



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

May 6, 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 05000277/2008002 and 05000278/2008002**

Dear Mr. Pardee:

On March 31, 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 April 18, 2008, with Mr. M. Massaro 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 NRC-identified 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 NRC, 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.

In accordance with Title 10 of the Code of Federal Regulations (CFR), 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the

Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

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 05000277/2008002 and 05000278/2008002
w/Attachment: Supplemental Information

cc w/encl:

C. Crane, Executive Vice President, Exelon, Chief Operating Officer, Exelon Generation
M. Pacilio, Chief Operating Officer, Exelon
J. Grimes, Site Vice President, Peach Bottom
R. DeGregorio, Senior Vice President, Mid-Atlantic
R. Hovey, Senior Vice President, Nuclear Oversight
M. Massaro, Plant Manager, Peach Bottom
J. Armstrong, Regulatory Assurance Manager, Peach Bottom
J. Bardurski, Manager, Financial Control & Co-Owner Affairs
R. Franssen, Acting Director, Operations
P. Cowan, Director, Licensing
K. Jury, Vice President, Licensing and Regulatory Affairs
J. Bradley Fewell, Associate General Counsel, Exelon
T. Wasong, Director, Training
Correspondence Control Desk
D. Allard, Bureau of Radiation Protection, PA Department of Environmental Protection
R. McLean, Power Plant and Environmental Review Division (MD)
S. Pattison, Secretary, MD Department of the Environment
A. Lauland, Director, Homeland Security Advisor
T. Snyder, MD Department of Environment
Public Service Commission of Maryland, Engineering Division
Board of Supervisors, Peach Bottom Township
B. O'Connor, Council Administrator of Harford County Council
R. Ayers, Deputy Mgr, Harford County Div of Emergency Operations
E. Crist, Harford County Div of Emergency Operations
S. Ayers, Emergency Planner, Harford County Div of Emergency Operations
R. Brooks, Cecil County Dept of Emergency Services
Mr. & Mrs. Dennis Hiebert, Peach Bottom Alliance
E. Epstein, TMI - Alert
J. Johnsrud, National Energy Committee, Sierra Club
Mr. & Mrs. Kip Adams
R. Fletcher, Dir, MD Environmental Program Manager, Radiological Health Program
J. Powers, Director, PA Office of Homeland Security
R. French, Dir, PA Emergency Management Agency
D. Lockbaum, Union of Concerned Scientists

Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

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 05000277/2008002 and 05000278/2008002
w/Attachment: Supplemental Information

Distribution w/encl: (via E-mail)

S. Collins, RA
M. Dapas, DRA
D. Lew, DRP
J. Clifford, DRP
P. Krohn, DRP
R. Fuhrmeister, DRP
T. Setzer, DRP
F. Bower, DRP, Sr. Resident Inspector
M. Brown, DRP, Resident Inspector
S. Schmitt - Resident OA
S. Williams, RI OEDO
H. Chernoff, NRR
R. Nelson, NRR
J. Hughey PM NRR
P. Bamford, Backup NRR
ROPreportsResource@nrc.gov
Region I Docket Room (with concurrences)

SUNSI Review Complete: PGK (Reviewer's Initials)

DOCUMENT NAME: G:\DRP\BRANCH4\DRAFT INSPECTION REPORTS FOR BR 4 FOR 2008\1ST QTR 2008
DRAFT REPORTS\PB\PB IR2008-002 REV 2.DOC

ML081270699

After declaring this document "An Official Agency Record" it **will** be released to the Public.

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RI/DRP	RI/DRP	R1/DRP
NAME	MBrown/ PGK for	RFuhrmeister/ RF	PKrohn/PGK
DATE	05 /06 /08	05/ 06/08	05/ 06/08

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.: 50-277, 50-278

License Nos.: DPR-44, DPR-56

Report No.: 05000277/2008002 and 05000278/2008002

Licensee: Exelon Generation Company, LLC

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

Location: Delta, Pennsylvania

Dates: January 1, 2008 through March 31, 2008

Inspectors: F. Bower, Senior Resident Inspector
M. Brown, Resident Inspector
F. Arner, Senior Reactor Inspector
J. Commiskey, Health Physicist
R. Fuhrmeister, Senior Project Engineer
R. Nimitz, Senior Health Physicist
R. Rolph, Health Physicist

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

TABLE OF CONTENTS

SUMMARY OF FINDINGS	3
REPORT DETAILS.....	4
1. REACTOR SAFETY	4
1R04 Equipment Alignment	4
1R05 Fire Protection	5
1R06 Flood Protection Measures	7
1R07 Heat Sink Performance	8
1R11 Licensed Operator Requalification Program	8
1R12 Maintenance Effectiveness	8
1R13 Maintenance Risk Assessments and Emergent Work Control	9
1R15 Operability Evaluations	10
1R18 Plant Modifications	10
1R19 Post-Maintenance Testing.....	10
1R20 Refueling and Other Outage Activities	11
1R22 Surveillance Testing	11
1EP6 Drill Evaluation	12
2. RADIATION SAFETY	12
2PS2 Radioactive Material Processing and Transportation	12
4. OTHER ACTIVITIES.....	13
4OA1 Performance Indicator (PI) Verification	13
4OA2 Identification and Resolution of Problems	14
4OA6 Meetings, Including Exit.....	15
4OA7 Licensee-Identified Violations.....	15
ATTACHMENT: SUPPLEMENTAL INFORMATION	15
SUPPLEMENTAL INFORMATION	A-1
KEY POINTS OF CONTACT	A-1
LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED.....	A-1
LIST OF DOCUMENTS REVIEWED	A-2
LIST OF ACRONYMS	A-9

SUMMARY OF FINDINGS

IR 05000277/2008-002, 05000278/2008-002; 01/01/2008 - 03/31/2008; Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3; Fire Protection.

