



PEACH BOTTOM—THE POWER OF EXCELLENCE

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION

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Delta, Pennsylvania 17314
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October 15, 1990

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 the inoperability of the High Pressure Coolant System due to low emergency service water flow through room coolers.

Reference:	Docket No. 50-277
Report Number:	2-90-026
Revision Number:	00
Event Date:	09/13/90
Report Date:	10/15/90
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)(v).

Sincerely,

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

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Peach Bottom Atomic Power Station - Unit 2										DOCKET NUMBER (2) 0 5 0 0 0 2 7 7										PAGE (3) 1 OF 4											
TITLE (4) High Pressure Coolant Injection System Declared Inoperable Due To Low Emergency Service Water Flow Through Room Coolers																															
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 DOCKET NUMBER(S)													
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0 9		1 3		9 0		9 0		0 2 6		0 0 1		0 1		5 9		0		0 5 0 0 0													
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																													
N		20.402(b)						20.405(c)						50.73(a)(2)(iv)						73.71(b)											
POWER LEVEL (10)		0 8 2						20.405(a)(1)(i)						50.73(a)(1)						X 50.73(a)(2)(v)						73.71(c)					
								20.405(a)(1)(ii)						50.73(a)(2)						50.73(a)(2)(vi)						OTHER (Specify in Abstract below and in Text NRC Form 366A)					
								20.405(a)(1)(iii)						50.73(a)(2)(i)						50.73(a)(2)(vii)(A)											
								20.405(a)(1)(iv)						50.73(a)(2)(ii)						50.73(a)(2)(vii)(B)											
								20.405(a)(1)(v)						50.73(a)(2)(iii)						50.73(a)(2)(ix)											
LICENSEE CONTACT FOR THIS LER (12)																															
NAME A. A. Fulvio, Regulatory Engineer												TELEPHONE NUMBER AREA CODE 7 1 7 4 5 6 - 1 7 0 1 4																			
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																															
CAUSE		SYSTEM		COMPONENT		MANUFAC TURER		REPORTABLE TO NPDOS				CAUSE		SYSTEM		COMPONENT		MANUFAC TURER		REPORTABLE TO NPDOS											
SUPPLEMENTAL REPORT EXPECTED (14)																		EXPECTED SUBMISSION DATE (15)		MONTH		DAY		YEAR							
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)																		<input checked="" type="checkbox"/> NO													

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

On 9/13/90 at 0235 hours during the performance of Surveillance Test (ST) 21.5-2 "Unit 2 Emergency Service Water (ESW) Room Cooler Flow Test", the High Pressure Coolant Injection (HPCI) System was declared inoperable due to low flow through the HPCI room cooler. The cause of the event is due to the buildup of loose corrosion products and silt in the cooler discharge line which restricted the flow. The HPCI System was returned to an operable status on 9/13/90 at 1400 hours. No actual safety consequences occurred as a result of this event. An evaluation of the possibility of reducing the SW pressure to the ESW ring header, in order to minimize influx of corrosion products and silt, is being performed. One previous similar LER has been identified.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 6/31/88

FACILITY NAME (1) Peach Bottom Atomic Power Station Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 2 7 7 9 0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
			0 2 6	0 0	0 2	OF	0 4

TEXT (If more space is required, use additional NRC Form 366A's: (17))

REQUIREMENTS FOR THE REPORT

This report is being submitted to satisfy the requirements of 10CFR50.73(a)(2)(v) describing conditions that alone could have prevented the fulfillment of a safety function.

UNIT CONDITIONS AT TIME OF DISCOVERY

Unit 2 was in the Run Mode at 82% of rated thermal reactor power. There were no other system, structures, or components that were inoperable that contributed to the event.

DESCRIPTION OF EVENT

On 9/13/90 at 0235 hours during the performance of Surveillance Test (ST) 21.5-2 "Unit 2 Emergency Service Water (ESW) (EIIS:CC) Room Cooler Flow Test", the High Pressure Coolant Injection (HPCI) System (EIIS:BJ) was declared inoperable due to low flow through the HPCI room cooler (EIIS:CLR). The required LCO testing was initiated. The NRC was notified at 0345.

The ESW System is common to both Units 2 and 3, and is designed to provide a reliable supply of cooling water to the Emergency Diesel Generator heat exchangers, Residual Heat Removal pump seal coolers, Core Spray motor oil coolers, and the Emergency Core Cooling Systems (ECCS) and Reactor Core Isolation Cooling System room coolers, as required, during a design basis event involving loss of offsite power.

Investigation of the reduced flow involved performance of a "flow out" test which required removal of the cooler discharge valve. During removal of the valve loose corrosion products were removed from the cooler discharge valve internals. More products were removed from the system during flushing. Following the flushing a flowrate of 33.25 gpm was recorded, which indicated that the cooler was again operable. The HPCI System was returned to an operable status on 9/13/90 at 1400 hours.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

CAUSE OF THE EVENT

The cause of the event is due to the buildup of loose corrosion products and silt in the cooler discharge line which restricted the flow.

Since April of 1990 the Unit 2 ECCS and RCIC Room Cooler air operated inlet valves have been failed open which has resulted in continuous flow through the room coolers. During normal operation the cooling water is supplied by the Service Water (SW) (E1IS:CC) System. The SW System operates at a higher pressure than the ESW System. At the inlet to the ESW ring header, SW supplies approximately 70 psig while ESW supplies approximately 30 psig. The higher pressure causes a higher flow which increases the amount of material removed from the pipe wall and carried into the ESW piping. The HPCI supply is from a low point in the system which tends to cause the HPCI cooler to trap more debris than the other room coolers.

ANALYSIS OF EVENT

No actual safety consequences occurred as a result of this event. With offsite power available and no seismic event, cooling water for the HPCI room cooler would be supplied by the SW System. If an event had occurred which included a loss of offsite power, the SW System is assumed to be unavailable. ESW would provide the cooling water, though at a lower flow, which would provide some heat removal. The HPCI room was previously analyzed for a loss of ventilation for Appendix R. The analysis predicts that the required equipment would be able to operate for at least 7.7 hours without ventilation. The HPCI System will only be required for HPCI operation during safe shutdown at the beginning of the event and is not expected to be required for such a long duration. The Reactor Core Isolation Cooling (RCIC) System and the Automatic Depressurization System (ADS) were available and operable to provide core cooling and, if required, reduce reactor pressure to allow the Low Pressure Injection Systems to initiate.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER						
		0	2	6	0	0				
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

CORRECTIVE ACTIONS

Differential pressure readings of the HPCI room coolers will be taken once per week using SW pressures. These readings will be trended in order to identify any degradation.

An evaluation of the possibility of reducing the SW pressure to the ESW ring header, in order to minimize the erosion causing the buildup of corrosion products, is being performed.

PREVIOUS SIMILAR EVENTS

LER 2-90-04 dealt with inadequate flow in the ESW System. A corrective action from LER 2-90-04 which would have prevented this event is the replacement of some sections of piping. This is not scheduled to take place until the next refueling outage on Unit 2, and therefore did not prevent this event.