

March 28, 2014

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Peach Bottom Atomic Power Station (PBAPS) Unit 1
Facility Operating License No. DPR-12
NRC Docket No. 50-171

Subject: PBAPS Unit 1 Decommissioning Status Report - 2013

In accordance with Peach Bottom Atomic Power Station, Unit 1 Technical Specifications, the annual report is required to:

- Describe the results of facility radiation surveys,
- Report the quantities of radioactive effluents released,
- Report the status of the facility and evaluate the performance of security and surveillance measures, and
- Provide containment vessel accumulated water analyses, as applicable.

Radiation Surveys:

Radiological surveys are performed semi-annually in the exclusion area. There were no significant concerns detected. All surveys were less than the required 1 mR/hr in accessible areas. To resolve the incident in 2012 when one survey point (S-30) in an accessible area exceeded the specified value of 1 mR/hr by 0.1 mR/hr, a barrier was installed in containment in 2013 to ensure that all accessible areas meet the requirement. The satisfactory results in both 2013 surveys prove its adequacy. Additionally, all smearable contamination levels were less than 1000 dpm/100cm² beta-gamma.

Quantities of Radioactive Effluents Released:

There were no direct gaseous or liquid releases or discharges from Unit 1 to the environment. During the reporting period, 80 gallons of water collected from Unit 1 in 2012 and 93 gallons collected from Unit 1 in 2013 were released via the Unit 2/3 Radwaste System, a prescribed release pathway in the Offsite Dose Calculation Manual (ODCM). This release of 173 gallons accounted for a total of 2.10E+03 uCi, all attributable to tritium. No gamma emitting nuclides were above detectable limits.

Status of Facility and an Evaluation of the Performance of Security and Surveillance Measures:

There were no significant events involving Unit 1. All inspections were determined to be satisfactory with no major issues identified. The structural inspections performed in accessible areas showed no indication of significant corrosion, cracks, or structural integrity concerns.

During the fall routine inspection, a shallow sheen of water was found covering approximately 75% of the Unit 1 Fuel Pool floor. After review of the drawings and groundwater table it was concluded to be groundwater seeping in through the floor and wall joints. Entry into U1 approximately one month later did not reveal a change in the amount of water.

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Immediate actions included entering the issue into the corrective action program (IR 1588453), tracking further discovery and resolution on our regulatory items of importance list, and continuing to monitor on the next inspections. Based on future inspections, entry down to the fuel pool floor may be necessary.

The unit remains in the SAFSTOR status of decommissioning. All exclusion area barriers as described in the Technical Specifications are maintained locked except when opened to provide access and egress for inspections, surveys, or repairs. Exclusion area barriers have not degraded from previous reports.

Containment Vessel Accumulated Water Analyses:

Approximately 166 gallons of water accumulated in Peach Bottom Unit 1 Containment in 2013, all within the sump. The containment sump water was pumped into drums for eventual release and was analyzed for tritium and gamma-emitting nuclides. The average annual tritium concentration of water found in containment for the 12-month period was $3.26\text{E-}03 \mu\text{Ci/mL}$, with a maximum tritium concentration was $3.42\text{E-}03 \mu\text{Ci/mL}$. All gamma-emitting nuclide concentrations were below detectable levels.

Monitoring wells for the Radioactive Groundwater Protection Program in the vicinity of Unit 1 remain at normal background levels. All tritium concentrations sampled and analyzed were below detectable level in these wells.

Errata to Unit 1 Summary Reports for 2011 and 2012 (Quantities of Effluents Released)

It was noted that the 2011 and 2012 reports did not clearly state the quantity of Unit 1 water or activity released during each year from the U2/3 Radwaste System. The intention of this section is to clarify the volumes of water released and the associated activity for each year.

During the year 2011, 2790 gallons of water from Unit 1 were transferred to and released from the U2/U3 Radwaste System in accordance with the ODCM. This release accounted for a total of $4.07\text{E}+03 \text{ uCi}$, all attributable to tritium. No gamma emitting nuclides were above detectable limits.

During the year 2012, 942 gallons of water from Unit 1 were transferred to and released from the U2/U3 Radwaste System in accordance with the ODCM. The 942 gallons consisted of 809 gallons collected from Unit 1 in 2011 and 133 collected in 2012. This volume of water resulted in a total of $3.16\text{E}+03 \text{ uCi}$ released, all attributable to tritium. No gamma emitting nuclides were above detectable limits.

There are no regulatory commitments contained in this letter. If you have any questions, please contact Siobhan O'Dwyer, Radwaste and Environmental Supervisor, at 717-456-3047.

