



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
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KING OF PRUSSIA, PA 19406-1415

August 12, 2008

Mr. Charles G. Pardee
Chief Nuclear Officer (CNO) and Senior Vice President
Exelon Generation Company, LLC
Chief Nuclear Officer (CNO)
AmerGen Energy Company, LLC
200 Exelon Way
Kennett Square, PA 19348

**SUBJECT: PEACH BOTTOM ATOMIC POWER STATION - NRC INTEGRATED
INSPECTION REPORT 05000277/2008003 and 05000278/2008003**

Dear Mr. Pardee:

On June 30, 2008, the United States Nuclear Regulatory Commission (NRC) completed an 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 18, 2008, with Mr. Bill Maguire and other members of your staff.

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

The report documents one self-revealing finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it is entered into your corrective action program (CAP), the NRC is treating the finding as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the PBAPS.

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Sincerely,

/RA/

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

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

Enclosures: Inspection Report 05000277/2008003 and 0500278/2008003
w/Attachment: Supplemental Information

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Sincerely,
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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.: 05000277/2008003 and 05000278/2008003

Licensee: Exelon Generation Company, LLC

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

Location: Delta, Pennsylvania

Dates: April 1, 2008 through June 30, 2008

Inspectors: F. Bower, Senior Resident Inspector
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J. Ambrosini, Reactor Inspector
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SUMMARY OF FINDINGS

IR 05000277/2008003, 05000278/2008003; 04/01/2008 - 06/30/2008; Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3; Maintenance Effectiveness.

The report covered a three-month period of inspection by resident inspectors and announced inspections by regional health physicists, reactor inspectors, and a senior operations engineer. One Green NCV was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. A self-revealing NCV of PBAPS's Unit 2 License Condition 2.C (4), "Fire Protection Program," was identified when maintenance personnel discovered foreign material inside a supply valve to an automatic 13KV switchgear sprinkler system installed because there is a one-hour rated raceway encapsulated in the 13KV switchgear area. The Fire Protection Program requires automatic suppression when one-hour rated raceway encapsulation is used. PBAPS has removed the foreign material, replaced the affected valve, and entered this issue into their CAP for appropriate action. The inspectors determined that there was no cross-cutting aspect to this finding.

The finding is more than minor because it is associated with the Mitigating Systems Cornerstone attribute of protection against external factors (i.e., fire), and it affects the objective of ensuring reliability and capability of systems that respond to initiating events. The finding was of very low significance because PBAPS demonstrated that the core damage frequency (CDF) associated with a fire in this area was in the 1 E-7 range for all assumed fires. (Section 1R12)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Unit 2 began the inspection period at 100 percent rated thermal power (RTP). On May 2, 2008, power was reduced to 73 percent for planned waterbox cleaning, control rod testing, and other planned maintenance and testing. On May 4, 2008, the unit was returned to full power where it remained until the end of the inspection period, except for brief periods to support planned testing and rod pattern adjustments.

Unit 3 began the inspection period at 100 percent RTP. On May 23, 2008, the unit was reduced to 59 percent for planned waterbox cleaning, control rod testing, and other planned maintenance and testing. On May 24, 2008, the unit was returned to full power. On June 15, 2008, operators performed an unplanned reduction in the 3 'B' recirculation pump speed due to high temperatures in the 3 'B' second stage seal cavity. The power reduction was less than two percent. On June 16, 2008, the unit was returned to full power where it remained until the end of the inspection period, except for brief periods to support planned testing and rod pattern adjustments.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (711111.01 – 3 Samples)

.1 Summer Readiness (1 System Sample)

a. Inspection Scope

The inspectors reviewed PBAPS's readiness for the summer 2008 season. They reviewed area climate reports for the summer 2007, reviewed issue reports developed for heat-related problems during the summer of 2007, reviewed procedural guidance for summer readiness, and reviewed training provided to operators for 2008 summer readiness. The inspectors walked down the emergency switchgear and battery room ventilation systems and reviewed system preventive maintenance status with the systems engineer. In addition, the inspectors reviewed the "Certification of 2008 Summer Readiness" report dated May 15, 2008.

b. Findings

No findings of significance were identified.

.2 Grid Reliability (1 Grid Reliability Sample)

a. Inspection Scope

The inspectors reviewed plant features and procedures for operation and continued availability of offsite and backup power systems during adverse weather (summer conditions). The inspectors reviewed communication protocols between the control room personnel and electrical system operations, as well as measures prescribed and taken to maintain the availability and reliability of these alternating current (AC) systems.

b. Findings

No findings of significance were identified.

.3 External Flooding (1 External Flooding Sample)

a. Inspection Scope

The inspectors reviewed selected risk-important plant design features intended to protect the plant and its safety-related equipment from external flooding events. The inspectors reviewed flood analysis and the Updated Final Safety Analysis Report (UFSAR). On May 14, May 15, and May 16, 2008, the inspectors walked down the emergency cooling tower, high pressure service water (HPSW) rooms, and the emergency service water room (also called the cardox room, adjacent to the emergency diesel generator (EDG) rooms) to review licensee's external flooding protection. In addition, flooding design bases, flooding procedures, and training provided to licensed operators on flooding mitigation strategies were reviewed.

b. Findings

No findings of significance were identified

1R04 Equipment Alignment (71111.04Q – 4 Partial Samples; 71111.04S – 1 Complete Sample)

.1 Partial Walkdown

a. Inspection Scope

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

- 'B' Standby Gas Treatment (SBGT) with 'A' SBGT Out-of-Service (OOS);
- Unit 3 Reactor Core Isolation Cooling (RCIC) System;
- E-2 EDG with E-4 EDG OOS; and
- Unit 2 High Pressure Coolant Injection (HPCI) with RCIC OOS.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown

a. Inspection Scope

The inspectors performed a complete system walkdown of the accessible portions of the 3 'A' core spray (CS) system with 3 'B' CS system OOS, verifying that accessible

breakers, valves and support equipment were properly aligned to support system operation. The inspectors reviewed system operating procedures, piping and instrumentation drawings, walked down control system components and verified that circuit breakers and valves were in the appropriate positions.

