

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): Peach Bottom Atomic Power Station - Unit 3
DOCKET NUMBER (2): 050000278
PAGE (3): 1 OF 05

TITLE (4) PCIS Group II Reactor Water Cleanup System Isolation Signal as a Result of a Loss-of-Power Caused by a Tie Breaker Malfunction

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 (8)
05	07	88	88	002	01	09	19	88			050000

OPERATING MODE (9) N
POWER LEVEL (10) 010

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(a)	<input checked="" type="checkbox"/> 20.403(a)	<input type="checkbox"/> 20.730(a)(2)(iv)	<input type="checkbox"/> 20.731(a)
<input type="checkbox"/> 20.403(a)(1)(ii)	<input type="checkbox"/> 20.201(a)(1)	<input type="checkbox"/> 20.730(a)(2)(v)	<input type="checkbox"/> 20.731(a)
<input type="checkbox"/> 20.403(a)(1)(iii)	<input type="checkbox"/> 20.201(a)(2)	<input type="checkbox"/> 20.730(a)(2)(vi)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 205A)
<input type="checkbox"/> 20.403(a)(1)(iv)	<input type="checkbox"/> 20.730(a)(2)(i)	<input type="checkbox"/> 20.730(a)(2)(vii)(A)	
<input type="checkbox"/> 20.403(a)(1)(v)	<input type="checkbox"/> 20.730(a)(2)(ii)	<input type="checkbox"/> 20.730(a)(2)(vii)(B)	
<input type="checkbox"/> 20.403(a)(1)(vi)	<input type="checkbox"/> 20.730(a)(2)(iii)	<input type="checkbox"/> 20.730(a)(2)(viii)(B)	
<input type="checkbox"/> 20.403(a)(1)(vii)	<input type="checkbox"/> 20.730(a)(2)(iv)	<input type="checkbox"/> 20.730(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME: W. C. Birely, Senior Engineer - Licensing Section
TELEPHONE NUMBER: 215 841-1510

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NPROS
X	E/C	BKR	I202	N					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

ABSTRACT (Limit is 1400 spaces, i.e., approximately 9900 single-spaced typewritten lines) (16)

Abstract:

On May 7, 1988 at 0904 hours, a PCIS Group II Reactor Water Cleanup System (RWCU) isolation signal was generated as a result of a loss-of-power to temperature switch (TS-3-12-99) which monitors the Non-Regenerative Heat Exchanger outlet temperature. The loss-of-power occurred when a tie breaker malfunction resulted in two power supplies feeding the same electrical bus. This established the necessary logic to trip power to the temperature switch. This event is reportable because of the engineered safety feature actuation. No valve movement occurred as a result of this isolation signal. There were no adverse consequences to this event because the RWCU System was isolated and out-of-service at the time of the event. All normal power sources were reestablished by 0947 hours and the isolation signal was reset at approximately 1000 hours. The duration of the event was approximately 56 minutes. The tie breaker was removed from service, inspected, and returned to service. Preventive maintenance will be performed on the three breakers and Procedure A-42 ("Procedure for Control of Temporary Plant Alterations") has been revised.

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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 388A 2) (17)

Unit Conditions Prior to the Event:

- Unit 3 in Refueling Mode with core offloaded
- Reactor level at -410"
- Reactor Water Cleanup System (RWCU) was out-of-service with valves MO-68, MO-15 and MO-18 blocked closed
- Operator was attempting to perform a 480V Bus power source transfer

Description of the Event:

On May 7, 1988 at 0904 hours, a Primary Containment Isolation System (PCIS) Group II RWCU isolation signal was generated as a result of a loss-of-power to the temperature switch (TS-3-12-99) which monitors the RWCU Non-Regenerative Heat Exchanger outlet temperature.

At 0900 hours, a Control Room Operator was attempting to remove the 13kV circuit breaker 3R4 (transformer breaker) from service in order to accommodate preventive maintenance of the breaker. This action was being accomplished by switching the power source for the 480V 3R4 Bus from the 3R4 bus breaker to the 4-3R4 tie breaker (Figure 1). While initiating the "dead bus transfer" of the 3R4 Bus, the Control Room Operator attempted to close the 4-3R4 tie breaker from the Control Room. However, the 4-3R4 tie breaker position light on the control panel indicated the breaker remained open. Assuming that the tie breaker had not closed, the Operator moved the tie breaker control switch to the "trip" position then reclosed the previously opened 3R4 bus breaker in order to restore power to the 3R4 Bus. Approximately one minute later, both the 3R4 and 4R4 bus breakers tripped, causing loss-of-power to both the 3R4 and 4R4 480V Buses.

