

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION

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DELTA, PA 17314

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KEN POWERS  
PLANT MANAGER

April 10, 1992

Docket No. 50-277

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

SUBJECT: Licensee Event Report  
Peach Bottom Atomic Power Station - Unit 2

This LER concerns potential Emergency Core Cooling System room internal flooding due to check valves being removed.

Reference: Docket No. 50-277  
Report Number: 2-92-003  
Revision Number: 00  
Event Date: 03/13/92  
Report Date: 04/10/92  
Facility: Peach Bottom Atomic Power Station  
RD 1, Box 208, Delta, PA 17314

This LER is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(ii)(B).

Sincerely,

cc: J. J. Lyash, USNRC Senior Resident Inspector  
T. T. Martin, USNRC, Region I

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PDR ADOCK 05000277  
S PDR

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 200 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (RMB), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1): Peach Bottom Atomic Power Station - Unit 2  
 DCKET NUMBER (2): 0 5 0 0 0 2 7 7 1 OF 0 3  
 PAGE (3): 1 OF 0 3

TITLE (4): Potential Emergency Core Cooling System Room Internal Flooding due to Improperly Removed Check Valves

EVENT DATE (5)			LER NUMBER (6)		REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES
03	13	92	92	003	00	04	10	92	
					DCKET NUMBER (9): 0 5 0 0 0				
					DCKET NUMBER (10): 0 5 0 0 0				

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)

OPERATING MODE (8): N	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10): 1 0 0	20.405(a)(1)(ii)	50.36(a)(1)	50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(iv)	50.36(a)(2)	50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text NRC Form 388-4)
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(vii)(A)	
	20.405(a)(1)(vi)	X 50.73(a)(2)(iii)	50.73(a)(2)(vii)(B)	
	20.405(a)(1)(vii)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12):  
 NAME: Albert A. Fulvio, Regulatory Engineer  
 TELEPHONE NUMBER: 7117 4561-7014  
 AREA CODE: 7117

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC TURE	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC TURE	REPORTABLE TO NRRDS

SUPPLEMENTAL REPORT EXPECTED (14):  
 YES (If yes, complete EXPECTED SUBMISSION DATE):  NO:  X  
 EXPECTED SUBMISSION DATE (15): MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewriter lines) (16)

On 3/13/92, it was determined that the 2B and 2D Residual Heat Removal (RHR) pumps could have potentially been placed in an inoperable condition. Had a low energy pipe failed in the 2A or 2C RHR rooms, then water could have back flowed into the 2B and 2D RHR rooms resulting in three RHR pumps in a potentially inoperable condition. The 2B and 2D RHR room sump pump discharge check valves used to prevent back flow of water from the Reactor Building sump room were found removed and replaced with piping. An extensive investigation has been conducted but the cause was unable to be determined. The investigation identified that the valves were documented to be in place 1988. It is probable that the check valves were removed during other work in the RHR room after 1988. No actual safety consequences occurred as a result of this event. After discovery of the event, the 2B and 2D RHR room sump pump discharge check valves were installed and other similar check valves on both units were verified to be installed. Information will be provided to appropriate staff and a flood protection control procedure will be revised. There was one previous similar event identified.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION DEVICE: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-30), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20548, AND TO THE PAPERWORK REDUCTION PROJECT (350-DUM), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Peach Bottom Atomic Power Station Unit 2	DOCKET NUMBER (2) 0   15   0   0   0   3   7   7	LER NUMBER (6)			PAGE (8)		
		YEAR 9   2	SEQUENTIAL NUMBER —   0   0   3	REVISION NUMBER —   0   0	OF		0   2   0   3

TEXT (if more space is required, use additional NRC Form 306A's) (17)

Requirements of the Report

This report is being submitted to satisfy the requirements of 10 CFR 50.73 (a)(2)(ii)(B) describing conditions which resulted in the plant being potentially outside the design basis for internal flood protection.

Unit Conditions at Time of Event

Unit 2 was in the "RUN" mode at 100% of thermal reactor (EIIS:EA) power. There were no systems, structures, or components that were inoperable that contributed to the event.

