

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

REGION I

Report No. 50-277/81-08
50-278/81-08
Docket No. 50-277
50-278
License No. DPR-44 Priority -- Category C
DPR-43
Licensee: Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101
Facility Name: Peach Bottom Atomic Power Station
Inspection At: Delta, Pennsylvania
Inspection Conducted: March 17-20, 1981
Inspectors: Charles D. Petrone 4/27/81
C. D. Petrone, Reactor Inspector date
Wm. Troskoski 4/23/81
W. Troskoski, Reactor Inspector date
D. L. Caperton 4/28/81
Approved by: D. L. Caperton, Acting Chief, Test Program date
Section

Inspection Summary: Inspection on March 17-20, 1981 (Combined Inspection Report No. 50-277/81-08 and 50-278/81-08)

Areas Inspected: Routine, unannounced onsite regular and backshift inspection by two NRC region-based inspectors of preparation for refueling, refueling activities, refueling crew manning and surveillance activities in Unit 3; and control room activities in Unit 2. The inspection involved 48 inspector hours on site by the two region-based inspectors.

Results: No items of noncompliance were identified.

DETAILS

1. Persons Contacted

- *W. T. Ullrich, Plant Superintendent
- *F. Polaski, Reactor Engineer
- T. Donaghy, Shift Supervisor
- K. Hunt, Engineer
- W. Widener, Shift Supervisor
- S. Roberts, Operations Engineer
- J. Mittman, Assistant Maintenance Engineer
- W. Tilton, Refueling Floor Supervisor
- A. Wasong, Test Engineer
- R. Wright, Surveillance Test Coordinator
- *C. J. Cowgill, USNRC Senior Resident Inspector
- *A. R. Blough, USNRC Resident Inspector

The inspectors also contacted other maintenance, health physics, operations, and engineering staff members in the course of the inspection.

*Present at exit interview on March 20, 1981.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item 278/76-36-04: "Secondary Containment Integrity not maintained; local alarm horns muffled by rags and tape." Based on a review of ST 1.8.1, "Secondary Containment Access Control Alarm Test," Rev. 2, 10/23/80 and direct observation of secondary containment access alarm operability, this item is considered closed.

(Closed) Unresolved Item 278/80-06-05. "Procedure is required by Technical Specifications (T.S. 4.7.A.2h) for inspection of the drywell and torus during a refueling outage." Procedure ST 13.37, Rev. 0, 7/8/80, "Drywell and Torus Inspection", has been issued to implement these requirements. This item is considered closed.

(Closed) Inspector Follow Items 277/80-CI-21; 278/80-CI-21; "Regulation of Refueling Crews". Review of FH 6C, Rev. 10, 4/18/80, "Fuel Movement and Core Alteration During Fuel Handling Outage" indicated the requirements of IEC 80-21 were being satisfied. These items are considered closed.

(Open) Unresolved Item 278/77-05-05. No record of "hands on" refueling equipment training were required or existed. A review of operator training records indicated that "hands on" training had been performed. However the licensee had not established a written requirement to perform this training and to maintain records of the training. The Plant Superintendent committed to include these requirements in the appropriate procedure. This item remains open and will be reviewed on a subsequent inspection.

3. Refueling Activities

On the day and evening shifts of March 17-19, the inspectors made the following direct observations:

- a. Fuel handling was being performed in accordance with procedure FH-6C, "Fuel Movement and Core Alteration During a Fuel Handling Outage," Revision 10, April 11, 1980.
- b. Steps 68 through 72 and 122 through 131 of FH-6C were observed in the control room. A licensed reactor operator and a trainee were observing the SRM indications and making the required sign offs in FH-6C and in Special Procedure 351, "Recording of SRM Count Rate During Core Unloading," Revision 0, March 25, 1980. All SRM's were operable and indicating greater than 3 cps. All control rods were fully inserted. The "Control Room Reactor Operator Shift Turnover Checklist," the "Shift Surveillance Log" and the "Unit 3 Reactor Log" were also reviewed.
- c. Refueling operations were suspended on March 17, 1981 when communications between the control room and the refueling bridge were temporarily lost. This was discussed with the Plant Superintendent who stated that the problem would be corrected. Operations were resumed when communications were restored.
- d. Refueling operations were suspended again on March 17, 1981 when the NRC resident inspector identified a possible loss of secondary containment. The licensee reperformed ST 13.9 "Secondary Containment Capability Test," Revision 6, 11/1/79, to verify containment integrity, then resumed refueling operations. The NRC resident inspector provided additional followup on this item.
- e. Crew staffing in the control room and/or the refueling floor met the requirements of Technical Specifications and the guidance of IE Circular 80-21.
- f. Observation from the refueling bridge and the refueling floor included steps 137 through 142 of FH-6C. While visually observing the performance of step 142, a double blade guide grappling handle broke allowing the blade guide to **drop** to the top of the reactor core. Refueling operations were suspended and the area was surveyed for possible radiation or airborne contamination hazards. No radiological problems were identified. Subsequent examination by the licensee with an underwater camera revealed no damage to the reactor core. Preliminary investigation by the licensee revealed the blade guide to be an older type with a cast aluminum grappling handle. The majority of the remaining blade guides are a newer type that have stainless steel handles. The licensee committed to further investigate the failure and to take action to preclude recurrence. The licensee's stated intention was to minimize the use of the older type blade guides and to perform nondestructive examination of blade guides if they are used.

