

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Peach Bottom Atomic Power Station - Unit 2	DOCKET NUMBER (2) 0500021717	PAGE (3) 1 OF 016
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TITLE (4) Failure to Submit a Special Report Concerning Inoperability of Cardox System in Control Room due to a Lack of Adequate Programmatic Controls

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)
03	28	88	88	008		010	42	68	PBAPS Unit 3		050002178

OPERATING MODE (9) N

POWER LEVEL (10) 01010

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

20.402(b)	<input type="checkbox"/>	20.405(a)	<input type="checkbox"/>	80.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)	<input type="checkbox"/>
20.405(a)(1)(i)	<input type="checkbox"/>	80.38(a)(1)	<input type="checkbox"/>	80.73(a)(2)(v)	<input type="checkbox"/>	73.71(a)	<input type="checkbox"/>
20.405(a)(1)(ii)	<input type="checkbox"/>	80.38(a)(2)	<input type="checkbox"/>	80.73(a)(2)(vi)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 305A)	<input type="checkbox"/>
20.405(a)(1)(iii)	<input type="checkbox"/>	X 80.73(a)(2)(i)	<input checked="" type="checkbox"/>	80.73(a)(2)(vii)(A)	<input type="checkbox"/>		
20.405(a)(1)(iv)	<input type="checkbox"/>	X 80.73(a)(2)(ii)	<input checked="" type="checkbox"/>	80.73(a)(2)(vii)(B)	<input type="checkbox"/>		
20.405(a)(1)(v)	<input type="checkbox"/>	80.73(a)(2)(iii)	<input type="checkbox"/>	80.73(a)(2)(viii)	<input type="checkbox"/>		
20.405(a)(1)(vi)	<input type="checkbox"/>			80.73(a)(2)(ix)	<input type="checkbox"/>		

LICENSEE CONTACT FOR THIS LER (12)

NAME W. C. Birely, Senior Engineer - Licensing Section	TELEPHONE NUMBER AREA CODE 215 8141-15048
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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) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

Abstract:

On March 28, 1988 while Unit 2 and Unit 3 were shutdown, it was determined by the Peach Bottom Atomic Power Station (PBAPS) Regulatory Group that a special report concerning the inoperability of the Cardox System in the Control Room was not submitted within the 31 day time limit as required by Technical Specification 3.14.B.4.b. This constitutes a failure to comply with the action statement of the Technical Specifications. This nonconforming condition has existed since November 15, 1987. The system was removed from service on October 1, 1987 as a result of a discovery by the PBAPS Fire Protection Coordinator that the Cardox hose in the Control Room was pressurized and had blistered. The cause of the failure to report was the lack of adequate programmatic controls to ensure proper identification and communication of conditions which require reporting. The Cardox System remains out-of-service pending completion of a modification to remove the Cardox System fire suppression capability from the Control Room. The failure to submit a special report per Technical Specification 3.14.B.4.b is a serious administrative deficiency. To prevent recurrence, the strengthened instructions for the LCO Log to improve the identification and initiation of special reports resulting from the time dependent equipment inoperabilities will be incorporated into the "Operations Management Manual".

Handwritten initials/signature

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		88	008	01	02	OF 06

TEXT (if more space is required, use additional NRC Form 366A (17))

Unit Conditions Prior to the Event:

Unit 2 in cold shutdown
Unit 3 in refuel with core offloaded

Description of the Event:

On March 28, 1988 it was determined by the Peach Bottom Atomic Power Station (PBAPS) Regulatory Group that a special report concerning the inoperability of the Cardox System in the Control Room had not been submitted within the 31 days as required by the Peach Bottom Atomic Power Station Technical Specification 3.14.B.4.b. The event is reportable since it constitutes a failure to comply with the action statement of the Technical Specifications.

Technical Specification 3.14.B.2 states that the Carbon Dioxide Fire Protection System serving the Control Room, Cable Spreading Room, and Computer Room shall be operable with an operable flow path to each room. Further, Specification 3.14.B.4 states that if the requirements of 3.14.B.2 cannot be met, restore the system to an operable status within 14 days, or in lieu of any other report required by Specification 6.9.2, submit a special report to the Commission within 31 days outlining the cause of the malfunction and the plans for restoring the system to an operable status. Reactor startup and/or continued reactor operation is permissible.

