U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-277/84-26
50-278/84-22

Docket No. 50-277
50-278

License No. DPR-44
DPR-56

Priority -- Category C

Licensee: Philadelphia Electric Company

2301 Market Street

Philadelphia, Pennsylvania

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

Inspection At: Delta, Pennsylvania

Inspection Conducted: July 30 - August 2, 1984

Inspectors: Frederick P Paulitz
F. Paulitz, Reactor Engineer — 9-19-84 date

Approved by: Clifford J. Anderson
C. J. Anderson, Chief,
Plant System Section, EPB — 9/21/84 date

Inspection Summary: Inspection on July 30 - August 2, 1984 (Combined Inspection Report 50-277/84-26; 50-278/84-22)

Areas Inspected: Routine, unannounced inspection of licensee action in closing electrical inspection report findings. The inspection involved 28 hours onsite by one region based inspector.

Results: No violations were identified.

DETAILS

1. Persons Contacted

Philadelphia Electric Company (PECO)

*R. Fleischman, Station Superintendent
D. Smith, Assistant Station Supervisor
*G. Dawson, Engineer - Instrument and Control
*S. Spitko, Quality Assurance Field Engineer
F. Mascitell, Modification Control

U.S. Nuclear Regulatory Commission

*A. Blough, Senior Resident Inspector
H. Williams, Resident Inspector

*Denotes those present at the exit interview on August 2, 1984.

2. Licensee Action On Previous Inspection Findings

The inspector reviewed the licensee's corrective action on the items discussed below.

2.1 (Open) 79-BU-27 IE Bulletin No. 79-27 Loss of Non-Class-1E Instrumentation and Control Power System Bus During Operation

This loss of power could result in control system malfunctions and significant loss of information to the control room operator.

The actions requested by this bulletin and the Licensee's responses contained in letters of February 29 and March 31, 1980 have been reviewed. The torus temperature and level modifications have not been completed for Unit 2. Main stack and reactor building radiation monitor modifications have been completed for both units but the modification package has not been closed out. Additional work is being done on the relief valve monitors. The completed modifications and emergency procedures for loss of Non-Class 1E power will be followed up in a future inspection. This item remains open.

2.2 (Closed) 83-BU-04 IE Bulletin No. 83-04 Failure of the Undervoltage Trip Function of Reactor Trip Breakers

Common malfunction of redundant breakers undervoltage trip elements would result in failure to trip the reactor upon demand.

The actions requested by this bulletin are only applicable to Pressurized Water Reactors. Since the Peach Bottom Station is a Boiling Water Reactor this item is closed.

2.3 (Open) 83-BU-08 IE Bulletin No. 83-08 Electrical Circuit Breakers with an Undervoltage Trip Feature in Use in Safety Related Applications other than the Reactor Trip System

Breakers which utilize undervoltage trip elements in safety systems have failed to trip upon demand.

The actions requested by this bulletin and the licensee's responses contained in letters of April 4 and May 4, 1984 have been reviewed. The test frequency has been reduced from 5 years to once per every other refueling outage of Unit 2. The response time of tripping is not measured because this time is not critical. The undervoltage trip is to shed the load of the Emergency Cooling Tower Fans. During the test the licensee will visually confirm, by status indicating lights, that the breaker opened, within seconds, after a demand trip. The licensee has reviewed maintenance request forms for the period 1973 to 1984 for the emergency cooling tower fan breakers and have identified no failures associated with the undervoltage trip element on these breakers. These conditions of frequency and response time are acceptable. This item remains open pending review of the approved procedure for testing the undervoltage trip attachments. Although the April 4 letter stated this procedure would be in effect June 1, 1984 it was not available at this inspection.

2.4 (Closed) 80-BU-20 IE Bulletin No. 80-20 Failure of Westinghouse Type W-2 Spring Return to Neutral Control Switches

The failure of the switch auto contact could prevent engineered safety feature equipment from starting upon demand. The actions requested by this bulletin and the Licensee's responses contained in a letter dated September 10, 1980, have been reviewed and found acceptable. These switches are located on the Emergency Shutdown Panel. When the switches are in the pull-out position they disconnect the control wires associated with the controls switches on the main control board and connect the switches of the Emergency Shutdown Panel. In addition to this transfer function they also have a control function.

