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

Region I

Report No. 50-277/80-05, 50-278/80-05

Docket No. 50-277, 50-278

License No. DPR-44, DPR-56 Priority _____ Category C, C

Licensee: Philadelphia Electric Company

2301 Market Street

Philadelphia, Pennsylvania

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

Meeting at:

Meeting conducted:

NRC Personnel: C. J. Cowgill, Resident Inspector — 4/16/81 date signed

A. R. Blough, Resident Inspector — 4/16/81 date signed

_____ date signed

Approved by: E. C. McCabe, Jr., Chief, Reactor Projects Section No. 2B, DPRI — 4/24/81 date signed

Inspection Summary:

Inspection on February 1-28, 1981 (Combined Inspection Report Nos. 50-277/81-05 and 50-278/81-05)
Areas Inspected: Routine, onsite regular and backshift inspections by the resident inspectors (57.5 hours Unit 2; 54.5 hours Unit 3). Areas inspected included accessible portions of the Unit 2 and Unit 3 facilities, operational safety, radiation protection, physical security, control room observations, LER review, IE Circular followup, refueling preparations, outstanding item followup, facility tours and review of periodic reports.
Results: Noncompliances: None.

Region I Form 12-1
(Rev. August 77)

## DETAILS

1. Persons Contacted

K. F. Borton, Technical Assistant, Maintenance Engineering
W. Corse, Assistant Site Q. A. Engineer
J. K. Davenport, Maintenance Engineer
G. F. Dawson, I&C Engineer
*R. S. Fleischmann, Assistant Station Superintendent
A. Fulvio, Results Engineer
N. Gazda, Health Physics, Radiation Protection Manager
F. W. Polaski, Reactor Engineer
S. R. Roberts, Operations Engineer
D. C. Smith, Outage Coordinator
S. A. Spitko, Site Q. A. Engineer
W. E. Tilton, Refuel Floor Supervisor
S. Q. Tharpe, Security Supervisor
*W. T. Ullrich, Station Superintendent
M. J. Wagner, Technical Assistant, Maintenance Engineering
H. L. Watson, Chemistry Supervisor
J. E. Winzenried, Technical Engineer

Other licensee employees were also contacted during the inspection.

*Present at exit interviews on site and for summation of preliminary inspection findings.

2. Outstanding Item Update

(Closed) Inspector Follow Item (81-03-04- and 81-03-03), Scram procedures were not consistent with Standby Liquid Control System (SBLCS) procedures regarding authority to inject. The inspector reviewed scram procedures GP-4 and GP-6, revised February 19, 1981, and verified that they are now consistent with SBLCS procedures and I.E. Bulletin 80-17 guidance.

(Closed) Infraction (277/80-05-02), failure to follow fuel receipt inspection procedures. The inspector reviewed the licensee's revised procedures; documentation of fuel receipt inspections; and observed receipt inspection, channeling and placement in the fuel pool of new fuel bundles (reference Detail 8). No unacceptable conditions were identified.

(Closed) Inspector Follow Item (79-04-03 and 79-03-03), format of ST 16.1.1 made it susceptible to recording errors. The inspector reviewed ST 16.1.1, "Fire System Hose Station Visual Inspection", revision 7, dated August 15, 1980, and noted that a separate space is provided for each verification sign-off. The inspector had no further questions in this matter.

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 orders and night orders conform to Technical Specification requirements; check correctness of communications concerning equipment and lock-out status; verify jumper log conformance to procedural requirements; and to verify conformance to limiting conditions for operations. Logs and records reviewed were:

(a) Shift Supervision Log, February 1-28, 1981

(b) Reactor Engineering Log - Unit 2 - Current Entries

(c) Reactor Engineering Log - Unit 3 - Current Entries

(d) Reactor Operators Log - Unit 2 - February 1-28, 1981

(e) Reactor Operators Log - Unit 3 - February 1-28, 1981

(f) CO Log Book - February 1-28, 1981

(g) Night Orders - Current Entries

(h) Radiation Work Permits (RWP's) - Various in both Units 2 and 3, February, 1981

