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FACIL:50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
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SUBJECT: LER 90-008-00:on 900430,inoperable fire barrier penetration seal.

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TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
LICENSEE EVENT REPORT 90-008

Gentlemen:

The enclosed Licensee Event Report (LER) is submitted in accordance with
10 CFR 50.73 and NUREG-1022 including Supplements No. 1 and 2.

Very truly yours,


R. E. Morgan
General Manager
H. B. Robinson S. E. Plant

Enclosure

cc: Mr. S. D. Ebnetter
Mr. L. W. Garner
INPO

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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2										DOCKET NUMBER (2) 0 5 0 0 0 2 6 1					PAGE (3) 1 OF 4									
TITLE (4) INOPERABLE FIRE BARRIER PENETRATION SEAL																								
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	4	3	0	9	0	9	0	0	0	8	0	0	0	5	3	0	9	0	0	5	0	0	0	0
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																						
POWER LEVEL (10)		20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)										
1 0 0		20.405(a)(1)(i)				50.38(c)(1)				50.73(a)(2)(v)				73.71(c)										
		20.405(a)(1)(ii)				50.38(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)				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 C. T. Baucom, Senior Specialist										TELEPHONE NUMBER 8 0 3 3 8 3 - 1 2 5 3														
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																								
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs														
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)			MONTH	DAY	YEAR									
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO														

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

On April 30, 1990, with H. B. Robinson Unit No. 2 at 100% power, a deficiency was identified with respect to a fire barrier penetration. Passing through this penetration was a length of one-fourth inch plastic tubing which was unsealed at both ends. The material and configuration of this penetration did not constitute an acceptable three-hour fire barrier penetration seal, and the penetration was declared inoperable at 1545 hours on April 30, 1990. This penetration had been inspected on previous occasions, however, it was not recognized that this tubing violated the integrity of the penetration seal. The tubing was removed, and the penetration was repaired and returned to service at 0800 hours on May 7, 1990. Since it could be established that this penetration had been inoperable for a time period which exceeded the requirements of the Technical Specifications, this Licensee Event Report is submitted pursuant to 10CFR50.73 (a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.

NRC Form 366A
(9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/86

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
H. B. ROBINSON, UNIT NO. 2	05000261	90	008	00	2	OF	4

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

I. Description of Event

On April 30, 1990, H. B. Robinson Unit No. 2 was operating at 100% power with an inspection of fire barrier penetration seals in progress.¹ Specifically, 100% of the site fire barrier penetration seals were being inspected in accordance with OST-623, "Fire Barrier Penetration Seal Inspection," to satisfy the requirements of Technical Specification 4.14.5.1. As part of this inspection, a discrepancy was identified with regard to mechanical penetration MP-4016.02-FP-10 between Fire Zone 10 (South Cable Vault) and Fire Zone 11 (Pipe Alley). The specific discrepancy identified was a length of one-fourth inch (0.25") plastic tubing which passed through the sealed penetration. The total length of this tubing was estimated to be between 6 and 12 feet and the tubing was open at both ends. The tubing material could not be considered an acceptable part of a three-hour fire barrier, even if both tubing ends had been sealed. Therefore, the penetration was declared inoperable and removed from service at 1545 hours on April 30, 1990. Compensatory actions were taken in accordance with the requirements of Technical Specification 3.14.7.2.

The plastic tubing was removed from the penetration and the penetration was properly repaired and sealed. The penetration was returned to an operable status at 0800 hours on May 7, 1990, which was within seven days of the declaration of inoperability as required by the Technical Specifications.

A review of documentation associated with the affected penetration showed that it had been entered into the original penetration data base on August 20, 1984 as a mechanical penetration. Also, the penetration was inspected on October 9, 1987 and was deemed satisfactory. Based on this documentation, sufficient justification exists to consider that the penetration had been inoperable in excess of Technical Specification Limiting Condition for Operation (LCO) requirements, and compensatory actions were not implemented in accordance with the Technical Specifications.

¹H. B. Robinson Unit No. 2 is a 700 MW pressurized water reactor in commercial operation since March 1971.

NRC Form 368A
(9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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TEXT (If more space is required, use additional NRC Form 368A's) (17)

II. Cause of Event

Further investigation determined that the plastic tubing had in the past been used in conjunction with Integrated Leak Rate Testing (ILRT) of the containment. However, this tubing is no longer used during the ILRT, was serving no current function, and was presumably abandoned in place. Based on previous penetration inspection activity, it can be concluded that this tubing had been in place prior to August 1984. However, the activities associated with compilation of the penetration data base in August 1984, and the penetration inspection in October 1987, were not of sufficient depth and detail to recognize that the tubing material and configuration could not be relied upon as an acceptable component of the fire barrier. The current inspection involves both design verification and drawing verification for each fire barrier penetration. This expanded, detailed inspection identified the tubing as a deficiency. In summary, the previous inspection activity was not of sufficient scope and detail to identify the plastic tubing as a degradation of the penetration.

It should also be noted that, prior to establishing the penetration data base in 1984, there were no formal controls associated with mechanical penetrations.

III. Analysis of Event

Fire barrier penetration seals are a passive element in the facility fire protection program. Their operability is intended to minimize the probability of a single fire rapidly involving several areas of the facility prior to detection and extinguishment. Technical Specification 3.14.7.2.a ensures that prompt detection capability exists in the vicinity of an inoperable fire barrier penetration by requiring verification of fire detection system operability within one hour of penetration inoperability. Should an area detection system be inoperable, a continuous fire watch would be established within one hour in accordance with Technical Specification 3.14.7.2.b. In this way, proper contingency actions are taken until the penetration is restored to an operable status.

Based on the determination that the penetration had been inoperable for a period of time which exceeded Technical Specification LCO requirements, this occurrence is reportable pursuant to 10CFR50.73 (a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.

NRC Form 368A
(9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)		
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H. B. ROBINSON, UNIT NO. 2	0 5 0 0 0 2 6 1	9 0	- 0 0 8	- 0 0	4	OF	4

TEXT (If more space is required, use additional NRC Form 368A's) (17)

IV. Corrective Action

The plastic tubing was removed from penetration MP-4016.02-FP-10 and the penetration was properly repaired and sealed. The penetration was returned to an operable status at 0800 hours on May 7, 1990, which was within seven days of the declaration of inoperability as required by the Technical Specifications.

In addition, penetration drawings and the penetration data base will be revised to reflect the removal of the plastic tubing from the penetration.

As committed within Licensee Event Report 90-003, HBR2 personnel are currently performing an inspection of fire barrier penetration seals in accordance with Technical Specification 4.14.5.1. This inspection will include 100% of the penetration seals and should identify any further penetration deficiencies. This inspection is scheduled to be completed prior to startup from the 1990 Refueling Outage. Since an inspection of this magnitude and scope may likely result in the discovery of other penetration deficiencies, HBR2 has initiated discussions with NRC personnel to determine the most efficient and effective method of reporting identified deficiencies.

Also, as stated within LER 90-003, the implementation of the corporate Nuclear Plant Modification Program and the centralization of design activities have improved the development and review process for modifications and procedures that affect Appendix R compliance. These improvements will help to preclude recurrence of this type of condition.

V. Additional Information

A. Failed Component Identification

None

B. Previous Similar Events

Licensee Event Report 90-003 described the inoperability of fire barrier penetration seals which were found to have no internal fire barrier.

Licensee Event Report 88-018-01 described inoperable cable tray penetration seals which resulted from inadequate installation procedures.