



PEACH BOTTOM—THE POWER OF EXCELLENCE

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION
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D. M. Smith
Vice President

March 12, 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 supplemental LER concerns a Primary Containment Isolation System actuation which occurred due to a false high radiation signal during radiation monitor testing. This supplemental LER provides the results of the investigation into this event.

Reference:	Docket No. 50-277
Report Number:	2-89-029
Revision Number:	01
Event Date:	11/17/89
Report Date:	03/12/90
Facility:	Peach Bottom Atomic Power Station RD 1, Box 208, Delta, PA 17314

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

Sincerely,

D. M. Smith

cc: J. J. Lyash, USNRC Senior Resident Inspector
W. T. Russell, 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 0 3																					
TITLE (4) Primary Containment Isolation System Actuation Due To Spurious High Radiation Signal During Radiation Monitor Testing																																									
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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POWER LEVEL (10) 1 0 0						20.402(b)						20.405(c)						<input checked="" type="checkbox"/> 60.73(a)(2)(iv)						73.71(b)																	
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						20.405(a)(1)(ii)						60.36(c)(2)						60.73(a)(2)(vi)						OTHER (Specify in Abstract below and in Text, NRC Form 366A)																	
						20.405(a)(1)(iii)						60.73(a)(2)(i)						60.73(a)(2)(vii)(A)																							
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LICENSEE CONTACT FOR THIS LER (12)																																									
NAME T. E. Cribbe, Regulatory Engineer												TELEPHONE NUMBER 7 1 1 7 4 5 6 1 - 1 7 0 1 1 4																													
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On November 17, 1989, at 2012 hours, during performance of refueling floor ventilation exhaust radiation monitor testing a Group III Primary Containment Isolation System (PCIS) actuation occurred. Radiation indicating switch RIS-458D was placed in the trip/test position resulting in a half trip of the Group III PCIS actuation logic. RIS-458C, which had just been tested and returned to service, then generated a spurious trip signal resulting in the full Group III PCIS actuation. The spurious trip signal from the 458C radiation monitor was recreated prior to resetting the PCIS actuation. The signal occurred approximately 10 seconds after returning RIS-458C to the operate position. The spurious signal did not recur after reset of the PCIS actuation. No safety consequences occurred as a result of this event. An electronic alignment and calibration of the 458C radiation monitor has been performed. The selector switch and relay contacts were cleaned. Proper operation was verified and no additional spurious signals were observed. The cause of the spurious trip signal is unknown. The refueling floor exhaust radiation monitor test procedure has been revised to require waiting at least one minute between testing of trip systems. Upward adjustment of the trip setpoints will be considered in order to prevent minor spiking from resulting in radiation monitor channel trips. No previous similar LERs were identified.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Peach Bottom Atomic Power Station Unit 2	0500027789	—	029	—01	02	OF	03

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

Requirements for the Report

This report is required per 10 CFR50.73(a)(2)(iv) due to actuation of the Primary Containment Isolation System (PCIS) (EIIIS:JM) which is an Engineered Safety Feature.

Unit Status at Time of Event

Unit 2 was in the Run Mode at 100 percent power. The refueling floor ventilation radiation monitors (EIIIS:IL) were indicating approximately 1 mR per hour.

Description of Event

On November 17, 1989, at 2012 hours during performance of Surveillance Test ST 4.1 "Refuel Floor Exhaust Rad Monitor Functional" a Group III PCIS actuation occurred. Refueling floor ventilation exhaust radiation monitor indicating switch (EIIIS:RIS) RIS-458D was placed in the trip/test position in accordance with the test procedure, generating a half trip of the Group III PCIS actuation logic. RIS-458C, which had previously been tested and returned to service, then generated a spurious trip signal resulting in completion of the actuation logic and isolation of the Group III PCIS valves (EIIIS:ISV). The drywell oxygen analyzer system (EIIIS:BB), drywell instrument nitrogen system (EIIIS:LK), reactor building ventilation (EIIIS:VA), and refueling floor ventilation system isolated as designed upon receipt of the PCIS actuation signal. By 2023 the actuation was reset and the affected systems were returned to normal.

Cause of the Event

The cause of this event was a spurious trip signal from RIS-458C radiation monitor. The cause of the spurious trip signal is unknown. In an effort to determine the cause of the spurious trip signal, prior to resetting the PCIS actuation, the RIS-458C was placed in the trip/test position and then returned to service as had been done during testing. The signal spike recurred approximately 10 seconds after returning RIS-458C to the operate mode. The spurious signal did not recur after reset of the PCIS actuation.

Analysis of the Event

No safety consequences occurred as a result of this event.

The refueling floor ventilation exhaust is monitored by four radiation monitors. Each represents one channel supplying input to the PCIS. Each PCIS trip system is comprised of two channels. The A and C channels comprise one trip system, the B and D channels comprise the other. A trip or high radiation signal on one channel in each trip system results in a full Group III PCIS actuation. The two remaining operable radiation monitors did not sense an actual high radiation condition. The Group III PCIS valves isolated as designed.

The refueling floor radiation monitor trip setpoints are set conservatively low in the 3 to 5 mR per hour range. The maximum analyzed setpoint is 16 mR per hour.

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)

Corrective Actions

- | An electronic alignment and calibration of the 458C radiation monitor has been performed. The selector switch and relay contacts were cleaned. Proper operation was verified and no additional spurious signals were observed.
- | Surveillance Test ST 4.1 has been revised to require waiting at least one minute between testing of trip systems. Upward adjustment of the trip setpoints will be considered in order to prevent minor spiking from resulting in radiation monitor channel trips.

Previous Similar Events

No previous similar Licensee Event Reports were identified.