b. Findings

No findings of significance were identified

1R05 Fire Protection (71111.05 – 5 Samples)

Fire Protection – Tours

a. Inspection Scope

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

- Unit 3 CS Instrument Room, 116' Elevation (Fire Zone 13G & 13F);
- Standby Gas Treatment Room, 91'6" Elevation (Fire Zone 70);
- Turbine Lube Oil Reservoir & Battery Room, 135' Elevation (Fire Zone 90);
- Unit 2 Emergency Battery & Switchgear Rooms, 135' Elevation (Fire Zone 127); and
- Unit 3 Reactor Building, 195' Elevation (Fire Zone 13K).

b. Findings

No findings of significance were identified.

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

.1 Resident Inspector Quarterly Review

a. Inspection Scope

On June 10, 2008, the inspectors observed operators in PBAPS's simulator during licensed operator requalification training to verify that operator performance was adequate and that evaluators were identifying and documenting crew performance issues. The inspectors verified that performance issues were discussed in the crew's post-scenario critiques. The inspectors discussed the training, simulator scenarios, and

critiques with the operators, shift supervision, and the training instructors. The evaluated scenario observed for this one sample involved the event listed below:

- Torus Low Level requiring Emergency Depressurization or Blowdown.

b. Findings

No findings of significance were identified.

.2 Biennial Review of Licensed Operator Requalification Program

a. Inspection Scope

On June 10, 2008, a region-based inspector conducted an in-office review of results of the licensee-administered annual operating tests and comprehensive written exams for 2008. The inspection assessed whether pass rates were consistent with the guidance of NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance SDP." The inspector verified that:

- Crew failure rate was less than 20%. (Crew failure rate was 10%);
- Individual failure rate on the dynamic simulator test was less than or equal to 20%. (Individual failure rate was 3%);
- Individual failure rate on the walk-through test was less than or equal to 20%. (Individual failure rate was 0%);
- Individual failure rate on the comprehensive written exam was less than or equal to 20%. (Individual failure rate was 0%); and
- Overall pass rate among individuals for all portions of the exam was greater than or equal to 75%. (Overall pass rate was 97%).

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12 - 2 Samples)

a. Inspection Scope

The inspectors reviewed two samples of PBAPS's evaluation of degraded conditions involving safety-related significant structures, systems and components (SSCs) for maintenance effectiveness during this inspection period. The inspectors reviewed PBAPS's implementation of the Maintenance Rule (MR), and verified that the conditions associated with the referenced condition reports (CRs) were evaluated against applicable MR functional failure criteria as found in the licensee's scoping documents and procedures. The inspectors also discussed these issues with PBAPS personnel to verify that they were tracked against performance criteria, and that the systems were classified in accordance with MR implementation guidance. Documents reviewed during the inspection are listed in the Attachment. The following conditions were reviewed:

- Issue Report (IR) 782186, Valve HV-0-37B-11517 had FME (Foreign Material) Wedged into Valve; and
- IR 773005, 3 'A' Main Transformer High Combustible Gas.

b. Findings

Introduction: A self-revealing Green NCV of PBAPS's Unit 2 License Condition 2.C (4), "Fire Protection Program," was identified when maintenance personnel discovered foreign material inside a supply valve to an automatic 13KV switchgear sprinkler system installed because there is a one-hour rated raceway encapsulated in the 13KV switchgear area. PBAPS's Fire Protection Program requires automatic suppression when one-hour rated raceway encapsulation is used.

Description: On June 2, 2008, during the fire protection valve replacement project, valve HV-O-037B-11517, "13KV Switchgear Area Sprinkler System Inlet Block Valve," was found to have foreign material wedged into the bottom of the valve. The valve was not closing properly and was on the list for replacement. The valve was replaced, and it was verified there was no foreign material in the replacement valve.

The issue is the operability of the 13KV sprinkler system since the valve was installed in 1999. The system was installed since there is a one-hour rated raceway encapsulation in the 13KV switchgear area. The Fire Protection Program requires automatic suppression and detection when one-hour rated raceway encapsulation is used. The foreign material was in place since 1999 since this system has not been opened since then.

PBAPS determined that the foreign material appeared to be a flexible gray plastic cap of the type installed in the valve upon receipt from the vendor. This type of cap supports the conclusion that it was included within the system upon initial installation.

The surveillance tests (STs) for this system were not full flow tests. Consequently, the small amount of flow used in tests may have passed around an obstruction such as the FME cap without failing acceptance criteria.

The licensee performed the following as a result of this discovery:

- An extent of condition (EOC) evaluation;
- A Risk Assessment Core Damage Frequency (CDF) Impact;
- Past Operability Review; and
- Fire Safe Shutdown (FSSD) Analysis Impact.

The EOC evaluation looked at the other valves that were installed in 1999 as part of the Thermolag Upgrade Project. A sample of the potentially affected valves were removed and the upstream piping was verified clear of all obstructions. No additional foreign material was discovered.

The licensee's risk assessment determined that credit for fire suppression in the affected compartment is not taken in the current fire probabilistic risk assessment model. This is an initial bounding case that assumes fire spreads in the fire area before sprinklers are

effective. This bounding assumption causes a CDF contribution of 1.2E-7/yr for Unit 2 and 2.6E-7/yr for Unit 3.