The report covered a 3-month period of inspection by resident inspectors and announced inspections by regional health physicists, a senior reactor inspector, and a senior project engineer. One Green non-cited violation (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. The inspectors identified a non-cited violation (NCV) of Technical Specification (TS) 5.4.1, which requires that written procedures be implemented covering the Fire Protection Program. The Fire Drill Performance procedure was inadequately implemented because numerous fire brigade deficiencies were not discussed at the post-drill critique or documented in the fire drill record. The licensee has entered this problem into their CAP for action.

This finding is more than minor because it affects the impairment or degradation of a fire protection feature, specifically, on the ability of the fire brigade to effectively carry out the defense-in-depth attribute of manual fire fighting and is associated with the Mitigating Systems Cornerstone and its respective attribute of human performance. This finding is of very low safety significance because the observed crew was only one of five crews of the site fire brigade team, the other crews had no known problems, and the overall condition of the fire detection and suppression systems had been satisfactory. The finding has a cross-cutting aspect in the area of Problem Identification and Resolution because Peach Bottom Atomic Power Station personnel did not properly identify and assess deficiencies with the fire brigade's performance. (IMC 0305, aspect P.3 (a)) (Section 1R05.2).

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Unit 2 began the inspection period at 100 percent rated thermal power (RTP) until January 4, 2008, when power was reduced to 55 percent for planned waterbox cleaning, control rod testing, and other planned maintenance and testing. On January 6, 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 February 1, 2008, the unit was reduced to 57 percent for planned control rod sequence exchange, control rod testing, and other planned maintenance and testing. On February 2, 2008, the 3 'D' main steam safety relief valve (SRV) temperature unexpectedly increased indicating leakage. The unit was shutdown for an unplanned maintenance outage on February 5, 2008 to replace the SRV. On February 8, 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

1R04 Equipment Alignment (71111.04Q – 3 Partial Walkdown Samples)

.1 Partial Walkdown

a. Inspection Scope

The inspectors performed a partial walkdown of three 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 three systems reviewed were:

- Unit 3 High Pressure Coolant Injection (HPCI) with the Unit 3 Reactor Core Isolation Cooling (RCIC) Out-of-Service;
- Unit 2 RCIC with the Unit 2 HPCI Out-of-Service; and
- E-4 Emergency Diesel Generator (EDG) with E-2 Out-of-Service.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown (71111.04S - 1 Sample)

a. Inspection Scope

The inspectors performed a complete system walkdown of the accessible portions of the Unit 3 HPCI system, 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)

.1 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 HPCI Room, 88' Elevation (Fire Zone 62);
- Unit 3 3 'B'/3 'D' Core Spray (CS) Rooms, 91'6" Elevation (Fire Zone 13A & 13B);
- Unit 2 'D' CS Instrument Room, 116' Elevation (Fire Zone 5G);
- Unit 2 2 'A'/2 'C' CS Rooms, 91'6" Elevation (Fire Zone 5B); and
- Unit 3 Reactor Recirculation Pump Motor Generator Set Room, 135' Elevation (Fire Zone 12C).

b. Findings

No findings of significance were identified.

.2 Fire Protection – Drill Observation (71111.05A – 1 Sample)

a. Inspection Scope

During a fire protection drill on March 6, 2008, associated with the Unit 3 'C' reactor feed pump turbine lubricating oil storage room, the inspectors assessed the timeliness of the fire brigade in arriving at the scene, the fire fighting equipment brought to the scene, the donning of fire protective clothing, the effectiveness of communications, and the exercise of command and control by the fire brigade leader (FBL). The inspectors also assessed the acceptance criteria for the drill objectives; the rigor and thoroughness of the post-drill critique; and reviewed the licensee's CAP for recent fire protection issues.

b. Findings

Introduction: A Green NCV of TS 5.4.1 was identified by the NRC regarding the failure to identify and properly document performance deficiencies during a fire post-drill critique, contrary to the Fire Protection Program requirements.

Description: On March 6, 2008, the inspectors observed a fire drill and the post-drill critique to evaluate the fire brigade's performance and the ability of the licensee's evaluation team to identify performance deficiencies. The inspectors determined that, while the evaluation team identified some deficiencies, several significant deficiencies were not identified and/or properly documented. The inspector-identified deficiencies included:

- The FBL repeatedly opened the hot door to the fire area with no protective equipment on, contrary to training requirements and drill scenario guidance, creating the possibility of a flashback, subsequent explosion, and personnel injury. The other team members and evaluators failed to identify this during the drill. The inspectors noted that during the critique, the fire brigade, drill coordinator, and drill assistant were given the opportunity to critique the FBL's performance and this deficiency was not identified. Rather than note the deficiency as a weakness, the item was not noted by the evaluators on the fire drill record after it was identified by the inspectors.
- The floor supervisor, who holds a senior reactor operator license and is normally the FBL's supervisor, gave the FBL guidance to swap the lubricating oil pumps in the room with the fire instead of shutting down all lubricating oil pumps in the affected room, which was the more conservative action. The other team members and evaluators failed to identify this during the drill. When the inspectors made this observation, the evaluators concurred and the item was documented as a weakness in the fire drill record.
- The FBL was not aware of the status of the sprinkler system in the fire area, did not attempt to manually actuate it, and was not sure how to check the status of the sprinkler system to ensure it had actuated. This deficiency was not addressed by the drill controller during the critique or recorded on the fire drill record.
- The FBL failed to set the ventilation system to remove the smoke from the room until prompted by the drill coordinator. Since the ventilation system was set to remove smoke from the room, the fire drill record listed this as a strength and failed to mention that the FBL needed prompting to direct this action.

PBAPS's TS 5.4.1 requires, in part, that written procedures be established, implemented, and maintained covering Fire Protection Program implementation. The inspectors reviewed OP-AA-201-003, "Fire Drill Performance," and determined that the procedure was not properly implemented, in that, performance deficiencies of the fire brigade were not addressed in the critique as required by Section 4.2.5, Fire Drill Evaluation, Step 1, and that identified deficiencies were not documented in the fire drill record as required by Step 5.

