

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-277/80-16
50-278/80-14
Docket No. 50-277
50-278
License No. DPR-44 Priority -- Category C
DPR-56 C

Licensee: Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Facility Name: Peach Bottom Atomic Power Station, Units 2 and 3

Inspection at: Delta, Pennsylvania

Inspection conducted: June 1-30, 1980

Inspectors: *C. J. Cowgill* 9-12-80
C. J. Cowgill, Resident Reactor Inspector date signed

E. G. Greenman 9-12-80
E. G. Greenman, Chief, Nuclear Support date signed
Section No. 2, RO&NS Branch

A. R. Blough 9-12-80
A. R. Blough, Resident Reactor Inspector date signed

Approved by: *E. C. McCabe, Jr.* 9/15/80
E. C. McCabe, Jr., Chief, Reactor Projects date signed
Section No. 2, RO&NS Branch

Inspection Summary:
Inspection on June 1-30, 1980 (Combined Inspection Report Number 50-277/80-16; and 50-278/80-14)

Areas Inspected: Routine, onsite regular and backshift inspections by the resident inspector (17 hours Unit 2; 17 hours Unit 3). Areas inspected included plant operations, facility tours, control room inspections, review of periodic reports, housekeeping, radiation protection, reactor chemistry, LER review onsite and followup on prior identified items.

Results: Noncompliances - None in eight areas, one in one area (Deficiency - failure to properly log valve positions as required when an isolation valve is inoperable, Detail 3).

DETAILS

1. Persons Contacted

- C. E. Andersen, Operations Engineer
- *R. S. Fleischmann, Assistant Station Superintendent
- N. Gazda, Acting Health Physics Supervisor
- S. R. Roberts, Results Engineer
- J. Spencer, Maintenance Engineer
- S. Q. Tharpe, Security Supervisor
- *W. T. Ullrich, Station Superintendent
- J. E. Winzenreid, Technical Engineer

Other licensee employees were contacted during the inspection. These included engineering personnel, administrative personnel, reactor operators, shift supervision, maintenance personnel, contractor personnel, health physics and security personnel.

* denotes those present at the exit interview on site and for summation of preliminary inspection findings.

2. Previous Inspection Item Update

(Closed) Unresolved Item (277/79-30-01 and 278/79-33-01). The minimum shift manning requirements of the Technical Specifications were found to make no provisions for situations involving personnel emergencies or operator injuries. The inspector reviewed amendments 69 and 68 to Facility Operating Licensee Nos. DPR-44 and DPR-56, issued by the NRC on May 16, 1980. This Technical Specification change clarified the minimum shift crew composition, providing limited flexibility and conforms to Standard Technical Specifications. In issuing this change, the office of Nuclear Reactor Regulation noted that the staff is currently considering an increase to the minimum shift staffing at operating reactors, a planned action not associated with the change approved by Amendments 69 and 68. The inspector had no further questions in this area.

3. Plant Operations Review

a. Logs and Records

(1) Documents Reviewed

A sampling review of logs and records was made to: identify significant changes and trends; assure that required entries were being made; to verify that operating and night orders conform to technical specification requirements; check correctness of communications concerning equipment operating and lock out status; and to verify conformance to limiting conditions for operations. Logs and records reviewed were:

- a. Shift Supervision Log, June 1-30, 1980
- b. Reactor Operators Log Book Unit 2, June 1-30, 1980
- c. Reactor Operators Log Book Unit 3, June 1-30, 1980
- d. ACO Log Book, June 1-30, 1980
- e. Maintenance Request Forms (MRFs Unit 2 and 3)
- f. Plant Record Sheets - Sampling Audit
- g. Surveillance Test Results - Selected Sample
- h. Radiation Work Permits - various in both Units 2 and 3
- i. Ignition source control check sheets - various Unit 2 and 3
- j. Fire system status sheets (sampling) June 1980

The control room logs were reviewed against requirements of procedure A-7, Revision 14, dated December 20, 1979 "Shift Operations". Frequent initialing of entries by licensed operators, shift supervision and licensee onsite management constituted evidence of licensee review.

