



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

August 28, 2017

Docket No. 05000171

License No. DPR-12

Mr. Bryan Hanson
Senior Vice President, Exelon Generation
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. 05000171/2017009

Dear Mr. Hanson:

On August 15-16, 2017, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Peach Bottom Atomic Power Station Unit 1 (PB-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 inspectors, interviews with personnel, and a review of procedures and records. The results of the inspection were discussed with Pat Navin, Site Vice President, and other members of your organization on August 16, 2017, 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 **Radioactive Waste; Decommissioning of Nuclear Facilities; How We Regulate**; 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).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS), accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

B. Hanson

2

No reply to this letter is required. Please contact Laurie Kauffman (610-337-5323) if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Powell', with a long horizontal flourish extending to the right.

Raymond Powell, Chief
Decommissioning and Technical
Support Branch
Division of Nuclear Materials Safety

Enclosure: Inspection Report No. 05000171/2017009

cc w/encl: Distribution via ListServ

B. Hanson

2

No reply to this letter is required. Please contact Laurie Kauffman (610-337-5323) if you have any questions regarding this matter.

Sincerely,

/RA/

Raymond Powell, Chief
Decommissioning and Technical
Support Branch
Division of Nuclear Materials Safety

Enclosure: Inspection Report No. 05000171/2017009
cc w/encl: Distribution via ListServ

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DATE	08/17/2017		08/25/17		8/28/17			

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 05000171/2017009
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: August 15-16, 2017
Inspectors: Laurie Kauffman
Health Physicist
Decommissioning & Technical Support Branch
Division of Nuclear Materials Safety
Briana DeBoer
Health Physicist
Decommissioning & Technical Support Branch
Division of Nuclear Materials Safety
Approved By: Raymond Powell, Chief
Decommissioning & Technical Support Branch
Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

Exelon Generation Company, LLC
Peach Bottom Atomic Power Station Unit 1 (PB-1)
NRC Inspection Report No. 05000171/2017009

An announced safety inspection was conducted on August 15-16, 2017, at PB-1. The inspectors reviewed PB-1's activities related to the safe storage of radioactive material and included site operations, engineering, maintenance, fire protection, plant support activities, management oversight, and corrective action program (CAP) implementation. The inspection consisted of observations by the inspectors, interviews with Exelon Generation Company (Exelon) personnel, a review of procedures and records, and plant walk-downs. There are currently no ongoing decommissioning activities being conducted at PB-1. 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." Based on the results of this inspection, no findings of safety significance were identified.

REPORT DETAILS

1.0 Background

PB-1 was 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 safe storage (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. Water that collects in the reactor building sump is periodically pumped out of the sump and into drums. This water is then transported to the common radwaste building for Peach Bottom 2 (PB-2)/Peach Bottom 3 (PB-3) for processing.

The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in IMC 2561.

2.0 SAFSTOR Performance and Status Review

- a. Inspection Scope (Inspection Procedures (IPs) 36801, 37801, 40801, 62801, 64704, 71801, 83750, 84750, 86750)

A routine announced safety inspection was conducted on August 15-16, 2017, at PB-1. The inspection consisted of observations by the inspectors, interviews with Exelon personnel, and a review of procedures and records. The inspectors reviewed the SAFSTOR program as outlined in the Updated Final Safety Analysis Report (UFSAR), Technical Specifications (TS), and procedure DC-PB-800, "Unit 1 Process Control Program," to assess the adequacy of management oversight of SAFSTOR responsibilities for the PB-1 facility. Specifically, the inspectors reviewed the decommissioning management and staff organization and Exelon's implementation of SAFSTOR activities related to safe storage of radioactive material. The inspectors discussed any design changes or modifications since the previous inspection. The inspectors also conducted a walk-down to assess the material condition of the PB-1 facility (reactor building, containment building, and spent fuel pool building).

The inspectors reviewed the results of Exelon's ST-H-099-960-2, Rev. 22, "Unit 1 Exclusion Area Inspection" semi-annual surveillance test that was conducted in November 2016 and June 2017. The semi-annual surveillance test 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 are 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 of 500 gallons.

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

The inspectors reviewed the annual Decommissioning Status Report for 2016, dated March 30, 2017, and liquid effluent release records for 2016. The inspectors also reviewed a PB-1 audit report and 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 inspectors confirmed that the SAFSTOR program was effectively implemented. The required PB-1 reporting submittals were completed in accordance with TS. The inspectors verified that the maintenance and surveillance program for systems and components had been conducted in accordance with TS and established procedures. The inspectors confirmed that the fire protection program was implemented in accordance with the UFSAR.

During the 2016 SAFSTOR inspection and tour of the spent fuel pool room, the inspectors identified a small hole in the top corner of the cinderblock wall. The hole was approximately 2 feet from the ceiling in the northwest corner of the room and was approximately 1 inch wide and 5 inches long. Exelon determined that the opening in the inside block wall apparently was revealed when the exterior stucco façade was removed, allowing light to penetrate through openings in the outer portion of the cinderblock wall. The inspectors confirmed with Exelon that there was no release of radioactive material to the environment because the spent fuel room is not a contaminated area and there is no airborne radioactive material based on the results of an air monitoring grab sample. During the 2017 SAFSTOR inspection, the inspectors verified that Exelon repaired the hole.

