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

SUBJECT: LER 92-026-00:on 921218,test pressure dropped below criteria during performance of containment personnel airlock leakage test.Caused by component failure.Air lock expert brought onsite to investigate.W/930118 ltr.

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RNPD/93-0136
(10CFR50.73)

United States Nuclear Regulatory Commission
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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
LICENSEE EVENT REPORT NO. 92-026-00

Gentlemen:

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

Very truly yours,

Ray H. Chambers

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

RDC:lst

Enclosure

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

250074

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Enclosure to Serial: RNPD/93-0136

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

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FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2	05000 261	1 OF 4

TITLE (4)
BREACH OF CONTAINMENT INTEGRITY DUE TO FAILURE OF PERSONNEL AIRLOCK DOOR

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 NAME	DOCKET NUMBER
12	19	92	92	-- 026 --	00	01	18	93		05000
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N
POWER LEVEL (10)	100

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

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
20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
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 (Include Area Code)
David Crook, Senior Specialist-Compliance	(803) 383-1179

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
B	BD	AL	310	Y						

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 15 single-spaced typewritten lines) (16)

On December 18, 1992, H. B. Robinson Unit No. 2 was operating at one hundred percent power. During performance of a scheduled Containment Personnel Airlock Leakage Test, test pressure dropped below the acceptance criteria. Since the outer airlock door was properly sealed, leakage on the inner airlock door was suspected. On December 19, 1992, at 1352 hours, Licensee Operations personnel entered the action statement of Technical Specification 3.0 in order to open the outer airlock door to allow personnel to access and repair the inner door. At 0105 hours the airlock was repaired and the test was satisfactorily completed.

The cause of this event is attributed to component failure. A combination of several related factors resulting from maintenance activities during the last refueling outage resulted in subsequent leakage. There was minimal impact on safety due to this event.

This report is submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) as an operation in a condition prohibited by the plant's Technical Specifications.

NRC FORM 366A (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

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

I. Description of Event

On December 18, 1992, H. B. Robinson Unit No. 2 was operating at one hundred percent power. Licensee engineers were performing scheduled semiannual surveillance test EST-010, "Containment Personnel Airlock Leakage Test" as required by Technical Specification 4.4.1.2. The test consists of pressurizing the Personnel Airlock to a pressure of forty-seven (47) psig and observing pressure and temperature for a period of sixty (60) minutes. The acceptance criteria for the test is the ability to maintain pressure above forty-two (42) psig. Prior to testing, the Penetration Pressurization System serving the airlock was isolated, and the airlock was pressurized with Station Air using a test rig as required by procedure. Following the necessary soak period, which allows airlock temperature and pressure to stabilize, the test began. After approximately forty (40) minutes of testing, the airlock pressure had dropped to below forty-two (42) psig, and the test was suspended. In order to ensure that the initial test was correctly performed, the test was re-performed at 1140 hours, again with unsatisfactory results. At 1525 hours the test was again performed, but with an extended soak time of sixty minutes, and again the pressure dropped below forty-two (42) psig. The airlock was then repressurized in order to inspect for leakage at the outer door. At that time, the source of leakage was suspected to be at the shaft seal of the outer door handwheel. As such, Licensee Maintenance personnel repacked the handwheel shaft seals. The airlock was again pressurized, and on December 19, at 0030 hours, the test was again performed. During this test, with the outer door properly sealed, test pressure again dropped below forty-two (42) psig, indicating leakage in the inner door.

On December 19, 1992, at 1352 hours, Licensee Operations personnel entered the action statement of Technical Specification 3.0 in order to open outer airlock door to allow personnel to access inner door to trouble shoot and repair leakage identified. This requires that the plant be placed in hot shutdown within eight hours unless corrective actions are taken to allow operation to continue. Further leakage investigation and repair activities required entry into Technical Specification 3.0 four additional times between December 19 and December 20. Each time, corrective actions were taken that permitted exiting the LCO within the specified time period. At 0105 hours on December 20, following identification of the leakage source, the airlock repairs were affective and EST-010 was satisfactorily completed. The NRC was notified of each LCO entry, as well as of the satisfactory completion of the testing, via the ENS.

This report is submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) as an operation in a condition prohibited by the plant's Technical Specifications.

NRC FORM 366A (5-92) U.S. NUCLEAR REGULATORY COMMISSION

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LICENSEE EVENT REPORT (LER)
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

II. Cause of Event

The cause of this event is attributed to component failure.

Review of work history surrounding the Personnel Airlock identified that significant maintenance was performed on the airlock during the early part of the last refueling outage. During the first part of the outage, the airlock shaft seals were changed on all but the inner door interior shaft. The airlock contractor performing the work attempted to replace the inner door seal, but found that it would require cutting the shaft to replace the shaft seal. Based on the unavailability of parts and personnel during the window available for airlock work, and because there was no indication of seal degradation, the final seal replacement was deferred. Satisfactory performance of post-maintenance testing provided verification of airlock operability. However, a combination of aging to the gasket material, the application of excessive force to the support shaft bearing during earlier maintenance activities, and the increased use of the airlock for containment access and egress during the remainder of the refueling outage, permitted the shaft seal flange to loosen and move away from its seating arrangement, resulting in the subsequent leakage.

III. Analysis of Event

Technical Specification 3.6.1.a states that Containment Integrity shall not be violated unless the reactor is in cold shutdown condition. Technical Specification 1.7.c defines Containment Integrity to exist when at least one door in the Personnel Airlock is properly closed and sealed. The Plant was considered to be operating in a "condition prohibited by the Plant's Technical Specifications" as discussed in NUREG 1022, Supplement 1, when Technical Specification 3.0 was entered on December 19, 1992, to affect the necessary airlock repairs.

This condition is considered to have had minimal safety significance. It is unlikely that the Technical Specification limit for total containment leakage would have been exceeded (0.1 weight percent of containment volume in 24 hours) because both doors are normally closed when the reactor is above 200 degrees, except for brief periods of containment inspection and maintenance activities.

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

IV. Corrective Actions

A contract air lock maintenance expert was brought onsite to assist with the investigation. A special Procedure was developed to facilitate the investigation. On December 19, 1992, Licensee Maintenance and engineering personnel entered the containment with the contractor to identify possible leakage points from the airlock. The airlock was then pressurized to 2 psi in order to facilitate leakage detection. Although the pressure was determined to be too low to effectively identify leakage, inspection of the inner door shaft seal (upper shaft) revealed that the inner door shaft seal flange bolts were loose, and found grease projecting from around the shaft seal flange. The bolts were tightened and all remaining components inside the containment checked. EST-010 was then performed on the airlock with satisfactory results.

A Work Request will be written to replace the inner door shaft seal during the next refueling outage, currently scheduled to begin during September, 1993.

In order to preclude recurrence of this event, procedure PM-038, "CV Personnel Airlock Maintenance and Inspection" will be revised to include inspection of the shaft seal gasket bolts for proper torque.

V. Additional Information

A. Failed Component Information

EIIS Codes: System-BD; Component-AL; Manufacturer-310.

B. Previous Similar Events

LER-89-015-00

LER-90-004-00

LER-90-006-00