

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION

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KEN POWERS
PLANT MANAGER

July 21, 1992

Docket No. 50-278

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

SUBJECT: Licensee Event Report
Peach Bottom Atomic Power Station - Unit 3

This LER concerns the inoperability of the High Pressure Coolant Injection System due to high water level in the Turbine.

Reference:	Docket No. 50-278
Report Number:	3-92-004
Revision Number:	00
Event Date:	06/25/92
Report Date:	07/21/92
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)(v).

Sincerely,

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

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S PDR

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 80.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20586, 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 3

DOCKET NUMBER (2)
0 5 0 0 0 2 7 8

PAGE (3)
1 OF 0 4

TITLE (4)
Inoperability of the High Pressure Coolant Injection System due to High Water Level in the Turbine Casing

EVENT DATE (5)			LER NUMBER (1)		REPORT DATE (2)			OTHER FACILITIES INVOLVED (6)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES
0 6	2 5	9 2	9 2	0 0 4	0 0	0 7	2 1	9 2	
								DOCKET NUMBER(S) 0 5 0 0 0	

OPERATING MODE (9) N

POWER LEVEL (10) 1 0 0

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

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in A tract below and in Test vRC Form 366A)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME: Albert A. Fulvio, Regulatory Supervisor

TELEPHONE NUMBER: 7 1 7 4 5 6 - 7 0 1 4

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

CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On 6/25/92 at 1345 hours, during the performance of the High Pressure Coolant Injection (HPCI) System Surveillance Test prior to turbine operation, the HPCI system was declared inoperable and removed from service when water was found leaking out of the turbine casing seals. Further investigations revealed that water was in the HPCI turbine casing due to a failed HPCI Turbine Exhaust Drain Pot level switch (LS-98). The turbine casing was immediately drained. The level in the HPCI Turbine Exhaust Drain Pot was monitored and maintained at normal level to ensure HPCI operability. The cause of the event has been determined to be the failure of LS-98. The defective LS-98 will be replaced. The other similar configurations on Unit 2 HPCI and both Unit's Reactor Core Isolation Cooling systems have been verified to be satisfactory. No actual safety consequences occurred as a result of this HPCI inoperability. There was one previous similar event.

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-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Peach Bottom Atomic Power Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 2 7 8	LER NUMBER (6)			PAGE (3)	
		YEAR 9 2	SEQUENTIAL NUMBER — 0 0 4	REVISION NUMBER — 0 0	OF 0 2	OF 0 4

TEXT (If more space is required, use additional NRC Form 365A's) (17)

Requirements for the Report

This report is being submitted to satisfy the requirements of 10 CFR 50.73(a)(2)(v) describing conditions that alone could have prevented the fulfillment of a safety function.

Unit Conditions at Time of Discovery

Unit 3 was in the RUN mode at 95% of rated thermal reactor (EIIS:EA) power. There were no systems, structures, or components that were inoperable which contributed to the event.

Description of Event

On 6/25/92 at 1345 hours, during the performance of the High Pressure Coolant Injection (HPCI) System (EIIS:BJ) Logic System Functional Surveillance Test (LSFT) prior to turbine (EIIS:TRB) operation, the HPCI system was declared inoperable and removed from service when water was found leaking out of the turbine casing seals (see attached diagram) by a plant operator. Further investigations revealed that water was in the HPCI turbine casing due to a failed HPCI Turbine Exhaust Drain Pot level switch (LS-98). The failed LS-98 prevented the automatic draining of the HPCI Turbine Exhaust Drain Pot through the Drain Pot Solenoid Valve (SV-54) and prevented the HPCI Turbine Exhaust Drain Pot High Level alarm from actuating. The appropriate Technical Specification Limiting Condition for Operation was entered and the NRC was notified. The turbine casing was immediately drained. The level in the HPCI Turbine Exhaust Drain Pot was monitored and maintained at normal level to ensure HPCI operability via manual operation of SV-54. The HPCI system was then tested satisfactorily per the LSFT and returned to an operable status on 6/26/92 at 1055 hours. Based on later engineering review, it is believed that HPCI was capable of performing its design function with the amount of water that was found in the turbine casing.

Cause of the Event

The cause of the event has been determined to be the failure of LS-98. The LS-98 failure prevented automatic operation of SV-54 and prevented the HPCI Turbine Exhaust Drain Pot High Level alarm from actuating. Through-valve leakage of approximately one-half gallon per hour from the HPCI Steam Supply Valve (MO-14) in conjunction with the failed LS-98 allowed excessive condensation to collect in the HPCI turbine casing. It appears that LS-98 was mechanically jarred which caused a loss of the alarm and SV-54 control function.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS
AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR
REGULATORY COMMISSION, WASHINGTON, DC 20555, 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 3	DOCKET NUMBER (2) 0 5 0 0 0 2 7 8	LER NUMBER (6)			PAGE (3)		
		YEAR 9 2	SEQUENTIAL NUMBER - 0 0 4	REVISION NUMBER - 0 0			
					0 3	OF	0 4

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

Analysis of the Event

No actual safety consequences occurred as a result of this HPCI inoperability.

The HPCI system properly started and operated satisfactorily during the performance of the last three monthly surveillance tests. It is believed that similar amounts of water were in the turbine casing during these runs. This is based on conversations with housekeeping personnel who had noticed HPCI skid runoff leakage. It is believed that this leakage from the skid was also through the turbine casing seals which is indicative of high water level in the turbine casing. Based on later engineering evaluation, it is believed that HPCI was capable of performing its design function with amount of water that was found in the turbine casing. However, if a design basis accident or transient would have occurred, and HPCI did not perform properly, the Automatic Depressurization System (ADS) was operable, if required, to reduce reactor (EIIIS:RPV) pressure to allow the low pressure coolant injection (EIIIS:BO) (EIIIS:BM) systems to inject. In addition, the Reactor Core Isolation Cooling system (EIIIS:BN) was operable to provide high pressure cooling.

Corrective Actions

The level in the Unit 3 HPCI Turbine Exhaust Drain Pot will be monitored and maintained at normal level using a drain valve to ensure HPCI operability as an interim corrective action.

The defective LS-98 will be replaced and MO-14 will be reworked during a future unit outage or system outage.

The other similar configurations on Unit 2 HPCI and both Unit's RCIC systems have been verified to be satisfactory.

The pertinent information from this event will be provided to the appropriate Operations personnel, housekeeping personnel, and members of the technical staff.

Previous Similar Events

There was one previous similar event (LER 3-91-005) identified concerning water in the HPCI turbine or exhaust line. Since the cause of the previous event was a Vacuum Breaker failure and did not involve LS-98, the previous corrective actions could not have been expected to prevent this event.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (FAS0), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (315C 0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1):

DOCKET NUMBER (2):

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PAGE (3):

Peach Bottom Atomic Power Station
Unit 3

YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
92	004	00

0 5 0 0 0 2 7 8 9 2 — 0 0 4 — 0 0 0 4 OF 0 4

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

HPCI SIMPLIFIED PIPING DIAGRAM