Respectfully,



Pat Navin
Plant Manager
Peach Bottom Atomic Power Station

cc: NRC Regional Administrator, Region I
NRC Senior Resident Inspector
R. R. Janati, Commonwealth of Pennsylvania

CCN 14-22

APPENDIX A
to
License No. DPR-12

TECHNICAL SPECIFICATIONS
for
Peach Bottom Atomic Power Station
Unit No. 1

1.0 LOCATION AND SITE

The Peach Bottom Atomic Power Station (PBAPS) Unit No. 1 is located in Peach Bottom Township, Pennsylvania, in the western shore of the Conowingo Pond at the mouth of Rock Run Creek on a site owned by Exelon Generation Company. These Technical Specifications apply to the PBAPS Unit No. 1 Exclusion Area. The Exclusion Area shall consist of an area within the PBAPS which is enclosed within locked barriers, and contains the Containment Vessel, Spent Fuel Pool Building and Radwaste Building. The only activity carried on within the Exclusion Area shall be routine and emergency inspections and maintenance associated with the possession of the decommissioned PBAPS Unit No. 1. Peach Bottom Atomic Power Station, Units 2 and 3 are also located on the site.

2.0 ADMINISTRATIVE AND PROCEDURAL SAFEGUARDS

2.1 Administrative Organizations and Controls

(a) Plant Manager

The Peach Bottom Plant Manager shall have the responsibility for administration of all Unit No. 1 functions.

(b) Controls

1. Except when opened to provide egress for inspections, surveys and repairs, the following exclusion area barriers shall be maintained locked:
 - i. The gate in the Exclusion Area fence located outside the containment personnel access lock at Elevation 116' -0".
 - ii. The gate in the Exclusion Area fence located outside the Spent Fuel Pool Area personnel access door at Elevation 116' -0".
 - iii. The gate in the Exclusion Area fence located outside the containment personnel access lock on Elevation 176' -6".
 - iv. Containment personnel access lock at Elevation 116' -0".

- v. Containment personnel access lock at Elevation 176' - 6".
 - vi. Grating over southwest stairway leading from refueling floor of Containment to Containment lower levels.
 - vii. Personnel door into Spent Fuel Pool Area at Elevation 116' - 0".
 - viii. Radwaste Room personnel door at Elevation 104' - 0".
- 2. Employees of the Peach Bottom Atomic Power Station shall report to the Peach Bottom Plant Manager or his designated representative any observed indication of change in facility status as shown by smoke, fire, tornado, flood, or attempted break-in and take any immediate action authorized.
 - 3. Deleted
 - 4. Security of the facility shall be included as a part of the Peach Bottom Atomic Power Station security plan.
 - 5. In the event of a Probable Maximum Flood, the personnel access door at elevation 116' -0" shall be opened in accordance with the Peach Bottom Atomic Power Station Units 2 and 3 flood procedures.
 - 6. If entry and/or work in the controlled area of the containment should be necessary, radiation level and airborne activity surveys shall be performed prior to beginning work and all work shall be performed under controls, as appropriate, to minimize the radiation exposure of personnel and to prevent the release of radioactivity to the environment.
 - 7. All radiation surveys, tests, counting work, radioactive effluent controls, and radiation exposure control measures shall be performed in accordance with written instructions and procedures that conform with the requirements of the Peach Bottom Atomic Power Station Units 2 and 3 radiation control procedures.

8. Effluent Release Limits**i. Liquid Effluents**

Radioactive waste discharges to offsite locations shall not exceed the limits given in 10 CFR 20.1001-20.2402, Appendix B, Table 2, Column 2, on an instantaneous basis.

ii. Gaseous Effluents

Gaseous effluents shall not result in offsite ground level concentrations exceeding the limits given in 10 CFR 20.1001-20.2402, Appendix B, Table 2, Column 1, on an instantaneous basis.

9. Water Intrusion Limits

Water accumulation in the containment sump shall be limited to 500 gallons.

2.2 Records

Licensee shall keep logs and records in sufficient scope, and detail to establish that the facility is being maintained within the limitations of the Part 50 Facility Operating License. The following items shall be recorded:

- (a) Results of periodic inspections
- (b) Records required by 10 CFR 50.75 (g)
- (c) Reportable events

2.3 Periodic Inspections

The following inspections of the Unit No. 1 facility shall be performed by personnel knowledgeable in nuclear radiation monitoring and with the radiological hazards associated with Unit No. 1. Records of these inspections shall be maintained on file.

- (a) Deleted
- (b) Semi-Annual Inspection
 - 1. Conduct an inspection of exclusion area barriers to ensure that the integrity of the barrier, and their locking apparatus are intact.
 - 2. Conduct a radiological survey of the accessible areas of the exclusion area. The survey shall include radiation levels and surface contamination as well as air particulate activity.

3. The high efficiency particulate filter on the containment breather line shall be surveyed for activity, and the filter changed at least annually.
4. Inspect the accessible areas below ground level in the containment vessel for water accumulation. Perform a radiological analysis if there is sufficient water accumulation to obtain a sample.

2.4 Reports

- (a) An annual report shall be submitted to the Nuclear Regulatory Commission, Washington, D.C. 200555, describing the results of facility radiation surveys, a summary of the quantities of radioactive effluents released, the status of the facility, and an evaluation of the performance of security and surveillance measures. Include the results of the radiological analysis, along with an evaluation of the source of the water and corrective actions taken, for sample quantities of water accumulation in the containment vessel.
- (b) Deleted