At the time of the event, the nonsafety-related 4R4 Bus was temporarily providing power to the safety-related E334-R-B Motor Control Center. The normal source (the E33 bus) was out-of-service for maintenance. The E334-R-B Motor Control Center provides power to the 30C62 RWCU instrument panel which contains the power source for temperature switch TS-3-12-99. The loss-of-power to temperature switch TS-3-12-99 completed the necessary PCIS logic to cause a PCIS Group II RWCU isolation signal. No valve movement occurred as a result of the isolation signal since the RWCU System was out-of-service. The following alarms were received in the Control Room:

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TEXT (if more space is required, use additional NRC Form 308A's) (17)

1. Group II/III Inboard Isolation Relays Not Reset
2. Group II/III Outboard Isolation Relays Not Reset

The 4-3R4 tie breaker was initially racked in and out to ensure that all connections were making contact. Transfer of the power source from the 3R4 bus breaker to the 4-3R4 tie breaker was successfully completed at 0917 hours allowing removal of the 3R4 transformer breaker. The 4R4 and 3R4 bus breakers were closed reestablishing power to the 4R4 and 3R4 480V Buses by 0947 hours. The alarms and isolation signals were reset at approximately 1000 hours. The duration of this event was approximately 56 minutes.

Consequences of the Event:

There were no adverse consequences as a result of this event. The RWCU System was out-of-service and isolated with valves MO-68, MO-15 and MO-18 blocked closed. No valve movement occurred as a result of the isolation signal. All systems functioned as designed.

At the time of the event, the nonsafety-related 4R4 Bus was providing power to safety related instrumentation which included temperature switch TS-3-12-99. This was being done because the normal power source (the E33 bus) was removed from service for maintenance. This temporary power source was permissible by Special Procedure 1109, "Deenergization of 4KV Bus E33". During normal operation, the nonsafety-related power supply would not be allowed to feed safety-related instrumentation, therefore, this event would not have occurred during normal plant operation.

Cause of the Event:

The cause of the PCIS Group II RWCU isolation signal apparently resulted from a 4-3R4 tie breaker malfunction.

Inspection of the tie breaker did not reveal any sticking or binding of the mechanical linkage. During the inspection, loose nuts were tightened. It is unknown whether previous cycling of the tie breaker may have resolved any mechanical problems that existed. The circuit breaker is an ITE Imperial Corporation K-1600 (1600 amperes).

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TEXT (if more space is required, use additional NRC Form 205A's) (7)

Corrective Actions:

The 4-3R4 tie breaker was removed from service, inspected, and returned to service. Power was reestablished to the 3R4 and 4R4 Buses as previously described and the "dead bus transfer" was successfully completed.

Actions Taken to Prevent Recurrence:

Procedure A-42 ("Procedure for Control of Temporary Plant Alterations") has been revised to require information tags in the Control Room when temporary power feeds are being utilized. This will aid the Operator in assessing possible consequences of performing plant operations when off-normal plant configurations exist.

Maintenance Procedure M-55.1 ("480 Volt Load Center Circuit Breaker Maintenance") will be revised to ensure that the mechanical linkages associated with the auxiliary contacts are inspected. The procedure will also require the auxiliary contacts to be inspected and cleaned. This revision will be completed by October 1, 1988. This maintenance will be performed on the 4-3R4 tie breaker, 3R4 bus breaker and 4R4 bus breaker prior to restart of Unit 3.

EIIS Codes:

The EIIS codes for the affected systems are as follows: JM-Containment Isolation Control System, CE-Reactor Water Cleanup System, EC-Low Voltage Power System (600V and less). The EIIS codes for the affected components are as follows: BKR-breaker, MCB-D-Control Board (Main), BU-Bus, ZIS-Switch, Indicating, Zone (Position), TIS-Temperature Indicating Switch.

Previous Similar Occurrences:

There have been no LERs concerning a PCIS isolation signal resulting from a loss-of-power caused by a tie breaker malfunction.

