined that the test performance was considered unacceptable pre-conditioning of the RCIC system response time testing invalidating the test results for RT-O-013-725-2/3. Specifically, Exelon took credit for the Unit 2 ST performed on April 7, 2011, which started and shutdown RCIC three times in less than 72 hours to satisfy the response time testing acceptance criteria. On January 20, 2011, the same test was performed for Unit 3, and resulted in two RCIC system initiations to satisfy the test acceptance criteria.

Exelon entered the issue into their CAP as IR 1364066, and evaluated the deficiency. Exelon verified that the procedure was not performed adequately resulting in unacceptable pre-conditioning.

Analysis. The inspectors determined that Exelon's performance of inappropriate pre-conditioning due to multiple RCIC system starts in less than 72 hours to meet the acceptance criteria for the response time testing was a performance deficiency. The performance deficiency was more than minor because it was similar to example 2.a. of IMC 0612, Appendix E, "Examples of Minor Issues." Specifically, the RCIC cold start test procedure was not implemented adequately to ensure RCIC pump design pressure and flow values were attained in less than 50 seconds on the initial test start. The inspectors evaluated the finding using IMC 0609, Attachment 4, "Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance (Green) because all of the mitigating system barrier questions in Table 4.a included "no" responses.

The finding included a cross-cutting aspect in the area of Work Practices, Human Performance component, because Exelon did not effectively communicate procedural compliance and adherence expectations. Specifically, Exelon took credit for the Unit 2 ST performed on April 7, 2011, that included the startup and shutdown of RCIC three times in less than 72 hours to satisfy the response time testing acceptance criteria. On January 20, 2011, the same test was performed for Unit 3, and resulted in two RCIC system initiations to satisfy the acceptance criteria. Exelon did not identify the unacceptable precondition of the RCIC system start-up time for either test because personnel did not follow Exelon's procedure ER-AA-321-1007, "In-service Testing Program Corporate Technical Position." (H.4(b)).

Enforcement. 10 CFR 50, Appendix B, Criterion XI, "Test Control," requires, in part, that a test program shall be established to assure that all testing required to demonstrate that SSCs will perform satisfactory in-service, is identified and performed in accordance with written test procedures, and incorporate the requirements and acceptable limits contained in applicable design documents. Contrary to the above, on April 7, 2011, and January 20, 2011, Exelon did not implement a test program that assured all testing required to demonstrate the RCIC system could meet its design basis function. Specifically, personnel did not follow test procedures to ensure the RCIC system response time test were met without pre-conditioning specified in RT-O-013-725-2/3.

This issue was entered into Exelon's CAP as IR 1364066. Exelon's immediate corrective actions included a review to verify that the current Unit 2 and 3 pump, valve, and flow tests satisfied the response time testing requirements. Because the violation was of very low safety significance (Green), and has been entered into the CAP, this violation is being treated as an NCV, consistent with Section 2.3.3.a of the NRC's Enforcement Policy. **(NCV 05000277/2012003-01; 05000278/2012003-01, Inadequate Test Control to Demonstrate RCIC System Design Basis Start-up Response Time)**

Cornerstone: Emergency Preparedness

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

a. Inspection Scope

The Nuclear Security and Incident Response (NSIR) headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures (EPIPs) and the Emergency Plan Annex located under ADAMS accession numbers ML12060A236 and ML12088A343 as listed in the Attachment.

Exelon transmitted the EPIP and Emergency Plan Annex revisions to the NRC pursuant to the requirements of 10 CFR 50, Appendix E, Section V, "Implementing Procedures." The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings were identified.

1EP6 EP Drill Evaluation (71114.06 - 1 sample)

Training Observation (1 sample)

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on May 8, 2012, 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 evaluators noted the same issues and entered them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational/Public Radiation Safety (PS)

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

The inspectors used the requirements in 10 CFR Part 20 and guidance in Regulatory Guide (RG) 8.38, "Control of Access to High and Very High Radiation Areas for Nuclear Plants," the TSs, and the licensee's procedures required by TSs as criteria for determining compliance.

The inspectors reviewed the last two radiological surveys from selected plant areas. The inspectors verified that the thoroughness and frequency of the surveys was appropriate for the given radiological hazard.

The inspectors examined the licensee's physical and programmatic controls for highly activated or contaminated materials stored within spent fuel and other storage pools. The inspectors verified that appropriate controls were in place to preclude inadvertent removal of these materials from the pool.

The inspectors selected occurrences where a worker's electronic dosimeters (ED) noticeably malfunctioned or alarmed. The inspectors verified that workers responded appropriately to the off-normal condition. The inspectors verified that the issue was included in the CAP and dose evaluations were conducted as appropriate.

During job performance observations, the inspectors verified the adequacy of radiological controls, such as required surveys, radiation protection job coverage, and contamination controls. The inspectors evaluated the licensee's means of using EDs in high noise areas as high radiation area monitoring devices.

The inspectors verified that radiation monitoring devices were placed on the individual's body consistent with the method that the licensee was employing to monitor dose from external radiation sources. The inspectors verified that the dosimeter was placed in the location of highest expected dose or that the licensee was properly employing an NRC-approved method of determining effective dose equivalent.

b. Findings

No findings were identified.

2RS2 Occupational As Low As is Reasonably Achievable Planning and Controls (71124.02)

a. Inspection Scope

The inspectors used the requirements in 10 CFR Part 20, RG 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Plants will be As Low As Reasonably Achievable (ALARA)," RG 8.10, "Operating Philosophy for

Maintaining Occupational Radiation Exposure ALARA,” the TSs, and the licensee’s procedures required by TSs as criteria for determining compliance.

The inspectors verified that the licensee’s planning identified appropriate dose mitigation features; considered, commensurate with the risk of the work activity, alternate mitigation features; and defined reasonable dose goals. The inspectors verified that the licensee’s ALARA assessment had taken into account decreased worker efficiency from use of respiratory protective devices and or heat stress mitigation equipment. The inspectors determined that the licensee’s work planning considered the use of remote technologies as a means to reduce dose and the use of dose reduction insights from industry operating experience and plant-specific lessons learned. The inspectors verified the integration of ALARA requirements into work procedure and radiation work permit (RWP) documents.

