

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-277/91-12 and 50-278/91-12

Docket Nos. 50-277 and 50-278

License Nos. DPR-44 and DPR-56

Licensee: Philadelphia Electric Company (PECo)
P.O. Box 195
Wayne, Pennsylvania 19087-0195

Facility Name: Peach Bottom Units 2 and 3

Inspection At: Delta, Pennsylvania

Inspection Conducted: March 18-22, 1991

Inspector:

Jason C. Jang
Jason C. Jang, Sr. Radiation Specialist,
Effluents Radiation Protection Section
(ERPS), Facilities Radiological Safety
and Safeguards Branch (FRS&SB)

3-27-91
date

Approved by:

Robert J. Bore
Robert J. Bore, Chief, ERPS, FRS&SB,
Division of Radiation Safety
and Safeguards

4-8-91
date

Inspection Summary: Inspection on March 18-22, 1991 (Combined Inspection
Report Nos. 50-277/91-12 and 50-278/91-12)

Areas Inspected: Routine, unannounced inspection of the licensee's programs for radioactive liquid and gaseous effluent controls and implementation of the ODCM.

Results: Within the scope of this inspection, one violation was identified in the area of the liquid radwaste effluent monitor calibration (see Section 4.4 of this inspection report). Implementation of the ODCM and effluent control programs by the Chemistry Department was excellent.

DETAILS

1.0 Individuals Contacted

1.1 Licensee Personnel

- *H. Abendroth, Atlantic Electric
- R. Arters, Technical Assistant, Chemistry
- *N. Burkins, I&C Foreman
- *J. Cockroft, Superintendent, NQA
- *K. Cutler, ISEG Engineer
- W. Eckman, Technical Monitoring Section, NQA
- *J. Franz, Plant Manager
- *A. Fulvio, Regulatory Engineer
- *G. Gellrich, Assistant Superintendent - Operations
- *T. Herpen, I&C, Radiation Monitoring System Engineer
- *P. Hinnekamp, I&C Engineer
- *D. LeQuia, Superintendent, Plant Services
- *D. Meyers, Superintendent, Technical
- *D. Miller, Vice President, Peach Bottom Atomic Power Station
- *J. Mitman, Maintenance/I&C Engineering Supervisor
- R. Moore, Technical Monitoring Section, NQA
- *D. Mowery, Supervisory Chemist, Technical
- *A. Odell, Senior Chemist
- *D. Oltman, Director, Nuclear Chemistry
- *M. Ryan, Radwaste Engineer
- *R. Smith, Inspection Coordinator
- *D. Tauber, Public Service Electric and Gas
- *B. Wargo, Supervisory Chemist, Support
- *L. Vernacchio, Shift Manager, Operations

1.2 NRC Personnel

- *J. Lyash, Senior Resident Inspector
- L. Meyers, Resident Inspector
- *D. Taylor, Reactor Engineer, Region I

* Denotes those present at the exit interview on March 22, 1991. Other licensee employees were contacted and interviewed during this inspection.

2.0 Purpose

The purpose of this inspection was to review the licensee's ability to control and quantify releases of radioactive liquids, gases, and particulates during normal and emergency operations through its radiological effluent control program.

3.0 Management Controls

3.1 Audits

The inspector reviewed the most recent QA audit report (PA89-28) for radioactive liquid and gaseous effluent controls and the implementation of the Offsite Dose Calculation Manual (ODCM). The inspector noted that the scope and technical depth of the audit were adequate to assess the programs. There were no audit findings, but four (4) recommendations were identified and the appropriate department responded to these recommendations in a timely manner. The inspector noted that the Technical Monitoring Section of Nuclear Quality Assurance performed on-going audits in these areas. The inspector reviewed selected audit reports (6 audits for 1990 and 5 audits for 1991), and determined that the scope and technical depth of these audits were very good. No violations were identified in this area.

3.2 Review of Semiannual Radioactive Effluent Reports

The inspector reviewed the semiannual radioactive effluent release reports for 1989 and 1990, and determined that the licensee met the Technical Specification requirements. No anomalous measurements, omissions or trends were noted. No violations were identified.

4.0 Liquid and Gaseous Effluent Controls

4.1 Program Changes

The inspector reviewed the new site organization, effective on February 1, 1991, and discussed with the licensee any changes made since the last inspection of this area conducted in December 1989. The inspector determined that there have been no significant changes in the licensee's program for handling radioactive liquid and gaseous effluents.