Logs were also reviewed to assure that plant conditions including abnormalities and significant operations were accurately and completely recorded. No unacceptable conditions were identified.

(2) Facility Tours

During the course of this inspection, which also included back-shifts, the inspector conducted daily tours of accessible areas and made observations of:

- Control room (daily)
- Turbine building
- Reactor building
- Diesel Generator building
- Yard area and perimeter exterior to the power block
- Security building including SAS
- Auxiliary SAS and control points to the power block
- Security fencing
- Vehicular Control
- Badging and Escorting
- Portal monitoring
- Control of Radiation and High Radiation Areas
- Personnel

The following observations were made by the inspector:

- Monitoring Instrumentation. The inspector frequently confirmed that selected instruments were operational and indicated values were within technical specification limits. On a daily basis when the inspector was on site ECCS switch position and valve lineups based upon control room indicators were verified. In plant instrumentation was also frequently examined. Examples of instrumentation observed included flow setpoints, breaker positions, PCIS status, drywell temperatures and nuclear instrumentation.

While performing an inspection of the control room on June 20, 1980, the inspector discussed with the Unit 3 operator requirements associated with inoperable primary containment isolation valve AO-3520. This drywell purge inlet isolation valve is listed as a primary containment isolation valve in Table 3.7.1 of Technical Specifications and had been inoperable since May 24, 1980. Technical Specification 4.7.D.2 states that whenever an isolation valve listed in Table 3.7.1 is inoperable, the position of at least one other valve in each line having an inoperable valve shall be recorded daily. Although the position of drywell purge supply valve AO-3505 was being logged daily on Surveillance Test ST 5.3, the position of drywell nitrogen supply valve AO-3519 a valve parallel to and in line with AO-3505, and also in line with inoperable valve, was not being logged. Additionally, Suppression Chamber Supply Valves AO-3521A and AO-3521B, each of which should also have been logged, were not being logged. This failure to log valve positions did not present the potential for an abnormal occurrence because each of the three valves of concern was included in the closed panel checks conducted by the operator each shift. The checks would have revealed any abnormal positioning of these valves and administrative controls were in effect restricting the opening of containment ventilation valves during operation. When notified of this condition by the inspector, the licensee commenced daily logging of the additional valve positions on June 20, 1980. This failure to properly log valve position during the period of May 24 to June 19 is contrary to the Technical Specifications and constitutes an item of noncompliance (278/80-14-01).

- Valve positioning. The inspector independently verified that selected valves in safety systems were properly positioned. System status of the Standby Liquid Control was checked. No unacceptable conditions were identified.
- Plant Housekeeping and Fire Protection. The inspector observed housekeeping conditions, fire hose stations and equipment status and observed the licensee's fire protection

practices and procedures as well as the usage of fire watches. The licensee's adherence to no smoking areas was also examined. The Unit 2 refueling outage currently in progress, was impacting negatively on housekeeping. The inspector identified no specific unacceptable conditions.

- Fluid Leaks. No significant fluid leaks were observed which had not been identified by the licensee nor for which necessary corrective action had not been initiated. The inspector also observed sump status pump out rates and held discussions with licensed personnel. No unacceptable conditions were identified.
- Piping Vibration. No significant piping vibration or unusual conditions were observed.
- Anchor plates, bolts and seismic restraints were observed. No unusual conditions were observed.
- Off Normal Alarms. Selected annunciators were discussed with control room operators to verify that operators and shift supervisors were knowledgeable of plant conditions and that corrective action, if required, was being taken. Examples of alarms discussed included: condensate storage tank high level; standby liquid high flow temperature and reactor water conductivity. No unacceptable conditions were identified.
- Control Room Manning. On frequent occasions during this inspection the inspector confirmed that requirements of 10 CFR 50.54(k) and Technical Specifications for minimum staffing requirements were satisfied. No unacceptable conditions were identified.

b. Reactor Water Chemistry

The following surveillance tests for the periods indicated were reviewed by the inspector to assure that Technical Specification Limits were satisfied.

(1) Conductivity and Chloride Ion Content in Primary Coolant During Normal Operation and Time Conductivity and Chloride are Above Specified Limits

Surveillance Tests 7.2.3.A and 7.2.3.C and Peach Bottom Daily BWR Chemistry Analysis - June 1-15, 1980.