The inspectors examined ALARA work packages and reviewed the assumptions and basis for the current annual collective exposure estimate for reasonable accuracy. The inspectors reviewed the applicable procedures to determine the methodology for estimating exposures from specific work activities and the intended dose outcome.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

a. Inspection Scope

The inspectors used the requirements in 10 CFR Part 20, the guidance in RG 8.13, “Instructions Concerning Prenatal Radiation Exposures,” RG 8.36, “Radiation Dose to Embryo Fetus,” RG 8.40, “Methods for Measuring Effective Dose Equivalent from External Exposure,” TSs, and the licensee’s procedures required by TSs as criteria for determining compliance.

The inspectors reviewed the most recent accreditation report on PBAPS from the National Voluntary Laboratory Accreditation Program (NVLAP).

The inspectors reviewed licensee procedures associated with dosimetry operations, including issuance/use of external dosimetry, assessment of internal dose, and evaluation of and dose assessment for radiological incidents.

The inspectors verified that the licensee had established procedural requirements for determining when external and internal dosimetry was required.

The inspectors verified that the licensee’s personnel dosimeters that require processing were NVLAP accredited. The inspectors verified the vendor’s NVLAP accreditation. The inspectors ensured that the approved irradiation test categories for each type of personnel dosimeter used were consistent with the types and energies of the radiation present, and the way that the dosimeter was being used.

The inspectors evaluated the onsite storage of dosimeters before their issuance, during use, and before processing/reading, and the guidance provided to radiation workers with respect to care and storage of dosimeters.

The inspectors reviewed dosimetry occurrence reports or CAP documents for adverse trends related to electronic dosimeters, such as interference from electromagnetic frequency, dropping or bumping, failure to hear alarms, etc. The inspectors determined that the licensee had not identified any trends and implemented appropriate corrective actions.

The inspectors reviewed procedures used to assess dose from internally deposited nuclides using whole body counting equipment. The inspectors verified that the procedures addressed methods for determining if an individual was internally or externally contaminated, the release of contaminated individuals, the determination of entry route, and assignment of dose.

The inspectors verified that the frequency of such measurements was consistent with the biological half-life of the potential nuclides available for intake.

The inspectors evaluated the minimum detectable activity (MDA) of the instrument. The inspectors determined that the MDA was adequate to determine the potential for internally deposited radionuclides sufficient to prompt additional investigation.

The inspectors verified that the system used in each bioassay had sufficient counting time/low background to ensure appropriate sensitivity for the potential radionuclides of interest. The inspectors verified that the appropriate nuclide library was used. The inspectors verified that any anomalous count peaks/nuclides indicated in each output spectra received appropriate disposition.

The inspectors reviewed internal dose assessments obtained using in-vitro monitoring. The inspectors reviewed and assessed the adequacy of the licensee's program for in-vitro monitoring of radionuclides, including collection and storage of samples.

The inspectors reviewed the licensee's audits of the counting laboratory used for in-vitro monitoring. The inspectors verified that the lab participated in an analysis cross-check program and that out-of-tolerance results were evaluated and resolved appropriately.

The inspectors reviewed the adequacy of the licensee's internal dose assessments for any actual internal exposure greater than 10 millirem committed effective dose equivalent. The inspectors determined that the affected personnel were properly monitored with calibrated equipment and the data was analyzed and internal exposures properly assessed in accordance with licensee procedures.

The inspectors reviewed the licensee's methodology for monitoring external dose in situations in which nonuniform fields are expected or large dose gradients exist. The inspectors verified that the licensee had established criteria for determining when alternate monitoring techniques were to be implemented.

The inspectors reviewed dose assessments performed using multibadging during the current assessment period. The inspectors verified that the assessment was performed consistently with licensee procedures and dosimetric standards.

The inspectors reviewed skin dose equivalent (SDE) dose assessments for adequacy. The inspectors evaluated the licensee's method for calculating SDE from distributed skin contamination or discrete radioactive particles.

The inspectors evaluated the licensee's neutron dosimetry program, including dosimeter type(s) and/or survey instrumentation.

The inspectors selected neutron exposure situations and verified that (a) dosimetry and/or instrumentation was appropriate for the expected neutron spectra, (b) there was sufficient sensitivity for low dose and/or dose rate measurement, and (c) neutron dosimetry was properly calibrated. The inspectors verified that interference by gamma radiation had been accounted for in the calibration. The inspectors verified that time and motion evaluations were representative of actual neutron exposure events, as applicable.

For the special dosimetric situations reviewed in this section, the inspectors determined how the licensee assigned dose of record for total effective dose equivalent, SDE, and lens dose equivalent.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification (71151 - 10 samples)

Cornerstone: Initiating Events

.1 Initiating Events (6 samples)

a. Inspection Scope

The inspectors reviewed a selected sample of the PBAPS's information submitted for the six 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 6, 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 October 2010 through December 2011 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, licensee event reports (LERs), CAP records, equipment clearances, and MR data to verify the PI data was appropriately captured for inclusion into the PI report and that the individual PIs were correctly calculated.

Units 2 and 3

- Unplanned SCRAMS per 7,000 Critical Hours (IE01)
- Unplanned SCRAMS with Complications (IE03)
- Unplanned Power Changes per 7,000 Critical Hours (IE04)

b. Findings

No findings were identified.

.2 Barrier Integrity PIs (4 samples)a. Inspection Scope

The inspectors reviewed a sample of PBAPS's submittals for the four Barrier Integrity PIs listed below to verify the accuracy of the data reported. The PI definitions and the guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 6, and Exelon procedure LS-AA-2001, "Collecting and Reporting of NRC PI Data," Revision 14, were used to verify that the reporting requirements were met. The inspectors reviewed PI data collected from April 2011 through December 2011. The inspectors compared the graphical representations from the most recent PI report available from the NRC public website to the raw PI data to verify the data was properly included in the report. The PIs reviewed were:

- Unit 2 and Unit 3 RCS specific activity (BI01)
- Unit 2 and Unit 3 RCS leakage (BI02)

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152 - 1 sample).1 Routine Review of Problem Identification and Resolution Activitiesa. Inspection Scope

As required by IP 71152, "Problem Identification and Resolution (PI&R)," 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 CR screening meetings.

b. Findings and Observations

No findings were identified.