The inspectors determined that the failure to identify and document deficiencies in the post-drill critique was a performance deficiency because the requirements of the Fire Protection Program were not met.

Analysis: This finding is not suitable for SDP evaluation but has been reviewed by NRC management. As described below, this finding is determined to be of very low safety significance (Green). The assumptions and limitations of the Fire Protection Significance Determination Process (SDP), IMC 0609, Appendix F, specifically exclude fire brigade issues. As such, IMC 0609, Appendix M, "Significance Determination Process using Qualitative Criteria," required NRC management review to determine the significance of this finding.

The inspectors determined that this finding was more than minor due to the impairment or degradation of a fire protection feature, specifically, on the ability of the fire brigade to effectively carry out the defense-in-depth attribute of manual fire fighting and suppression. This was based on weaknesses associated with the FBL and floor supervisor's performance that were not identified and properly documented during the post-drill critique. In addition, the inspectors determined that the finding was associated with the Mitigating Systems Cornerstone and its respective attribute of human performance. NRC management and the inspectors determined that the finding was of very low safety significance (Green) because the defense-in-depth attribute of the fire brigade was minimally affected, in that, the observed crew was only one of five crews of the site fire brigade team, the other crews had no known problems, and that the overall condition of the fire detection and suppression systems has been satisfactory.

The inspectors determined that this finding has a cross-cutting aspect in the area of PI&R (self and independent assessment because Peach Bottom Atomic Power Station personnel did not properly identify and assess deficiencies with the fire brigade's performance.) (IMC 0305, aspect P.3 (a))

Enforcement: TS 5.4.1 requires that procedures be implemented covering the Fire Protection Program. Procedure OP-AA-201-003, "Fire Drill Performance," Section 4.2.5, Fire Drill Evaluation, Step 1, requires that deficiencies of the fire brigade be addressed in the critique and Step 5 requires identified deficiencies be documented on the fire drill record. Contrary to this, on March 6, 2008, the licensee failed to implement the Fire Protection Program when the fire brigade's performance deficiencies were not identified during the post-drill critique and several identified deficiencies were not documented on the fire drill record. Because the finding is of very low safety significance and has been entered into PBAPS's CAP (Issue Report (IR) 759361), this violation is being treated as a Green NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: **NCV 05000277/2008002-01; 05000278/2008002-01, "Failure to Identify and Document Fire Brigade Deficiencies."**

1R06 Flood Protection Measures (71111.06 - 1 Sample)

Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk-important plant design features intended to protect the plant and its safety-related equipment from internal flooding events. The

inspectors reviewed the flood analysis and Updated Final Safety Analysis Report (UFSAR). The inspectors walked down the Unit 3 reactor building closed cooling water pump and heat exchanger (HX) room to evaluate the condition of penetration seals, watertight doors, and other internal design features to verify that they were as described in the Individual Plant Examination.

b. Findings

No findings of significance were identified

1R07 Heat Sink Performance (71111.07 – 1 Sample)

a. Inspection Scope

Based on a plant specific risk assessment and past inspection results, the inspectors reviewed Exelon's program for maintenance and testing of risk-important HXs for the EDGs. Specifically, the review included the program for testing and analysis of the E-4 EDG HXs over three cycles of cleaning and inspection. The inspectors reviewed test results and compared them with acceptance criteria contained within the procedure to verify that all acceptance criteria had been satisfied. The inspectors also reviewed the UFSAR to ensure that HX inspection results were consistent with the design basis.

b. Findings

No findings of significance were identified

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

Resident Inspector Quarterly Review

a. Inspection Scope

On January 29, 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:

- 1105 EOP 1, Loss-of-Coolant Accident Requiring Emergency Blowdown, Simulator Evaluation Scenario.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12 - 3 Samples)

a. Inspection Scope

The inspectors reviewed three 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:

- IR 678935, 3 'A' Residual Heat Removal (RHR) Pump Trip While in Shutdown Cooling;
- IR 741386, Reactor Water Cleanup System Relief Valves Maintenance History; and
- IR 722535, Unit 2 'A' & 'B' Vent Stack High/Trouble Alarms – MR Functional Failure.

The inspectors also verified that issues of minor significance were entered in the CAP to address an incorrect maintenance preventable functional failure (MPFF) determination (IR 726973), and a procedure error (IR 726903) that led to the incorrect MPFF determination.

b. Findings

No findings of significance were identified.

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

- Rework Support and Resecure Valve for Instrument Nitrogen 'B' Header Supply to Drywell, AO-3969B (Work Order (WO) C0223676);
- Loss of Station Blackout Capability at Peach Bottom (IR 736060);
- Unexpected Voltage Measured During Primary Containment Isolation Valve Group II Logic System Functional Test (IR 741321);
- Water Observed Coming from 3 'D' RHR HX (WO C0223938); and
- Replace 2 'D' RHR HX Floating Head (WO C0221745).

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 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, UFSAR, and associated Design Basis Documents (DBDs) as references during these reviews. The issues reviewed included:

- Evaluation of Part 21 Report on Basler Electric Auto Voltage Regulator Card Solder Joints (IR 675297);
- Lowering Speed on 3 'A' Reactor Recirculation Pump (IR 723484);
- SRV 71 'D' Elevated Tailpipe Temperature Post-P3R16 (IR 705250);
- Operability Evaluation 08-001, 3 'D' RHR HX Lower Head Flange Leak (IR734455);
- Documentation of an Alternate Compensatory Measure During EDG Building CO2 Outage (IR 717220); and
- HPCI Piping Support Bolts for 23DDN-S6 Found Loose.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18 – 1 Sample)

a. Inspection Scope

The inspectors reviewed one temporary modification to verify that implementation of the modification did not place the plant in an unsafe condition. The review was also conducted to verify that the design bases, licensing bases, and performance capability of risk significant SSCs had not been degraded as a result of these modifications. The inspectors verified the modified equipment alignment through control room instrumentation observations, UFSAR, drawings, procedures, WO reviews, and plant walkdowns of accessible equipment. The following temporary modification was reviewed:

- Engineering Change Request (ECR) 08-00064, Temporarily Disables the Alarm Functions for Turbine Bearing #6.