On October 1, 1987 the PBAPS Fire Protection Coordinator discovered that the Cardox hose in the Control Room was pressurized and had blistered due to its exposure to pressure. This was discovered during a routine fire hazards inspection. Further investigation revealed that the hoses on the Turbine Deck were also pressurized and were blistering due to pressure. As a result, the Cardox System for the Control Room and Turbine Deck was authorized to be taken out of service the same day by the Shift Manager. The Cardox System protecting the Cable Spreading Room and Computer Room was not affected.

The Cardox System supplies Carbon Dioxide to the Control Room and Turbine Deck via a common gas operated pilot valve. It was discovered that the hose nozzle located in the Southwest corner of the Control Room had been removed from its U-hook activating a microswitch which caused the pilot valve to open and pressurize the hoses in the Control Room and Turbine Deck. The actuation light located at the hose reel was not lit providing verification

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TEXT (if more space is required, use additional NRC Form 365A's) (17)

that the hose nozzle had been removed from its U-hook and the system was actuated. Upon actuation of the Cardox System in the Control Room, the indication light goes out.

Upon discovery of the blistered hoses, a blank flange was installed at the output of the pilot valve thus isolating the Cardox tank from the Cardox hose stations in the Control Room and Turbine Deck. This action removed the system from service. The removal of this portion of the system from service was recorded in the Limiting Conditions for Operation Log located in the Control Room per procedure A-7.

The new hoses were subsequently ordered. Due to delays in obtaining the hoses, the system remained out of service in excess of the 14 day limit permitted by the Technical Specifications. Additionally, the 14 day time limit was not tracked.

New hoses were installed on November 19, 1987 under Maintenance Request Form 2-37-M-8709534. The system was not returned to service pending completion of the operational verification test. The operational verification test was not performed until March 24, 1988 due to the backlog of Maintenance Request Forms requiring operational verification testing. During the operational verification test, a rupture occurred at the hose connection to the Carbon Dioxide piping at the Cardox hose station on the Turbine Deck. The Cardox System will remain out-of-service pending a modification which removes the Cardox System fire suppression capability from the Control Room.

The nonconforming condition with regards to the failure to identify and submit a special report had existed since November 15, 1987.

Consequences of the Event:

The failure to submit a special report per Technical Specification 3.14.E.4.b is a serious administrative deficiency.

During the time that the Cardox System was out-of-service in the Control Room the following alternate methods of fire suppression were available for the Control Room:

- a. Nine portable fire extinguishers are located in the Control Room.
- b. Manual fire water hose stations are located outside the Control Room near the entrances.

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

Additionally, the Control Room is continuously manned and contains smoke and heat detectors to provide prompt identification of a fire in the Control Room.

These alternate methods provide sufficient redundancy to assure adequate fire protection in the Control Room.

A Control Room habitability study assuming a discharge of the Cardox System in the Control Room has been performed. The study concluded that consideration should be given to removing the Cardox System from the Control Room.

The failure scenarios postulated in the study included both an accidental and planned discharge. The accidental discharge scenario assumes disengagement of the coupling on the Cardox hose reel located in the Control Room. Based upon the piping size and the piping configuration from the storage tank to the hose reel, Carbon Dioxide would discharge at a rate of 436 lbs./min. until the master valve at the Carbon Dioxide tank was manually closed. The atmosphere within the Control Room would become uninhabitable in approximately 2 minutes and, therefore, would pose a potential hazard to Control Room personnel.

A planned discharge would be initiated in the event of a fire. The worst case planned discharge would be a fire difficult to extinguish. Based upon the piping size, hose size and configuration, Carbon Dioxide would discharge at a rate of 350 lbs./min. until the hand line valve was closed. The atmosphere within the Control Room would become uninhabitable in approximately 2 1/2 minutes.