.2 Semi-Annual Review to Identify Trends (1 sample)

a. Inspection Scope

The inspectors performed a detailed review of items entered into the CAP to identify trends (either NRC or licensee-identified), and develop insights into PBAPS's progress in identifying and addressing themes. The inspectors reviewed a list of approximately 6,791 IRs that PBAPS initiated and entered into the CAP action tracking system (Passport) from December 1, 2011 through May 31, 2011. The list was reviewed and screened to complete the required semi-annual PI&R trend review. The inspectors evaluated the IRs against the requirements of Exelon CAP procedure, LS-AA-125, and 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action."

b. Findings and Observations

No findings were identified.

Based on the overall review of the selected sample, 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 problems. However, the inspectors did note one adverse trend discussed below.

PBAPS has identified a continued adverse trend in the area of equipment reliability. During the review period, the inspectors noted that PBAPS has performed six causal investigations related to the area of equipment reliability:

- An apparent cause analysis was performed under CR 1294916 in response to multiple examples of station management not driving thorough diagnosis and efficient resolution of equipment issues.
- A common cause analysis was performed under CR 1317314 to evaluate if any equipment reliability programmatic deficiencies exist at the station, in response to 21 equipment apparent cause evaluations between January 1, 2011 and February 2, 2012.
- An apparent cause evaluation was performed under CR 1345680 to analyze multiple examples of slow management response to resolve degraded equipment issues.
- A root cause analysis was performed under CR 1359373 to analyze weaknesses in the station's response to and management of degraded equipment issues.
- A common cause analysis was performed under CR 1361089 to analyze five NRC findings with cross-cutting components in the CAP area, related to degraded equipment or equipment failures, from the second quarter of 2011 through the first quarter of 2012.
- A common cause analysis was performed under CR 1372563 to investigate emergent clearances written during the first half of 2012 which identified that sixty percent were written as a result of equipment failures.

Additionally, during the previous semi-annual review period, as documented in NRC Inspection Report 2011-005, Section 4OA2.3, the inspectors identified an adverse trend in the area of equipment reliability.

.3 Review of Operator Work Arounds (OWAs)

a. Inspection Scope

The inspectors reviewed the cumulative effects of the existing OWAs, operator burdens, existing operator aids and disabled alarms, and open main control room deficiencies to identify any effect on emergency operating procedure operator actions, and any impact on possible initiating events and mitigating systems. The inspectors evaluated whether station personnel had identified, assessed, and reviewed OWAs as specified in Exelon procedure OP-AA-102-103, "OWA Program."

The inspectors reviewed PBAPS's process to identify, prioritize and resolve main control room distractions to minimize operator burdens. The inspectors reviewed the system used to track these OWAs and recent PBAPS self-assessments of the program. The inspectors also toured the control room and discussed the current operator workarounds with the operators to ensure the items were being addressed on a schedule consistent with their relative safety significance.

b. Findings

No findings were identified.

The inspectors determined that the issues reviewed did not adversely affect the capability of the operators to implement abnormal or emergency operating procedures. The inspectors also verified that PBAPS entered OWAs and burdens into the CAP at an appropriate threshold and planned or implemented corrective actions commensurate with their safety significance.

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

.1 (Closed) LER 05000277/2011002-00: Condition Prohibited by TSs due to Degraded Spent Fuel Pool (SFP) Racks Boraflex® Panels

On June 6, 2011, PBAPS determined that certain fuel assemblies in the Unit 2 SFP racks would be relocated to other Unit 2 SFP rack locations to gain additional fuel assembly subcriticality margin. PBAPS made this determination based on the conclusions documented by the NRC in Task Interface Agreement (TIA) 2011-004. The TIA was performed as a result of a NRC unresolved item (URI) 2010-004-01, involving PBAPS's assessment of the degradation rate of the SFP rack neutron absorbers (i.e., Boraflex®).

PBAPS reported this event as a condition prohibited by TS, after PBAPS determined additional SFP subcriticality margin was appropriate to ensure TS requirements were maintained for the SFP racks under the most limiting design and licensing basis conditions. The cause of the event was due to a degradation of the SFP Boraflex®. The previous station assessment for the rate of degradation of Boraflex® was found by the NRC, as part of their TIA, to need additional design margin. Corrective actions included relocating 201 fuel assemblies in the Unit 2 SFP, 83 fuel assemblies in the Unit 3 SFP (as a proactive measure to ensure future TS compliance), establishing administrative controls on SFP racks with degraded Boraflex®, and development of a license

amendment to perform future design changes to both the Unit 2 and Unit 3 SFPs. There were no actual safety consequences associated with this event. Reduced margin in SFP racks containing Boraflex® is an industry concern and has been the subject of previous NRC generic correspondence. The enforcement aspects of the LER are discussed in NCV 05000277&05000278/2012002-003. This LER is closed.

.2 (Closed) LER 05000278/2011003-00: ADS SRV Actuator Diaphragm Thread Seal Leak, EXERCISE OF ENFORCMENT DISCRETION

On September 25, 2011, while Peach Bottom Unit 3 was shut down for a scheduled refueling outage, Exelon personnel performed a routine ST on the Unit 3 71B SRV. The valve exceeded the maximum allowable leak rate for the pneumatic actuation controls associated with its ADS function, and Exelon declared SRV 71B inoperable. Exelon determined that the cause of the excessive leak rate was a failure of the 71B SRV actuator diaphragm thread seal, as a result of thermal degradation of the SRV actuator diaphragm thread seal material. The seal had been replaced during a November 2010 maintenance outage and, at that time, the SRV had passed its ST. Because no other leak testing had occurred since November 2010 (because the plant had been operating and the SRV is inside primary containment), Exelon could not assure that the SRV had been operable since the completion of the last successful leak test. Accordingly, Exelon concluded that it had not met the requirements of TS 3.5.1, Action E.1, which requires that, with one ADS valve inoperable, the licensee must return the valve to operable status within 14 days or be in Mode 3 within 12 hours. Exelon replaced the degraded 71B SRV thread seal on September 26, 2011, and the valve passed a subsequent leak test. Exelon also entered the 71B SRV failure into the CAP (IR 1268076), and, in accordance with 10 CFR 50.73(a)(2)(i)(B), submitted LER 11-003 to report to the NRC this condition prohibited by TSs.