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 determined 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 bases 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:

- Passport WO 0633733501, Peach Bottom 65 CB, Station Could Not Close Breaker;
- R1029073, Inspect/Rework Unit 3 Service Water Strainer BS-3897;
- WO C0221745-35 & 36, Replace Unit 2 'D' RHR HX Floating Head;
- WO C0220220, Replace Emergency Service Water (ESW) Piping;
- WO A1650073, AP-3-16-3969B Failed to Stroke Closed;
- WO A1646094, Degraded Sealing Surface on One High-Efficiency Particulate Air (HEPA) Filter Gasket; and
- WO A1647746, 2 'D' CS Room Cooler Test UNSAT, Clean and Retest.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 1 Sample)

Unit 3 Maintenance Outage

a. Inspection Scope

An unplanned Unit 3 maintenance outage began on February 5, 2008. The inspectors observed selected portions of the plant shutdown and planned reactor scram. Following the shutdown, the inspectors accompanied plant personnel on the initial walkdown of containment to verify that no significant leaks or adverse material condition issues existed. Following completion of work to replace the 71 'D' SRV, the inspectors performed a walkdown of containment on February 6, 2008, in preparation for containment closure prior to plant startup. Particular attention was given to the areas where work was completed. The inspection was conducted to verify no evidence of leakage and to verify that debris had not been left which could affect performance of the emergency core cooling (ECCS) system strainers. Observed issues were identified to accompanying plant personnel for resolution. On February 7 and 8, 2008, the inspectors observed selected portions of the Unit 3 startup and power ascension following the maintenance outage.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 8 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 eight STs reviewed and observed included:

- ST-M-40D-910-2, Control Room Emergency Ventilation Filter Train 'B' Test;
- ST-O-010-301-3, 'A' RHR Loop Pump, Valve, Flow and Unit Cooler Functional and Inservice Test [IST Sample];
- ST-O-020-560-2/3, Reactor Coolant Leakage Test [Leakage Sample];
- SI2L-2-72-B1FQ, Functional Test of ECCS 'B' Compensated Trip System;
- SI3L-2-72-A1FQ, Functional Test of ECCS 'A' Compensated Trip System;
- SI2R-63E-2979-A1CE, Vent Stack Radiation Monitor RY-2979A Electronic Calibration Check;
- ST-O-052-202-2, E-2 Diesel Generator Slow Start and Full Load Test; and
- ST-O-37D-340-2, Diesel-Driven Fire Pump Runs.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 1 Sample)

a. Inspection Scope

The inspectors evaluated the conduct of a PBAPS emergency drill on March 25, 2008, to identify any weaknesses and deficiencies in classification, notification and protective action recommendation development activities. The inspectors observed emergency response operations in the simulated control room to verify that event classification and notifications were performed in accordance with the emergency plan. The inspectors attended the pre-drill briefing of exercise controllers and evaluators, and the post-drill critique to compare any inspector-identified weakness with those identified by PBAPS in order to verify that the licensee was properly identifying failures and areas for improvement.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2PS2 Radioactive Material Processing and Transportation (71122.02 - 1 Sample)

Shipment Preparation

a. Inspection Scope

On February 21, 2008, the inspectors observed a non-exempt radioactive material shipment (#0208-13600) in preparation. The inspectors observed shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifests, shipping papers provided to the driver, and licensee verification of shipment readiness. The inspectors verified that the receiving licensee was authorized to receive the shipment packages.

The inspectors performed a review to verify that the licensee's procedures for cask loading and closure were consistent with the vendor's current approved procedures, Safety Analysis Report (SAR) and Certificate of Compliance (C of C).

The inspectors selectively reviewed the training of personnel conducting the package loading, closure, survey, and shipping activities relative to the training specified in NRC Bulletin 79-19 and 49 CFR 172, Subpart H.

The review was performed against criteria contained in 10 CFR 20, 10 CFR 61, 10 CFR 71, Department of Transportation requirements as contained in 49 CFR 170-189, station procedures, applicable disposal facility licenses, and applicable C of C of vendor procedures for various shipping casks.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

40A1 Performance Indicator (PI) Verification (71151 - 6 Samples)

Cornerstone: Initiating Events

a. Inspection Scope

The inspectors sampled PBAPS's submittals for the PIs listed below for Units 2 and 3 for the fourth quarter of 2007. PI definitions and guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Indicator Guideline," Revision 5, were used to verify the basis in reporting for each data element.

- Unplanned Scrams;
- Unplanned Scrams with Complications; and
- Unplanned Power Changes.

The inspectors reviewed portions of the operating logs and raw PI data developed from plant recorder traces. The inspectors compared graphical representations from the most recent PI report to the raw data to verify that the data were correctly reflected in the report.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (PI&R) (71152 - 1 Sample).1 Routine Review of Items Entered into the CAPa. Inspection Scope

As required by Inspection Procedure (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 Annual Sample – Unit 3 Torus Corrosion Products (1 Sample)a. Inspection Scope

The inspectors reviewed Exelon's actions regarding higher than expected amounts of sludge and rust that were identified on the downcomers of the Unit 3 torus during the October 2007 refueling outage. Specifically, the inspectors reviewed Exelon's evaluation of the issue, with particular focus on the potential impact to design bases assumptions for debris loading on the ECCS pump suction strainers. The inspectors reviewed Exelon's technical evaluations for both past operability and future operability considering the amount of sludge accumulation initially discovered, and the amount which remained on the downcomers at the end of the refueling outage. The inspectors reviewed Exelon's conclusions relative to the impact on Core Spray and RHR pump net positive suction head analyses considering the amount of corrosion product debris loading. Additionally, the inspectors reviewed Exelon's apparent cause report (CR 682042) which was initiated to investigate the adequacy and implementation of process controls given the amount of residual semi-solid sludge encountered in the Unit 3 torus. This review was performed to ensure Exelon's proposed and completed corrective actions were adequate.

