

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-277/90-20
50-278/90-20

Docket No. 50-277
50-278

License No. DPR-44
DPR-56

Licensee: Philadelphia Electric Company
P.O. Box 7520
Philadelphia, Pennsylvania 19101

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

Inspection At: Delta, Pennsylvania

Inspection Conducted: October 15-19, 1990

Inspector: *R. J. Paolino* 12 2-90
R. J. Paolino, Sr. Reactor Engineer, PSS/EB date

Approved by: *C. J. Anderson* 12/7/90
C. J. Anderson, Chief, Plant Systems date
Section, EB/DRS

Inspection Summary: Inspection of October 15-19, 1990 (Combined inspection Report Nos. 50-277/90-20 and 50-278/90-20)

Areas Inspected: Special, announced inspection to review the licensee's corrective actions of outstanding open issues in the electrical/instrumentation areas.

Results: Based on this inspection, the inspector closed three items. Three items that were reviewed remain open pending further documentation and review.

DETAILS

1.0 Persons Contacted

1.1 Philadelphia Electric Company

M. W. Brewen, Engineer-Electrical
G. P. Chew, Engineer
J. B. Cotton, Superintendent-Operations
K. G. Cutler, Maintenance
G. Daebeceu,
*A. D. Dycus, IS&G Superintendent
*D. Foss, Regulatory
E. P. Fogarty, Project Manager
A. A. Fulvio, Regulatory
P. D. Hinnekamp, Engineer
G. McCary, Staff Health Physic
J. P. McElwain, Superintendent-Outage
*D. R. Meyers, Superintendent-Technical
F. J. Michaels, Engineer
*T. Mitman, Maintenance-I&C
M. Moore, Engineer
*R. Smith, Regulatory
*D. J. Thompson, Jr., EQ Branch Head
T. D. Wickels, Project Manager
M. G. Wirvel, Engineer

1.2 U.S. Nuclear Regulatory Commission

*J. J. Lyash, Sr. Resident Inspector

*Denotes personnel present at exit meeting of October 19, 1990.

2.0 Status of Previously Identified Open Items

(Open) Unresolved Item Nos. 277/89-29-01; 278/89-29-01 regarding Calculation No. EE-11 which did not consider all of the interposing components in the circuit (e.g., connectors) in determining the insulation resistance of the Containment High Range Radiation Monitor Cable Assembly. In addition, an apparent omission of test data in Calculation EE-11 was not justified.

The licensee was able to provide vendor data based on tests performed that showed that there was no detrimental degradation of the connector and that the connector maintained a resistance value of 20×10^{12} ohms throughout the test. It was determined that the cable was the most limiting factor in the insulation resistance analysis.

The licensee was able to demonstrate that test data was not ignored in Calculation EE-11 but that it was evaluated as part of the process used to establish the relationship illustrated in the graph of IR versus temperature that was developed by the cable manufacturer. Data developed by the cable manufacturer shows the applicable coefficient for one degree Fahrenheit to be between 1.05 and 1.06 (when calculated over the temperature in question). The physical interpretation of this coefficient is the ratio of the IR measured at a given temperature to the IR which would be obtained measured at a temperature one Fahrenheit degree higher. The IR vs. temperature data has been subjected to regression analysis from which an equation has been developed which will provide the IR of any length of cable at various temperatures.

However, following licensee's walkdown of the containment high range radiation monitor cable assembly, the licensee noted that the installed cable in Unit 3 was Brand-Rex and not the Rockbestos used in the above analysis. NCR P-90690 was issued November 5, 1990 with supporting evaluation determining system is operable "as-is" and not reportable. Unit 2 will be inspected at the next outage in March 1991.

This item remains open pending NRC review of the licensee's evaluation of additional Brand-Rex cable test data and verification of installed cable for Peach Bottom Unit 2. A justification for continued operation is discussed in the NCR.

(Closed) Unresolved Item No. 277/89-07-08, 278/89-07-08 regarding inadequate management control for deficient equipment. The licensee was not able to provide documented evidence that management had given operational approval to continue operation of an RHR pump motor with cracked surge ring brackets. In addition, the NRC cited a major auto-transformer failure in 1985 that had been degraded several years before the actual failure. This equipment was left in service in a degraded condition without formal approval by Plant Operation Review Committee (PORC) or Nuclear Review Board (NRB).

The licensee has taken positive measures to ensure that PORC and NRB as well as station management are aware of degraded equipment that has a potential to impact plant operation and to assess the risks associated with continuing to operate the equipment in a degraded mode. The actions taken by the licensee include:

- The "TriPod" meetings are conducted daily. These meetings are open to site management members of PORC to discuss the days activities.
- The site Vice President, who is a member of the NRB, is on distribution for TriPod meeting minutes.
- Procedure No. MG-4.2-4 was developed to provide guidelines for monthly status reports on all equipment "Doble" tested with unsatisfactory results. These results are to be reviewed and distributed to plant management, shift management, safety review groups (PORC/NRB) and appropriate system engineers.