When inspected by Exelon maintenance personnel, Exelon identified that the thread seal had indications of being dry and brittle. Subsequent review by Exelon engineering personnel determined that the apparent cause of the seal leakage was the result of thermal degradation of the thread seal material. The NRC reviewed the licensee's evaluation and actions related to this matter and concluded that the degraded seal condition was not caused by improper maintenance practices. Also, trend data did not indicate a potential degradation in that the same seal material had been used at PBAPS Units 2 and 3 for the last 20 years with no other failures. Further, the NRC considered that the 71B seal leakage would not have been detectable during normal plant operations, since it only occurred when the valve was actuated. Consequently, the NRC concluded that the inoperability of the 71B SRV was not within Exelon's ability to foresee and correct, and therefore, did not identify any performance deficiency associated with the violation.

The inspectors assessed the risk associated with the issue by using IMC 0609, Appendix G, "Shutdown Operations SDP." The inspectors screened the issue, and evaluated it using Checklist 6 of IMC 0609, Appendix G, Attachment 1. SRV 71B is one of five PBAPS Unit 3 ADS reactor vessel relief valves. In order to perform the ADS system safety function, four of the five ADS SRVs are required to function. The four other ADS SRVs passed the leakage test, and would have been capable of de-pressurizing the reactor pressure vessel for design basis events. Therefore, during the period the 71B SRV was inoperable, the overall ADS safety function was maintained. As a result, this issue would screen as very low safety significance (Green).

Because it was not reasonable for the licensee to be able to foresee and prevent the thread seal material degradation, or to have made the 71B SRV inoperability decision at an earlier time, the inspectors determined that no performance deficiency exists. Because no performance deficiency was identified, no enforcement action is warranted for this violation of NRC requirements in accordance with the NRC's Enforcement Policy. Further, because licensee actions did not contribute to this violation, it will not be considered in the assessment process or the NRC's Action Matrix. This LER is closed.

.3 (Closed) LER 05000278/2012001-00: Concurrent Inoperability of Two Trains of Core Spray Pressure Switches Results in Condition Prohibited by TS

On April 18, 2012, the Unit 3 'A' core spray (CS) pump discharge pressure indicating switch was found to be out of calibration during quarterly surveillance testing, and exceeded the TS limit by 2 pounds-per-square-inch (psi) on the low side trip setpoint, which determines when the minimum flow bypass valve should close. On April 19, 2012, the Unit 3 'D' CS pump discharge pressure indicating switch was found to be out of calibration during quarterly surveillance testing, and exceeded the TS limit by 53 pounds-per-square-inch (psi) on the low side trip setpoint. PBAPS determined that this event was reportable under two conditions: both CS subsystems were concurrently inoperable due to a single cause; and also because there was firm evidence of a condition prohibited by TS with both CS subsystems inoperable at the same time. Following successful recalibration, the both switches were returned to an operable status on the day of their respective surveillance testing.

The cause of the event was attributed to insufficient skill and knowledge by maintenance personnel to effectively troubleshoot, maintain, and refurbish instruments following a manufacturer change of ownership and temporary discontinued production of the switch. Corrective actions include expedited CAP action to perform complete switch replacement (vendor production of these switches has once again resumed), development of a site training and qualification program to establish a group of subject matter experts for these type of pressure switches, and procedural enhancements to improve troubleshooting guidance. The enforcement aspects of this LER are discussed in Section 4OA7. This LER is closed.

4OA5 Other Activities

.1 NRC Office of Investigation Report 1-2012-011

In June 2011, an NRC inspector identified a failure to meet a TS requirement for offsite dose calculation and the potential existed that this may have been a deliberate act. In response, the Region I Field Office, NRC Office of Investigations, initiated an investigation on December 20, 2011, to determine whether a radiochemist, employed by Exelon at the PBAPS, deliberately did not conduct an evaluation required by PBAPS's TS and the offsite dose calculation manual (ODCM). Based on testimonial and documentary evidence gathered during the investigation, the investigators concluded that while a violation of a TS requirement had occurred, in that the required evaluation had not been performed, a training gap was identified as the cause and OI concluded the radiochemist did not deliberately fail to perform the evaluations.

The safety significance of the violation was previously evaluated by the NRC and documented in NRC IR 05000277/2011005 and 05000278/2011005 as a Green finding (FIN 05000277/2011005-02; 05000278/2011005-02; Failure to Establish, Implement, and Maintain Adequate Quality Assurance for Effluent and Environmental Monitoring). The enforcement aspects of that finding were held open pending the completion of the NRC OI investigation. While this finding involved a violation of NRC requirements, the NRC has determined that this issue is a NCV in accordance with the Enforcement Policy since Exelon has entered this issue into their CAP, it was not repetitive or willful, and compliance was restored in a reasonable period of time. The finding and associated violation, although dispositioned separately, will be counted as one input into the plant assessment process. The enforcement section of the original finding is amended as follows.

Enforcement. PBAPS Units 2 and 3 TSs Section 5.4.1.c, requires, in part, that QA procedures for effluent and environmental monitoring be established, implemented, and maintained. Exelon procedure CY-AA-170-1000, Revision 5, "Radiological Environmental Monitoring Program and Meteorological Program Implementation," Section 4.5, states in part, that the annual land use census be reviewed against the requirements listed in the station's ODCM, and the ODCM required that compensatory measures be taken to add new environmental monitoring locations, within 31 days, if needed. Furthermore, ODCM Section 4.3.4, requires, that the annual meteorological X/Q (dispersion) and D/Q (deposition) values be compared to the long term historical X/Q and D/Q values for significant changes in a non-conservative direction. Contrary to the above, from January 1, 2011 until July 2011, the above evaluations were not completed as required. Exelon entered the issue into the CAP (ARs: 1226969, 1226202, 1299543, 1299476, 1302720, and 1303308) and completed the required evaluations. This violation is being treated as a Green NCV consistent with the NRC Enforcement Policy. **(NCV 05000277/2011005-02; 05000278/2011005-02; Failure to Establish, Implement, and Maintain Adequate QA for Effluent and Environmental Monitoring)**

.2 Operation of an ISFSI (60855)

a. Inspection Scope

The inspectors verified by direct observation and independent evaluation that the licensee had performed loading activities at the ISFSI in a safe manner and in compliance with applicable procedures. The inspector toured the ISFSI and reviewed radiological surveys performed during the past 12 months.