b. Findings and Observations

No findings of significance were identified. The inspectors determined that Exelon had used a nonconservative assumption in their initial technical evaluation of the acceptability of the amount of sludge remaining in the Unit 3 torus at the end of the refueling outage. The inspectors determined that a sludge density factor used to estimate how much sludge remained on the downcomers was not valid because the area of each bay within the torus had been overestimated. Exelon initiated action request (AR) 683747 to revise the evaluation and eliminate the use of the density factor. The inspectors determined this error to be of minor significance as the corrosion product estimate for the next cycle of operation remained within the ECCS suction strainer design basis analysis assumptions. With respect to a past operability determination, the inspectors agreed with Exelon's conclusion that the ECCS pumps had not been affected by the estimated amount of sludge debris found in the Unit 3 torus.

The inspectors found the apparent cause report to be thorough and self critical in that Exelon identified that ineffective cleaning and weak evaluations of sludge accumulation had occurred over the years. The inspectors determined that the proposed corrective actions were reasonable with respect to preventing excessive accumulation of debris going forward. Additionally, Exelon effectively used operating experience during their review of the issue.

40A6 Meetings, Including Exit

Exit Meeting Summary

On April 18, 2008, the resident inspectors presented the inspection results to Mr. M. Massaro 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.

40A7 Licensee-Identified Violations

None.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Exelon Generation Company Personnel

- J. Grimes, Site Vice President
- M. Massaro, Plant Manager
- J. Armstrong, Regulatory Assurance Manager
- C. Behrend, Engineering Director
- L. Bunner, Work Management Director
- C. Jordan, Chemistry Manager
- R. Franssen, Shift Operations Superintendent
- G. Stathes, Operations Director
- S. Taylor, Radiation Protection Manager
- W. Trump, Security Manager
- T. Wasong, Training Director
- J. Chizever, Mechanical Design Engineer
- S. Stahl, Programs Engineer
- H. McCrory, Radiation Protection Technical Support Manager
- C. Tubman, Shipping Specialist
- H. Miller, Shipping Specialist (Limerick Generating Station)
- R. Smith, Senior Regulatory Assurance Engineer
- M. Ross, Radwaste, Environmental Supervisor

NRC Personnel

- F. Bower, Senior Resident Inspector
- M. Brown, Resident Inspector
- F. Arner, Reactor Inspector
- J. Commiskey, Health Physicist
- R. Fuhrmeister, Senior Project Engineer
- R. Nimitz, Senior Health Physicist
- R. Rolph, Health Physicist

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened/Closed

05000277/278/2008002-01	NCV	Failure to Identify and Document Fire Brigade Deficiencies (Section 1R05.2)
-------------------------	-----	---

Closed

None

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

SO 23.1.A-3, Revision 15, HPCI System Setup for Automatic or Manual Initiation
SO 23.1.A-3 COL, Revision 21, HPCI System
SO 52A.1.A-4 COL, Revision 13, E-4 Diesel Generator Normal Standby
UFSAR, Section 6.4.1, High-Pressure Coolant Injection System
UFSAR, Section 7.4.3.2, High-Pressure Coolant Injection System Control and Instrumentation
M-365, Sheet 1, Revision 60, P&I Diagram, HPCI System
M-365, Sheet 2, Revision 63, P&I Diagram, HPCI System
M-366, SH1, Revision 66, P&I Diagram, HPCI Pump, Turbine Details
M-366, Sheet 2, Revision 47, P&I Diagram, HPCI Pump – Turbine Details, Lube Oil and Control Systems
M-366, Sheet 3, Revision 43, P&I Diagram, HPCI Pump – Turbine Details, Lube Oil and Control Systems
M-366, Sheet 4, Revision 50, P&I Diagram, HPCI Pump, Turbine Details

Section 1R05: Fire Protection

PF-13A, Revision 1, Prefire Strategy Plan 3 'B'/3 'D' CS Rooms, RX Building 91'6"
Elevation
PF-62, Revision 4, Prefire Strategy Plan, Unit 3 HPCI Room, 88' Elevation
PF-12C, Revision 3, Prefire Strategy Plan, Unit 3 Reactor Recirculation Pump MG Set RM
Radwaste Building 135' EL Fire Zone 12C
PF-5B, Revision 0, Prefire Strategy Plan, 2 'A' CS Room Reactor building, 91'6"
Elevation Fire Zone 5B
PF-5G, Revision 1, Prefire Strategy Plan, 'D' CS instrument room, U2 Reactor Building,
116' Elevation Fire Zone 5G

Section 1R06: Flood Protection

M-19, Revision 9, Unit 3 Reactor Building, Section C – C
M-28, Revision 4, Unit 3 Reactor Building Plan, El. 116' 0"
M-27, Revision 8, Unit 3 Reactor Building Plan, El. 88' 0", 91' 6", 92' 6"
Peach Bottom Atomic Power Station, Independent Plant Examination, Section 9.0, Internal
Flooding

Section 1R07: Heat Sink Performance

Peach Bottom EDG HX Testing Report, Dated August 31, 2007
PM-533, Revision 0, EDG Operability with Reduced Emergency Service Water Flow Rates
PM-678, Revision 0, Performance Curves for EDG HXs to Support Generic Letter 89-13
Monitoring Program
PM-1042, Revision 2, Determination of Diesel Operability with Cross-Flow

