

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION

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DELTA, PA 17314

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KEN POWERS
PLANT MANAGER

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 an Engineering Safeguard Feature actuation as a result of a relay coil failure.

Reference:	Docket No. 50-278
Report Number:	3-91-019
Revision Number:	00
Event Date:	12/18/91
Report Date:	01/16/92
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)(iv).

Sincerely,

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

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PDR ADDCK 05000278
S PDR

JE22

bcc: R. A. Burricelli, Public Service Electric & Gas
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NRC FORM 366 (6-89)				U.S. NUCLEAR REGULATORY COMMISSION				APPROVED OMB NO. 3150-0106 EXPIRES 4/30/92 ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545; AND TO THE PAPERWORK REDUCTION PROJECT (3150-0106) OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503							
LICENSEE EVENT REPORT (LER)															
FACILITY NAME (1)								DOCKET NUMBER (2)				PAGE (3)			
Peach Bottom Atomic Power Station - Unit 3								015000217181				OF 013			
TITLE (4)															
Engineering Safeguard Feature Actuation as a Result of a Relay Coil Failure															
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 NUMBERS			
												01500001			
12	18	91	91	019	00	01	16	92				01500001			
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)			<input checked="" type="checkbox"/> 50.73(a)(2)(iv)			73.71(b)				
POWER LEVEL (10)		010			20.405(a)(1)(i)			50.36(c)(1)			73.71(c)				
		20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(v)			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)(vi)							
		20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(vii)							
		20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(viii)							
LICENSEE CONTACT FOR THIS LER (12)															
NAME								TELEPHONE NUMBER							
Albert A. Fulvio, Regulatory Engineer								AREA CODE							
								717456-710114							
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						
X	JIM	RELAY	GEB	Y											
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR	
YES (If yes, see 14a) EXPECTED SUBMISSION DATE:										<input checked="" type="checkbox"/> NO					
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-spaced typewritten lines) (16)															
<p>On 12/18/91 at 1822 hours, an isolation of the Shut Down Cooling (SDC) mode of the Residual Heat Removal system occurred when power was lost to the Primary Containment Isolation System (PCIS) control logic. The 1 - 3 reactor operator immediately maximized Reactor Water Cleanup, Control Rod Drive, and Core Spray Stayfull flows. The cause of the SDC isolation has been determined to be a PCIS relay coil failure. This condition caused the PCIS control logic fuse to blow. The blown fuse and relay were replaced. Subsequently, the isolation was reset and SDC was restored to service. There were no actual safety consequences as a result of this event. There were no previous similar events identified.</p>															

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUIREMENT: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH, 113P-530, U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0184), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

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Peach Bottom Atomic Power Station
Unit 3

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TEXT (If more space is required, use additional NRC Form 305A-2) (17)

Requirements for the Report

This report is required per 10 CFR 50.73(a)(2)(iv) due to an automatic actuation of an engineered safety feature (ESF).

Unit Status at Time of Discovery

Unit 3 was in the Refuel mode and reactor water temperature was at 202 degrees F. There were no systems, structures, or components that were inoperable that contributed to the event. The Residual Heat Removal (RHR) system (E11S:B0) was in the Shutdown Cooling (SDC) mode using the 'A' RHR pump.

Description of Event

On 12/18/91 at 1822 hours, an isolation of the SDC mode of the RHR system occurred when power was lost to the Primary Containment Isolation System (PCIS) (E11S:JM) control logic. The Unit 3 reactor operator immediately maximized Reactor Water Cleanup, Control Rod Drive, and Core Spray Stayfull flows. The Reactor Coolant System (RCS) temperatures decreased to 193 degrees F with a cool down rate of 3 degrees F per hour. At 2015 hours investigation revealed that a failed relay coil (E11S:RLY) (3-16A-K050) was the cause of the isolation. The NRC was notified of the event via ENS at 2130 hours. The blown fuse (E11S:FU) and relay were replaced. The isolation was reset, and SDC was restored to service using the 'A' RHR loop at 0435 hours on 12/19/91.

Cause of the Event

The cause of the SDC isolation has been determined to be a PCIS relay coil failure. An investigation identified that the coil apparently shorted when it failed which caused the PCIS control logic fuse to blow. The coil was then found to be burnt open. The relay was a General Electric CR120A04002AA.

Additionally, the existing Preventive Maintenance (PM) program did not address relay maintenance for this relay.

Analysis of the Event

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

The isolation functioned as designed. SDC was out of service for approximately 8 hours. During this time period, reactor water temperature decreased from 202 degrees F to approximately 193 degrees F due to prompt operator actions. This temperature decrease did not affect any activities in progress. The event that SDC could not have been re-established and RCS temperature was high, alternative methods of cooling could have been implemented as described in Peach Bottom General Plant Procedure GP-12, "Core Cooling Procedure". The procedure outlines alternative sources of makeup, including condensate transfer from stay-full lines, and Core Spray from the Condensate Storage Tank or Torus. It also provides guidance for methods of energy removal depending on the reactor pressure and equipment availability.

• 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) Peach Bottom Atomic Power Station Unit 3	DOCKET NUMBER (2) 0 5 0 2 0 2 7 8	LER NUMBER (3)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 386A's) (17)

Corrective Actions

After the event, the Unit 3 reactor operator immediately maximized Reactor Water Cleanup, Control Rod Drive, and Core Spray Sprayfull flows.

An investigation revealed that a bad relay coil was the cause of the isolation. Therefore, the blown fuse and relay were replaced. Subsequently, the isolation was reset and shutdown cooling was restored to service.

An evaluation will be performed to determine the need for PM tasks on this relay and other similar relays.

Previous Similar Events

There were no previous similar events identified involving SDC isolations due to a failed relay.