The inspectors also conducted direct observations of various aspects of the loading and preparation of one spent fuel canister (No. 56) during the week of May 14, 2012. Activities observed involving the canister included: loading into the SFP; loading fuel; removal from the SFP; draining; decontamination; and transport of the cask to the ISFSI.

b. Findings

No findings were identified.

40A6 Meetings, Including Exit

Quarterly Resident Exit Meeting Summary

On July 20, 2012, the resident inspectors presented the inspection results to Mr. Garey Stathes, Peach Bottom Site Vice President, and other PBAPS staff, who acknowledged the findings. Mr. P. Krohn, Chief, USNRC, Region 1, Division of Reactor Projects, Branch 4, participated via teleconference. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

40A7 Licensee-Identified Violation

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meet the criteria of the NRC's Enforcement Policy for being dispositioned as an NCV.

- TS LCO 3.3.5.1, Condition E, requires that one inoperable channel of CS system bypass valve instrumentation be restored to operable in seven days, and, if the redundant emergency core cooling system initiation capability is inoperable, the supported feature(s) must be declared inoperable within one hour. Additionally, TS LCO 3.5.1, Condition I, requires that with two CS subsystems inoperable, LCO 3.0.3 be entered immediately. Contrary to the above, the 'A' and 'D' CS pump bypass valve instrumentation were both inoperable on April 18, 2012, for a period of time greater than one hour, the supported features were not declared inoperable, and LCO 3.0.3 was not immediately entered. Specifically, following discovery of the 'A' CS pump bypass instrument inoperability during ST on April 18, 2012, the 'D' CS pump bypass instrument was discovered to be inoperable on April 19, 2012. PBAPS determined that it was likely that the 'D' CS instrument was also inoperable April 18, 2012, and therefore this event was reportable (see section 40A3.3). Following successful recalibration, both switches were returned to an operable status on the day of their respective surveillance testing. The inspectors determined that this event screens to Green using the Table 4a screening criteria in Attachment 4 of IMC 0609, "SDP," because there was no loss of the CS system safety function. Because this finding is of very low safety significance, and has been entered into Exelon's CAP under IR 1355773, this violation is being treated as a Green NCV consistent with the NRC's Enforcement Policy.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION**KEY POINTS OF CONTACT**Exelon Generation Company Personnel

G. Stathes, Site Vice President
 P. Navin, Plant Manager
 J. Armstrong, Regulatory Assurance Manager
 T. Moore, Site Engineering Director
 M. Herr, Operations Director
 J. Kovalchick, Security Manager
 P. Rau, Work Management Director
 R. Reiner, Chemistry Manager
 R. Holmes, Radiation Protection Manager
 J. Bowers, Training Director
 B. Henningan, Operations Training Manager

NRC Personnel

P. Krohn, Branch Chief
 S. Hansell, Senior Resident Inspector
 A. Ziedonis, Resident Inspector
 A. Rao, Resident Inspector
 S. Barr, Sr. Emergency Preparedness Inspector
 J. Caruso, Senior Operations Engineer
 J. Furia, Senior Health Physicist
 T. Hedigan, Operations Engineer
 J. Laughlin, Emergency Preparedness Inspector, NSIR
 P. Presby, Senior Operations Engineer
 A. Rosebrook, Senior Project Engineer

LIST OF ITEMS OPENED, CLOSED, DISCUSSEDOpened

None

Opened/Closed

05000277, 278/2012003-01	NCV	Inadequate Test Control to Demonstrate RCIC System Design Basis Start-up Response Time (Section 1R22)
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Closed

05000277/2011002-00	LER	Condition Prohibited by TSs due to Degraded SFP Racks Boraflex® Panels (Section 4OA3.1)
05000278/2011003-00	LER	Automatic Depressurization System (ADS) Safety Relief Valve (SRV) Actuator Diaphragm Thread Seal Leak (Section 4OA3.2)

05000277/2012001-00	LER	Concurrent Inoperability of Two Trains of Core Spray Pressure Switches Results in Condition Prohibited by TS (Section 4OA3.3)
05000277/2011005-02; 05000278/2011005-02	NCV	Failure to Establish, Implement, and Maintain Adequate QA for Effluent and Environmental Monitoring (Section 4OA5.1)

LIST OF DOCUMENTS REVIEWED

* -- Indicates NRC-identified

Section 1R01: Adverse Weather Protection

Procedures

AO 50.1, Response to Main Generator Perturbations Caused by Grid Disturbances, Revision 0
 AO 50.7-2, Generator/Grid Stability and Reliability, Revision 11
 AO 53.2-0, Equipment Checks After a Thunderstorm, Revision 4
 OP-AA-108-107-1001, Station Response to Grid Capacity Conditions, Revision 4
 OP-AA-108-107-1002, Interface Procedure Between ComEd/PECO and Exelon Generation (Nuclear/Power) for Transmission Operations, Revision 6
 OP-AA-108-111-1001, Severe Weather and Natural Disaster Guidelines, Revision 8
 P-T-07, External Hazards, Revision 2
 SE-4, Flood Procedure, Revision 31
 SE-4 Bases, Flood Procedure Bases, Revision 21
 SE-16, Grid Emergency, Revision 8
 SE-16 Attachment A, PTGD/PSD Communications to Peach Bottom, Revision 7
 SE-16 Attachment B, Station Electrical Load Shed, Revision 1
 SE-16 Attachment C, LTC Functional Verification, Revision 0
 SE-16 Attachment D, Contingency Issues, Revision 3
 SE-16 Bases, Grid Emergency, Revision 12
 SO 48.1.B, Emergency Cooling Water System Startup, Revision 13 and TC 12-90
 WC-AA-107, Seasonal Readiness, Revision 10

