

**PECO NUCLEAR**

A UNIT OF PECO ENERGY

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U. S. Nuclear Regulatory Commission
Washington, DC 20555

Docket Nos. 50-277

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

This LER concerns an inoperability of the High Pressure Coolant Injection System due to a small leak in a cooling water relief valve.

Reference:	Docket No. 50-277
Report Number:	2-96-004
Revision Number:	00
Event Date:	4/17/96
Report Date:	5/17/96
Facility:	Peach Bottom Atomic Power Station 1848 Lay Road, Delta, PA 17314

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

Sincerely,

Garrett D. Edwards
Plant Manager

GDE\JHG:jhg

enclosure

cc: B. Gorman, Public Service Electric & Gas
R. R. Janati, Commonwealth of Pennsylvania
INPO Records Center
T. T. Martin, US NRC, Administrator, Region I
R. I. McLean, State of Maryland
W. L. Schmidt, US NRC, Senior Resident Inspector
A. F. Kirby III, DelMarVa Power
H. C. Schwemm, VP - Atlantic ElectricIE22
11

LICENSEE EVENT REPORT (LER)

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 (P-530), 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 2										DOCKET NUMBER (2) 0 5 0 0 0 2 7 7				PAGE (3) 1 OF 013									
TITLE (4) High Pressure Coolant Injection System Inoperable Due to a Leak in Cooling Water Relief Valve																							
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)										
0	4	1	7	9	6	9	6	0	0	4	0	0	0	5	1	7	9	6	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)																					
POWER LEVEL (10)		20.402(b) 20.405(c) 50.73(a)(2)(iv) 73.71(b)																					
1 1 0 0		20.405(a)(1)(i) 50.73(a)(2)(v) 73.71(c)																					
		20.405(a)(1)(ii) 50.73(a)(2)(vi) 50.73(a)(2)(vii) OTHER (Specify in Abstract below and in Text, NRC Form 366A)																					
		20.405(a)(1)(iii) 50.73(a)(2)(viii)(A) 50.73(a)(2)(viii)(B)																					
		20.405(a)(1)(iv) 50.73(a)(2)(ix)																					
		20.405(a)(1)(v) 50.73(a)(2)(x)																					
LICENSEE CONTACT FOR THIS LER (12)																							
NAME										TELEPHONE NUMBER													
										AREA CODE													
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																							
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC									
X	B	J	R	V	C	7	1	0	Y														
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR									
YES (If yes, complete EXPECTED SUBMISSION DATE)										NO													

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

On 4/17/96, at approximately 1720 hours, the Unit 2 High Pressure Coolant Injection (HPCI) system was declared inoperable and removed from service following the discovery of a small leak in the HPCI cooling water line relief valve. This action was based on the determination that the relief valve is an ASME section XI class 2 system boundary and therefore, the associated system is required to be declared inoperable in accordance with Generic Letter 90-05. Following the discovery, the cooling water system was isolated and the relief valve was replaced. The HPCI system was returned to service at 0520 hours on 4/18/96. No actual safety consequences occurred as a result of this event. The relief valve, a 1" x 1-1/2" Crosby model JMB-C-E, was sent to PECO Energy's Valley Forge lab for failure analysis. The results from this analysis indicated the failure mechanism was Intergranular Stress Corrosion Cracking (IGSCC). An evaluation has concluded that all other original applications of 1" x 1-1/2" Crosby JMB-C-E relief valves with the same shop number (52718M1) have been replaced with valves constructed of 300 series stainless steel. Engineering personnel are working with the valve manufacturer to determine if any other valves constructed of the same nickel alloy have been supplied to Peach Bottom Atomic Power Station.

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 (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Peach Bottom Atomic Power Station
Unit 2YEAR SEQUENTIAL REVISION
NUMBER NUMBER NUMBER

0 5 0 0 0 2 7 7 9 6 - 0 0 4 - 0 0 0 2 OF 0 3

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

Requirements of the Report

This report is 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 Mode 1 (RUN) at approximately 100% thermal reactor power. There were no systems, structures, or components that were inoperable that contributed to the event.

Description of the Event

On 4/17/96, at approximately 1720 hours, the Unit 2 High Pressure Coolant Injection (HPCI) system (EIS:BJ) was declared inoperable and removed from service following the discovery of a small leak in the HPCI cooling water line relief valve (EIS:RV). This action was based on the determination that the relief valve is an ASME section XI class 2 system boundary and therefore, the associated system is required to be declared inoperable in accordance with Generic Letter 90-05. Following the discovery, the cooling water system was isolated and the relief valve was replaced. The HPCI system was returned to service at 0520 hours on 4/18/96.

Cause of the Event

The relief valve, a 1" x 1-1/2" Crosby model JMB-C-E, was sent to PECO Energy's Valley Forge lab for failure analysis. The results from this analysis indicated the failure mechanism was Intergranular Stress Corrosion Cracking (IGSCC). It was determined that the relief valve base material consisted of a nickel alloy which, due to a high carbon content (.4%), is highly susceptible to IGSCC. An additional contributing factor to this event was a mismatch of the weld fit at the base of the valve which introduced a stress riser at the weld location.

Analysis of the Event

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

An evaluation has concluded that all other original applications of 1" x 1-1/2" Crosby JMB-C-E relief valves with the same shop number (52718M1) have been replaced with valves constructed of 300 series stainless steel.

If a design basis accident or transient would have occurred with the HPCI system inoperable, the Automatic Depressurization System (EIS:RV) was operable, if required, to reduce reactor (EIS:RPV) pressure to allow the Low Pressure Coolant Injection (EIS:BO) Systems to inject. The Reactor Core Isolation Cooling system was also operable to provide core cooling.

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PAGE (3)

Peach Bottom Atomic Power Station
Unit 2

0 5 0 0 0 2 7 7 9 6 — 0 0 4 — 0 0 0 3 OF 0 3

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

Corrective Actions

The HPCI cooling water relief valve was replaced with a valve constructed of 300 series stainless steel which is less susceptible to IGSCC under the operating conditions for the cooling water system.

An evaluation has concluded that all other original applications of 1" x 1-1/2" Crosby JMB-C-E relief valves with the same shop number (52718M1) have been replaced with valves constructed of 300 series stainless steel.

Engineering personnel are working with the valve manufacturer to determine if any other valves constructed of the same nickel alloy have been supplied to Peach Bottom Atomic Power Station.

Previous Similar Events

No previous similar events were identified where HPCI was declared inoperable due to a piping leak.