4.2 Facility Tour

The inspector toured selected radiation monitoring stations (liquid radwaste effluent, radwaste building vent, control room vent, vent stack, and main plant stack) to examine their operability. All monitoring systems were operational at the time of the tour. The inspector also toured units 2 and 3 turbine building and turbine building roof to determine whether there may be an unmonitored release pathway through the roof. The inspector noted that there were six small release points (about 2.5 inch diameter pipes) on the turbine building roof. The licensee took smear samples, one smear from the inside of each release pipe, and analyzed them using a Ge(Li) gamma spectrometry system. The analytical results of the smear samples indicated that there were no radioactive gaseous releases through these pipes.

4.3 Liquid and Gaseous Effluent Controls

The inspector reviewed selected licensee's procedures and effluent release permits as part of the examination of the implementation of Technical Specification (TS) requirements: (1) TS 3/4.8.B, "Liquid Radwaste Effluents", (2) TS 3/4.8.C, "Gaseous Effluents", and (3) TS 6.17, "ODCM". The inspector noted that the licensee met the requirements for sampling and analysis at the frequencies and lower limits of detection established in Tables 4.8.1 (for liquid effluents) and 4.8.2 (for gaseous effluents) of the TS. All reviewed release permits met TS requirements. Based on the above review, the inspector determined that the licensee implemented the radioactive liquid and gaseous effluent control program effectively. No violations were identified.

4.4 Calibration of Effluent/Process Radiation Monitors

The inspector reviewed the most recent calibration results of the following effluent/process monitors for units 2 and 3.

- o Liquid Radwaste Effluent Monitor
- o Liquid Radwaste Effluent Flow Meter
- o Reactor Building Closed Component Cooling Monitors
- o Service Water Effluent Monitors
- o Emergency Service Water Effluent Monitor
- o Main Steam Line Radiation Monitors
- o Main Stack Noble Gas Monitors (Normal and High Range)
- o Roof Vent Noble Gas Monitors
- o Offgas Monitors

The Chemistry Department has the responsibility to perform the radiological calibration, and the I&C Department has the responsibility to perform electronic calibration for the effluent and process radiation monitors. All reviewed calibrations were performed at the required frequencies and results were within the licensee's acceptance criteria with the exception of the electronic calibration of the liquid radwaste effluent monitor.

The most recent electronic calibration of the liquid radwaste effluent monitor was performed on May 5, 1989. This and all previous calibrations were performed using a vendor manual, however, without written, approved calibration procedures. Section 6.8.1 of the TS requires establishing and implementing written procedures and administrative policies that meet the requirements of Sections 5.1 and 5.3 of ANSI N18.7-1972 and Appendix "A" of Regulatory Guide 1.33 (1972). The inspector stated that the performance of the electronic calibration of the liquid radwaste effluent monitor without a written and approved procedure was an item of noncompliance with the above TS requirements (50-277/91-12-01 and 50-278/91-12-01). The inspector also noted that

this vendor manual was not reviewed and approved by the Plant Operation Review Committee (PORC) as required by Section 6.5.1.6 of the Technical Specifications (TS). The inspector, however, noted that the licensee had an electronic calibration procedure, in draft form, for the liquid radwaste effluent monitor.

During the previous inspection conducted on December 11-18, 1989, the inspector identified that a responsible radiation monitoring system engineer was not familiar with the monitoring systems due to a short assignment for the position. During this inspection, the inspector noted that the same radiation monitoring system engineer continued to have responsibility since the last inspection. Furthermore, the inspector noted that the responsible engineer had accumulated knowledge relative to the monitoring systems, operabilities, and maintenance histories. The inspector stated that this was an excellent management commitment to improve in this area.

5.0 Air Cleaning Systems

The inspector reviewed the licensee's most recent surveillance test results as part of the examination of the implementation of the Technical Specification requirements for the Standby Gas Treatment System and Control Room Air Cleaning Systems.

- o Visual Inspections
- o In-Place HEPA Leak Tests
- o In-Place Charcoal Leak Tests
- o System Air Capacity Tests
- o Delta Pressure Tests
- o Laboratory Tests for the Iodine Collection Efficiencies

All reviewed test results were found to be within the licensee's acceptance criteria. Based on the above reviews, the inspector determined that the licensee implemented the requirements for the above systems effectively. No violations were identified.

6.0 Exit Meeting

The inspector met with the licensee representatives denoted in Section 1.1 of this inspection report at the Peach Bottom Atomic Power Station on March 22, 1991. The inspector summarized the purpose and scope of this inspection, and discussed the inspection findings.