Description of the Event

On 2/27/92, an observation made during a routine walkdown of these RHR rooms by a Radwaste System Engineer identified that the 2B and 2D RHR Room sump pump discharge check valves were not installed as specified in station drawings. On 3/13/92, plant staff determined that the 2B and 2D Residual Heat Removal (RHR)(EIIS:80) pumps could have potentially been placed in an inoperable condition. Multiple room flooding is contrary to that specified in the Updated Final Safety Analysis Report (UFSAR). The UFSAR states that "No more than one Emergency Core Cooling System (ECCS) pump can be flooded due to a single failure in the ECCS piping". Since multiple room flooding could have occurred, this could have potentially prevented the 2B or 2D RHR pumps from operating during certain design basis conditions. Had a low energy pipe failed in the 2A or 2C RHR rooms, then water could have back flowed into the 2B and 2D RHR rooms resulting in three RHR pumps in a potentially inoperable condition. This condition would have placed the plant in a condition outside its design basis. The NRC was notified of this event via ENS on 3/13/92 at 1534 hours.

A Non-Conformance Report (NCR) was generated to address and evaluate this condition. The disposition to the NCR provided instructions to reinstall the check valves. The 2B and 2D RHR room sump pump discharge check valves were then installed on 3/2/92 as specified in the NCR and the other similar check valves on both units were verified to be installed.

Cause of the Event

The 2B and 2D RHR Room Sump Pump Discharge Check Valves used to prevent back flow of water from the Reactor Building Sump Room were found removed and replaced with piping. An extensive investigation has been conducted but the cause was unable to be determined. The investigation identified that the valves were documented to be in place in 1988. It is probable that the check valves were removed during other work in the RHR room after 1988.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST, 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-330), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Peach Bottom Atomic Power Station Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 2 7 7	LER NUMBER (6)			PAGE (9)	
		YEAR 9 2	REQUESTAL NUMBER 0 0 3	REVISION NUMBER 0 0	0 3	OF 0 3

TEXT (If more space is required, use additional NRC Form 286A's) (17)

Analysis of the Event

No actual safety consequences occurred as a result of this event.

The likelihood of flooding an ECCS pump room during plant operation is extremely remote. The significant flood sources described in the UFSAR (Condensate Storage Tank and the Torus suction piping) are low energy lines built to Seismic Class I criteria. The reliability of these lines is such that water accumulation is considered to be limited to flange gasket and valve packing leakage. However, if flooding conditions in the pump room did exist, annunciator alarms would alert the operators of excessive reactor building sump level, or of a water level in excess of six inches in any one or more of the ECCS pump rooms. Excessive sump level could exist if the 4 Reactor Building Floor and Equipment drain sump pumps were unavailable. These sump pumps are normally available and operate automatically on sump level. Any of these pumps could easily handle leakage through the ECCS pump room floor drains. However, under certain design basis conditions (e.g., loss of off-site power), the sump pumps would be unavailable. If a design basis event would have occurred during multiple RHR room flooding, the High Pressure Coolant Injection System (EiIS:BJ) would be available for high pressure cooling. In addition, the low pressure Core Spray System (EiIS:BM) and an RHR pump would have been available for adequate low pressure core cooling therefore multiple room flooding could occur.

Existing procedures address the identification of compartment flooding and provide direction to the operators to facilitate an orderly Unit shutdown.

Corrective Actions

After discovery of the event, the 2B and 2D RHR Room sump pump discharge check valves were installed and the other similar check valves on both units were verified to be installed.

As a result of the review of the flood protection requirements, the procedure used to control floor drain plugs will be revised as necessary to better define flood protection controls.

The pertinent information from this event will be provided to the appropriate members of the maintenance and the technical staff.

Previous Similar Events

There was one previous similar event (LER 2-88-029) identified which involved internal ECCS room flooding. The corrective actions taken as part of the previous event only addressed equipment and floor drain flood protection controls. It did not address controls for RHR room sump check valves. Therefore, the corrective actions taken as part of the previous LER could not have prevented this event.