



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

October 21, 2014

Docket No. 05000171

License No. DPR-12

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Rd.
Warrenville, IL 60555

SUBJECT: EXELON GENERATION COMPANY, LLC, PEACH BOTTOM ATOMIC POWER
STATION UNIT 1 – NRC INSPECTION REPORT NO. 05000171/2014008

Dear Mr. Pacilio:

On October 7 – 9, 2014, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Peach Bottom Atomic Power Station Unit 1. The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and the conditions of your license. The inspection consisted of observations by the inspector, interviews with personnel, and a review of procedures and records. The results of the inspection were discussed with Mike Massaro, Site Vice President, and other members of your organization on October 9, 2014, at the conclusion of the inspection. The enclosed report presents the results of this inspection. No findings of safety significance were identified.

Current NRC regulations and guidance are included on the NRC's website at www.nrc.gov; select **Nuclear Materials; Med, Ind, & Academic Uses**; then **Regulations, Guidance and Communications**. The current Enforcement Policy is included on the NRC's website at www.nrc.gov; select **About NRC, Organizations & Functions; Office of Enforcement; Enforcement documents**; then **Enforcement Policy (Under 'Related Information')**. You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 8:00 a.m. to 5:30 p.m. EST, Monday through Friday (except Federal holidays).

M. Pacilio

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No reply to this letter is required. Please contact Mark Roberts (610-337-5094) if you have any questions regarding this matter.

Sincerely,

/RA/

Marc S. Ferdas, Chief
Decommissioning and Technical
Support Branch
Division of Nuclear Materials Safety

Enclosure: Inspection Report No. 05000171/2014008

cc w/encl: Distribution via ListServ

M. Pacilio

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Sincerely,
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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 05000171/2014008
Docket No. 05000171
License No. DPR-12
Licensee: Exelon Generation Company, LLC (Exelon)
Facility: Peach Bottom Atomic Power Station Unit 1 (PB-1)
Address: 1848 Lay Road
Delta, Pennsylvania 17314-9032

Inspection Dates: October 7 - 9, 2014

Inspector: Mark C. Roberts
Senior Health Physicist
Decommissioning & Technical Support Branch
Division of Nuclear Materials Safety

Approved By: Marc S. Ferdas, Chief
Decommissioning & Technical Support Branch
Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

Exelon Generation Company, LLC
Peach Bottom Atomic Power Station Unit 1
NRC Inspection Report No. 05000171/2014008

A routine announced safety inspection was conducted on October 7 through 9, 2014 at PB-1. The inspection included a review of operations, management oversight, maintenance, corrective action program (CAP) implementation, and plant support activities while in safe storage (SAFSTOR) status. The inspection consisted of observations by the inspector, interviews with Exelon personnel, and a review of procedures and records. The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in Inspection Manual Chapter (IMC) 2561, "Decommissioning Power Reactor Inspection Program." There are currently no ongoing decommissioning activities being conducted at PB-1. Based on the results of this inspection, no findings of safety significance were identified.

REPORT DETAILS

1.0 Background

PB-1 is a high temperature gas-cooled demonstration power reactor that operated from February 1966 until October 31, 1974, and has been permanently shut down and in SAFSTOR since that time. All fuel has been removed from the reactor and shipped to an offsite facility. The spent fuel pool has been drained and decontaminated, and radioactive liquids have been removed.

The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in IMC 2561. The inspection consisted of observations by the inspector, interviews with Exelon personnel, and a review of procedures and records.

2.0 SAFSTOR Performance and Status Review

- a. Inspection Scope (Inspection Procedures (IPs) 36801, 37801, 40801, 62801, 71801, 83750, 84750, 86750)

A routine announced safety inspection was conducted on October 7 through 9, 2014, at PB-1. The inspector reviewed the SAFSTOR program as outlined in the Updated Final Safety Analysis Report (UFSAR), Technical Specifications (TS), and procedure LS-PB-800, "Unit 1 Process Control Program," to assess the adequacy of management oversight of SAFSTOR responsibilities for the PB-1 facility. Specifically, the inspector reviewed the decommissioning management and staff organization and Exelon's implementation of SAFSTOR activities related to safe storage of radioactive material. The inspector discussed any design changes or modifications since the previous inspection. The inspector also conducted a tour to assess the material condition of the PB-1 facility (reactor building, containment building, radioactive waste building, spent fuel pool building, and the lower level roofs of the radioactive waste and spent fuel buildings).

