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 AUTH.NAME AUTHOR AFFILIATION
 CROOK,R.D. Carolina Power & Light Co.
 SHEPPARD,J.J. Carolina Power & Light Co.
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-010-01:on 900620,inoperable fire barrier seal noted.
 Caused by core bore not incorporated as fire barrier
 penetration.Fire Penetration MP-6240.00-FB-07/25 sealed &
 returned ti svc.W/910322 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 8
 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 90-010-01

Gentlemen:

The enclosed supplemental Licensee Event Report (LER) is submitted in accordance with 10CFR50.73 and NUREG-1022, including supplements No. 1 and 2. This report describes the results of the Fire Barrier Penetration inspection, and provides information on additional penetrations found inoperable. The revised portions of the report are indicated by a right-hand margin bar. This submittal should replace existing copies of the original report of July 20, 1990.

Very truly yours,

J. J. Sheppard
General Manager
H. B. Robinson S. E. Plant

RDC:kgs

Enclosure

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

9103270201 910322
PDR ADOCK 05000261
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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 1				PAGE (3) 1 OF 0 7								
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	6	2	0	9	0	9	0	0	1	0	0	1	0	3	2	2	9	1	0 5 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) 0 6 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)				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 R. D. CROOK, SENIOR SPECIALIST - REGULATORY COMPLIANCE										TELEPHONE NUMBER 8 1 0 1 3 3 1 8 1 3 - 1 1 1 2 1 9												
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						
<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 June 20, 1990, with H. B. Robinson Unit No. 2 operating at sixty percent power, a fire barrier penetration was discovered with no fire seal. The penetration was declared inoperable at 1605 hours on June 20, 1990. The penetration consisted of a six inch core bore in the ceiling of a fire zone to the outside roof. The penetration housed a four inch roof drain pipe, which was not sealed other than by the tar covering of the roof. The core bore was installed as part of a Plant modification during 1977, and apparently was not recognized to constitute a fire penetration at that time. The penetration was repaired and returned to service at 1850 hours on June 26, 1990. Since it can 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.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0164

EXPIRES: 8/31/88

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

I. DESCRIPTION OF EVENT

On June 20, 1990, Unit No. 2 was operating at sixty percent 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 fire barrier penetration (MP-6240.00-FB-07/25) was discovered with no fire seal. This penetration consists of a six inch core bore housing a four inch roof drain pipe located in the ceiling over the A&B Gas Strippers in the Reactor Auxiliary Building to the outside roof. The penetration was declared inoperable at 1605 hours on June 20, 1990. Compensatory actions were taken in accordance with Technical Specification 3.14.7.2. The penetration was repaired and returned to service at 1815 hours on June 26, 1990, within the 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 installed between April of 1977 and July of 1978, when the "C" Waste Evaporator addition was constructed. Based on this documentation, sufficient justification exists to consider that the penetration had been inoperable in excess of the Limiting Condition for Operation (LCO) requirements, and compensatory actions were not implemented in accordance with Technical Specifications.

II. CAUSE OF EVENT

Plant Modification M-383 installed the "C" Waste Evaporator between April, 1977, and July, 1978. This modification located the six inch core bore in the ceiling of the A&B Gas Stripper room to house a four inch roof drain pipe. This core bore was not appropriately incorporated as a fire barrier penetration at that time, and was again not recognized when the data base was assembled in 1984, which was developed using modification penetration drawings as a basis. Thus, previous penetration inspections have failed to detect the existence of this un-sealed fire barrier penetration. It should be noted that, prior to establishing the penetration data base in 1984, there were no formal controls associated with mechanical penetrations.

¹H. B. Robinson Unit No. 2 is a 700 MW Pressurized Water Reactor in commercial operation since March, 1971.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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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 the 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 a Fire Zone Detection System be inoperable, a continuous fire watch is established within one hour in accordance with Technical Specification 3.14.7.2.b. Therefore, proper contingency actions are taken until the penetration is restored to operable status.

