

Technical Specification 2.4(a)

May 9, 2008

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

Reference: 2007 PBAPS Radioactive Effluent Release Report No. 50 for Units 1, 2, 3 and
Independent Spent Fuel Storage Installation

Subject: PBAPS Unit 1 Decommissioning Status Report

In accordance with Peach Bottom Atomic Power Station, Unit 1 Technical Specifications, an 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 accessible areas of the exclusion area. In 2007, radiation levels did not exceed 0.2 mrem/hour and all smearable contamination levels were less than 1000 dpm/100cm² beta-gamma.

Quantities of Radioactive Effluents Released:

There were no releases from Unit 1 to the environment in 2007.

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

There were no significant events involving Unit 1 during 2007. 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 visually degraded from previous reports. Semi-annual inspections (surveillances) are performed.

IE17
IE48

FSME

Containment Vessel Accumulated Water Analyses:

Water was identified in the Unit 1 Containment and Radwaste (RW) sumps during the January and July 2007 semi-annual inspections. The water was analyzed for both tritium and other radioactive isotopes. July 2007 tritium analysis results indicated $4.23\text{E-}6$ $\mu\text{Ci/ml}$ in the RW sump and $4.63\text{E-}3$ $\mu\text{Ci/ml}$ in the Containment sump. Gamma spec analyses of the same water samples were negative for other isotopes of concern. As a result of water identified in the Unit 1 RW sump, monthly monitoring and analysis of any water found has begun for the U1 sumps in accordance with RT-H-099-830-2 U1, "Radwaste Room Sump Monitoring." Average tritium results from these samples are $4.96\text{E-}6$ $\mu\text{Ci/ml}$ over the proceeding 12-month period.

After water was identified in the Unit 1 sumps, the RW area was walked down for possible identification of the leakage. The only signs of water intrusion or water damage were an exterior stairwell door, the entrance to the RW area door and the immediate two doors inside the RW area. Based on water level marks on the doors (e.g., a rust line) it has been determined that water accumulates at bottom of stairwell. The source of this water has not yet been identified but, it is suspected to be storm or groundwater intrusion. Visible piping in the rooms were walked down and no piping was identified as leaking. No leaks were identified in drain piping in the RW area. Ceilings were inspected for water intrusion and indications of rust. No obvious locations were identified.

Unit 1 RW and Containment sumps are now checked once each month beginning in July 2007. The area is cool and damp so evaporation is not great. No inputs to the sump have been identified though Engineering was shown several areas where water intrusion from very heavy rain events may have come in the ground elevation door(s) and possibly via a pipe chase that surrounds the containment vessel or an outside storm drain. One possible explanation for the tritium contamination is leaching of the tritium into the water from the concrete.

Water from the sumps have been removed to the extent possible and processed in accordance with the Unit 1 Final Safety Analysis Report. The sumps will be checked each week for 4 weeks to identify any additional water input into the sump. Any water identified will be sampled and analyzed for tritium and other radionuclides.

There are no regulatory commitments contained in this letter. If you have any questions, feel free to contact Pat LaFrate at 717-456-4829.

Sincerely,



Joseph P. Grimes
Site Vice President
Peach Bottom Atomic Power Station

CCN 08-24 / 610992 / 606970 / 609793

cc: NRC Regional Administrator, Region I
NRC Senior Resident Inspector - PBAPS A4