RT-O-052-204-2, Revision 22, E4 Diesel Generator Load Run
CR 00707459

Section 1R11: Licensed Operator Requalification Program

1105 EOP 1, LOCA Requiring Emergency Blowdown

Section 1R12: Maintenance Effectiveness

¹IR 726973, Incorrect Maintenance Preventable FF Determination
²IR 726903, Incorrect Revision to ER-AA-310-1004, Attachment 7 (Example 13)
³IR 726903, NRC Resident Questions During MR Expert Panel
IR 678935, 3 'A' RHR Pump Trip
IR 679758, MO-3-10-015D Limit Switch Did Not Rotate 90 Degrees
IR 680704, Document EOC Actions for IR 679758
IR 315494, Relay 3-23A-K022 and MO-3-23-017, Failed to Reposition
IR 693749, MO-3-10-039B Did Not Open
IR 684229, 3 'D' RHR Torus Suction, MO-3-10-015D Tripped on Thermals
IR 684634, EOC Inspection for MO-2-10-015A-OP
IR 684637, EOC Inspection for MO-2-10-015B-OP
IR 684638, EOC Inspection for MO-2-10-015C-OP
IR 684639, EOC Inspection for MO-2-10-015D-OP
IR 6797207, Extent of Condition Inspection for MO-2-10-015D-OP
IR 6797257, Extent of Condition Inspection for MO-2-10-015B-OP
IR 6797267, Extent of Condition Inspection for MO-2-10-015C-OP
IR 722535, MRFF – Received Unit 2 'A' & 'B' Vent Stack High/Trouble Alarms
IR 741330, MRFF – Process Flow for Vent Stack Radiation Monitor Exceeded
A1639451, 3 'A' Vent Stack Radiation Monitor RI-3797A Trouble
A1640023, RI-3979A Indicates a Loss of Communication
A1600597, 3 'A' Vent Stack Radiation Monitor Ch 2 & 3 in Alarm
A1633020, Unexpected Vent Stack Radiation Mon High/ Trouble
A1591651, 2 'B' Vent Stack Radiation Monitor Loss of Operating Lights
A1576868, RI-2979B Loss of all Indication
IR 717959, Priority Work List IR Closed to Trending by SOC
Lesson Plan – PLOT-5063, Process Radiation Monitoring System
P&ID M-334, Revision 2, Ventilation Radiation Monitoring System
ST-I-063-203-2, Revision 2, Refuel Floor Vent Exhaust Radiation Monitor Calibration and
Functional Test for RIS-2-17-458A and C
ER-AA-310, Implementation of the MR
ER-AA-310-1004, MR – Performance Monitoring
Monthly MR Expert Panel Meeting Agenda and Topic Documentation for January 17, 2007
SO 12.1.A-3, Rev 34, Reactor Water Cleanup System Startup for Normal Operation or Reactor
Vessel Level Control

Issue Report generated as a result of this inspection
² Issue Report generated as a result of this inspection
³ Issue Report generated as a result of this inspection

SO 12.1.A-2, Revision 34, Reactor Water Cleanup System Startup for Normal Operation or Reactor Vessel Level Control

Temporary Change 08-34

Temporary Change 08-41

SO 12.3.A-3, Revision 16, Reactor Water Cleanup System Fill and Vent Using Condensate Transfer System

SO 12.3.A-2, Revision 15, Reactor Water Cleanup System Fill and Vent Using Condensate Transfer System

Condition Reports

00466954

00562424

00710353

00710884

00711084

00741386

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

AR A1647719, Bolts Missing from Structural Support for Instrument Nitrogen 'B' Header Supply to Drywell, AO-3969B

IR 735283, AO-3-16-3969B Failed to Stroke Closed During ST-O-07G-480-3

NRC Event Notification (ENS) 43986, Technical Support Center (TSC) Power Outage

IR 736233, Unit 1 TSC Ventilation Trip

IR 736010, BRE #3 Loss of Power

IR 736011, BRE #4 Loss of Power

IR 736004, Sec Rec / EWS Cameras Loss of Video

IR 736028, Sec Rec / EWS PID Zones Failed

IR 736241, WP Suggestion – Kit for Cliff Posts

IR 741321, Unexpected Voltage Measured During PCIS GP II LSFT

ST-I-07G-102-2, PCIS Group II Logic System Functional Test

M-1-S-23, Sheet 30, Electrical Schematic Diagram Primary Containment Isolation System

WO C0221745, Replace Floating Head

A1591783, Replace 2 'D' RHR Head Exchanger Floating Head assembly

IR 730613, 2 'D' RHR Floating Head Replacement Improvement Opportunities

IR 730614, 2 'D' RHR Floating Head Replacement Improvement Opportunities

IR 730616, 2 'D' RHR Floating Head Replacement Improvement Opportunities

C0223938, 3DE024: Investigate/Repair Leak

A1649789, Water leaking Under 3 'D' RHR HX when 3 'B' RHR Pump Started

A1649853, Loose and Missing Bolting on Support Component

ST-O-010-306-3, Revision 28, 'B' loop RHR Pump, Valve, Flow and Unit Cooler Functional and Inservice Test

COL 10.1.A-3B, Revision 18, RHR System Setup for Automatic Operation Loop 'B'

Section 1R15: Operability Evaluations

IR 680813, E1 EDG Auto Voltage Regulator Circuit Board Inspection

IR 680814, E2 EDG Auto Voltage Regulator Circuit Board Inspection

IR 680816, E3 EDG Auto Voltage Regulator Circuit Board Inspection

IR 680817, E4 EDG Auto Voltage Regulator Circuit Board Inspection

IR 686634, 3 'A' Recirculation Pump RPMs Oscillating with No Operator Input

IR 696087, RV-3-02-071D Temperature Out of Specification High

IR 692029, U3 MSRV 71K Tailpipe Temperature Indication Low

IR 687964, SRV 71B Tailpipe Temperature Lowered 5F in 24 Hours

IR 731953, One Bolt Found Missing on Support to AO-3-02-21
 IR 731959, One Bolt Found Missing on Support to AO-3-10-163B
 IR 731554, SRV Tailpipe Temperature Reached ACMP Action Level
 IR 739743, HPCI Piping Support Bolts for 23DDN-S6 Found Loose
 IR 739748, As-found Condition of Hanger 23DDN-S6
 WO A1588112, Gap was Noted Between Support Baseplate and Conc Structure
 WO C0223216, Re-torque Baseplate Anchors
 AR A1633876, E2 EDG Auto Voltage Regulator Circuit Board Inspection
 AR A1563645, E2 EDG Voltage Regulator Inspection per OE22449
 AR A1646607, Lowering Speed on 3 'A' Recirculation Pump
 Adverse Condition Monitoring and Contingency Plan, 3 'A' Recirculation Pump Unexpected
 Speed Change, Revision 0, dated January 19, 2008
 Adverse Condition Monitoring and Contingency Plan (ACMP), Unit 3, SRV 71D Elevated
 Tailpipe Temperature, Revision 1, Dated 02/02/2008
 ACMP, Unit 3, SRV 71D Elevated Tailpipe Temperature, Revision 0, dated
 12/04/2007