(i) Maintenance Request Forms (MRF's) - Unit 2 and 3, (Sampling) February, 1981

(j) Ignition Source Control Checklists (Sampling), February, 1981

(k) Operation Work & Information Data - February, 1981

Control room logs were reviewed pursuant to requirements of Administrative Procedure A-7, "Shift Operations". Frequent initialing of entries by licensed operators, shift supervision, and licensee on-site 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. Logs were also assessed to determine that matters requiring reports to the NRC were being processed as suspected reportable occurrences. No unacceptable conditions were identified.

(2) Facility Tours

During the course of this inspection, which also included shift turnover, the inspector conducted daily tours and made observations of:

-- Control Room - (daily)

-- Turbine Building - (all levels)

-- Reactor Building - (Accessible areas)

-- Diesel Generator Building

-- Yard area and perimeter exterior to the power block, including Emergency Cooling Tower and torus dewatering tank

-- Security Building, including CAS, Aux SAS, and control point monitoring

-- Lighting

-- Vehicular Control

-- The SAS and power block control points

-- Security Fencing

-- Portal Monitoring

-- Personnel and Badging

-- Control of Radiation and High Radiation areas including locked door checks

-- TV monitoring capabilities

Off-Shift Inspections during this inspection period and the areas examined were as follows:

| DATE | AREAS EXAMINED |
|---|---|
| February 3, 1981 | Control Room Observations |
| February 4, 1981 | Control Room Observations, Tour of Unit 2 Reactor Building |
| February 5, 1981 | Control Room Observations |
| February 9, 1981 | Control Room Observations |
| February 10, 1981 | Control Room Observations |
| February 11, 1981 | Control Room Observations |
| February 17, 1981 | Control Room Observations, Tour of Unit 3 Reactor Building and Refuel Floor |
| February 19, 1981 | Tour of Protected Area, Control Room Observations |
| February 20, 1981 | Control Room Observations, Tour of Turbine Building |
| February 24, 1981 | Control Room Observations |

-- Control Room Manning. On frequent occasions during this inspection, the inspector confirmed that requirements of 10CFR 50.54(k), the Technical Specifications, commitments to the NRR letter of July 31, 1980 for minimum staffing were satisfied. The inspector frequently confirmed that a senior licensed operator was in the control room complex. No unacceptable conditions were identified.

-- Fluid Leaks. No significant fluid leaks were identified which had not also been identified by the licensee nor for which necessary corrective action had not been initiated. The inspector observed sump status, alarms, pump-out rates, and held discussions with licensee personnel. No unacceptable conditions were identified.

-- Off-Normal Alarms. Selected annunciators were discussed with control room operators and supervision to assure they were knowledgeable of plant conditions and that corrective action, if required, was being taken. Examples of specific alarms discussed during the report period were: Scram Discharge Instrument Volume Not Drained; HPSW Bay Level, High/Low; APRM High; and Rod Withdrawal Block. The operators were knowledgeable of alarm status and plant conditions.

The inspector requested an updated annunciator status printout and was told that this is being fully updated on only a quarterly basis. The inspector expressed concern that the status was not being updated before start of the Unit 3 refueling outage.

-- Piping Vibration. No significant piping vibration or unusual conditions were identified.

-- Monitoring Instrumentation. The inspector frequently confirmed that selected instruments were operating and indicated values were within Technical Specification requirements. On a daily basis when the inspector was on site, ECCS switch positioning and valve lineups, based on control room indicators and plant observations were verified. Examples of instrumentation observed included flow setpoints, breaker positioning, PCIS status, radiation monitoring instruments, and Standby Liquid Control System parameters. No unnacceptable conditions were identified.

-- Fire Protection. On frequent occasions the inspector verified the licensee's measures for fire protection. The inspector observed control room indications of fire detection and fire suppression systems, spot-checked for proper use of fire watches and ignition source controls, checked a sampling of fire barriers for integrity, and observed fire-fighting equipment stations.