This bulletin is directed toward type w-2 control switches, which would be located on the Main Control Board, that normally control equipment. In this application they are used only on the Emergency Shutdown Panel and cannot cause malfunction due to a faulty auto contact when control is from the main control board. In the event that control is required from the Emergency Shutdown Panel a faulty auto contact could prevent equipment from starting automatically. However, since this panel has minimum controls and is attended under these conditions the operator can manual start equipment that did not start automatically. This is acceptable in place of modification to monitor the auto contact proposed by the bulletin.

2.5 (Closed) 81-CI-13 IE Circular No. 81-13 Torque Switch Electrical Bypass Circuit for Safeguard Service Valve Motors

A wiring discrepancy between the as-designed and as-installed valve motor control circuitry results in valve malfunction.

The Licensee's Elementary Wiring Diagram MIS 40 Sheet 4 (GE DWG 730E584 sh 4) Core Spray Valve was reviewed. The limit switches were shown paralleled (bypass) with the torque switches. This limit switch is only closed for 10 percent of the travel to prevent the torque switch from stopping the valve movement due to the high torque at breakaway. The Licensee has not identified any problems with torque and limit switches of motor operated valves during surveillance tests. This item is closed.

2.6 (Open) 78-09-04 IE Circular 77-16 Emergency Diesel Generator Electrical Trip Lock-Out Features

All emergency diesel generator trips, during LOCA conditions, except generator differential and engine overspeed, are to be bypassed.

The combined inspection report 50-277/78-09 and 50-278/78-12 left this item unresolved 277/78-09-04; 278/78-12-03. The licensee had confirmed that the diesel generators do have bypass circuitry which disables certain trip functions during an accident (LOCA) condition. The bypass disables all automatic trip functions except engine overspeed, generator differential, generator neutral overcurrent, and CO^2 discharge. This inspector has identified three additional trips of the diesel generator. They are D/G overcurrent and antimotoring trip (self-resetting), also directional overcurrent trip and lockout. The antimotoring and directional overcurrent only protect the generator during test when it is paralleled with the station normal service. This is not the condition during the accident mode of operation. All trips except generator differential and engine overspeed that are not bypassed during a LOCA will be reviewed by the NRC for acceptability. This item remains unresolved.

2.7 (Open) Unresolved Item (277/79-25-02) Degraded Grid Voltage on Engineered Safety Features

Safety related electrical equipment may fail during degraded grid voltage conditions.

All of the correspondence on this subject between the NRC and the Licensee including the revised Safety Evaluation dated June 14, 1984, has been reviewed for compliance commitments. The modification Package No. 599 was reviewed, including the safety evaluation and the PORC review of the safety evaluation. Changes to the Technical Specification were reviewed which included the Bases 3.2, Trip level set points Table 3.2.B and Minimum Test and Calibration Frequency Table

4.2.B. This item remains open pending future inspection to include the initial acceptance test of the installed relays including the review of pre-operational calibration. Also to be reviewed is Procedure S.8.3.D.2 which is guidelines to prevent degraded voltage during manual operations while in a limited operating condition. The installed equipment will also be inspected at that time. This item remains unresolved.

2.8 (Open) Unresolved Item (277/84-20-02; 278/84-16002) Emergency Diesel Generator E3 Lead Cable Damage

The generator leads, three of nine, were damaged by drilling during plant modification EP 82-059 which was the encapsulation of various raceways and junction boxes throughout the plant per Appendix R requirements. This damage was not known until a week later, January 11, 1984, when the diesel generator tripped on a ground fault during a test. A request for drill clearance was made, but due to human error and the drawing E-1032, Rev. 10 (Embedded Conduit and Grounding Turbine Building Unit 2) was not clear in the area to be drilled, the damage occurred. The drawing has been revised along with Procedure for Performing Core Boring/Drilling No. CD 5.11, Rev. 1. This procedure requires a request for drill clearance if the drill depth is two inches instead of three inches in either a floor or wall and zero inch if a ceiling is to be drilled. A safety evaluation by the licensee was made on January 13, 1984 to allow operation based upon two cable per phase instead of three. Since the licensee does not intend to replace the damaged cable a future inspection, walking down these leads, is required along with a review of the safety evaluation, the original calculations, and computer program verification. This items remains open.

3. Unresolved Items

Unresolved items are matters about which more information is required to ascertain whether they are acceptable items, items of noncompliance, or deviations.

4. Exit Interview

The inspector met with the licensee representatives denoted in Details (Paragraph 1) at the site on August 2, 1984. The inspector summarized the purpose and scope of the inspection findings and the licensee acknowledged the inspector's comments.

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