Section 1R18: Plant Modifications

A1649526, Main Turbine Generator Vibration Monitor
 ECR 08-00064, Temporarily Disable the Alarm Functions Associated with the #6 Turbine
 Bearing

Section 1R19: Post-Maintenance Testing

R1029073, Inspect/Rework MO Strainer
 SO 29.8.B-3, Revision 11, Pump Structure Traveling Screens Routine Inspection
 Passport WO 0633733501, Peach Bottom 65 CB, Station Could Not Close Breaker
 A1649163, #65 CB Did Not Close
 IR 731797, #65 CB Did Not Close
 IR 722534, 65 Breaker Trouble Alarm
 IR 732228, CB #65 Oil Leak
 AR A1591783, Replace 2 'D' RHR HX Floating Head Assembly
 IR 554165, Replace 2 'D' RHR HX Floating Head Assembly
 IR 728787, Air Pressure Test Indicated Leakage on 2'D' RHR Floating Head Gasket
 IR 727826, Unexpected Results Identified During Info Pressure Test – 2 'D' RHR
 IR 731155, 2 'D' RHR HX Degraded Tube Sheet Flange Face
 IR 729465, New Gasket Removed from 2 'D' RHR Floating Head Deteriorated
 IR 730604, 2 'D' RHR Floating Head Replacement Lessons Learned
 ST-O-010-306-2, 'B' RHR Loop Pump, Valve, Flow and Unit Cooler Functional and Inservice
 Test (partial test completed on 2/2/08)
 ST-O-010-640-2, 2 'D' RHR HX Leak Test (partial test completed on 2/1/08)
 A1650073, AO-3-16-3969B Failed to Stroke Closed during ST-O-07G-480-3
 ST-O-07G-480-3, Rev 13, PCIS Normally Open Valves Functional Test
 ST-O-094-400-3, Stroke Time Testing of Valves for Post-Maintenance Testing
 R1083435, PCIS Normally Open Valves
 R1080058, Stroke Time Testing of Valves for Post-Maintenance Testing
 WO C0220220, HV-0-33-510; Rework the leaking ESW Pipe
 AO 33.6-0, Revision 1, ESW Pump Discharge Cross-Tie Operation
 LCO 8-0-012, 3.7.2, 1 ESW Loop Inoperable
 RT-O-033-600-2, Flow Test of ESW to ECCS Coolers and Diesel Generator Coolers,
 Completed 1/23/08 – Complete and Sat.

Section 1R22: Surveillance Testing

ST-M-40D-910-2, Control Room Emergency Ventilation Filter Train 'B' Test Performed on January 9, 2008
 IR 719842, Degraded Sealing Surface on One HEPA Filter Gasket
 IR 726893, WO Act Taken to Complete Without Completing Task
 ST-O-010-301-3, Revision 26, 'A' RHR Loop Pump, Valve, Flow and Unit Cooler Functional and Inservice Test Performed January 11, 2008
 ST-O-020-560-2, Reactor Coolant Leakage Test completed on 02/09/2008
 ST-O-020-560-3, Reactor Coolant Leakage Test completed on 02/09/2008
 RT-O-010-660-3, Revision 7, RHR HX Performance Test
 WO R1081861, RHR 'A' Loop PVF/IST
 WO R1018280, RHR HX (3AE024)
 SI2L-2-72-B1FQ, Revision 11, Functional Test of ECCS 'B' Compensated Trip System
 SI3L-2-72-A1FQ, Revision 10, Functional Test of ECCS 'B' Compensated Trip System
 R1082611-01, ECCS 'A' Compensated Trip System
 SI2R-63E-2979-A1CE, Revision 9, Vent Stack Radiation Monitor RY-2979A Electronic Calibration Check, performed 1/17/08
 ST-O-052-202-2, Revision 19, E-2 Diesel Generator Slow Start and Full Load Test Performed on March 6, 2008
 NFPA 20, 2007 Edition, Installation of Stationary Pumps for Fire Protection, Chapter 14 Acceptance Testing, Performance and Maintenance
 NFPA 25, 2008 Edition, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, Chapter 8 Fire Pumps
 ST-O-37D-340-2, Revision 13, Diesel Driven Fire Pump Flow Rate Test, performed January 9, 2008
 ST-O-37D-340-2, Revision 13, Diesel Driven Fire Pump Flow Rate Test, performed January 8, 2008
 Temporary Change 08-04
 AR A1645404
 CR 00208702
 CR 00719475
 CR 00719443
 White Paper – DDFP Degrading Performance 2001 – 2007
 Fairbanks-Morse Pump Performance Curve for Model 15H-7000F
 White Paper – Response to NRC Resident Challenge on Methodology of Evaluating DDFP Operability
 Fire Protection Design Basis Document, Table 1.2-1, Fire Protection Sprinkler Systems

1EP6: Drill Evaluation

Peach Bottom Atomic Power Station 2008 Pre-Exercise Manual

Section 2PS2: Radioactive Material Processing and Transportation**Procedures / Documents:**

FO-AD-002 Revision 33, Operating Guidelines for Use of Polyethylene High Integrity Containers
 FO-AD-002 Revision 33 Attachment A, User's Checklist
 FO-AD-002 Revision 33 Attachment B, Polyethylene High Integrity Container Certification Statement