On February 12, 1981 the inspector noticed sheet metal storage close to a fire extinguisher and Chemox Oxygen Breathing Apparatus station. Operating shift personnel moved these obstructions promptly when notified.

About 2 p.m. on February 16, the inspector noted that a fire door was open between the Turbine Building 116-foot elevation and the laundry. A member of station management was informed of this condition and took action to ensure the door, which is also a water-tight door, was shut and would be kept shut except for passage of personnel. The licensee stated that a modification was being considered to add a self-closing fire door at the same location, since it is a high traffic area. Frequent reinspection showed the door to be shut; no other open fire doors were identified. In reviewing this matter, the inspector noted that BWR Standard Technical Specifications state that all fire barrier penetrations, including fire doors, in fire zone boundaries protecting safety related areas shall be functional at all times. The laundry room corridor (Fire Zone 72A) contains safety-related cabling overhead. Peach Bottom Technical Specifications, however, require fire barrier penetrations to be functional at all times for only the Cable Spreading Room, Emergency Switch Gear Rooms, Diesel Generator Rooms, Battery Rooms, and the Control Room. The NRC Licensing Project Manager stated that Technical Specifications revisions will be required as part of the fire protection upgrading now in progress. The licensee stated that all fire doors are generally kept shut as a matter of good practice. This matter is unresolved pending further review. (80-05-01 and 80-05-01).

4. IE Circulars

IE Circular 81-02, "Performance of NRC-licensed Individuals While on Duty". This circular, mailed to each licensee and to each licensed reactor operator and senior reactor operator, states that NRC believes a professional attitude is generally reflected in high standards of performance by nuclear power plant staff. Factors making up this professional attitude include knowledge of all aspects of plant status by licensed control room operators, aggressiveness of the operating staff in preventing problems, maintenance of an orderly and clean working environment, and correction of observed deficiencies. However, NRC believes clarification and restatement of its position on this subject is necessary because several recent events indicate instances of lack of professional attitude. The circular lists certain conditions and practices believed necessary for maintenance of a professional atmosphere and references applicable regulations, Regulatory Guide 1.114, and IE Information Notice 79-20, Revision 1. The inspector discussed the circular with station management and a sampling of licensed operators to verify they had received the circular and understood both the circular and the references. During these discussions, the inspector learned that several operators were concerned about the manner in which direct mailing to operators was conducted. Additionally, one reactor operator did not receive the circular--the inspector verified that this operator had received a copy of it. The inspector forwarded the expressed concerns and problems to NRC management for evaluation.

5. a. Review of Licensee Event Reports (LER's)

The inspector reviewed LER's submitted to the NRC:RI office to verify that the details of the event were clearly reported, including the accuracy of the description of cause and adequacy of corrective action. The inspector determined whether further information was required from the licensee, whether generic implications were indicated, and whether the event warranted onsite followup. The following LER's were reviewed:

| LER No. | LER Date | Event Date | Subject |
|---|---|---|---|
| 2-81-13/1P | February 4, 1981 | February 3, 1981 | Seismic Qualification of Containment Isolation Valve Operators |
| 2-81-13/1P | February 6, 1981 | February 3, 1981 | Seismic Qualification of Containment Isolation Valve Operators |
| *2-81-13/1T | February 18, 1981 | February 3, 1981 | Seismic Qualification of Containment Isolation Valve Operators |
| 3-81-08/1P | February 12, 1981 | February 11, 1981 | Primary Containment Breach |
| *3-81-08/1T | February 25, 1981 | February 11, 1981 | Primary Containment Breach |

*denotes reports selected for onsite followup.

b. For LER's selected for onsite review (denoted by asterisks above), the inspector verified that appropriate corrective action was taken or responsibility assigned and that continued operation of the facility was conducted in accordance with Technical Specifications and did not constitute an unreviewed safety question as defined in 10CFR 50.59. Report Accuracy, compliance with current reporting requirements and applicability to other site systems and components were also reviewed.