The past operability review concluded that the one-hour raceway encapsulation would have provided adequate protection to shutdown cables such that post-fire safe shutdown would have been accomplished. This was based on several factors including the low combustible loading in the area, 46 smoke detectors in the area would have provided prompt indication of a fire condition, and the fire brigade would have provided suppression in less than one hour.

The FSSD analysis impact identified that the 2 'D' RHR and 2 'B' HPSW pumps and the 3 'C' RHR and 3 'C' HPSW pumps would have been affected by this event. The inspectors concluded that the performance deficiency was an improper valve installation that left the vendor valve cover installed.

Analysis: The finding was more than minor because it was associated with the external factors attribute (fire) for the Mitigating System Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the automatic suppression feature in the vicinity of the 13KV switchgear area (which is designed to mitigate the consequences of a fire) was found to be degraded. This sprinkler system, in combination with the one-hour rated fire barrier encapsulation of required safe shutdown cables, are credited with providing the required defense-in-depth. The finding was evaluated in accordance with IMC 0609, Appendix F, "Fire Protection SDP." The finding category was determined to be fixed fire suppression systems. Based on the as-found condition and previous testing that showed that the system was capable of passing some water, the degradation rating was determined to be moderate. Due to plant specific conditions, fire damage resulting from transient combustibles, self-ignited cable, and exposure fires were screened out as not being credible in causing damage to required safe shutdown cabling. A cross-cutting aspect was not assigned to this finding since the performance deficiency was not reflective of current performance.

The potential for damage resulting from an energetic arching electrical fault was evaluated in accordance with Task 2.3.2 and Attachment 5, and was entered to evaluate the condition. In accordance with Attachment 5, since the critical targets were protected by a fire barrier and since sufficient secondary combustibles were beyond five-feet vertical distance from the top of the cabinets, it was determined that required safe shutdown cables would not be damaged by the energetic fault.

As a result, in accordance with Task 2.3.4, since the fire ignition source could not cause ignition of secondary combustibles and since the fire ignition source could not cause damage consistent with any of the fire damage scenarios of interest, the finding screened out and was determined to be of very low safety significance (Green).

Enforcement: PBAPS Unit 2 License Condition 2.C (4), "Fire Protection Program," requires automatic suppression when a one-hour rated raceway encapsulation is used. Contrary to this, on June 2, 2008, PBAPS discovered that the sprinkler system to the 13KV switchgear supplying automatic suppression to a required one-hour rated raceway encapsulation had been compromised since installation in 1999 by foreign material in the block valve supplying the sprinkler system. Because the finding is of very low safety

significance and has been entered into PBAPS's CAP (Issue Report (IR) 782186), this violation is being treated as a Green NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: **NCV 05000277/2008003-01; 5000278/2008003-01, "Foreign Material Discovered in Fire Valve."**

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

a. Inspection Scope

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

- Repair/Replace Unit 3 RCIC Pump Inboard Seal (Work Order (WO) C0224774);
- Investigate, Calibration Check, Repair, Replace as Necessary – Unit 3 HPCI (WO M1667404);
- Replace 3 'B' Electrohydraulic Control (EHC) Discharge Micron Filter (WO R1067963);
- Fire Header Outage Engineering Change Request (ECR) 08-00174; and
- Input Block for 3 'B' Emergency Core Cooling System Level Suspected Bad (WO A1668011).

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 6 Samples)

a. Inspection Scope

The inspectors reviewed six issues to assess the technical adequacy of the operability evaluations, the use and control of compensatory measures, and compliance with the licensing and design bases. Associated adverse condition monitoring plans, engineering technical evaluations, and operational and technical decision making documents were also reviewed. The inspectors used TS, TRM, Updated Final Safety Analysis Report (UFSAR), and associated Design Basis Documents (DBDs) as references during these reviews. The issues reviewed included:

- Train 'A' SGBT Filter with Absorber Nuts and Bolts/Studs in Bad Condition (IR 769598);
- Failure of MO-3-10-15A to Pass Logic System Functional Test Step 6.3.18 (IR 774950);
- Adverse Condition Monitoring Plan (ACMP) for 3 'C' Main Transformer Gassing (IR 734565-12);

- 3 'A' Main Transformer Requires 4 Hours/Day Venting (IR 770315);
- Past Operability Assessment of Unit 3 RCIC Inboard Pump Seal Leak (IR 766782); and
- Main Steam Relief Valve (MSRV) 71D Tailpipe Temperature Rose 6 Degrees in One Day (IR 750921).

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors observed selected portions of post-maintenance testing (PMT) activities and reviewed completed test records. The inspectors observed whether the tests were performed in accordance with the approved procedures and assessed the adequacy of the test methodology based on the scope of maintenance work performed. In addition, the inspectors assessed the test acceptance criteria to evaluate whether the test demonstrated that the tested components satisfied the applicable design and licensing basis and the TS requirements. The inspectors reviewed the recorded test data to verify that the acceptance criteria were satisfied. The inspectors reviewed seven PMTs performed in conjunction with the following maintenance activities:

- Repair/Replace Unit 3 RCIC Pump Inboard Seal (WO C0224774);
- Remove/Replace Unit 2 Control Rod Drive Pump Head Gasket (WO C0224043);
- Rework/Replace E-2 TE-0802B (WO C0224892);
- E-2 Starting Air Check Valve(s) Replacement (WO R1040632);
- 2 'A' EHC Filter Replacement (WO R1068074);
- 3 'B' Reactor Building Closed Cooling Water Heat Exchanger Relief Valve Replacement (WO R0907468); and
- Installation of Gas Monitors on 3 'B' and 3 'C' Main Power Transformers (WO A1663148).

