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

June 4, 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 R. S. Fleischmann's conversation with Mr. Greenman, Region 1, United States Nuclear Regulatory Commission on 6/3/80.

Reference: Docket No. 50-277
Peach Bottom Unit 2
Technical Specification Reference: 3.8.B

Report No. 2-80-10/1P
Occurrence Date: 3/30 thru 4/7, and 4/17 thru 4/22, 1980
Identification Date: 6/3/80

Identification of Occurrence:

Unplanned release of radioactive water to circulating water system.

Conditions Prior to Occurrence:

Unit 2 shutdown during refueling outage.

Apparent Cause of the Occurrence:

Flooding of the normal condenser steam space during refueling outage permitted radioactive water to leak through a defective condenser tube to the circulating water system.

Analysis of Occurrence:

On June 3, a routine survey was made of the A1 water box on Unit 2 in preparation for cleaning of the condenser. This survey identified smearable contamination levels. An investigation was initiated which provided the following information.

Prior to shutdown of Unit 2 for its 1980 refueling outage, the A1 water box on this unit was valved out and vented on March 13 as a result of an observed increase in the conductivity of the condensate system. This

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action halted the increase in the conductivity of the condensate. Venting of the water box showed no discernable increase in off-gas flow. The unit continued to operate with this water box out of service until the shutdown for the refueling outage on March 21, 1980. During this time interval, condenser vacuum was maintained. This prevented any leakage to the circulating water system during this time interval.

Following shutdown, condenser vacuum was broken and level in the condenser increased as a result of normal plant inventory manipulations associated with the refueling outage. Water level in the hotwell was above the lowest condenser tubes in the water box from March 30 through April 7 and April 17 through April 22, 1980. It is believed that during this time interval, some small leakage of water from the hotwell through a leaking tube occurred. This water was diluted by the circulating water flow of at least 250,000 gallons per minute during this entire time period. Samples taken at the plant discharge canal indicated background activity levels during this time interval. Based on no observable activity in the diluted sample, the very small leak as indicated by no discernable change in off-gas flow when the water box was vented, and the low differential pressure (less than 10 feet of water), the leak rate is believed to have been minimal. Discharge levels of radioactivity did not exceed MPC limits.

Corrective Action:

Since condenser level has been below the lowest tubes in the condenser since April 22, no additional leakage is possible. Calculations are being performed in order to try and estimate the total volume and activity released during this event. The leaking tube will be identified and plugged prior to startup.

Previous Failures:

None similar.

Very truly yours,

W. T. Ullrich
Station Superintendent

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