Based on the determination that penetration MP-6240.00-FB-07/25 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.

IV. CORRECTIVE ACTION

Fire penetration MP-6240.00-FB-07/25 was properly sealed and returned to service at 1815 hours on June 20, 1990, which was within the seven days of declaration of the inoperability as required by the Technical Specifications.

The penetration drawings and data base have been revised to reflect this penetration.

As committed within Licensee Event Report 90-003, H. B. Robinson personnel continued to perform an inspection of fire barrier penetrations in accordance with Technical Specification 4.14.5.1. This inspection was to include 100% of the penetration seals and intended to identify any further penetration deficiencies. The inspection was completed prior to startup from the 1990 Refueling Outage.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0101

EXPIRES: 8/31/86

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As stated in Licensee Event Report 90-008, since an inspection of this magnitude was expected to result in the discovery of additional penetration deficiencies, H. B. Robinson had initiated discussions with NRC personnel to determine the most efficient and effective method of reporting identified deficiencies. These discussions focused on the objectives of the inspection program, and how it was different than those inspections previously performed. While the inspection would ensure operable fire barrier penetration seals in accordance with Technical Specifications, it also provided an updated and accurate data base of fire barrier penetrations. This was accomplished through field inspection, research into previous modifications, drawing updates, and data base completeness. In addition, CP&L's program for maintaining equipment data continues to be implemented such that fire penetration information is maintained up-to-date through the design change process. This process will preclude future inadvertent deletions of penetrations from inspection.

It has been the previous practice at H. B. Robinson to submit a Licensee Event Report for inoperable penetrations where it could be established that the penetration had been inoperable for greater than the limits required by Technical Specifications. This is consistent with the guidance provided by NUREG-1022, Supplement 1. However, for the reasons discussed above, H. B. Robinson did not intend to submit further Licensee Event Reports on inoperable penetrations found during the present inspection, and committed to report any additional inoperable penetrations detected in a supplement to this report within thirty days of completion of the inspection. This position was discussed with NRC personnel.

V. ADDITIONAL INFORMATION

A. Failed Component Identification:

None.

B. Previous Similar Events:

LER-90-008

LER-90-003

LER-88-018-01

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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H. B. ROBINSON, UNIT NO. 2

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

VI. SUPPLEMENTAL INFORMATION

The inspection of Fire Barrier Penetrations was completed and the project closed out on February 27, 1991. The results of the inspection identified additional penetrations that had been inoperable for a period of time which exceeded Technical Specification LCO requirements, and thus constituted a violation of Technical Specifications. These penetrations, and associated corrective actions, are described below:

1. Penetration MP-5664.00-FP-07/11, which is a four inch core bore containing a two inch pipe located between the hallway and the pipe alley in the Reactor Auxiliary Building, was found with a void on the pipe alley side. This penetration was declared inoperable, grouted, and returned to service within the required LCO period.
2. Penetration CP-4754.00-SL-11/20, between the hallway and the E1/E2 room in the Reactor Auxiliary Building, was found with a metal sleeve in the wall. There was a grout facing on the E1/E2 Room side of the penetration. Removal of the facing identified that there was insufficient space to provide a qualified full depth grout or foam seal, and the penetration was therefore declared inoperable. Engineering Evaluation EE-90-047 was performed on this configuration, and it was determined that a fire barrier caulk could be installed to provide an adequate seal. The penetration was repaired in this manner and was returned to service within the LCO period.
3. Penetration EP-2394.00-FL-04, in the second floor of the Reactor Auxiliary Building between the hallway and the Volume Control Tank (VCT) room, contains a one inch conduit. Because the conduit openings were not at the barrier, both ends of the conduit were required to be sealed. However, it was discovered that the conduit had only been sealed on one side. The penetration was declared inoperable, adequately sealed, and returned to service within the LCO period.
4. Penetration EP-2247.22-FL-07, in the Reactor Auxiliary Building between the first floor hallway and the Safety Injection Pump room, is a conduit which was found with no internal seal on the hallway side. Because the first opening in this conduit is not at the barrier on either side, a seal is required to be on both sides of the penetration. The penetration was declared inoperable, repaired, and returned to service within the LCO period.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED/CHG NO. 3130-31CA