- Procedure No. AG-12, PORC administration, was revised to provide a mechanism for various departments to present selected topics to ensure PORC maintains an overview of nuclear issues of site conditions that may degrade nuclear safety. This presentation addresses topics not normally reviewed by PORC. The NRB will also be aware of these conditions since the NRB reviews the PORC meeting minutes.

A supplemental justification for continued Operation was approved on April 15, 1989 to address the cracked surge ring brackets for the Residual Heat Removal (RHR) and High Pressure Service Water (HPSW) motors. The RHR motors have been modified with additional space heaters to continually maintain stator temperatures above the dew point to prevent condensation from forming on the windings during normal and accident environmental conditions. This will eliminate moisture from developing on the surface of the end-turn coils and possibly penetrating the ground insulation via wicking action through postulated cracks. Surveillance tests indicate temperatures are 20° F above ambient as required.

The HPSW motors have all been visually inspected and do not contain cracked lower surge ring brackets.

The inspector had no further questions. This item is closed.

(Closed) Violation No. 277/90-06-05 pertaining to five underground gate valves (I-5, D-8, D-9, D-10 and D-11) that were missing from the surveillance test procedure ST 16.23. These valves were found on ST 16.24, however, ST 16.24 was only being performed quarterly to meet an American Nuclear Insurers (ANI) commitment.

Procedure ST 16.23, Revision 1, dated March 14, 1990 was revised to include the five missing valves. Figure No. 1 of the ST identifies the valve's location and tag number.

Since the licensee identified these missing valves prior to the inspectors review and appropriate corrective actions were taken, this item was considered a non-cited violation.

This item is closed.

(Open) Unresolved Item 277/90-06-06 pertaining to licensee corrective action involving: 1) purchase and receipt of smaller size fire fighting equipment; 2) recalibration of instrument No. FI-7054; 3) revision to procedure ST 8.1 2-1 to better describe proper sampling of the Diesel Driven Fire Pump (D.D.F.P.) fuel oil; 4) review of a past modification that affected the fire system to determine if drawings and procedure are correct; 5) review and update fire system P&IDs; and 6) check and re-tag underground valves if necessary.

Supporting documentation to resolve the above issues was not provided.

This item remains open.

(Closed) Unresolved Item No. 277/90-02-01 pertaining to failure to provide documented evidence that instrument No. PT-8102B was in calibration for the period from November 19, 1983 to November 15, 1988.

The licensee determined that the test, which should have been completed at least once due to a test frequency of 18 months, was missed by the surveillance tracking Program (STARS) and the I&C coordinator. A review of the previous calibration found that the instrument was found slightly out of calibration on the high pressure end of the scale. The associated recorder indication was found to be within acceptable limits. Based on this, the licensee determined that PT-8102B would have provided adequate indication in the event that the drywell pressure should increase significantly. The licensee established a task force to investigate why this problem occurred and how to prevent it from recurring. The investigation was completed August 27, 1990 and reviewed by station management and approved by PORC. Sixteen corrective actions have been identified and will be tracked individually by the licensee.

This item is closed.

(Open) Unresolved Item No. 277/89-23-01; 278/89-23-01 pertaining to EQ program adequacy and engineering timeliness between discovery of deficiencies and subsequent notification of the deficiencies to appropriate site personnel.

The licensee contracted to conduct a self-assessment of the EQ Program. The initial work was completed on July 1990 and was limited to the review of procedures and management controls for EQ. The contract was later extended to include a review of modification packages to verify EQ participation. This work was completed on October 4, 1990. The inspector noted that the results of the work performed by contract personnel concerns are similar to those identified in an internal audit performed by the licensee. The Audit, No. AP-88-12, dated March 10, 1988, identified various concerns such as lack of a formal PECo approval of EQ packages, the need for a more formalized documenting and timely processing of site implementation problems, more active administration of EQ manual distribution and receipt acknowledgment practices, and the need for a more aggressive program for identification of components requiring upgrade which could impact the viability of the EQ Program. There was no apparent improvement from the 1988 audit to the present time. Since the work performed by the contractor was limited to a document review, the licensee has contracted for additional work to include a hardware review and review of the implementation of the EQ program.

This item remains open pending NRC review of the complete self-assessment of the EQ Program by the licensee.

3.0 Exit Meeting

The inspector met with licensee representatives (denoted in Details, paragraph 1) at the conclusion of the inspection on October 19, 1990. The inspector summarized the scope of the inspection and the inspection findings.

At no time during this inspection was written material provided to the licensee.