

PHILADELPHIA ELECTRIC COMPANY
Peach Bottom Atomic Power Station
Delta, Pennsylvania
17314

July 22, 1980

Mr. Boyce H. Grier
Office of Inspection and Enforcement
Region 1
United States Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

SUBJECT: REPORTABLE OCCURRENCE - PROMPT NOTIFICATION

Confirming W. T. Ullrich's conversation with Mr. Cowgill on
July 21, 1980.

Reference: Docket No. 50-277/278
Peach Bottom Units 2 and 3
Technical Specification Reference: 6.9.2.a(9)

Report No. 2-80-12/1P
Occurrence Date: July 21, 1980

Identification of Occurrence:

Inoperability of scram backup valves in air supply to control rod
drive scram valves.

Conditions Prior to Occurrence:

Unit 2 shut down for refueling. Unit 3 operating at full power.

Apparent Cause of Occurrence:

Design error. Solenoid installed in three way backup air scram
solenoid valve has a 250 volt DC rating. The circuitry supplies
this component with 125 volt DC.

Analysis of Occurrence:

Testing of Unit 2 during the refueling outage identified failure of
the backup scram air valves to operate. Investigation identified
the cause of inoperability as stated above. The condition is
common to both Units 2 and 3.

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During normal operation, the scram valves on each hydraulic control module for each control rod are maintained in the closed position by an air supply which maintains pressure on the valve diaphragm. When scram is initiated via the RPS logic, two AC solenoid valves in the supply piping to the scram valves on each hydraulic control module are de-energized which vent the air from the diaphragm and permit the scram valve to open thereby initiating rod insertion. As designed, the backup air scram valves should be energized via the RPS logic when scram is initiated. Energizing of these solenoid valves removes the air supply from the entire scram valve pilot air header and exhausts the air in this header to the atmosphere. In the unlikely event that the air pilot valves on a hydraulic control module failed to properly port when de-energized, venting of the entire scram valve pilot air header would result in venting the diaphragm of the affected hydraulic control module and permit a delay of that particular control rod. Inoperability of the backup scram valves would result in the pilot air header not being depressurized and requiring manual insertion of the affected rod.

It appears that this defect may have existed in the original installation. During the operating history at Peach Bottom, all rods have scrambled each time a scram was initiated.

Corrective Action:

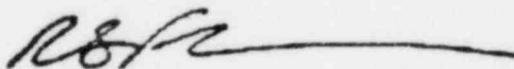
Immediate corrective action was taken to provide manual venting of the scram pilot air header following a scram. An individual dedicated to this function was stationed in the area and given a procedure which closes a manual air supply valve and opens two or three vent valves on the scram vent pilot air header. This manual operation can be performed within 30 seconds following scram.

General Electric Company and Electrical Engineering have been informed on this design defect. Steps are being taken to provide an initial and permanent design change to correct this problem.

Previous Occurrence:

None.

Very truly yours,



W. T. Ullrich
Section Superintendent

WTU:llh