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 3

TITLE (4)
Inoperable Fire Barrier Penetrations

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 7	2 5	8 5	8 5	— 0 0 8	— 0 0	0 8	2 2	8 5	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 5 8	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)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	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 1 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: 2-85-08

This report concerns inoperable fire barrier penetrations.

On July 25, 1985, qualification tests were performed on fire barrier penetrations containing ceramic fiber-polyurethane foam. Test results indicated that this material was unacceptable as a fire barrier when installed in a certain configuration. This material was subjected to a fire test followed by a hose stream test (ASTM E814-81). The penetration failed the hose stream test in those cases where the ceramic fiber was installed on the cold side of the test wall and the polyurethane foam was installed on the fire side of the test wall. Tests performed in the opposite configuration (ceramic fiber on the fire side, polyurethane foam on the unexposed side) proved the barriers acceptable for both the fire and hose stream tests.

A review of the materials used in the Peach Bottom fire barrier penetrations indicated that a total of 35 penetrations contain the ceramic fiber-polyurethane foam material in the unqualified configuration.

In accordance with Technical Specifications, fire detectors were verified operable and hourly fire watches were established in the unqualified fire barrier areas.

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

Description of the Event:

On July 25, 1985, ongoing tests of the fire barrier penetrations consisting of a 3-inch layer of ceramic fiber and a 9-inch layer of polyurethane foam determined this material to be inadequate for use as a 1-hour fire barrier when installed in a penetration in a certain configuration.

Fire barrier material is tested in accordance with ASTM E814-81 standards. ASTM E814-81 requires that fire barrier material withstand a fire test and a hose stream test to be given a 3-hour fire rating. Previous tests indicated that the configuration consisting of ceramic fiber installed on the cold side of the test wall and polyurethane foam installed on the fire side of the test wall passed the fire test but failed the hose stream test and therefore could not be given a 3-hour rating. However, the tests indicated that this configuration was adequate for a 1-hour rating. As a result, an exemption from the requirements of 10 CFR 50 Appendix R, Section III.M, was requested on December 2, 1983 to permit use of this penetration seal configuration in walls separating fire areas having a fixed combustible loading on one side which is less than 1-hour. Ceramic fiber was installed on the side with the highest combustible loading. However, recent testing performed on July 25, 1985 indicated this configuration was inadequate for a 1-hour rating.

This results in Peach Bottom Units 2 and 3 being in noncompliance with Technical Specification 3.14.D.2 which requires that all fire barrier penetrations separating portions of safety-related systems, required to ensure safe shutdown capability, shall be functional.

A review of the materials used in the Peach Bottom fire barrier penetrations was performed on July 25, 1985. This review indicated that a total of 35 penetrations contain the ceramic fiber-polyurethane foam material in the unqualified configuration.

In accordance with Technical Specifications, fire detectors were verified operable and hourly firewatches were established in the affected areas.

Consequences of the Event:

There were no adverse consequences. Operable fire detectors in areas adjacent to the unqualified fire barriers would have provided early detection in the event of a fire.

Cause of the Event:

Tests performed on November 3, 1983 on the ceramic fiber-polyurethane foam material indicated that the material was qualified to ASTM E814-81 standards for 1 hour because sufficient polyurethane foam remained at the end of the test when the foam was installed on the fire side of the test wall. However, retests using the same standard performed on July 25, 1985 indicated that sufficient polyurethane foam did not remain intact for the material to be given a 1-hour rating. On July 25, 1985, this configuration was determined to be unacceptable as a fire barrier.

Corrective Actions:

Roving fire watches were immediately established to monitor all areas with unqualified fire barrier penetrations. These fire watches will be maintained as necessary until the penetration upgrades are completed.

A review of completed fire detector surveillance tests was performed. This review indicated that all fire detectors in the areas affected by the unqualified barriers were operable.

Instructions were issued on August 6, 1985 specifying the work to be performed to upgrade the unqualified barriers. Upgrading the barriers is in progress at this time.

Previous Similar Occurrences

LER 3-85-11 concerned missing fire barrier seals.

PHILADELPHIA ELECTRIC COMPANY

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August 22, 1985

Docket No. 50-277

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

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

This LER concerns inoperable fire barrier penetrations.

Reference:	Docket No. 50-277
Report Number:	2-85-08
Revision Number:	00
Event Date:	July 25, 1985
Report Date:	August 22, 1985
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)(i).

Very truly yours,

W. T. Ullrich
Superintendent
Nuclear Generation Division

cc: Dr. Thomas E. Murley, Administrator, Region I, USNRC
T. P. Johnson, NRC Resident Inspector

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