

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Peach Bottom Atomic Power Station - Unit 3 DOCKET NUMBER (2) 0 5 0 0 0 27 8 1 OF 0 1 3 PAGE (3)

TITLE (4) HPCI Turbine Exhaust Line Inner Rupture Disc (PSD3-23-6) Failure

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)													
MONTH	DAY	YEAR	YEAR	SEQUENCE NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)											
0	9	21	8	4	8	4	0	1	3	0	0	1	0	1	6	8	4	0	5	0	0	0

OPERATING MODE (9) THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

20.402(a)	20.408(a)	80.73(a)(2)(iv)	73.71(a)
20.408(a)(1)(ii)	80.36(a)(1)	<input checked="" type="checkbox"/> 80.73(a)(2)(v)	73.71(a)
20.408(a)(1)(iii)	80.36(a)(2)	80.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Test, NRC Form 364A)
20.408(a)(1)(iv)	80.73(a)(2)(i)	80.73(a)(2)(vii)(A)	
20.408(a)(1)(iv)	80.73(a)(2)(ii)	80.73(a)(2)(vii)(B)	
20.408(a)(1)(iv)	80.73(a)(2)(iii)	80.73(a)(2)(viii)	
20.408(a)(1)(iv)	80.73(a)(2)(iv)	80.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12) NAME: B. L. Clark, Senior Engineer - Special Projects TELEPHONE NUMBER: 2 15 8 4 1 7 5 0 1 7 AREA CODE

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRCDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRCDS
X	B	J	R	PD	C	5	8	5	Y

SUPPLEMENTAL REPORT EXPECTED (14) YES  NO  EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

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

Abstract

While at power during surveillance testing, the HPCI turbine exhaust rupture diaphragm alarm annunciated following startup of the Unit 3 HPCI Turbine. Investigation revealed that the inner rupture disc, PSD3-23-6, had ruptured. Since the outer disc had not ruptured, the HPCI turbine remained operable until it was intentionally removed from service to replace the inner rupture disc. Prior to removing the turbine from service, the systems required by Technical Specification 4.5.C.2 (RCIC, ADS, LPCI, and Core Spray) were verified to be operable. The rupture disc was replaced and HPCI was declared operable following surveillance test verification.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
					0 2	of	0 3

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

Description of the Event:

On September 21, 1984, Peach Bottom Atomic Power Station Unit 3 was operating under normal conditions at 97% power. At approximately 10:45 a.m., while conducting a surveillance test (ST-12.15.3-3, HPCI Pump Contaminated Piping Inspection - Unit 3) on the Unit 3 HPCI system, the turbine exhaust rupture diaphragm alarm annunciated following startup of the HPCI turbine. This alarm senses a pressure of greater than 10 psig between the inner and outer rupture discs located in series in a 16" line which taps off the turbine exhaust line and exhausts to the torus room. Investigation revealed that the inner rupture disc, PSD3-23-6 (manufactured by Continental Disc Corporation), had ruptured. The setpoint of the rupture disc is 175 psig. The outer rupture disc, PSD3-23-7, had not ruptured, and therefore the HPCI turbine was not declared inoperable at that time.

Later on September 21, 1984, the HPCI turbine was intentionally removed from service and declared inoperable in order to replace the inner rupture disc. At 9:45 p.m. on September 21, 1984, the HPCI turbine was declared operable and returned to service following surveillance test (ST-6.5) verification.

Consequences of the Event:

The outer rupture disc, PSD3-23-7, did not rupture; therefore, the HPCI system remained in service at the time of the occurrence and could have remained operable if HPCI initiation had occurred. Prior to intentionally removing the HPCI system from service to replace the inner rupture disc, the Reactor Core Isolation Cooling System, Automatic Depressurization System, Low Pressure Coolant Injection System, and Core Spray systems were verified as operable as required by Technical Specification 4.5.C.2. The HPCI system was returned to service within four hours after being declared inoperable.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 2160-0104  
EXPIRES: 03/18/86

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Peach Bottom Atomic Power Station - Unit 3	05000278884	013	00	03	OF 03

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

Cause of the Event:

Determination of the cause of the failure of the rupture disc is under investigation. The failed disc exhibits evidence of being flexed prior to failure possibly causing it to be fatigued and weakened. As part of the investigation, the failed disc will be sent to the Philadelphia Electric Company Metallurgical Laboratory for analysis of the failure mechanism. Further, the vacuum relief check valves, VRV-5998A and B, installed on the turbine exhaust piping ahead of the rupture discs, will be evaluated to determine if their performance contributed to the apparent flexing phenomenon.

Corrective Actions:

ST 6.5 HPCI Pump, Valve, Flow, Cooler Test verified the operability of the HPCI system after the inner rupture disc was replaced. Turbine exhaust pressure indicated normally during the test and the system was returned to service.

Previous Similar Occurrences

LER's: 3-83-15/3L-0, 3-82-23/3L-0, 3-84-001-00.

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-4000

October 16, 1984

Docket No. 50-278

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

SUBJECT: Licensee Event Report

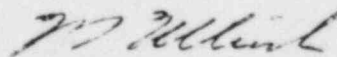
Dear Dr. Murley:

This LER deals with the failure of the Unit No. 3 HPCI turbine exhaust inner rupture disc, PSD3-23-6, while performing surveillance testing on the HPCI system.

Reference:	Docket No. 50-278
Report Number:	3-84-13
Revision Number:	00
Event Date:	September 21, 1984
Report Date:	October 16, 1984
Facility:	Peach Bottom Atomic Power Station RD #1, Delta, PA 17314

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

Very truly yours,



W. T. Ullrich  
Superintendent  
Nuclear Generation Division

cc: Dr. Thomas E. Murley, Administrator  
Region I, USNRC

Mr. A. R. Blough, Site Inspector

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