Technical Specification 3.6.B requires prior to startup and when operating at rated pressure, reactor water conductivity at 25 degrees C of less than or equal to 5.0 $\mu\text{mho}/\text{cm}$ and chloride concentration less than or equal to 0.2 ppm. Reactor water quality may

exceed these limits for up to two weeks per year. Maximum limits are established as 10 umho/cm conductivity and 1.0 ppm chlorides. Inspection at Unit 3 for June 1-15, indicated that conductivity was maintained within limits throughout all periods of operation during the month with a maximum value of 3.0 umho/cm. Chloride concentration remained within limits except for a 32 hour period during which a maximum of 0.33 ppm was reached. Through June 15, cumulative times above "two weeks per year" were 32 hours for chloride concentration and zero hours for conductivity. Unit 2 remained shut down during the period reviewed.

(2) Determination of Dose Equivalent Microcuries/Gram I-131 in the Primary Coolant

Surveillance Test 7.2.1.A for the period was reviewed. The licensee analyzes the following nuclides: I-131, I-132, I-133, I-134, and I-135 and computes dose equivalent I-131--that amount of I-131 which alone would produce the same dose as the quantity and isotopic mixture actually present. The Technical Specification limit is 2.0 microcuries per gram. Increased sampling frequency is required if any analysis exceeds 0.02 microcuries per gram. The representative sample for Unit 3 analyzed on June 12, 1980, indicated a dose equivalent I-131 concentration of 1.77×10^{-3} microcuries per gram. Unit 2 remained shutdown with the core off-loaded and reactor cavity drained--a sample was not obtainable throughout the period. No unacceptable conditions were identified.

4. Nonroutine Event Review

The inspector reviewed the following nonroutine event onsite and in the NRC site office for safety significance, circumstances and relationship to technical specifications protective limits. The licensee's PORC review, evaluation and corrective action was also verified.

LER Number

Title

3-80-03/3L

RHR 'A' Loop LPCI Injection Valve Failed to Open During Surveillance Testing

While performing surveillance testing with the unit at power, LPCI injection valve MO-3-10-25A failed to open. The inspector verified that the licensee had declared the 'A' LPCI loop inoperable and had conducted surveillance testing of LPCI 'B' and both core spray systems as required by Technical Specifications. The unit was subsequently shutdown and the valve was repaired and tested prior to startup. The inspector reviewed a Balance Group Valve Report dated March 10, 1980, which indicated that galling between the disc (wedge)

and guide had been found and repaired. Improper clearances, believed to have existed since original installation, were cited as the probable cause of the galling and valve binding. The valve manufacturer was consulted regarding the required clearances. The licensee subsequently checked clearances on similar valves. The inspector had no further questions regarding this matter.

5. Radiation Protection

During this report period, the inspector examined work in progress in accessible areas of the Unit 2 and Unit 3 facilities. Areas examined included:

- a. Health Physics (HP) controls
- b. Badging
- c. Usage of protective clothing
- d. Personnel adherence to RWP requirements
- e. Surveys
- f. Handling of potentially contaminated equipment and materials

Additionally, inspections were conducted of employee usage of friskers and portal monitors by personnel exiting various RWP areas, the power block, and the licensee's final exit point. In excess of 25 people were observed to meet frisking requirements of Health Physics procedures during the month. No unacceptable conditions were identified.

6. In-Office Review of Monthly Operating Reports

The following licensee reports have been reviewed in-office on site: Peach Bottom Atomic Power Station Monthly Operating report for May, 1980 dated June 10, 1980.

This report was reviewed pursuant to Technical Specifications and verified to determine that operating statistics had been accurately reported and that narrative summaries of the month's operating experience were contained therein. No unacceptable conditions were identified.

7. Management Meeting

During the period of the inspection, licensee management was periodically notified of the preliminary findings by the resident inspector (see Detail 1). A summary was also provided at the conclusion of the inspection and prior to report issuance. Additionally, the resident inspector attended the exit interview conducted at the conclusion of the Health Physics Appraisal inspection on June 27, 1980.