FO-AD-002 Revision 33, Attachment C, Certification Statement for Disposal of Polyethylene High Integrity Containers

M-020-004 Revision 6 and Revision 7, Chem-Nuclear Systems (CNS) 8-120B Transport Cask Handling

M-020-004 Revision 6 Attachment 3, Filter / Velocity Limiter Loading Log

M-020-004 Revision 6 Attachment 4, Miscellaneous Items Loading Log

M-020-004 Revision 7 Attachment 5, User Check off Sheet

M-020-004 Revision 6, Attachment 6, Air Leak Test Inspection Form Dated 2/12/08

M-020-004 Revision 7 Attachment 6, Air leak Test Inspection Form Dated 2/16/08

PO-002410-9, High Integrity Container Certification Dated 2/1/08

RP-AA-600 Revision 10, Radioactive Material / Waste Shipments

RP-AA-600-1001 Revision 4, Exclusive Use and Emergency Response Information

RP-AA-600-1001 Revision 4, Attachment 5, Exclusive Use Statement

RP-AA-600-1003 Revision 5, Radioactive Waste Shipments to Barnwell and the Defense Consolidation Facility

RP-AA-600-1003 Revision 5, Attachment 1, Duratek / CNS Barnwell Site Checklist

RP-AA-600-1005 Revision 10, Radioactive Material and Non Disposal Site Waste Shipments

RP-AA-600-1005 Revision 10, Attachment 1, Radioactive Shipment Notification Form

RP-AA-602-1001 Revision 9, Packaging of Radioactive Material / Waste Shipments

RP-AA-602-1001 Revision 9, Attachment 4, Packaging Inspection Checklist – Cask (Type B)

RP-AA-603 Revision 3, Inspection and Loading of Radioactive Material Shipments

RP-AA-603-1001 Revision 1, Inspection and Loading of Radioactive Material / Waste Shipments

RP-AA-603-1001 Revision 1, Attachment 1, Vehicle inspection / Loading Checklist

RW-C-202-6 Revision 4, Appendix A, Completion Record – Verification of No Freestanding Water

RW-C-202-8 Revision 2, Appendix A, Dose Profile Forms Filter Cartridge Survey Sheet

RW-C-202 Revision 9 Exhibit 9.1, Spent Fuel Pool Waste Processing / Packaging Log

S20-AD-010 Revision 22, Barnwell Waste Management Facility Site Disposal Criteria Chem-Nuclear Systems Barnwell Office.

S20-AD-010 Attachment 24.11, Revision 22, Irradiated Hardware Liner Inventory Log

TR-TP-002, Revision 16, Air Pressure Drop Test for CNS 8-120B Cask

TR-OP-035 Revision 19, Handling Procedure for Transport of Cask Model CNS 8-120B Certification of Compliance # 9168.

10 CFR Part 61 Sampling and Analysis Results

Radioactive Shipping Container Certifications

South Carolina Dept. of Health and Environmental Control Radioactive Material License (Barnwell Waste Disposal Facility) Licenses #097, Amendment #47.

Training program – Department of Training /79-19 Training for Support of Radioactive and Asbestos Shipments

Training Program - Site Specific Portion of Radioactive Material Shipping Training Program

Training Program - Shipper Refresher

C of C Docket # 71-9168

SAR, Revision 6

Certificates of Conformance, Cover Letter Dated February 1, 2008. (Includes Sling and Shackle

Testing and Calibration)
Uniform Low-level Radioactive Waste Manifest
Radiation / Contamination Surveys; Irradiated Hardware / Filters, Package, Impact Limiters, and Vehicle.
Pressure Gauge Certificate of Calibration #0010482772
Quality Assurance Program Approval for Radioactive Material Packages #0008, Revision 11, Dated November 20, 2006
Letter from Energy Solutions Dated Feb. 22, 2008: Compliance with Packaging Safety Analysis Report Drawings

Condition Reports:

CR 00739209

Section 40A1: Performance Indicator Verification

Archival Operations Narrative Log – October 6, 7, 18, 19, 20, 21, 30; November 2, 3, 4, 8, 14, 17, 19, 28, 29; December 8, 9, 17, 2007
Unit 2 Core thermal Power Plot, October 2007
Unit 2 Core thermal Power Plot, November 2007
Unit 2 Core thermal Power Plot, December 2007
Unit 3 Core thermal Power Plot, October 2007
Unit 3 Core Thermal Power Plot, November 2007
Unit 3 Core Thermal Power Plot, December 2007

Section 40A2: Identification and Resolution of Problems

Calculations

PM-1003, Post Accident Fibrous Debris Generation Inside the Drywell, Revision 2
PM-1004, ECCS Strainer Replacement MOD P00350, Revision 2
PM-1010, RHR Pump NPSH, Revision 6

Condition Reports

682042
681244
683747

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
AR	Action Requests/Assignment Report
C of C	Certificate of Compliance
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CNS	Chem-Nuclear Systems
CR	Condition Report
CS	Core Spray
DBDs	Design Basis Documents
ECCS	Emergency Core Cooling System
ECR	Engineering Change Request
EDG	Emergency Diesel Generator
ESW	Emergency Service Water
FBL	Fire Brigade Leader
HEPA	High-Efficiency Particulate Air
HPCI	High Pressure Coolant Injection
HX	Heat Exchanger
IMC	Inspection Manual Chapter
IR	Issue Report
IST	Inservice Test
MPFF	Maintenance Preventable Functional Failure
MR	Maintenance Rule
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PBAPS	Peach Bottom Atomic Power Station
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PMT	Post-Maintenance Testing
RCIC	Reactor Core Isolation Cooling
RFP	Reactor Feed Pump
RHR	Residual Heat Removal
RTP	Rated Thermal Power
SAR	Safety Analysis Report
SDP	Significance Determination Process
SRV	Safety Relief Valve
SSCs	Structures, Systems, and Components
STs	Surveillance Tests
TRM	Technical Requirements Manual
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WO	Work Order