The inspector reviewed the results of surveillance testing conducted in May 2014 that is intended to ensure exclusion area barriers and personnel access doors to the containment building, the radioactive waste building, and the spent fuel pool building were being maintained in accordance with TS 2.1(b)1, and that water accumulation in the containment sump was less than TS 2.1(b)9 limits.

The inspector reviewed activities and documentation associated with the following SAFSTOR programs: occupational exposure, radioactive effluent control, and groundwater monitoring.

The inspector reviewed the annual Decommissioning Status Report for 2013, dated March 28, 2014. The inspector also reviewed CAP issue reports and assignment reports associated with PB-1 to determine if issues were being properly identified and evaluated, and if corrective actions were appropriately prioritized in the CAP.

b. Observations and Findings

The inspector noted that the staff effectively implemented SAFSTOR surveillance activities. The inspector confirmed that no design changes or plant modifications were made since the previous inspection; however, lower roof repairs were in progress that did not constitute a design change. The PB-1 required reporting submittals were completed in accordance with TS requirements. The inspector verified that the maintenance and surveillance program for systems and components had been conducted in accordance with the TS requirements and established procedures. The inspector also verified that the semi-annual inspection was performed according to TS 2.3(b) and associated procedures. Water levels in the containment sump determined during the most recent semi-annual inspection and from observations during the plant tour were less than the TS requirements. The inspector also confirmed that no dismantlement or decommissioning activities were performed since the previous inspection.

The annual radiological effluent report demonstrated that all calculated doses were below regulatory dose criteria of 10 CFR 50, Appendix I. Data from the analysis of groundwater samples from monitoring wells in the vicinity of PB-1 were less than detectable for tritium (200 picoCuries/liter).

The inspector determined that issues had been entered into the CAP, and prioritized and evaluated commensurate with their safety significance. Corrective actions were implemented to address identified issues and were being tracked to closure using the CAP.

c. Conclusions

Based on the results of this inspection, no findings of safety significance were identified.

3.0 Exit Meeting Summary

On October 9, 2014, the inspector presented the inspection results to Mike Massaro, Site Vice President, and other members of Exelon's staff. The inspector confirmed that proprietary information was not provided or examined during the inspection.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Armstrong, Regulatory Assurance Manager
C. Crabtree, Environmental Chemist
D. Dullum, Senior Regulatory Engineer
D. Foss, Senior Regulatory Engineer
C. Hardee, Unit 1 Project Manager
M. Herr, Operations Director
D. Hess, Radiation Protection Technician
S. Hesse, Manager, Project Management
D. Hines, Radiation Protection Supervisor
R. Holmes, Radiation Protection Manager
D. Hornberger, Chemistry/Radwaste Technician
F. Leone, Chemistry/Environmental/Radioactive Waste Manager
M. Massaro, Site Vice President
H. McCrory, Radiation Protection Technical Support Manager
T. Moore, Site Engineering Director
P. Navin, Plant Manager
R. Salvadore, NOS Manager
E. Schwarz, Radiochemist

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

UFSAR, Revision 8.0, April 2014
TS, Amendment 11, dated August 27, 2003
PBAPS Unit 1 Decommissioning Status Report - 2013, dated March 28, 2014
EN-PB-408-4160, Rev. 2, "RGPP Reference Material for Peach Bottom Atomic Power Station"
PBAPS Radioactive Effluent Release Report No. 56; January 1, 2013 – December 31, 2013
Monitoring Well Tritium Analysis Results, April 2014
LS-PB-800, Revision 2, "Unit 1 Process Control Program"
CY-PB-200-100, Revision 0, "Entry into Unit 1 During SAFSTOR Decommissioning Status"
ST-H-099-960-2, Revision 20, "Unit 1 Exclusion Area Inspection"
ST-C-095-805-2, Revision 14, "Liquid Radwaste Discharge"
ST-C-095-854-2, Revision 8, "Preparation of the Radioactive Effluent Release Report"
RW-PB-900, Revision 1, "Removal and Transfer of Water from Peach Bottom Unit 1 to Peach Bottom Unit 2 & 3 Radwaste"
Radiation Work Permit: PB1-14-10002
Issue Reports/Assignment Reports: 01514069; 01525905; 01588453
Exelon Nuclear letter to U.S. Nuclear Regulatory Commission, License Expiration – 10 CFR 50.51, May 24, 2011

LIST OF ACRONYMS USED

CAP	Corrective Action Program
Exelon	Exelon Generation Company, LLC
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NRC	Nuclear Regulatory Commission
PB-1	Peach Bottom Atomic Power Station Unit 1
SAFSTOR	Safe Storage
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report