Miscellaneous

Certification of 2012 Peach Bottom Summer Readiness Memorandum, May 15, 2012

Section 1R04: Equipment Alignment

Procedures

COL 13.1.A-2, Revision 21, RCIC System
 RT-O-013-240-2, Revision 0, RCIC Overspeed Trip Test Using Auxiliary Steam
 ST-O-013-301-2, Revision 38, RCIC Pump, Valve, Flow and Unit Cooler Functional and IST

CRs

1368145, Tappet not Seated Against Level per ST-O-013-301
 1368010, Low Pipe Wall Reading at Rooftop Emergency Cooling Water Supply to ECT Cell

Miscellaneous

PBAPS UFSAR, Revision 21
PBAPS UFSAR, Revision 22
PBAPS UFSAR, Revision 24

Section 1R05: Fire Protection

Procedures

PF-154H, Administrative Building North (4th Floor), Revision 4
PF-127, Unit 2 Turbine Building Emergency Battery Switchgear Rooms, Elevation 135'-0",
Revision 8
PF-117, Unit 2 Turbine Building Emergency Battery Switchgear Rooms, Elevation 135'-0",
Revision 8
PF-132, Diesel Generator Building General Area – Elevation 127'-0", Revision 8

Section 1R11: Licensed Operator Regualification Program

Procedures

OT-111, Reactor Low Pressure - Procedure
T-101 Sheet 1, RPV Control
T-102 Sheet 1-3, Primary Containment Control
T-103 Sheet 1, Secondary Containment Control
T-104 Sheet 1, Radioactivity Release
T-111, Sheet 1, Level Restoration
T-116, Sheet 1-2, RPV Flooding
T-204-2/3, Initiation of Containment Sprays Using RHR
T-216-2/3, Control Rod Insertion by Manual Scram or Individual Scram
T-220-2/3, Driving Control Rods during Failure to Scram
T-250-2/3, RPV Pressure Control using HPCI with Suction from CST
TQ-AA-150, Operator Training Programs, Revision 5
TQ-AA-152, LSRO Training Program, Revision 2
TQ-AA-201, Examination Security and Administration, Revision 15
ON-120, Fuel Handling Problems, Revision 22
ON-124, Fuel Floor and Fuel Handling Problems – Procedure, Revision 14
A53.0.A, Normal Makeup/Response to Low Level in Fuel Storage

Examinations Reviewed

PBAPS 2010 LSRO NRC Comprehensive Written Exam
PBAPS 2010 LSRO NRC Comprehensive Remediation Written Exam
Limerick 2012 LSRO NRC Comprehensive Written Exam
JPM Number: NLSROJPM2045
JPM Number: NLSROJPM2047
JPM Number: NLSROJPM2056
JPM Number: NLSROJPM2057
JPM Number: NLSROJPM2065

CRs

11115041, Fuel Bundle Contacted CS Inspection Submarine
11117854, During Performance of Refueling Bridge Surveillance Testing the Dummy Fuel
Bundle Contacted a Spent Fuel Bundle
1382401, AFI out of NRC 71111.11B Inspection of LSRO Program

1382419, LSRO Program Enhancements from NRC 71111.11B Inspection
1382435, Results of LSRO Annual Operating and Biennial Written Exams

Miscellaneous

Simulator Scenario OT-111, "Reactor Low Pressure, PSEG-0208R"
Simulator Scenario T-111, "Level Restoration, PSEG-0320R"
Simulator Scenario T-116, "RPV Flooding, PSEG-0318R"
Senior Reactor Operator – Limited Requalification Training 2011- 2012 Long Range Training Plan

Section 1R12: Maintenance Effectiveness

CRs

1364037, Lower Vertical Drive Failed Initial Inspection

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

ST-O-60F-402-2, Revision 26, Turbine Control Valve Fast Closure Scram and EOC-RPT Functional
ST-O-013-201-3, Revision 3, RCIC Alternative Control Panel Test, and Remote Shutdown Panel Test
OP-AA-106-101-1006, Revision 11, Operational and Technical Decision Making Process

CRs

1363032, Unit 2 #3 Turbine Control Valve Fast Closure/RPS Input Failed
1379161, Unit 2 Total Turbine Control VLV Indication Change

Section 1R15: Operability Evaluations

Procedures

SO 57B.1-3, Revision 5, 125/250 Volt Station Battery Charger Operations
ST-O-052-154-3, Revision 9, E4 D/G Simulated Unit 3 ECCS Signal Auto Start with Offsite Power Available
ST-O-60F-420-2, Revision 26, Turbine Control Valve Fast Closure Scram and EOC-RPT Functional
ST-C-095-884-2, Revision 21, Sampling Diesel Fuel Prior to Delivery to On-site Storage Tanks
OP-AA-108-115, Revision 11, Operability Evaluation
COL 13.1.A-2, Revision 21, RCIC System
OP-AA-108-115, Revision 11, Operability Determinations

CRs

*1360543, Historical Condition of Emergency Switchgear Ventilation Supply Needs Assessed
1363032, Unit 2 #3 Turbine Control Valve Fast Closure / RPS Input Failed
1369642, E-4 DG Fuel Oil Failed Lubricity: Post-Receipt Sample
1373962, E-4 Lubricity Impact on EDG Operability

WOs / ARs

A1855229, 3B/D Battery Ground Main Control Room Alarm Received
C0242564, 3BD036: Investigate Ground
C0242757, TCV #3: Replace Fast-Acting Solenoid Valve
A1349434, E1 Diesel Generator Control Power Light Is Not Lit

Miscellaneous

Standard Specification for Diesel Fuel Oils: Designation: D975-81
Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR): Designation: D6079-11
Technical Information, ASTM D975 Diesel Fuel Specification Test
TS SR 3.3.1.1.A, Function 9, Turbine Control Valve Fast Closure, Trip Oil Pressure - Low
TS 3.8.3.3, Diesel Fuel Oil, Lube Oil, and Starting Air
TS Bases B3.8.3.3, Diesel Fuel Oil, Lube Oil, and Starting Air
TS 5.5.9, Diesel Fuel Oil Testing Program
Technical Information, ASTM D1552-79 Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method)
Technical Information, ASTM D2622-82 Standard Test Method for Sulfur in Petroleum Products (X-Ray Spectrographic Method)
Technical Information, ASTM D2276-73 Standard Test Methods for Particulate Contaminant in Aviation Turbine Fuels