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 6 Samples)

a. Inspection Scope

The inspectors reviewed and observed selected portions of selected surveillance tests (STs), and compared test data with established acceptance criteria to verify the systems demonstrated the capability of performing the intended safety functions. The inspectors also verified that the systems and components maintained operational readiness, met applicable TS requirements, and were capable of performing the design basis functions. The six STs reviewed and observed included:

- ST-O-010-616-3, Residual Heat Removal (RHR) Loop 'B' Piping Pressure Test Inspection;
- SI2L-3-231-B3FQ, Functional Test of Scram Discharge Volume Level Instruments;
- ST-I-010-100-3, Unit 3 RHR Loop 'A' Logic System Functional Test;
- RT-O-101-900-2, Site Evacuation Alarm Test;
- ST-O-020-560-2, Reactor Coolant Leakage Test; and
- ST-O-020-560-3, Reactor Coolant Leakage Test.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 1 EP Drill Sample)

a. Inspection Scope

On April 23, 2008, the inspectors evaluated the conduct of a PBAPS emergency drill. The conduct of the drill was evaluated in accordance with the inspection guidance in Inspection Procedure (IP) 71114.07. The results of this inspection were documented in NRC Inspection Reports 05000277 & 05000278/2008201. The performance of IP 71114.07 meets the requirements of observing an EP drill or simulator-based training evolution in IP 71114.06.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems
(71122.01 – 2 Samples)

a. Inspection Scope

Inspection Planning and In-office Inspection

The inspectors reviewed the 2006 and 2007 Radiological Effluent Release Reports and Radiological Dose Assessment Reports to verify that the program was implemented as described in the Radiological Effluents Technical Specifications (RETS) and the Offsite Dose Calculation Manual (ODCM). The inspectors reviewed the reports for significant changes to the ODCM and to radioactive waste system design and operation. The inspectors determined whether changes to the ODCM were technically justified and documented, as appropriate. The technical justifications, as appropriate, were reviewed during the onsite inspection. The inspectors selectively reviewed new procedures for the effluents program including ground water monitoring programs.

The inspectors evaluated the licensee's analysis for any additional discharge pathways as a result of a spill, leak, routine, normal, abnormal, or unexpected liquid discharge or gaseous discharges, which may have developed since the previous inspection. The inspectors verified, as applicable, that the licensee had records on sampling locations, type of monitoring, and frequency of sampling to meet 10 CFR 20.1501 requirements.

The inspectors determined whether modifications made to radioactive waste system design and operation, as applicable, changed the dose consequence to the public. The inspectors verified, as appropriate, that technical and/or 10 CFR 50.59 reviews were performed.

The inspectors determined if anomalous results, reported in the current radiological effluent release and radiological dose assessment reports were adequately resolved. The inspectors also reviewed Exelon's actions to resolve any out-of-specification inter-laboratory cross-check analysis data for the effluent monitoring program and to determine if remedial action had been taken for the out-of-specification data.

The inspectors reviewed the RETS/ODCM to identify the effluent radiation monitoring systems and applicable flow measurement devices. The inspectors reviewed any effluent radiological occurrence performance indicator incidents for onsite follow-up and reviewed licensee self-assessments, audits, and event reports that involved unanticipated offsite releases of radioactive material, as appropriate. (See also Section 4OA2)

The inspectors reviewed the UFSAR description of radioactive effluent monitoring and radioactive gaseous and liquid processing systems, as appropriate.

The inspectors reviewed the RETS/ODCM to identify the programs for identifying potential contaminated spills and leakage and Exelon's process for control and assessment. The inspectors determined if any licensee procedures and/or surveillance activities address the ability to identify onsite spills/leaks of contaminated fluids. The inspectors reviewed abnormal releases discussed in the 2007 Radioactive Effluent Release Report.

Onsite Inspection

The inspectors selectively reviewed the major components of the gaseous and liquid release systems (e.g. radiation and flow monitors, filters, tanks, and vessels) with respect to current system configuration and with respect to the description in the UFSAR. The inspectors reviewed equipment material condition. The inspectors verified that system components were as described in the ODCM and were used for reduction of activity levels in accordance with the RETS/ODCM. During facility tours, the inspectors were sensitive to potential unmonitored radioactive gaseous and/or liquid release pathways.

The inspectors reviewed applicable source terms including the 10 CFR Part 61 analyses, 10 CFR 50.59 reviews for system changes, impact of any advanced water chemistry, and new entries to the 10 CFR 50.75(g) files, as applicable.

The inspectors observed routine sample collection (particulate, iodine, noble gasses) from the main stack, Unit 2 and Unit 3 plant vents and selectively observed analysis of

these samples. The inspectors reviewed use of radioactive gaseous effluent treatment equipment in accordance with RETS/ODCM requirements, as applicable, and reviewed use of systems per ODCM guidance. The inspectors reviewed radioactive liquid waste projected doses to members of the public.

The inspectors reviewed a selection of 2007 monthly, quarterly, and annual dose calculations to ensure that Exelon properly calculated the offsite dose (both cumulative and projected) from radiological effluent releases and to determine if any annual TS/ODCM (i.e., Appendix I to 10 CFR Part 50 values) were exceeded and, if appropriate, issued a Performance Indicator (PI) report if any quarterly values were exceeded. The inspectors evaluated the source term used by the licensee to ensure all applicable radionuclides discharged, within detectability standards, were included.

For unmonitored releases, as applicable, the inspectors determined if the licensee performed an evaluation of the type and amount of radioactive material that was released and the associated projected doses to members of the public.

The inspectors also determined if Exelon placed information on leaks or spills into its 10 CFR 50.75 (g) decommissioning file, as appropriate.

For each system modification and each ODCM revision that impacted effluent monitoring or release controls, the inspectors reviewed Exelon's technical justification to determine whether the changes affected Exelon's ability to maintain effluents as-low-as-reasonably-achievable (ALARA) and whether changes made to monitoring instrumentation resulted in a non-representative monitoring of effluents.

