NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Peach Bottom Atomic Power Station - Unit 2	0 5 0 0 0 2 7 7	1 OF 0 4

TITLE (4) Failure of Control Panels to Meet Original Seismic Qualifications Due to Welding Installation Error

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)
0 3	0 3	8 8	8 8	0 0 5	0 1	0 5	1 0	8 8	PBAPS-Unit 3	0 5 0 0 0 2 7 8
										0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	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)(viii)(A)	
		20.405(a)(1)(iv)	X 50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
W. C. Birely, Senior Engineer - Licensing Section	AREA CODE 2 1 5 8 4 1 - 5 0 4 8

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)

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

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

Abstract

On March 3, 1988 with Unit 2 in Cold Shutdown and Unit 3 in the Refueling Mode with the core offloaded, it was confirmed that the as-built anchorage configurations of the Unit 2 and 3 main control room panels do not conform with the original installation requirements, and, therefore, may not be sufficient to withstand loads due to peak seismic conditions. The investigation was continued and on April 18, 1988, cable spreading room panels were also found not to conform with the original design detail. The cause of this deficiency was original installation error during original construction of the units in the 1970's. Details for control panel welding were provided on the original design drawings, but were not followed. Corrective actions are to weld the base channel of each panel to the floor embed on the outside of the panel or bolt the panels to the concrete floor when the concrete embed is not present. This effort will be completed prior to restart of either unit. The remaining safety related floor-mounted panels in both units will be inspected for verification of adequate anchorage. There were no actual adverse safety consequences as a result of the event. Under the conservative scenario of taking no credit for existing welds, continued operation of equipment on the deficient panels could not be assured during a design basis earthquake. This event is reportable under 50.73(a)(2)(ii).

NRC Form 366

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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	8 8	— 0 0 5	— 0 1	0 2 OF 0 4

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

Unit Conditions Prior to the Event:

Unit 2 - Cold Shutdown

Unit 3 - Refueling Mode with Core Offloaded

Description of the Event:

On March 3, 1988 and April 18, 1988 visual inspection and engineering evaluation confirmed that the as-built anchorage configurations of the bench and floor panels in the Unit 2 and 3 main control room and cable spreading room do not conform with the original installation requirements, and, therefore, may not be sufficient to withstand loads due to peak seismic conditions. This investigation was initiated after a concern was expressed by the NRC Resident Inspector.

The original control room and cable spreading room panel anchorage design details required the base channel of each panel either to be welded to the steel embedded in the concrete floor or to be bolted directly to the concrete floor when the concrete embed is not present. The as-found anchorage conditions were not in accordance with the original design detail drawings. This non-conformance has existed since prior to initial Unit 2 startup in 1974.

Consequences of the Event:

There were no actual adverse safety consequences as a result of this construction deficiency since initial plant operation.

To quantify the extent of the deficiency, a detailed dynamic analysis of each deficient panel would be required. To accomplish this analysis, we would need extensive access to the inside of each control panel for the purpose of determining the adequacy of the existing anchorage. Excessive entries into the panels could jeopardize both personnel and plant safety. Because of the potential safety impact, Philadelphia Electric has elected not to perform the detailed analysis, but rather to repair all deficient panels. If a design basis earthquake had occurred, the continued operation of equipment on the deficient panels could not have been assured.

Cause of the Event:

The cause of the event was installation error, in that details for control panel anchorage were provided on the original design drawings in the main control room and cable spreading room, but were not followed. Quality control inspections and the use of qualified welders were not required under the standards in effect at the time of installation. These welds were not in a periodic inspection program. Under normal static loading conditions, these welds are not stressed. Once these welds were installed, degradation was not a problem; thus, periodic inspection was not appropriate.

Corrective Actions:

The corrective actions assume that no credit may be taken for the existing welds unless the quality of the welds is assured by quality control inspection. For each control room panel and each affected cable spreading room panel, the base channel will be welded to the floor embed on the outside of the panel, or bolted directly to the concrete floor when the concrete embed is not present. Proper bolting of the panel to the base channel will be verified and corrected as required. Appropriate precautions will be taken to address control room habitability and equipment protection during the actual modification process. These actions will be completed prior to startup of either unit, and will ensure that the seismic anchorage of the panels is in conformance with the original design specifications. In addition to the main control room panels, the safety related floor-mounted panels outside of the control room in both units will be inspected for adequate anchorage verification.

Additional corrective actions relating to verification of seismic adequacy will be taken in response to Generic Letter 87-02 "Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, Unresolved Safety Issue (USI) A-46". Philadelphia Electric is participating in the Seismic Qualification Utilities Group (SQUG) for generic resolution of this issue. The schedule for completing these efforts will be in accordance with the SQUG Generic Implementation Procedure.

Actions Taken to Prevent Recurrence:

This event would not occur under current installation and inspection standards. All welding is currently performed by welders qualified in accordance with American Welding Society (AWS) D.1.1. Further, all installations and modifications are subject to quality control inspections to ensure that actual configurations are in conformance with design specifications.

EIIS Codes:

The EIIS codes for the affected systems are as follows: IB-Annunciator System, IU-Display Control System, JL-Panels System and VH-Radwaste Building Environmental Control System. The EIIS codes for the affected components are as follows: BD-board (Panel), CBD-control board, CHA-channel, MCBD-control board (Main) and PL-panel.

Previous Similar Occurrences:

LER 2-87-08 involved incorrect piping configurations in the control room ventilation radiation monitoring system.

Tracking Codes: B9 - Construction/installation error

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May 10, 1988
Docket No. 50-277
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 concerns the as-built anchorage configuration of the Unit 2 and 3 main control room panels and an as yet unknown number of cable spreading room panels not meeting the original installation requirements.

Reference:	Docket Nos. 50-277 and 278
Report Number:	2-88-05
Revision Number:	01
Event Date:	March 3, 1988
Report Date:	May 10, 1988
Facility:	Peach Bottom Atomic Power Station RD 1, Box 208, Delta, PA 17314

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

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
T. E. Magette, State of Maryland

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