Section 1R19: Post-Maintenance Testing

Procedures

ST-O-052-414-2, Revision 25, E-4 Diesel Generator Fast Start and Full Load Test
ST-M-030-475-2, Revision 4, Sluice Gate Functional and Remote Position Indication Verification Test
RT-O-052-254-2, Revision 26, E-4 Diesel Generator Inspection Post-Maintenance Functional Test
S12N-60A-APRM-21FS, Revision 5, Functional Check of APRM APRM2

CRs

1366047, TE-7273D Not Indicating Normal Plant Conditions
1381340, HPCI Valve Failed to Close
1381865, Foreign Material Found in AO-3-23-137
1382044, Foreign Material Found in U3 HPCI Drain
1382808, HPCI PVF PMT Instrumentation Activity Improvements
1382692, Fatigue Assessment
A1852309, Unit 2 APRM2 Voter Failed

Section 1R22: Surveillance Testing

Procedures

ST-O-023-301-2, Revision 57, HPCI Pump, Valve, Flow and Unit Cooler Functional and IST
ST-O-023-301-3, Revision 57, HPCI Pump, Valve, Flow and Unit Cooler Functional and IST
ST-O-023-301-3, Revision 56, HPCI Pump, Valve, Flow and Unit Cooler Functional and IST
ST-O-023-301-3, Revision 55, HPCI Pump, Valve, Flow and Unit Cooler Functional and IST
ST-O-013-301-3, Revision 37, RCIC Pump, Valve, Flow and Unit Cooler Functional and IST

ST-O-013-301-2, Revision 36, RCIC Pump, Valve, Flow and Unit Cooler Functional and IST
ST-O-013-301-3, Revision 35, RCIC Pump, Valve, Flow and Unit Cooler Functional and IST
ST-O-013-301-3, Revision 32, RCIC Pump, Valve, Flow and Unit Cooler Functional and IST
ST-O-052-312-2, Revision 23, E-2 Diesel Generator Slow Start Full Load and IST Test
RT-O-013-725-3, Revision 7, RCIC Response Time Test
RT-O-013-725-2, Revision 9, RCIC Response Time Test
RT-O-013-725-3, Revision 10, RCIC Response Time Test
RT-O-052-750-2, Revision 9, E-2 Diesel Alternative Shutdown Control Functional
ST-M-57B-731-2, Unit 2A 125/250VDC Modified Battery Discharge Performance Test, Revision 14
ST-M-57B-732-2, Unit 2B 125/250VDC Modified Battery Discharge Performance Test, Revision 13
ST-M-57B-733-2, Unit 2C 125/250VDC Modified Battery Discharge Performance Test, Revision 13
ST-M-57B-734-2, Unit 2D 125/250VDC Modified Battery Discharge Performance Test, Revision 12
ST-O-020-560-2, Reactor Coolant Leakage Test, Revision 13
ST-O-020-560-3, Reactor Coolant Leakage Test, Revision 15
ER-AA-321-1007, Revision 1, IST Program Corporate Technical Positions
ER-AA-321, Revision 11, Administrative Requirements for IST
WC-AA-101-1002, Revision 11, On Line Scheduling Process
SO 52A.1.B, Revision 49, Diesel Generator Operations

CRs

1166894, Engineering to Review Vibration Trend and Determine if Increased Frequency is Required
1183320, RCIC Response Time Test
1325572, TI-7273B Cylinder #6 Reading Low
1331025, Unit 3 RCIC Recurring Issue of High Vibration/Oil Results
1360804, Motor Operator Will Not Go Into Manual Mod
1370373, E-2 D/G Engine Speed Indicator Not Working Properly
1370289, MCR Unable to Communicate to RO's in E-22 Bus Room
1370386, E-2 D/G High Lube Oil Temperature
1720656, RCIC Response Time Test
1732731, RCIC Response Time Test
1790143, RCIC PP Valve Flow/Cooler IST
1803111, RCIC Response Time Test
1845037, TI-7273B Cylinder #6 Reading Low

Miscellaneous

DAC-39, NEDM-11071-43, Class II, Revision 2/72
PB ECR 94-11398, Revision 0
DBD No. P-S-39, Revision 14
PBAPS UFSAR, Revision 21
PBAPS UFSAR, Revision 22
SIL No. 336R1, Surveillance Testing Recommendations for HPCI and RCIC Systems, dated December 8, 1989

SOER 81-13, Loss of High Pressure Core Cooling Systems, dated August 14, 1981
Peach Bottom Temporary Change Control Form, AD-PB-101-1003 F-01, Revision 0
Plant Commitment Number T02372, Revision 0, SOER 81-13, Rec 1

Section 1EP4: Emergency Action Level and Emergency Plan Changes

EP-AA-1007, "Radiological Emergency Plan Annex for PBAPS," Revision 23
EP-AA-112-200, "TSC Activation and Operation," Revision 8
EP-AA-112-400, "Emergency Operations Facility Activation and Operation," Revision 11

Section 1EP6: Drill Evaluation

Peach Bottom May 8, 2012 DEP Drill Evaluation Report

Section 4OA1: Performance Indicator Verification

Procedures

LS-AA-2001, Collecting and Reporting of NRC PIs Data, Revision 14
LS-AA-2090, Monthly Data Elements for NRC RCS Specific Activity, Revision 4
LS-AA-2100, Monthly Data Elements for NRC RCS Leakage, Revision 5
ST-O-020-560-2, Reactor Coolant Leakage Test (sample of completed test records),
Revision 12 and 13
ST-O-020-560-3, Reactor Coolant Leakage Test (sample of completed test records),
Revision 14 and 15
ST-C-095-820-2, Determination of Dose Equivalent $\mu\text{Ci/g}$ I-131 in Primary Coolant, Revision 4
ST-C-095-820-3, Determination of Dose Equivalent $\mu\text{Ci/g}$ I-131 in Primary Coolant, Revision 4
CH-407, Sampling of Reactor Water, Revision 7
CY-AA-130-3010, Dose Equivalent Iodine Determination, Revision 2

