

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9005040240      DOC. DATE: 90/04/20      NOTARIZED: NO      DOCKET #  
 FACIL: 50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C      05000261  
 AUTH. NAME      AUTHOR AFFILIATION  
 CROOK, R.D.      Carolina Power & Light Co.  
 MORGAN, R.E.      Carolina Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 89-015-01: on 891128, breach of containment integrity  
 due to failure of airlock equalizing valve.      w/9      ltr.

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

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INTERNAL:	ACNW	2 2	AEOD/DOA	1 1
	AEOD/DSP/TPAB	1 1	AEOD/ROAB/DSP	2 2
	DEDRO	1 1	NRR/DET/ECMB 9H	1 1
	NRR/DET/EMEB9H3	1 1	NRR/DET/ESGB 8D	1 1
	NRR/DLPQ/LHFB11	1 1	NRR/DLPQ/LPEB10	1 1
	NRR/DOEA/OEAB11	1 1	NRR/DREP/PRPB11	2 2
	NRR/DST/SELB 8D	1 1	NRR/DST/SICB 7E	1 1
	NRR/DST/SPLB8D1	1 1	NRR/DST/SRXB 8E	1 1
	<del>REG FILE 02</del>	1 1	RES/DSIR/EIB	1 1
	RGN2 FILE 01	1 1		
EXTERNAL:	EG&G STUART, V.A	4 4	L ST LOBBY WARD	1 1
	LPDR	1 1	NRC PDR	1 1
	NSIC MAYS, G	1 1	NSIC MURPHY, G.A	1 1
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Carolina Power & Light Company

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APR 27 1990

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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261  
LICENSE NO. DPR-23  
LICENSEE EVENT REPORT 89-015-01

Gentlemen:

The enclosed Supplemental Licensee Event Report (LER) is submitted in accordance with 10 CFR 50.73 and NUREG-1022 including Supplements No. 1 and 2. This Supplement is required to extend the completion date for a commitment associated with planned corrective actions.

This extension is necessary for two reasons. First, additional concerns have been identified relative to leakage around the seal of the inner containment air lock door. These concerns have been discussed within LERs 90-004 and 90-006, and have resulted in expanded efforts in the areas of investigation and root cause analysis. Second, the previous commitment date corresponded to what was, at that time, the planned date for a refueling outage. This outage is now scheduled to begin in September 1990. Cold shutdown conditions are considered necessary to allow sufficient time for examination and maintenance without being inhibited by Technical Specification requirements for containment integrity.

The revised portions of the LER are indicated by a right-hand margin bar. This submittal should replace existing copies of the original report dated December 22, 1989.

Very truly yours,

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

RDC:dwm

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

9005040240 900420  
PDR ADDOCK 05000261  
S FDC

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 4
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TITLE (4)  
BREACH OF CONTAINMENT INTEGRITY DUE TO FAILURE OF AIRLOCK EQUALIZING VALVE

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)																																		
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">OPERATING MODE (9) N</td> <td colspan="11">THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)</td> </tr> <tr> <td rowspan="6">POWER LEVEL (10) 0 0 0</td> <td>20.402(b)</td> <td>20.405(c)</td> <td>50.73(a)(2)(iv)</td> <td>73.71(b)</td> </tr> <tr> <td>20.405(a)(1)(i)</td> <td>50.38(c)(1)</td> <td>50.73(a)(2)(v)</td> <td>73.71(c)</td> </tr> <tr> <td>20.405(a)(1)(ii)</td> <td>50.38(c)(2)</td> <td>50.73(a)(2)(vii)</td> <td rowspan="4">OTHER (Specify in Abstract below and in Text, NRC Form 366A)</td> </tr> <tr> <td>20.405(a)(1)(iii)</td> <td>50.73(a)(2)(i)</td> <td>50.73(a)(2)(viii)(A)</td> </tr> <tr> <td>20.405(a)(1)(iv)</td> <td>X 50.73(a)(2)(ii)</td> <td>50.73(a)(2)(viii)(B)</td> </tr> <tr> <td>20.405(a)(1)(v)</td> <td>50.73(a)(2)(iii)</td> <td>50.73(a)(2)(x)</td> </tr> </table>												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 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)	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)	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)
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LICENSEE CONTACT FOR THIS LER (12)

NAME R. D. Crook, Sr. Specialist, Regulatory Compliance	TELEPHONE NUMBER 8 0 3 3 8 3 - 1 1 7 9
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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	B D	V T V	J 0 1 0	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On November 28, 1989, Unit No. 2 was in cold shutdown. As a result of the performance of the Containment Personnel Airlock Test, it was determined that leakage existed through a valve used to relieve pressure from the airlock. This leakage, combined with other small leakage paths in the airlock, constituted a breach of containment integrity as defined by Technical Specifications. The cause of the primary leakage was attributed to excessive wear on the valve internals. Repairs to the identified leakage sources were made, and the airlock test was satisfactorily completed. This LER is submitted pursuant to 10CFR50.73(a)(2)(ii).