LER No. 2-81-13/1T, "Seismic Qualification of Containment Isolation Valve Operators". On February 3, 1981 the licensee was informed by its architect-engineer that eight primary containment isolation valves (three on Unit 2, and five on Unit 3) had the potential to fail under design basis earthquake conditions. The failure would be caused by an acceleration force of greater than 3g to the air actuator, causing the valve to open. In one case for Unit 2 and two cases for Unit 3, the condition applied to both primary containment isolation valves for a penetration.

The licensee proposed the following temporary corrective action, to be completed within 24 hours from 6:00 p.m. on February 3, 1981, to justify continued operation:

-- In those lines where only one valve was affected, place an administrative block on the unaffected valve closed; and

-- In those lines where both valves were affected, temporarily modify one valve to disconnect the valve actuator, mechanically block the valve closed and re-route the seismically qualified air supply to the boot seal.

NRC:RI determined that the proposed actions were acceptable, in that reasonable assurance of primary containment integrity under earthquake conditions was provided.

The inspector reviewed the corrective actions on February 4, 1981 and was shown the mechanical block, disconnected valve air supply, and rerouted seismically qualified air supply lines. The inspector also saw the blocking permit, a sampling of tags, and position indicator for those lines in which only one valve was affected.

LER No. 3-81-08/1T, "Breach of Primary Containment". On February 11, 1981, while performing a modification on 1" lines in the Containment Atmosphere Dilution System (CAD) on Unit 3, primary containment was breached for a period of apporximately 90 minutes. The breach was caused when the wrong containment isolation valve was blocked shut. Local permit "3-7-0-042" dated February 10, 1981 called for the A CAD System to be isolated to install a test connection.

When the actual blocking was performed, the B CAD System was isolated due, in part, to an error on system checkoff list S.17.1A used to verify valve location.

The containment breach was corrected as soon as it was discovered. The technical specifications would require placing the reactor in cold shutdown had the breach existed for 24 hours.

The licensee initiated changes to the checkoff list and implemented them in S.17.1A.C.O.L., "CAD Nitrogen System", revision 5, dated February 27, 1981. The inspector reviewed this change and saw that the improper locations had been corrected. In reviewing these matters, the inspector determined that breaking primary containment (action statement not exceeded) and using inadequate checklists are Severity Level V noncompliances, identified and promptly corrected by the licensee. In accordance with the Interim Enforcement Policy, no Notice of Violations is issued.

6. 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 meterials

Additionally, inspections were conducted of usage of friskers and portal monitors by personnel ixiting various RWP areas, the power block, and the licensee's final exit point. More than 50 people were observed to meet frisking requirements of Health Physics procedures during the month. A sampling of high radiation doors was verified to be locked as required.

7. Physical Security

The inspector spot-checked compliance with the Accepted Security Plan and implementing procedures, including operations of the CAS and SAS, over 25 spot-checks of vehicles onsite to verify proper control, observation of protected area access control and badging procedures on each shift, inspection of physical barriers, checks on control of vital area access and escort procedures. A qualitative assessment of the adequacy of protected area lighting was made during darkness hours on February 19, 1981.

8. Refueling Preparations - Unit 3

The inspector reviewed and observed aspects of licensee refueling preparations to verify compliance with regulatory requirements and approved procedures.

a. New Fuel Receipt Inspection

(1) Procedures Reviewed

The inspector reviewed the following documents to verify that properly reviewed and technically adequate procedures were available for the receipt, inspection, and storage of new fuel:

-- FH-1, "Receipt of New BWR Fuel", revision 3, dated July 18, 1979

-- FH-3, "Uncrating and Unpacking of New Fuel on the Refuel Floor" revision 1, dated July 17, 1979

-- FH-5, "New Fuel Inspection, Channeling and Placement in the Fuel Pool", revision 20, dated January 13, 1981

-- FH-5 Appendix A, "Radiation Protection Criteria", revision 8, dated February 4, 1980

-- FH-5 Appendix B, "Inspection Plan", revision 11, dated January 13, 1981

-- FH-5C, "Preparation and Shipment of Empty Fuel Boxes", revision 0, dated July 18, 1979

-- FH-10, "New Channel Inspection", revision 3, dated January 13, 1981.