EXPIRES: 8/31/86

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H. B. ROBINSON, UNIT NO. 2

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5. Penetration CP-6421.00-FX-03/25, which is a two inch core bore in an outside wall to the Safety Injection Pump room, was found with an inadequate grout seal. This penetration contained a conduit carrying electrical wiring and a one quarter inch copper tube. A light fixture covered the penetration on the outside wall. The conduit was determined to have no internal seal. The penetration was removed from service, an adequate seal installed, and the penetration was returned to service within the LCO time period.
6. Two unsealed penetrations were discovered in a wall between the "A" Emergency Diesel Generator and the Reactor Auxiliary Building hallway. These penetrations, which are in a 10 CFR 50, Appendix "A" fire barrier, did not appear on any plant penetration drawing, and were not included in the penetration database. Each of these penetrations contained conduits and electrical wiring. Due to the insufficient space internal to the conduit, as well as inaccessibility of the penetrations, an Engineering Evaluation was performed to determine adequacy of the fire barrier. Based on this evaluation, it was determined that the penetrations were in fact satisfactory. The penetration data base has been updated to include these penetrations, which are now identified as EP-6423.00-FL-02/07 and EP-6424.00-FL-02/07.
7. A penetration containing a three inch sleeve with a one inch conduit passing through it was found in a wall between the stairwell in the Reactor Auxiliary Building hallway and the "B" Waste Evaporator room. This penetration did not appear on any plant penetration drawing, and was not included in the penetration data base. The sleeve and conduit on both sides of the wall were covered by an electrical box, and the conduit did not contain an internal or an external fire seal. The penetration was declared inoperable, a seal was installed, and the penetration was returned to service within the LCO period. These penetrations, which are now included in the penetration data base, are now identified as EP-6447.00-FC/FL-07/25.
8. Penetration blackout CP-4238.00-FB-07/12, which is located between the Reactor Auxiliary Building hallway and the Waste Holdup Tank room, was found with two, three quarter inch conduits used as protective pipe, each containing three, one-quarter inch instrument tubing lines. There was insufficient space within each conduit to provide an internal foam seal. Engineering Evaluation EE-90-044 was performed, which justified the penetrations adequate in the as-found condition.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED: OMB NO. 3150-3104

EXPIRES: 8/31/88

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9. Penetration MP-4137.02-FL-11/12, located in a fire barrier between the Pipe Alley and the Waste Holdup Tank room, is a three quarter inch conduit with three, one quarter inch copper tubes passing through it. It could not be determined that the foam seal on the Pipe Alley side of the barrier was a qualified seal. In addition, the conduit was not sealed on the Waste Holdup Tank side of the barrier. Due to the insufficient space in the conduit to provide a seal, Engineering Evaluation EE-90-049 was performed, and it was determined that the existing configuration was in fact adequate.
10. Penetrations EP-5312.00-FC-22/23, EP-5311.00-FC-22/23 and EP-5317.00-FC-22/23, which are located between the Control Room and an adjacent room containing the Reactor Protection and Control Analog Instrumentation equipment (Hagan Room), were found with inadequate seals. In each case, the conduit penetrates the fire barrier wall through a core bore, which is only slightly larger than the outside of the conduit penetrating through it. These penetrations were evaluated by Engineering Evaluation EE-90-066 and were determined to be adequate.
11. Penetration EP-5670.02-FL-11/25, is located in a fire barrier between the Pipe Alley and the outside. No documentation could be found to qualify the conduit seal on the Pipe Alley side of the penetration. The conduit on the outside wall of the penetration did not contain a seal at all. Engineering Evaluation EE-90-067 was performed, and the penetration was justified as adequate.