



PEACH BOTTOM—THE POWER OF EXCELLENCE

**PHILADELPHIA ELECTRIC COMPANY**

PEACH BOTTOM ATOMIC POWER STATION

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Delta, Pennsylvania 17314  
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April 16, 1991

Docket Nos. 50-277  
50-278

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

SUBJECT: Licensee Event Report  
Peach Bottom Atomic Power Station - Units 2 and 3

This revised LER is being submitted following a completed investigation concerning the cause of a motor/generator set trip. This LER concerns Reactor Water Cleanup isolations and a Standby Gas Treatment System actuation due to a lightning strike.

Reference: Docket Nos. 50-277  
50-278  
Report Number: 2-90-027  
Revision Number: 01  
Event Date: 09/16/90  
Report Date: 04/16/91  
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

TE22 11

bcc: R. A. Burricelli, Public Service Electric & Gas  
Commitment Coordinator  
Correspondence Control Program  
T. M. Gerusky, Commonwealth of Pennsylvania  
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Nuclear Records - PBAPS  
H. C. Schwemm, VP - Atlantic Electric  
J. Urban, Delmarva Power

## 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) Reactor Water Cleanup Isolation and Standby Gas Treatment System Actuation Due to Lightning Strike																					
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)						
									Peach Bottom -- Unit 3						0 5 0 0 0 2 7 8						
0 9	1 6	9 0	9 0	0 2 7	0 1	0 4	1 6	9 1							0 5 0 0 0						
OPERATING MODE (9) N		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																			
POWER LEVEL (10) 0 8 1 0		20.402(b)				20.406(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)							
		20.405(a)(1)(i)				50.36(a)(1)				50.73(a)(2)(v)				73.71(c)							
		20.405(a)(1)(ii)				50.36(a)(2)				50.73(a)(2)(vi)				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)(vii)(A)											
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(vii)(B)											
20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)													
LICENSEE CONTACT FOR THIS LER (12)																					
NAME A. A. Fulvio, Regulatory Engineer										TELEPHONE NUMBER AREA CODE 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	MANUFACTURER	REPORTABLE TO NRC					CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC								
SUPPLEMENTAL REPORT EXPECTED (14)														EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR			
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)														<input checked="" type="checkbox"/> NO							

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

On 9/16/90, at 1805 hours, actuations occurred on both the Unit 2 and Unit 3 Primary Containment Isolation Systems (PCIS) due to a lightning strike which caused the opening of the Unit 3 Startup Feed Breaker. Unit 2 and Unit 3 emergency busses associated with the Unit 3 Startup Feed transferred to the alternate supply following the loss of the feed as designed. The fast transfer resulted in isolation of the Reactor Water Cleanup (RWC) suction outboard isolation valves on both units. On Unit 2, the "B" Reactor Protection System Motor-Generator Set failed to restart when power was restored resulting in 1/2 of a Group III isolation, which caused the "B" train of the Standby Gas Treatment Isolation System to start along with the lineup of the appropriate outboard isolation valves. No actual safety consequences occurred as a result of this event. RWC was out of service for a total of approximately 15 minutes, which did not present a reactor water chemistry concern. Following the event the Unit 3 Startup Feed Breaker was closed. The Emergency Busses were returned to their normal feeds. The isolations were reset, the RWC systems were placed back into service, and the ventilation systems and the SGBT system were normalized. Two previous similar LERs have been 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	0 5 0 0 0 2 7 7	9 0	0 2 7	0 1	0 2	OF	0 3

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

Requirements for the Report

This report is required per 10 CFR 50.73 (a)(2)(iv) due to automatic actuations of Engineered Safety Features (ESF).

Unit Conditions at Time of Event

Unit 2 was in the RUN mode at 80% rated thermal reactor power. Unit 3 was in the RUN mode at 100% of rated thermal reactor (EIIS:RPV) power. There were no systems, structures, or components that were inoperable that contributed to this event.

Description of Event

On 9/16/90, at 1805 hours, actuations occurred on both the Unit 2 and Unit 3 Primary Containment Isolation Systems (PCIS)(EIIS:JM). A lightning strike caused the opening of the Unit 3 Startup Feed Breaker (EIIS:BKR). Unit 2 and Unit 3 emergency busses (EIIS:BU) associated with the Unit 3 Startup Feed transferred to the alternate supply following the loss to the feed as designed. The PCIS logic associated with the Reactor Water Cleanup (RWCU)(EIIS:CE) isolation momentarily de-energized during the fast transfer. This resulted in a PCIS isolation of the RWCU suction outboard isolation valves (EIIS:ISV) on both units. On Unit 2, the "B" Reactor Protection System (RPS)(EIIS:JC) Motor-Generator (M/G) Set failed to restart when power was restored resulting in 1/2 of a Group III isolation. This caused the "B" train of the Standby Gas Treatment Isolation System (SBGT)(EIIS:BH) to start along with the lineup of the appropriate outboard isolation valves.

At 1814 hours the "B" RPS M/G Set was manually restarted and the isolations were reset. At 1816 hours the Unit 2 Reactor Building ventilation was returned to the normal alignment. The RWCU systems were placed back into service at 1818 hours on Unit 2 and at 1820 hours on Unit 3. Prompt notification was made to the NRC at 2048 hours.

Cause of Event

The event was initiated by a lightning strike which caused the opening of the Unit 3 Startup Feed Breaker. The cause of the 'B' RPS M/G Set failure to restart could not be determined. Upon loss of the power supply to the RPS M/G Set, the M/G Set is designed to automatically restart if the power supply to the M/G Set is restored within 3-5 seconds, such as the case of a 4KV fast transfer situation. The RPS M/G Set is equipped with a flywheel to assist in maintaining voltage during M/G Set transients. However, since the M/G Set failed to restart, a 1/2 Group III isolation occurred. Testing was performed on the 'B' RPS M/G Set to investigate the failure to restart.

This testing simulated the loss of power to the M/G Set that was encountered during the event and also included testing of the involved M/G Set instrumentation. Evaluation of test results indicated that the RPS M/G Set was functioning properly and the cause of the failure to restart during the lightning strike event is unknown.



## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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

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

Analysis of Event

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

This event is considered to be of minimal safety significance. RWCU was out of service for a total of approximately 15 minutes, which did not present a reactor water chemistry concern. Other isolations, initiations and transfers functioned as designed.

Corrective Actions

Following the event the Unit 3 Startup Feed Breaker was closed. The Emergency Busses were returned to their normal feeds. The isolations were reset, the RWCU systems were placed back into service, and the ventilation systems and the SBT system were normalized.

Previous Similar Events

Two previous similar LERs (LER 3-85-18 and LER 2-87-12) have been identified which deal with lightning strikes. LER 3-85-18 addressed a reactor scram with Group II & III isolations. LER 2-87-12 addressed various PCIS isolations. As a result of these events, no corrective actions were taken other than resetting the appropriate isolations or performing specific work on individual pieces of equipment. Therefore, these corrective actions could not be expected to prevent this event.