The inspectors assessed Exelon's understanding of the location and construction of underground pipes and tanks, and storage pools (spent fuel pool) that contain radioactive contaminated liquids. The inspectors evaluated if the licensee may have potential unmonitored leakage of contaminated fluids to the groundwater as a result of degrading material conditions or aging of facilities. The inspectors evaluated the licensee's capabilities (such as monitoring wells) of detecting spills or leaks and of identifying groundwater radiological contamination both on site and beyond the owner controlled area. The inspectors reviewed evaluations of leaks or spills, as applicable, including remediation action, as applicable.

The inspectors reviewed the licensee's technical bases for its onsite groundwater monitoring program. The inspectors discussed with the licensee, its understanding of groundwater flow patterns for the site, and in the event of a spill or leak of radioactive material, if the licensee's staff can estimate the pathway of a plume of contaminated fluid both onsite and beyond the owner controlled area. The inspectors reviewed recent ground water well analysis data and reviewed implementation of the ground water protection initiative and monitoring program.

The inspectors reviewed proposed changes, for 2008, as applicable, to the ODCM. The inspectors reviewed and discussed the proposed changes. There were no changes for the 2007 reporting period.

The inspectors reviewed records of instrument calibrations performed since the last inspection for each point of discharge effluent radiation monitor and flow measurement

device; reviewed any completed system modifications; and reviewed the current effluent radiation monitor alarm set-point value for agreement with RETS/ODCM requirements. The inspectors selectively reviewed calibration records of radiation measurement (i.e., counting room) instrumentation associated with effluent monitoring and release activities. The inspectors selectively reviewed quality control records for the radiation measurement instruments and looked for indications of degraded instrument performance and the corrective actions taken.

The inspectors reviewed the results of the inter-laboratory comparison program to verify the quality of radioactive effluent sample analyses performed by the licensee. The inspectors reviewed Exelon's quality control evaluation of the inter-laboratory comparison test and associated corrective actions for any deficiencies identified. The inspectors also, as applicable, reviewed Exelon's assessment of any identified bias in the sample analysis results and the overall effect on calculated projected doses to members of the public.

The inspectors reviewed the results from Exelon's quality assurance audits to determine whether the licensee met the requirements of the RETS/ODCM.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

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

.1 Routine Review of Items Entered into the CAP

a. Inspection Scope

As required by IP 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures and human performance issues for follow-up, the inspectors performed routine screening of issues entered into PBAPS's CAP. The review was accomplished by selectively reviewing copies of IRs and accessing PBAPS's computerized database.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," the inspectors reviewed a list of approximately 5,900 issue reports (IR's) that Exelon initiated at PBAPS from December 1, 2007, through June 1, 2008, to perform the semi-annual PI&R trend review. Approximately, 30 IR's were reviewed in detail to determine whether the issues were adequately identified, appropriately evaluated, and corrected.

The inspectors review was focused on human performance issues. The review also included issues documented within PBAPS Station Trend Review for the fourth quarter of 2007 and the first quarter of 2008. Specifically, the #1 Site Goal of improvement in Work Standards/Practices/Use of Written Instructions was evaluated against the requirements of LS-AA-125, "CAP Procedure." This review included both issue reports identified and lower level issues which fell below the threshold of those items normally entered into the corrective action system.

b. Assessments and Observations

No findings of significance were identified. The inspectors observed that the plant continues to be challenged by work practice deficiencies. Specifically, procedure adherence and work practices were the aspects that were most frequently challenged. Examples are documented in IR's 718885, 733004, 727139, 747419, and 754812. The inspectors, however, did not identify any new trends that were not previously identified by PBAPS under their Station Trend Review reports.

.3 Operator Workarounds (OWAs) (1 Annual Sample)

a. Inspection Scope

As required by IP 71152, "Identification and Resolution of Problems," the inspectors conducted a review of the OWA program to verify that PBAPS was identifying OWAs problems at an appropriate threshold, have entered them in the CAP, and proposed or implemented appropriate corrective actions. The inspectors reviewed the list of OWAs and Operator Challenges (OCs) identified and managed in accordance with Exelon Procedure, OP-AA-102-103, "OWA Program." Specifically, the review was conducted to determine if any OWAs for mitigating systems affected the mitigating system's safety functions or affected the operators' ability to implement abnormal and emergency operating procedures. The inspectors reviewed the following open OWAs being tracked by PBAPS:

- Unit 3 Mechanical Vacuum Pump Starting Issue with the Failed Seal Water Flow Switch (AR1635126).

The inspectors also reviewed the lists of open OCs (deficiencies that are obstacles to normal plant operations), periodically walked down the panels in the main control room, and have reviewed control room deficiencies to identify and be cognizant of: (1) OWAs that have not been evaluated by PBAPS, and (2) OWAs that increase the potential for personnel error, including OWAs that:

- Require operations contrary to past training or require more detailed knowledge than routinely provided;
- Require a change from longstanding operational practices;
- Require operation of a system or component in a manner different from similar systems or components;
- Create the potential for the compensatory action to be performed on equipment or under conditions for which it is not appropriate;
- Impair access to required indications, increase dependence on oral communications, or require actions under adverse environmental conditions; and

- Require the use of equipment and interfaces that have not been designed with consideration of the task being performed.

The inspectors also interviewed an equipment operator and reactor operator to determine if any compensatory actions they routinely take are (or should be) categorized as workarounds/challenges. Finally, the inspectors reviewed current operator turnaround documentation to determine if there are documented compensatory actions that should be categorized as workarounds/challenges.

b. Findings and Observations

No findings of significance were identified.