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		0 1 5	0 1	0 2	0 2	0 4

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

I. Description of Event

On November 28, 1989, Unit No. 2 was in cold shutdown for work on the Auxiliary Feedwater System.<sup>1</sup> The licensee was performing scheduled surveillance test EST-010, "Containment Personnel Airlock Leakage Test." This test requires securing the two containment access doors and pressurizing the airlock to determine the total containment leakage through the passageway. During testing, it was discovered that some small leakage paths existed which, when combined, caused the test results to exceed the acceptance criteria. At 1345 hours, it was determined that this condition would have constituted a breach of containment integrity, as defined by Technical Specification 1.7.c, when containment entries were made during power operation.

The NRC was notified via the ENS of this condition on November 28, 1989, at 1736 hours, pursuant to 10CFR50.72(b)(2)(i), as a degradation of a principal safety barrier.

This report is submitted pursuant to 10CFR50.73(a)(2)(ii).

II. Cause of Event

The primary cause of this event is attributed to failure of a three inch ball valve located on the outer door inside the personnel hatch bulkhead, combined with other miscellaneous leak paths on both the inner and outer door assemblies. This is one of two valves (one for each door) which are used as airlock equalization ports, and are original plant equipment. Over the life of the valve, dust accumulation in the valve had caused excessive wear on the internal stainless steel ball and its seating surface. This wear resulted in a leakage path through the valve. The other leakage paths consisted of handwheel packing and a loose pipe cap on an unused fitting on the inner door.

<sup>1</sup>H. B. Robinson Unit No. 2 is a Westinghouse pressurized water reactor nuclear power plant in commercial since March, 1971.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

III. Analysis of Event

Periodic testing to determine total leakage through the containment personnel airlock fulfills the requirements of 10CFR50, Appendix J for type B test, and the requirements of Technical Specification 4.4.1.2. This is a sensitive leak rate test at 46 psig, and is performed every six months. Repairs and retests are performed whenever the combined leakage rate from containment penetrations served by the Penetration Pressurization System (including the personnel airlock) exceeds 1.57 scfm.

The results of EST-010 appear to exceed Technical Specification 4.4.1.2.b sensitive leak rate testing limits of 30 percent of the maximum allowable leak rate ( $L_p$ ) for Penetration Pressurization System leakage. However, it is unlikely that the technical specification limit for total containment leakage could have been exceeded (0.1 weight percent of containment volume in 24 hours) for the following reasons:

- (1) The air lock is tested by pressurizing the inner space.
- (2) Some leakage escaped into containment via the inner door assembly, and out through the outer door assembly.
- (3) The amount of leakage in either direction cannot be quantified.
- (4) Both doors are normally closed when the reactor is above 200 degrees, except for brief periods for containment inspections and minor maintenance activities.

This report is being conservatively provided due to the inability to precisely determine the direction of the airlock leakage. Therefore, it has been assumed that the 30 percent of  $L_p$  for the sensitive leak rate test was exceeded.

This event was reported as a breach of a principal safety barrier. This report is submitted pursuant to 10CFR50.73(a)(2)(ii).

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2	DOCKET NUMBER (2) 0 5 0 0 0 2 6 1 8 9	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		0 1 5	0 1	0 1	0 4	OF 0 4

TEXT (If more space is required, use additional NRC Form 364A's) (17)

IV. Corrective Action

Both airlock valves were removed from the personnel hatch and repaired. The valves were reinstalled, concurrent with other normal repair activities on the airlock. A final containment personnel airlock leakage test was then satisfactorily conducted, resulting in a total leak rate of .04 scfm. The system was returned to service on December 10, 1989.

To prevent recurrence of this event, a Preventative Maintenance (PM) procedure will be developed to periodically check components within the containment personnel airlock. These activities will be performed after the as-found leakage is determined and documented per the local leak rate testing program. The procedure will be implemented during the 1990 Refueling Outage.

V. Additional InformationA. Failed Component Information

The failed component was a three inch Jamesbury valve, model D150P36TTPF.

B. Previous Similar Events

None.