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

Docket No. 50-277

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

This LER concerns an unplanned Engineered Safety Feature actuation during Diesel Generator Testing.

Reference:	Docket No. 50-277
Report Number:	2-95-001
Revision Number:	00
Event Date:	06/10/95
Report Date:	07/07/95
Facility:	Peach Bottom Atomic Power Station RD1, Box 208, Delta, PA 17314

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

Sincerely,

GDE/RKS:rks

enclosure

cc: R. A. Burricelli, 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 Electric

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## 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-830), 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)

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PAGE (3)

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TITLE (4)

Unplanned Engineered Safety Feature Actuation During Diesel Generator 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)
06	10	95	95	001	007	07	07	95		0 5 0 0 0 0
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)		X		50.73(a)(2)(iv)	
POWER LEVEL (10)			20.405(a)(1)(i)		50.36(c)(1)				73.71(b)	
11010			20.405(a)(1)(ii)		50.36(c)(2)				73.71(c)	
			20.405(a)(1)(iii)		50.73(a)(2)(i)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)	
			20.405(a)(1)(iv)		50.73(a)(2)(ii)					
			20.405(a)(1)(v)		50.73(a)(2)(iii)					
					50.73(a)(2)(iv)					
					50.73(a)(2)(v)					
					50.73(a)(2)(vi)					
					50.73(a)(2)(vii)					
					50.73(a)(2)(viii)(A)					
					50.73(a)(2)(viii)(B)					
					50.73(a)(2)(ix)					

LICENSEE CONTACT FOR THIS LER (12)

NAME

Anthony J. Wasong, Manager-Experience Assessment

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)

YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On 6/9/95, during the performance of a Routine Test (RT), the E-2 Diesel Generator (D/G) Output Breaker tripped open. The loss of power to one 4KV bus caused a Group II and III Isolation. The bus was immediately re-energized and the affected logics were reset. During this D/G outage, a modification was made to allow the D/G to automatically transfer from the droop to the isochronous mode. The revision of the RT was less than adequate because the specified testing sequence resulted in the inadvertent energization of a newly added D/G output breaker trip relay. The reviews conducted for the RT revision failed to identify the circuit configuration which would energize the relay. A contributing factor to the inadequate review was that an electrical drawing which was revised to show the modification was not human factored. The E-2 D/G modification was re-designed to facilitate routine testing and the RT has been revised. The appropriate design and procedure changes were incorporated into the modification plans for the remaining D/Gs. Personnel involved in the design of the modification and technical review of the RT will be counselled concerning the importance of attention to detail during the design and testing processes. The D/G drawings will be revised to more clearly indicate the D/G circuit logic. The importance of providing more easily read electrical drawings for plant modifications will also be discussed with the design organizations.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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.

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Unit 2

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

Requirements of the Report

This report is being submitted pursuant to 10 CFR 50.73 (a)(2)(iv) due to an unplanned Engineered Safety Feature (ESF) actuation during Diesel Generator (D/G) testing activities.

Unit Conditions at Time of Event

Unit 2 was in the "RUN" mode at 100 % of rated thermal reactor power. There were no systems, structures, or components that were inoperable that contributed to the event. The E-2 D/G was in a scheduled Technical Specification Limiting Condition of Operation (LCO) for maintenance and modification work.

Description of the Event

On 6/9/95 at 0113 hours, during the performance of a Routine Test (RT)-O-052-252-2 "E2 DIESEL GENERATOR INSPECTION POST MAINTENANCE FUNCTIONAL TEST", the E-2 D/G (EIS:EK) Output Breaker tripped open. This caused the E-22 4KV Bus and associated E-224 Load Center to de-energize when the D/G Output Breaker tripped. The loss of power to the bus and load center caused a Primary Containment Isolation System (PCIS) (EIS:JM) Group II and III Isolation. This resulted in a loss of the Reactor Water Clean Up (RWCU) system (EIS:CE) and an initiation of the Standby Gas Treatment system (EIS:BH). The "B" feedwater heater string also isolated on loss of electrical power to the E-224 Load Center. Following the Feedwater isolation, a fast power reduction was immediately commenced per General Procedure (GP)-9-2 "FAST REACTOR POWER REDUCTION" and OT-104 "POSITIVE REACTIVITY INSERTION". This was done to counter act the positive reactivity insertion caused by the Feedwater Heater String isolation. The E-22 Bus and its associated load centers were immediately re-energized. Reactor power was reduced to approximately 80 %. The PCIS logic was reset and the affected systems were restored to their appropriate configurations by 0125 hours. The NRC was notified of the event at 0340 hours.

Causes of the Event

During the E-2 D/G outage, a D/G circuit modification was made to allow the D/G to automatically transfer from the droop to the isochronous mode when required. RT-O-052-252-2 was revised to account for this modification. The revision of the RT was less than adequate because the specified testing sequence resulted in the inadvertent energization of a newly added D/G output breaker trip relay. The technical reviews conducted for the RT revision failed to identify the circuit configuration which would energize the relay. A contributing factor to the inadequate review was that an electrical drawing which was revised to show the modification was not human factored.

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Peach Bottom Atomic Power Station  
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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)

Following the event it was also determined that the D/G circuit modification as designed did not provide an acceptable method to preclude a D/G Output Breaker trip during routine testing. This occurred because the designer was not aware of the routine testing requirements.

Analysis of Event

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

The changes in the feedwater temperatures and power changes were bounded by current analysis. All automatic isolations functioned per design and the redundant isolation valves were operable. The isolation did not cause any significant adverse safety consequences. The E-2 D/G was the first of the four D/Gs to be modified.

Corrective Actions

The PCIS logic was reset and the affected systems were restored to their appropriate configurations.

The E-2 D/G modification was re-designed so that routine testing does not result in a D/G Output Breaker trip. In addition, the RT for the E-2 D/G has been revised to address the re-designed modification.

Personnel involved in the design of the modification and technical review of the RT will be counselled concerning the importance of attention to detail during the design and testing processes. The information about this event and its causal factors will be distributed to the appropriate engineering organizations.

The appropriate design and procedure changes were incorporated into the modification plans for the remaining diesel generators.

The D/G drawings will be revised to more clearly indicate the D/G circuit logic. The importance of providing more easily read electrical drawings for plant modifications will also be discussed with the design organizations.

Previous Similar Events

No previous similar events have been identified which were attributed to inadequate review of a circuit modification design and its impact on routine testing.