.4 Identification and Resolution of Problems Associated with Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

The inspectors reviewed Exelon's self-assessments, audits, licensee event reports, and special reports, as applicable, related to the radioactive effluent treatment and monitoring program since the last inspection to determine if identified problems were entered into the CAP for resolution. The inspectors interviewed staff and reviewed documents to determine if follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk. The inspectors also reviewed self-assessments, audits, and licensee event reports that may have involved unanticipated offsite releases of radioactive material. For repetitive deficiencies or significant individual deficiencies in problem identification and resolution identified, the inspectors determined if Exelon's self-assessment activities were also identifying and addressing these deficiencies.

The inspectors reviewed a selection of corrective action documents since the previous inspection:

- NOS Audit NOSA-PEA-08-04, REMP, ODCM, Chemistry, Radwaste, Effluent, Environmental Monitoring, Exit Notes, May 9, 2008;
- NOS Audit NOSA-PEA-06-04, Chemistry, Radiological Effluent and Environmental Monitoring, May 2006; and
- Assignment Reports (ARs): 694887, 556322, 723810, 761567723810, 602558, 694879, 617010, 593040, and 773624.

This review was against the criteria contained in 10 CFR 20, TSs, and the station procedures.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Independent Spent Fuel Storage Installation (ISFSI) (60855 – 1 Sample)

a. Inspection Scope

On May 13 and 14, 2008, the inspectors observed selected activities associated with the loading of a dry cask canister to ensure that the Transnuclear (TN) Generic TSs were met, equipment operated properly, and personnel were properly trained. The inspectors observed the cask being lowered into the spent fuel pool and loaded with spent fuel assemblies. After loading was completed, the inspectors observed the basket spacer ring being placed in the cask on top of the fuel assemblies. The inspectors observed the sealing surface and lid inspection. The inspectors reviewed radiological surveys of the cask work area. They also reviewed the function and location of four area radiation monitors on the refueling floor with the lead radiation protection technician. The inspectors interviewed the reactor services supervisor regarding the crew training and qualifications, examined the personnel qualification logs, and ensured the reactor services supervisor periodically checks the personnel qualifications for key tasks to be performed. The inspectors met with reactor engineering personnel to review the fuel selection process and associated documentation. The inspectors examined the fuel location history sheets for the specific fuel bundles to be loaded. In addition, fuel sipping results for past refueling campaigns were reviewed. The video recording of the fuel bundles being placed into the cask was reviewed to ensure that each bundle was placed into the proper location.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On July 18, 2008, the resident inspectors presented the inspection results to Mr. B. Maguire and other PBAPS staff, who acknowledged the findings. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

None.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Exelon Generation Company Personnel

B. Maguire, Site Vice President
G. Stathes, Acting Plant Manager
J. Armstrong, Regulatory Assurance Manager
C. Behrend, Engineering Director
L. Bunner, Work Management Director
C. Jordan, Chemistry Manager
R. Franssen, Acting Operations Director
S. Taylor, Radiation Protection Manager
J. Kovalchick, Acting Security Manager
T. Wasong, Training Director

NRC Personnel

F. Bower, Senior Resident Inspector
M. Brown, Resident Inspector
J. Ambrosini, Reactor Inspector
T. Fish, Sr. Operations Engineer
R. Fuhrmeister, Senior Project Engineer
G. Johnson, Reactor Inspector
J. Nicholson, Health Physicist
R. Nimitz, Senior Health Physicist

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened/Closed

05000277/278/2008003-01	NCV	Foreign Material Discovered in Fire Valve (Section 1R12)
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Closed

None

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

IR 516092, SE-16 Entry Grid Emergency Notification
 IR 175737, Dual Unit Scram & Group I Isolation Due to 220 KV Grid Instability
 Procedure SE-16, Revision 4, Grid Emergency
 Licensed Operator Requalification Training PLORT-0801A, Summer Readiness 2008
 Simulator Exercise Guide PSEG-0230R, "Grid Emergency-Loss of Offsite Power and Restoration Training"
 AO 50.7-2, Revision 7, Generator/Grid Stability and Reliability
 ECR 97-01831 Emergency Cooling Tower Reservoir Wall Cracking
 IR 523285, Improvements to Plant Response to External Flood
 IR 505423, Emergency Diesel Building Flooding - Check Valve and IPE Issues
 IR 522005, Inspect EDG Room Equipment Drain Backwater Valves
 IR 574447, Create WO to Service and Position CWPS Roof Drain Valves
 IR 563253, Potential External Flood Vulnerability-CW Pump Structure
 IR 775621, Door Jam Gap Greater than Assumed in IEEEE
 IR 776520, Door D13 Gasket has Minor Corrosion and Wear
 Procedure SE-4, "Flood Procedure," Revision 21
 Procedure SE-4 Bases, "Flood Bases," Revision 11
 Simulator Exercise Guide PSEG-0418R, "SE-4 Flooding," Revision 005
 Peach Bottom Atomic Power Station, Units 2 and 3, Individual Plant Examination of External Events Submittal, dated May 1996, Section 5.2.3
 Review of Peach Bottom Atomic Power Station, Units 2 and 3, Individual Plant Examination of External Events Submittal, Dated November 22, 1999, Section 2.3.2
 Peach Bottom Atomic Power Station UFSAR, Revision 19, Section C.2.5.4 "Flood Loads and Flood Protection," Section 2.4.3.5.7, and Section 12.2.5, "Diesel Generator Building"
 ER-PB-310-1010, Revision 4, Peach Bottom Maintenance Rule Structural Monitoring Program
 RT-M-045-980-2, Revision 4, Water Tight Door Survey
 Drawing PD-25, Revision 0, Penetration Seal Detail
 Drawing M-541, Sheet 1, Revision 6, Plumbing, Drainage Circ Water PU
 IR 670695, Spurious Gen Stator Slots High Temp Alarm
 IR 658599, Received Recombiner Condition Outlet Temperature High
 IR 658493, Received Emergency Switchgear High Temperature Alarm
 IR 649162, E-4 Lube Oil Supply Temperature High Out of Acceptable Range
 IR 645589, E-4 Compartment High Temperature
 IR 629291, 3 'A' Condition PP Thrust Bearing High Temperature
 Procedure SO 40A.A-2, Revision 2, Emergency Switchgear and Battery Room Ventilation Startup
 National Climate Data Center Summaries for Months of June, July and August 2007; Reading, PA
 Licensed Operator Requalification Training PLORT-0801A, Summer Readiness 2008
 Peach Bottom 2008 Summer Readiness Performance Monitoring Plan
 System Manager System Review/Recommendation Form (Summer 2008 Readiness)
 P&ID M-399, Revision 32, Emergency Switchgear, Battery Room, Laboratory Supply & Exhaust
 WO R0929590 Fan/Belts/MTR/Dampers & Lube (A Fan)
 WO R0027106 Fan/Belts/MTR/Dampers & Lube (A Fan)
 WO R1024368 PO-0-40W-0016; Inspect/Repair/Lubricate (Supply Dampers)
 WO R0935532 PO-0-40W-00017-01 Inspect/Lubricate (Return Dampers)