- g. On March 19, 1981 the licensee retrieved the blade guide from the top of the reactor core in accordance with SP 421, "Removal of the Dropped Double Blade Guide From Unit 3 Reactor Core", Revision 0, 3/19/81. The licensee plans to verify that no pieces of the broken handle remain in the reactor vessel.
- h. Visual observation of core internals indicated that they were properly stored and protected from damage.
- i. The inspectors verified that the reactor mode switch was locked in the "Refuel" position with the key removed as required.
- j. Housekeeping in the refueling area was examined and no problems were identified.
- k. A Health Physics Technician was present in the refueling area and the refueling area radiation monitors were in place and operable.
- l. The reactor vessel and fuel pool water level were in accordance with Technical Specifications and Fuel Pool cooling was available. Refueling Platform Checkout was being performed each shift as required.
- m. Control Room observations also included Unit 2 which was operating at 100% power. The "Control Room Reactor Operator Shift Checklist" for March 12-17, 1981, the "Assistant Control Operator Log" for February 26-March 17, 1981, and the Shift Surveillance Log" for March 17, 1981, were reviewed.

No items of noncompliance were identified.

4. Procedure/Surveillance Test Reviews

- a. FH-5 "New Fuel Inspection, Channeling, and Placement in the Fuel Pool", Revision 20, 1/13/81 which included:
 - Appendix B, Attachment A, "Site Fuel Rod and Fuel Bundle Inspection", checkoff sheets dated January 13, 1981 through January 23, 1981, February 9, 1981 through February 13, 1981 and February 16, 1981 through February 18, 1981.
 - Page 8, "Core Component Transfer Authorization Sheet, FH-5", Steps 1 through 216.
 - Appendix B, Attachment, C "Addendum Sheets".
 - "C.O.L. FH-5 Refueling Platform Inspection" was reviewed for all dates Attachment A was performed.
 - Appendix B, Attachment B, "Fuel Bundle Site Inspection Sheets", for all new fuel bundles.

- b. M 65.4 "Hydraulic Snubber Testing", Revision 4, March 6, 1981.
- c. ST 9.15-2.1 "Measurement of Snubber Piston Extension - Unit 2 Only", Revision 0, March 11, 1981.
- d. FH 21.1.1 "Startup of Refueling Platform", Revision 0, October 23, 1975, performed on December 1, 1980.
- e. FH 21.1.2 "Checkout of Refueling Platform Bridge, Trolley, Monorail, and Hoists in the Fuel Pool", Revision 1, 4/2/76, performed on 12/1/80 and 2/23/81.
- f. FH 21.1.3, "Checkout of Refueling Platform Hoist and Load Cells", Revision 1, 4/2/76, performed on 12/1/80.
- g. FH 21.1.6, "Checkout of Air Compressor Air Lines, and Solenoid Valves", Revision 1, 4/2/76, performed on 12/1/80.
- h. FH 21.1.7 "Checkout of Refueling Platform Bridge, Trolley, Monorail, and Hoists in the Reactor Cavity", Revision 1, April 2, 1976. Checkout performed on December 1, 1980.
- i. M.4.20 "Refueling Platform Electrical Inspection", Revision 4, January 17, 1980.
- j. M.4.8 "Refueling Platform Inspection". Revision 4, 1/17/80, identified several discrepancies on the refueling platform. These discrepancies were subsequently corrected by the licensee prior to the refueling outage.
- k. ST 13.7 "Standby Gas Treatment Filter Differential Pressure and Heater", Revision 3, 12/20/79, performed on December 23, 1980.
- l. ST 13.9 "Secondary Containment Capability Test", Revision 6, November 1, 1979, performed March 17, 1981.
- m. ST 12.1 "Refueling Interlock Functional Test", Revision 8, October 11, 1979, test results for March 15, 1981 and March 16, 1981.
- n. ST 3.1.2 "SRM Core Monitoring Test", Revision 4, 7/11/80, Test Results for March 16-19, 1981.
- o. ST 12.10, "Core Post-Alteration Verification", Revision 0, 12/27/78, was reviewed to determine if the procedure would ensure that all fuel assemblies within the reactor core are properly positioned and oriented, before power operation is commenced.
- p. M 1.3 "Main Steam Isolation Valves Maintenance", Revision 6, 3/6/81 was reviewed.

No items of noncompliance were identified.

5. Exit Interview

On March 20, 1981 an exit interview was held with licensee management personnel identified in paragraph 1. The inspection findings were presented to the licensee's management.