No inadequacies were identified.

(2) Receipt Inspection Documentation

The inspector reviewed documentation and a sampling of check-off lists associated with completed bundle and channel inspections. Documents reviewed included:

-- FH-5 Appendix B, Attachment A, "Site Fuel Rod and Fuel Bundle Inspection", (Sampling).

-- FH-5 Appendix B, Attachment B, "Fuel Bundle Site Inspection Sheet", (Sampling).

-- Data Sheet FH-10-1, "New Channel Inspection", (Sampling).

Documentation was complete, including all sign-offs and initialing of required inspection steps, for all records reviewed. The inspection noted that two fuel bundles and five fuel channels had been rejected during licensee receipt inspection. The inspector reviewed associated site inspection addendum sheets (FH-5 Appendix B, Attachment C), verified that each channel or bundle had been tagged as defective and conducted discussions with licensee personnel. On February 18, 1981 the inspector observed licensee personnel and a factory inspector evaluate the rejected channels and bundles. Most of the rejections were resolved by reference to specific tolerances or notes on the appropriate drawings. One fuel bundle required repair because of a spacer not being seated against the water rod tabs as required--satisfactory repairs were completed by the factory representative. The inspector reviewed the applicable drawings, reviewed the resolution/acceptance justification detailed on the site inspection addendum sheets, and conducted discussions with the factory and licensee personnel. No unacceptable conditions were identified.

(3) Receipt Inspection Observations

On February 18, 1981 the inspector observed receipt inspection, channeling and placement in the fuel pool of two new fuel bundles. The inspector verified performance of each step of the inspection plan. The inspector observed uncrating and unpacking of two other new fuel bundles. No unacceptable conditions were identified.

9. In-Office Review of Monthly Operating Reports

The following licensee reports have been reviewed in-office onsite. Peach Bottom Atomic Power Station Monthly Operating Report for: January, 1981 dated February 9, 1981.

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 unnaceptable conditions were identified.

10. Unresolved Items

Unresolved items are items about which more information is required to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item is discussed in Detail 3.

11. Management Meetings

a. Preliminary Inspection Findings

A summary of preliminary findings was provided to the Station Superintendent at the conclusion of the inspection. During the period of this inspection, licensee management was periodically notified of the preliminary findings by the resident inspectors. The dates involved, the senior licensee representative contacted, and subjects discussed were as follows:

| Date | Subject | Senior Licensee Representative Present |
|---|---|---|
| February 6, 1981 | Routine Discussions | Station Superintendent |
| February 11, 1981 | Primary Containment Breach | Assistant Station Superintendent |
| February 13, 1981 | Routine Discussions | Station Superintendent |
| February 20, 1981 | Routine Discussions | Station Superintendent |
| February 27, 1981 | Routine Discussions | Station Superintendent |

b. Attendance at Management Meetings Conducted by Region-Based Inspectors

The resident inspectors attended entrance and exit interviews by region-based inspectors as follows:

| Date | Subject | Inspection Report No. | Reporting Inspector |
|---|---|---|---|
| February 2, 1981 | Security (Entrance) | 277/81-04<br>278/81-04 | G. Smith |
| February 6, 1981 | Security (Exit) | 277/81-04<br>278/81-04 | G. Smith |
| February 9, 1981 | Health Physics Outage Preparations | 278/81-07 | K. Plumlee |
| February 12, 1981 | Health Physics Outage Preparations | 278/81-07 | K. Plumlee |
| February 25, 1981 | Waste Packaging | 277/81-06<br>278/81-06 | J. Roth |
| February 26, 1981 | Waste Packaging | 277/81-06<br>278/81-06 | J. Roth |