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FACIL:50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
AUTH.NAME AUTHOR AFFILIATION
CROOK,D. Carolina Power & Light Co.
CHAMBERS,R.H. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-024-00:on 921202,determined that two normally closed series CIV should be declared inoperable due to valve leakage.Caused by design configuration.Plant Improvement request will be initiated to install valves.W/921228 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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RNPD/92-3295
(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. 92-024-00

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:1st

Enclosure

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

IE22
1/1

Enclosure to Serial: RNPD/92-3295

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)

(See reverse for required number of digits/characters for each block)

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

TITLE (4) UNUSUAL EVENT AND TECHNICAL SPECIFICATION PLANT SHUTDOWN INITIATION DUE TO LOSS OF CONTAINMENT VESSEL INTEGRITY

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	02	92	92	-- 024 --	00	12	28	92		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)		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)	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 (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	SD	SMV	C635	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 2, 1992, H. B. Robinson Unit No. 2 was operating at one hundred percent power. Following review of a surveillance Sample System Integrity Test, licensee Operations personnel determined that two normally closed series containment isolation valves should be declared inoperable due to valve leakage of approximately 50 cc/minute. Maintenance activities were immediately initiated to increase spring tension in the valve actuator to reduce the leak rate to meet acceptable limits. At 2300 hours, a reactor shutdown was initiated, and at 2305 hours, an Unusual Event was declared. At 2356 hours the NRC was notified via the ENS in accordance with 10 CFR 50.72(a)(i) of "the declaration of any of the Emergency Classes specified in the licensee's approved Emergency Plan."

On December 3, 1992, at 0100 hours, the leakage had been reduced to acceptable limits. At 0220 hours, following reverification that the leakage remained at acceptable limits, the Unusual Event was terminated, and escalation to full power was commenced.

This report is submitted pursuant to 10 CFR 50.73(a)(2)(ii).

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

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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
H. B. ROBINSON, UNIT NO. 2	05000261	92	-- 024 --	00	2 OF 4

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

I. DESCRIPTION OF EVENT

On December 2, 1992, H. B. Robinson Unit No. 2 was operating at one hundred percent power. At 1530 hours, following review of completed surveillance test OST-909, "Sample System Integrity Test", licensee Operations personnel determined that Primary Sample Valves PS-956E and PS-956F, normally closed series isolation valves from the Reactor Coolant System (RCS) loops 2 and 3 outside the reactor containment building, should be secured as required by the plant Technical Specification (TS) 3.6.3 and declared inoperable due to valve leakage, and the required four hour Limiting Condition for Operation (LCO) for containment integrity entered. At 1650 hours the Unit No. 2 Control Room was notified to de-energize valves PS-956E and PS-956F and to conduct an inspection to determine if leakage continued. Licensee operations personnel inspected the valves and determined that the PS-956F valve was leaking from its packing when closed at a rate of approximately two to three drops per minute. At 1805 hours, the valves were de-activated in the closed position and the LCO for Containment Integrity was exited.

Since a seat leak rate of 50 cc/minute existed at a system pressure of 2235 psig, and the valve acceptance test EST-004, "Isolation Valve Seal Water" leak rate was determined at 46 psig, the determination of whether or not the valve was exceeding its allowable leak rate could not be made by the licensee's Operations Shift Supervisor. At 1852 hours, an Operability Determination was initiated in accordance with plant procedures, and at 2145 hours, based on a preliminary calculation which indicated that a leak rate of 12 cc per minute was acceptable for Containment integrity requirements, a thirty six hour shutdown LCO was entered in accordance with TS 3.6.3. Maintenance activities were initiated to increase spring tension in the valve actuator to reduce the leak rate to meet acceptable limits. At 2300 hours, a reactor shutdown was initiated, and at 2305 hours, an Unusual Event was declared. At 2356 hours the NRC was notified via the ENS in accordance with 10 CFR 50.72(a)(i) of "the declaration of any of the Emergency Classes specified in the licensee's approved Emergency Plan."

On December 3, 1992, at 0100 hours, the Control Room was informed that the leakage had been reduced to 10 cc per minute based on measurements from the sample sink and at the valve. At 0112 hours, with the plant at seventy eight percent power, the power decrease was terminated. At 0220 hours, following reverification that the leakage remained less than 12 cc per minute, the Unusual Event was terminated, and escalation to full power was commenced.

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

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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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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 the design configuration of the system and the inadequacy of the system to serve both a containment isolation function and as a routine sampling point.

By design, the normal sample point for the RCS is on the hot legs. Routine sampling is performed as required by Technical Specification Table 4.1.2 for RCS Gross Activity and Boron Concentration. By specifying a relatively weak valve for this frequent sampling application, given the relatively high temperature and pressure, an unacceptable failure rate is created.

III. ANALYSIS OF EVENT

This event is reportable pursuant to 10 CFR 50.73(a)(2)(ii) as a degradation of a principal safety barrier.

This event had no adverse impact on plant safety. Primary Sample Valves PS-956E and PS-956F are currently considered inoperable. In accordance with Technical Specifications, the valves' electrical signals were isolated with a clearance placed on the valves to prevent their operation. Since tightening the spring on valves PS-956E and PS-956F reduced the leakage to an acceptable level, the leak tightness function for the penetration is in compliance with Technical Specifications requirements for Containment Isolation.

The basis for Technical Specification 4.4.2.c states that the Isolation Valve Seal Water system demonstrates operability of the containment isolation valves. As such, EST-004 leakage requirements must be met in order to consider the penetration operable from a containment integrity standpoint. Testing has determined that leakage through the valve is currently 10 cc/minute at 2235 psig. A conservative calculation has determined that, with maximum seat leakage of 1.725 cc/minute at 46 psig, the maximum expected leakage at 2235 psig is 12.02 cc/minute. Since the current leak rate of 10 cc/minute is less than 12.02 cc/minute, the penetration is properly isolated and the valves are operable as failed closed isolation valves. Because the valves are not considered operable from a stroke time standpoint, they must remain closed with the air supply isolated.

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H. B. ROBINSON, UNIT NO. 2	05000261	92	-- 024 --	00	4 OF 4

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

IV. CORRECTIVE ACTIONS

The following corrective actions have been taken:

A. Primary Sample Valves PS-956E and PS-956F are closed under a Shift Supervisor's clearance and the air supply to the valves has been isolated. As such, Containment Integrity is maintained.

B. An alternate sampling point has been identified for routine system sampling until valve repairs have been completed.

The following actions will be taken to prevent recurrence of this event:

A. A Plant Improvement Request (PIR) has been initiated to consider if replacement of these valves with valves of an improved design is needed.

B. A Plant Improvement Request will be initiated to install additional (maintenance) valves for isolation and post maintenance testing of the penetration.

C. A Request for Engineering Task (RET) will be submitted to obtain documentation that will allow permanent sampling from a lower pressure sample point.

V. ADDITIONAL INFORMATION

A. Previous Similar Events

LER 92-001-00, January 29, 1992.

B. Failed Component Information

Valves PS-956E and PS-956F are Copes Vulcan 3/8 inch pneumatic operated globe valves, EIIS Codes: System: SBD; Component: ISV; Manufacturer: C635