Section 1R04: Equipment Alignment

SO 9A.1.A, Revision 2, Standby Gas Treatment System Lineup for Automatic Operation
SO 23.1.A-2, Revision 13, High Pressure Coolant Injection System Setup for Automatic or Manual Injection
COL 9A.1.A, Revision 9, Standby Gas Treatment System Automatic Operation
COL 14.1.A-3A, Revision 11, CS System Loop 'A'
COL 23.1.A-2, Revision 24, High Pressure Coolant Injection System

Section 1R05: Fire Protection

PF-13K, Revision 2, Unit 2 Reactor Building, 195' Elevation, Fire Zone 13K
PF-127, Revision 5, Unit 2 Emergency Battery/Switchgear Rooms & RW Corridor, TB2-135, Fire Zone 127
PF-90, Revision 2, Turbine Lube Oil Reservoir & Battery Room, TB2-135, Fire Zone 90
PF-13F, Revision 2, 3 'B' CS Instrument Room, RB-116, Fire Zone 13F
PF-13G, Revision 2, 3 'A' CS Instrument Room, RB-116, Fire Zone 13G
PF-70, Revision 2, Standby Gas Treatment Room, Radwaste Building, 91'6" Elevation, Fire Zone 70

Section 1R12: Maintenance Effectiveness

IR 773005, 3 'A' Main Transformer High Combustible Gas
IR 770315, 3 'A' Main Transformer Requires 4 hours/day venting
IR 775176, No Load Tap Changer Control
3 'A' Main Power Transformer Replacement Readiness Meeting – PC312059
IR 767764, DGA Results, Rate of Gassing has Increased Slightly Adverse Condition Monitoring Plan for 3 'A' MPT
A1663148, Unit 3 'A' Phase Main Transformer

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

AR A1667404, Unit 3 HPCI Pump Discharge Flow
IR 785568, Failure to Meet Initial System Parameters during Surveillance Test
R1067963, 3BF106 – Replace Filter Element
A1668011, Input Block for I/E-3-02-3-072B Suspected Bad
SI3L-2-72-B1FQ, Revision 0, Functional Test of ECCS B Compensated Level System Low-Low Level and Reactor Pressure Low CS and LPCI Initiation Logic during Modes 4
A1561711, Inadequate shutoff while Applying 13KV Sprinkler Clearance
C0221558, Replace HV-O-37B-11517
ECR 08-00174, Fire Protection System Valve Replacement Project
A1657752, Fire Protection System Valve Replacement Project (3 valves)
A1657754, Fire Protection System Valve Replacement Project (1 valve)
A1657756, Fire Protection System Valve Replacement Project (6 valves)
A1657758, Fire Protection System Valve Replacement Project (5 valves)

Section 1R15: Operability Evaluations

IR 769598, 0AF035, Absorber Nuts and Bolts/Studs Are in Bad Condition
 ST-M-09A-600-2, Revision 13, Standby Gas Treatment System Filter Train 'A'
 R1066917, SBTG Filter Train 'A'
 A1661504, 0AF036, Absorber Nuts and Bolts/Studs Are in Bad Condition
 IR 770007, SBTG Operability Delayed Due to Inadequate Documentation
 IR 774950, Unsat Black Box Step During Performance of ST-I-010-100-3
 IR 679758, MO-3-10-015A Limit Switch Rotor Did not Rotate 90 Degrees
 Design Analysis No. ME-0293, "Determine Pressure Drop Between the HPCI Pump Discharge
 and the RPV with a Flow Rate of 5000 GPM"
 Unit 3, Monitoring of 3CX001, 3 'C' Main Transformer ACMP, dated May 14, 2008
 Unit 3, Monitoring of 3AX001, 3 'A' Main Transformer ACMP, dated May 22, 2008
 IR 766782, U/3 RCIC Inboard Seal leak
 Vendor Contact Form, Sulzer Pumps Houston Inc. Regarding Pump Stuffing Box Pressure
 Vendor Contact Form, Flowserve Technical Support Regarding Seal Throttle Bushing Leakage
 for Worst Case Leakage
 Throttle Bushing Leakage Computation