During an exterior visual inspection in April 2016, the licensee had identified that a large piece of stucco façade had fallen off of an exterior wall of the PB-1 building. Exelon attributed this issue to age and weathering of the stucco and decided to remove the entire facade. During the 2016 SAFSTOR inspection, the inspectors observed Exelon personnel remove the final portions of the stucco façade from the building PB-1 and confirmed that the stucco façade was cosmetic and not structural. During the 2017 SAFSTOR inspection, the inspectors confirmed that Exelon replaced the stucco façade.

The inspectors confirmed that no design changes or plant modifications were made since the previous inspection. The inspectors also confirmed that no decommissioning activities were performed since the previous inspection.

There were no gaseous effluents released in calendar year 2016. In calendar year 2016, approximately 238 gallons of accumulated reactor sump water was transferred to PB2/PB3 for release via site procedures. There were no liquid or gaseous effluents released from January through August 16, 2017. All calculated doses were well below regulatory dose criteria of 10 Code of Federal Regulations 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 and plant-derived gamma-emitting radionuclides.

The inspectors determined that Exelon effectively developed audit plans using standard templates, prior audit results, and current industry operating experience. Depending on the significance, issues identified from audits were tracked by Nuclear Oversight staff and entered into the CAP as issue reports. Exelon effectively addressed identified issues, implemented corrective actions, and tracked them to closure. Issue reports appeared to be prioritized and evaluated commensurate with their safety significance.

c. Conclusions

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

3.0 Exit Meeting Summary

On August 16, 2017, the inspectors presented the inspection results to Pat Navin, Site Vice President, and other members of Exelon's staff. The inspectors confirmed that no copies of proprietary information were used during this inspection and none were removed from the site.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Baracco, Radiation Protection Manager
C. Crabtree, Senior Environmental Chemist
A. Donley, Chemist
C. Dozier, Radiation Protection Technician
D. Dullum, Senior Regulatory Engineer
C. Hardee, Unit 1 Project Manager
S. Hesse, Project Management Manager
D. Hines, Radiation Protection Supervisor
J. Kovalchick, Regulatory Assurance
B. Miller, Fire Protection Project Manager
P. Navin, Site Vice President
S. O'Dwyer, Radwaste/ Environmental Supervisor
A. Popolizio, Engineering

ITEMS OPEN, CLOSED, AND DISCUSSED

None.

LIST OF DOCUMENTS REVIEWED

UFSAR, Rev. 8.0, April 2014
Technical Specifications for Peach Bottom Atomic Power Station Unit No.1
TS, Amendment - 13, dated July 28, 2015
Peach Bottom Atomic Power Station Annual Radioactive Effluent Release Report 59,
January 1, 2016 through December 31, 2016, dated April 28, 2017
Peach Bottom Atomic Power Station Annual Radiological Groundwater Protection Program
Report, January 1 through December 31, 2016
Radiation Work Permit: PB-C-17-00121: Unit 1 RCA Areas, 2017
Exelon Generation 2 minute drill at the Job Site Briefing Card
PBAPS Unit 1 Decommissioning Status Report – 2016, March 30, 2017
DC-PB-800, Rev.0, "Unit 1 Process Control Program"
EN-PB-408-4160, Rev. 4, "RGPP Reference Material for Peach Bottom Atomic Power Station"
ST-H-099-960-2, Rev. 22, "Unit 1 Exclusion Area Inspection", November 18, 2016 and June 2,
2017
Confined Space Permit 00001876, Unit #1 CSP for Unit 1 Exclusion Area and Ring Trench
DC-PB-800-1000, Rev. 0, "Entry Into Unit 1 During SAFSTOR Decommissioning Status"

LIST OF DOCUMENTS REVIEWED

Groundwater Monitoring Well Location Map
Groundwater Monitoring Well logs for wells in the vicinity of PB-1
ST-C-095-805-2, "Liquid Radwaste Discharge"
RW-PB-900, "Removal and Transfer of Water from PB-1" (Attachment 1 - Drum Tracking Form)
EN-AA-408-4000, "Radiological Groundwater Protection Program Implementation"
PI-AA-125, Rev. 5 "Corrective Action Program (CAP)"
PI-AA-126-1001, Rev. 2, "Self-Assessments"
Decommissioned Units Audit Report, Audit NOSA-PEA-15-10, Peach Bottom,
November 30 2015 - December 4, 2015
RT-M-37B-320-2, Rev. 3, "Verification of Fire Hose Hydrostatic Testing", January 1, 2016
RT-O-037-325-2, Rev. 21, "Monthly Inspection of Outside Area Fire Extinguishers", April – July
2017
RT-O-037-335-2, Rev. 18, "Yearly Inspection Outside Area Fire Extinguishers" June 2016
RT-O-037-335-2, Rev. 19, "Yearly Inspection Outside Area Fire Extinguishers" May 2017
Assignment Reports: 02679061, 02735927, 04017818, 04029304, 04031932, 04038465

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
PB-3	Peach Bottom Atomic Power Station Unit 3
SAFSTOR	Safe Storage
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report