The fire loading in the Control Room is made up of paper, plastic and cable insulation. The control cabinets are relatively small and not interconnected. If a fire occurred in a control cabinet, it could be extinguished with a portable Halon extinguisher. Based on a fire protection analysis, the minimum requirements (NFPA 10 "Portable Fire Extinguishers") for a moderate hazard of this size is three extinguishers with a Class 2A rating. There are nine, 14 lb. Class 2A Halon extinguishers in the Control Room. Additionally, two water hose reels are located outside the entrance to the Control Room which, when extended with additional hose, can be utilized to extinguish a fire in the Control Room.

The Control Room is continuously manned and contains smoke and heat detectors to provide prompt identification of a fire in the Control Room.

Due to the additional protection of portable Halon extinguishers and the water hose reels located outside the Control Room and the size of fire expected to be handled by the Control Room

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TEXT (if more space is required, use additional NRC Form 366A (11/77))

Operators, the Cardox hose reels are not necessary in the Control Room and present a safety risk to Control Room Operators. Consequently, the Cardox System will be removed from the Control Room, contingent on approval of an Amendment to the Technical Specifications.

Cause of the Event:

The cause of the failure to submit the special report in a timely manner was the lack of adequate programmatic controls to ensure proper identification and communication of conditions which require reporting upon exceeding a specified time interval (i.e. special reports). Administrative Procedure A-7 ("Shift Operations") requires that the Control Room supervision maintain the Technical Specification Limiting Conditions for Operations (LCO) Log. The log is updated whenever equipment status affecting the Technical Specifications changes. Although the removal of the Control Room Cardox System was entered into the LCO Log, no further monitoring of the 14 day special reporting requirement was performed.

Corrective Actions:

The information required to be addressed in the special report is provided in this Licensee Event Report.

Actions Taken to Prevent Recurrence:

On April 26, 1988, a memorandum from the Superintendent Operations was distributed to Operations shift supervisory personnel instructing them to complete a Suspected Licensee Event Report Form upon entry into an Limiting Condition For Operation (LCO) with special reporting requirements.

The strengthened instructions for the LCO Log to improve the identification and initiation of special reports resulting from the time dependent equipment inoperabilities will be incorporated into the PBAPS "Operations Management Manual" (OMM) and will be implemented prior to the restart of either unit.

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FACILITY NAME (1) Peach Bottom Atomic Power Station Unit 2	DOCKET NUMBER (2) 050002778	LER NUMBER (6)			PAGE (3)	
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TEXT (if more space is required, use additional NRC Form 366A 3) (17)

The Cardox System will be removed from the Control Room contingent on approval of an Amendment to the Technical Specifications.

Additional hose will be provided at the water hose reels located outside the Control Room entrance to ensure that sufficient hose length is available to adequately extinguish a fire in the Control Room. This action will be completed by July 29, 1988.

EIIS Codes:

The EIIS codes for the affected systems and components are:

- LW - Carbon Dioxide Supply System
- KP - Fire Protection System
- NZL - Nozzle
- WIS - Switch, Indicating, Weight or Force
- DET - Detector
- V - Valve

Previous Similar Occurrences:

One previous LER concerns the failure to submit a special report within the 31 day time limit (2-85-21).

Cause Codes: D2 - Inadequate procedure
did not cover situation

PHILADELPHIA ELECTRIC COMPANY

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June 28, 1988
Docket No. 50-277

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Washington, DC 20555

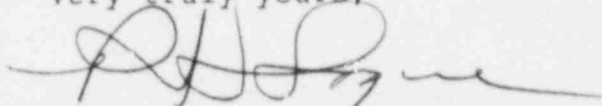
SUBJECT: Licensee Event Report
Peach Bottom Atomic Power Station - Unit 2

A revised LER 2-88-08 is being submitted to include the results of a Control Room habitability study considering a discharge of the Cardox System into the Control Room. A commitment was made in the original LER to provide the results of the Control Room habitability study. Further corrective actions to preclude this event from occurring are also provided.

Reference: Docket No. 50-277
Report Number: 2-88-08
Revision Number: 01
Event Date: March 28, 1988
Report Date: June 28, 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. The LER is submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(i) and 10 CFR 50.73(a)(2)(ii).

Very truly yours,



R. H. Logue
Assistant to the Manager
Nuclear Support Division

cc: W. T. Russell, Administrator, Region I, USNRC
T. P. Johnson, USNRC Senior Resident Inspector
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INPO Records Center

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