ST-C-095-864-2, Off Gas Monitor Response and Release Rate Verification by a Grab Sample,
Revision 2
ST-C-095-864-3, Off Gas Monitor Response and Release Rate Verification by a Grab Sample,
Revision 2

Drawings

M-368, Sheet 1 P&ID: Radwaste Liquid Collection System, Revision 36

Miscellaneous

NEI 99-02, Regulatory Assessment PI Guideline, Revision 6
IE PI data – 4th quarter 2010 through the 4th quarter 2011
BI PI data – 2nd quarter 2011 through the 4th quarter 2011

Section 4OA2: Identification and Resolution of Problems

Procedures

LS-AA-125, CAP Procedure, Revision 16
ER-AA-2100, Equipment Reliability Performance Review and Analysis, Revision 1
OP-AA-102-103, OWA Program, Revision 3

CRs

*1380822, E42 Ammeter Pointer Stuck at Top of Scale
1382019, Sparking/Brush Wear Indicator Reached Brush Box – Northeast
1382032, Brush Sparking on 2BG004
1382359, Packing Leak

1294916, NOS ID: Diagnosis and Efficient Resolution of Equipment Issues
1317314, Common Cause Analysis Required for Equipment Reliability per ER-AA-2100
1329221, NOS ID: MGT Slow to Respond to Degraded Equipment Issues
1329252, NOS ID: Trend IR for Critical Component Failures
1345680, Management Slow to Resolve Degraded Equipment Issues
1358392, Ops Managers Driving Equipment Issues
1359373, INPO – Potential AFI – EN.1 – Risk Recognition
1361089, Red Performance Indication for NRC Cross-Cutting Aspects
1372563, Operations Conduct CCA Emergent Clearance
1382292, NOS ID: Ineffective Oversight and System Monitoring and PHC
1385604, Safety Culture Focus Area 3-4Q 2011 Data

1310158, OWA/OC Screening for Loss of TI-80146 Indication
1384367, PI OO.02: Main Control Room Deficiencies has Adverse Trend
1386298, Deficiency Identified for AR 1319772 MCRD Check-In
1386300, Deficiency Identified for AR 1319772 MCRD Check-In
1388015, EST Audit Results

Miscellaneous

OWA Board Meeting Minutes: 05/09/12, 02/24/12, 12/19/11,08/25/11, 06/29/11, 03/30/11

Section 40A3: Follow-up of Events and Notices of Enforcement Discretion

Miscellaneous

Peach Bottom LER 2-11-02, Condition Prohibited by TSs due to Degraded SFP Racks
Boraflex® Panels
Peach Bottom LER 3-11-03, ADS SRV Actuator Diaphragm Thread Seal Leak
Peach Bottom LER 3-12-01, Concurrent Inoperability of Two Trains of CS Pressure Switches
Results in Condition Prohibited by TS

Section 40A5: Other Activities

CRs

1359063, INPO – AFI – OF – Weaknesses in Crew Teamwork
1343337, Trng – Crew Failure During INPO Crew Performance Evaluation
1359735, INPO – AFI – MA - Fundamentals
1359737, INPO – Potential AFI – EN.1 – Risk Recognition
1359034, Potential INPO AFI – Reactor Services Crew Performance
1358386, Potential INPO AFI – Unit 2 Stator Cooling Water Chemistry
1359497, INPO – AFI ER.2 – Implementation of Critical First Time PMs
1359504, INPO – AFI ER.3 – Longstanding RWCU Filter Demineralizer Performance Issue
1359373, INPO – Potential AFI – EN.1 – Risk Recognition
1365123, RTV-3-02-30V Failed Packing
1359164, Potential
INPO AFI Debriefed in Radiation Worker Practices

1288355, Evaluate Radiation Worker Practices during P3R18
1359444, INPO – AFI – Industrial Safety

1359219, Create PIM Action Plan – INPO PD CM
1359431, 2012 INPO PD: CAP Product Quality
1357470, INPO – PD – IRs for Self-Assessment Standards Deficiencies Not Initiated

Section 40A7: Licensee-Identified Violations

CRs

1355773, Repeat Failures of CS Barton Indicating Switches
1309636, DPIS-3-14-081A Failed to Actuate per SI3D-14-81-A2FQ

Miscellaneous

Peach Bottom LER 3-12-01, Concurrent Inoperability of Two Trains of CS Pressure Switches
Results in Condition Prohibited by TS

LIST OF ACRONYMS

AC	alternate current
ADAMS	Agency wide Documents Access and Management System
ADS	automatic depressurization system
ALARA	as low as is reasonably achievable
APRM	Average Power Range Monitor
AR	action request
CAP	corrective action program
CFR	Code of Federal Regulations
CRs	condition reports
CS	core spray
DBD	design basis document
DRS	Division of Reactor Safety
ECT	emergency cooling tower
ED	electronic dosimeter
EDG	emergency diesel generator
EPIP	Emergency Plan Implementing Procedures
EOC	end-of-cycle
FOIA	Freedom of Information Act
HCU	hydraulic control unit
HPCI	high pressure coolant injection
HPSW	high pressure service water
IMC	inspection manual chapter
IP	inspection procedure
IR	issue report
ISFSI	independent spent fuel storage installation
IST	inservice testing
JMPs	job performance measures
LERs	licensee event reports
LSRO	limited senior reactor operator
MDA	minimum detectable activity
MR	maintenance rule

NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NSIR	Office of Nuclear Security and Incident Response
NVLAP	National Voluntary Laboratory Accreditation Program
OD	operability determination
ODCM	offsite dose calculation manual
OI	Office of Investigations
OOS	out-of-service
OWA	operator work-arounds
PARS	publicly available records
PBAPS	Peach Bottom Atomic Power Station
PI	performance indicator
PI&R	problem identification and resolution
PMT	post-maintenance test
PSB1	Plant Support Branch 1
RCIC	reactor core isolation cooling
RCS	reactor coolant system
RG	regulatory guide
RHR	residual heat removal
RPS	reactor protection system
RWP	radiation work permit
SDE	skin dose equivalent
SDP	significance determination process
SFP	spent fuel pool
SRV	safety relief valve
SSCs	structures, systems, and components
STs	surveillance tests
TIA	task interface agreement
TS	technical specification
UFSAR	updated final safety analysis report
WOs	work orders