Section 1R19: Post-Maintenance Testing

WO C0224774, 30P036, Repair/Replace RCIC Pump Inboard Seal
 ST-O-013-301-3, RCIC Pump, Valve, Flow and Unit Cooler Functional and In-Service Test,
 completed 4/25/08
 ST-O-013-611-3, RCIC System Piping Pressure Test Inspection, completed 4/25/08
 ST-O-013-301-3, RCIC Pump, Valve, Flow and Unit Cooler Functional and In-Service Test,
 completed 4/23/08 (Test Aborted Due to Seal Leakage)
 C0224043, 2AP039, Remove and Replace Head Gasket
 WO C0224892 E2 TE-0802B Rework/Replace
 Procedure RT-I-52B-919-2, Revision 6, "E-2 Diesel Generator and Bearing Insulation Test"
 WO R1040632, E-2 D/G Starting Air RSVR (Auto) 0DT095 Inlet Check
 WO R1040633, E-2 D/G Starting Air RSVR (Manual) 0CT095 Inlet Check
 WO R0771000, E-2 D/G Air Start RES Check Valve
 ST-M-52C-402-2 Revision 7, "E-2 Diesel Generator Air Start Reservoir Check Valve Test"
 ST-O-52C-422-2, Revision 6, "E-2 Diesel Generator Air Start Reservoir Check Valve Test"
 P&ID M-377, Sheet 1, Revision 45, "Diesel Generator Auxiliaries (Starting Air System)"
 R1068074, 2AF106 – PM: Filter Element Replacement
 R0907468, RV-3-30-3810B: Bench Test/Rework/ Replace R.V.
 Clearance 08001092, Replace SW Side Relief Valve RV-3-30-3810B
 A1663148, ECR for Severon Gas Monitor on Unit 3 Main Transformers

Section 1R22: Surveillance Testing

ST-O-010-616-3, RHR Loop 'B' Piping Pressure Test Inspection, completed 4/30/08
 ST-O-010-306-3, 'B' RHR Loop Pump, Valve, Flow, and Unit Cooler Functional and Inservice
 Test, completed 4/30/08
 ST-O-010-355-3, RHR Loop 'B' Valve Position and Filled and Vented Verification, completed
 5/1/08
 SI2L-3-231-B3FQ, Functional Test of Scram Discharge Volume Level Instruments LS 2-3-231
 B/D/E completed 4/10/08
 ST-I-023-100-3, Revision 14, HPCI Logic System Functional Test, completed on May 14, 2008
 ST-O-020-560-2, Reactor Coolant Leakage Test, completed June 21, 2008

ST-O-020-560-3, Reactor Coolant Leakage Test, completed June 21, 2008
IR 787409, Revision 12 of RT-O-101-900-2 Has Errors
IR 787418, Continuation of Issue Report (IR) 787409

Section 2PS2: Radioactive Material Processing and Transportation

2006 Radioactive Effluent Release Report No. 49, dated April 27, 2007, (including Projected Public Dose Assessments)
2007 Radioactive Effluent Release Report No. 50, dated April 25 2008, (including Projected Public Dose Assessments)
2006 Radiation Dose Assessment Report No. 22, dated April 27, 2007
2007 Radiation Dose Assessment Report No. 23, dated April 25, 2008
Proposed Changes to Offsite Dose Calculation Manual and Technical Justifications for ODCM Changes
Selected 2007 Analytical Results for Charcoal Cartridge, Particulate Filter, and Noble Gas Samples
Calibration Records for Chemistry Laboratory Measurements Equipment (Gamma)
Implementation Records of the Measurement Laboratory Quality Control Program, Including Control Charts
Implementation Records of the Intra-laboratory Comparisons by the Licensee and the Contractor Laboratory
Surveillance and Calibration Records for Radioactive Effluent Monitoring Systems

Section 4OA2: Identification and Resolution of Problems

Procedure OP-AA-102-103, Revision 2, Operator Work-Around Program
Procedure SO 10.1.B-3, Revision 33, Residual Heat Removal System Shutdown Cooling Mode Manual Start*
Procedure SE-4, Rev 21, Flood
Procedure SO 52A.1.B, Revision 40, Diesel Generator Operations

Section 4OA5: Other Activities

SF-220, Spent Fuel Cask Loading and Transport Operations, Revision 23
SF-300, TN-68 Cask Spent Fuel Assemblies Storage Selection and Document Requirements, Revision 10
SF-420, Radiation Protection Requirements during Spent Fuel Cask Loading and Transport Operations, Revision 11
TN-68 Generic TSs Amendment No. 1

LIST OF ACRONYMS

AC	Alternating Current
ACMP	Adverse Condition Monitoring Plan
ADAMS	Agency-wide Documents Access and Management System
ALARA	As Low As Reasonably Achievable
AR	Action Requests/Assignment Report
CAP	Corrective Action Program
CDF	Core Damage Frequency
CFR	Code of Federal Regulations

CR	Condition Report
CS	Core Spray
DBDs	Design Basis Documents
ECR	Engineering Change Request
EDG	Emergency Diesel Generator
EHC	Electrohydraulic Control
EOC	Extend of Condition
EP	Emergency Preparedness
FOF	Force-on-force
FSSD	Fire Safe Shutdown
HEPA	High-Efficiency Particulate Air (filter)
HPCI	High Pressure Coolant Injection
HPSW	High Pressure Service Water
HX	Heat Exchanger
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Issue Report
MR	Maintenance Rule
MSRV	Main Steam Relief Valve
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
OCs	Operator Challenges
ODCM	Offsite Dose Calculation Manual
OOS	Out-of-Service
OWA	Operator Work-Around
PBAPS	Peach Bottom Atomic Power Station
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PMT	Post-Maintenance Testing
QA	Quality Assurance
QC	Quality Control
RCIC	Reactor Core Isolation Cooling
RETS	Radiological Effluent Technical Specifications
RHR	Residual Heat Removal
RTP	Rated Thermal Power
SBGT	Standby Gas Treatment
SDP	Significance Determination Process
SSCs	Structures, Systems and Components
STs	Surveillance Tests
TN	Transnuclear
TRM	Technical Requirements Manual
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WO	Work Order