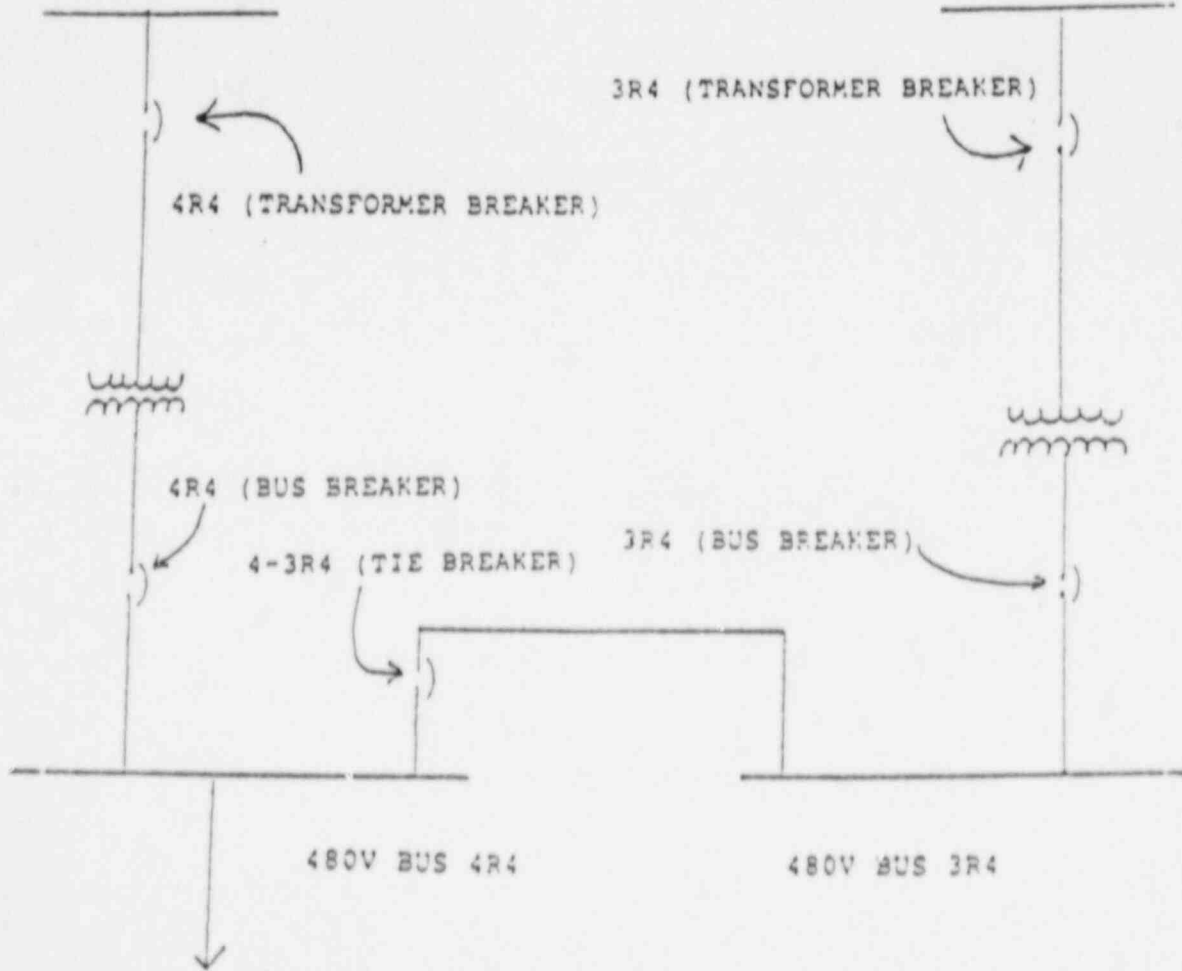
Tracking Codes: X1 - Failure with unknown cause

FACILITY NAME (1): Peach Bottom Atomic Power Station Unit 3	DOCKET NUMBER (2): 050002788	LER NUMBER (3):			PAGE (3) 05 OF 05
		YEAR 88	SEQUENTIAL NUMBER 002	REVISION NUMBER 01	

TEXT (if more space is required, use additional NRC Form 308A w/ (12))

REACTOR AREA LOAD CENTER 30B04

UNIT 3



TEMP. POWER FEED TO E134-R-B
MCC AND TIS 3-12-99

FIGURE 1

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA 19101

(215) 841-5020

E. P. FOGARTY
MANAGER
NUCLEAR SUPPORT DIVISION

September 19, 1988
Docket No. 50-278

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

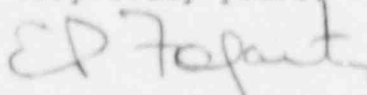
SUBJECT: Licensee Event Report
Peach Bottom Atomic Power Station - Unit 3

This LER concerns a Primary Containment Isolation System (PCIS) Group II Reactor Water Cleanup System isolation signal as a result of the loss-of-power to temperature switch TS-3-12-99. This loss-of-power was caused by a tie breaker malfunction. This revised LER is being submitted to reflect the removal of the commitment to revise Procedure A-23 ("Generation of Special Procedures") to require information tags in the Control Room when temporary power feeds are being utilized. During a review of the actions to prevent recurrence, plant staff determined that this procedure is a generic outline for writing special procedures and would not be the appropriate procedure to address this action. The use of information tags in the Control Room when temporary power feeds are being utilized will be adequately addressed by the revision to Procedure A-42 as discussed in this LER.

Reference: Docket No. 50-278
Report Number: 3-88-02
Revision Number: 01
Event Date: May 7, 1988
Report Date: September 19, 1988
Facility: Peach Bottom Atomic Power Station
RD 1, Box 208, Delta, PA 17314

Revisions are indicated by a vertical bar in the right hand margin. This LER is being submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(iv).

Very truly yours,



E. P. Fogarty
Manager
Nuclear Support Division

cc: W. T. Russell, Administrator, Region I, USNRC
T. P. Johnson, USNRC Senior Resident Inspector
T. E. Magette, State of Maryland
INPO Records Center

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