

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8810210302 DOC.DATE: 88/10/14 NOTARIZED: NO DOCKET #  
 FACIL:50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261  
 AUTH.NAME AUTHOR AFFILIATION  
 LEGETTE,F.L. Carolina Power & Light Co.  
 MORGAN,R.E. Carolina Power & Light Co.  
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-020-00:on 880914,reactor vessel heat vent sys not environmentally qualified.

W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

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	AEOD/DSP/TPAB	1 1	ARM/DCTS/DAB	1 1
	DEDRO	1 1	NRR/DEST/ADS 7E	1 0
	NRR/DEST/CEB 8H	1 1	NRR/DEST/ESB 8D	1 1
	NRR/DEST/ICSB 7	1 1	NRR/DEST/MEB 9H	1 1
	NRR/DEST/MTB 9H	1 1	NRR/DEST/PSB 8D	1 1
	NRR/DEST/RSB 8E	1 1	NRR/DEST/SGB 8D	1 1
	NRR/DLPQ/HFB 10	1 1	NRR/DLPQ/QAB 10	1 1
	NRR/DOEA/EAB 11	1 1	NRR/DREP/RAB 10	1 1
	NRR/DREP/RPB 10	2 2	NRR/DRIS/SIB 9A	1 1
	NUDOCS-ABSTRACT	1 1	REG FILE 02	1 1
	RES TELFORD,J	1 1	RES/DSIR DEPY	1 1
	RES/DSIR/EIB	1 1	RGN2 FILE 01	1 1
EXTERNAL:	EG&G WILLIAMS,S	4 4	FORD BLDG HOY,A	1 1
	H ST LOBBY WARD	1 1	LPDR	1 1
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A/0-4

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NRC Form 386  
(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	
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TITLE (4) REACTOR VESSEL HEAT VENT SYSTEM NOT ENVIRONMENTALLY QUALIFIED															
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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)		
09	14	88	88	02	00	10	14	88				0 5 0 0 0		

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)				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 F. L. Legette, Senior Reactor Operator												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
YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO <input type="checkbox"/>														

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

Abstract

On Wednesday, September 14, 1988, the Plant was in cold shutdown for maintenance to the four reactor containment fan coolers.<sup>1</sup> At 1350 hours, it was determined that the Reactor Vessel Head Vent System Target Rock valves were not environmentally qualified as required by 10CFR50.49. The original modification was developed to install an environmentally qualified reactor vessel head venting system including fully qualified valves, cable, and cable splices. Although conduit entrance seals were not included in the original design. In addition, the system equipment was inadvertently omitted from the EQ master equipment list when the EQ program was later developed at H. B. Robinson. As a result, qualification data packages were not developed nor was this equipment included in the EQ maintenance program. When it was discovered that the Target Rock valves used on the reactor vessel head vent system were not included in the Licensee EQ program, the system component documentation and installation configuration was reviewed and equipment upgrades were completed where needed.

This event was reported to the NRC as a non-emergency event requiring a four-hour notification in accordance with 10CFR50.72(B)(2)(iii).

1/H. B. Robinson Steam Electric Plant, Unit No. 2 is a Westinghouse 2300 megawatt thermal pressurized water reactor power plant, in commercial operation since March 1971.

1622

NRC Form 386A  
(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 (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
H. B. ROBINSON S. E. PLANT UNIT NO. 2	0 5 0 0 0 2 6 1 8 8	—	0 2 0	—	0 0	0 2	OF 0 4

TEXT (If more space is required, use additional NRC Form 386A's) (17)

I. DESCRIPTION OF EVENT

On Wednesday, September 14, 1988, the Plant was in cold shutdown for maintenance to the four reactor containment fan coolers.<sup>1</sup> At 1350 hours, it was determined that the Reactor Vessel Head Vent System Target Rock valves were not environmentally qualified as required by 10CFR50.49. The determination followed an investigation of the Robinson valves after environmental qualification deficiencies were discovered at Carolina Power and Light Company's Shearon Harris Plant.

These valves had been installed in 1984 in response to a post-TMI NUREG-0737 commitment. The system was to be environmentally qualified (EQ) and all material was purchased as such. At the time, however, programs to implement the requirements of 10CFR50.49, which provides guidelines for establishing EQ programs, had not been developed. When H. B. Robinson eventually established its EQ program, these valves were inadvertently excluded. It was further determined that the valve installation configuration did not include cable entrance seals, which were required by qualification testing conducted for the Target Rock valves. In addition, penetration splice repairs made to other Robinson systems in 1987 (as reported in LER 87-003-01) to ensure environmental qualification did not include cables for this system; they were not considered part of the EQ program at the time. This event was reported to the NRC as a non-emergency event requiring a four-hour notification in accordance with 10CFR50.72(b)(2)(iii), on September 14, 1988, in that it was determined that, the Reactor Vessel Head Vent System valves may not be environmentally qualified as required to operate under Post-LOCA condition.

The deficiencies were corrected as part of an overall Reactor Vessel Head Vent System upgrade prior to returning the unit to operation. The upgrade included the replacement of unqualified terminal strips and reed switch pigtail wire which could not be identified. Additionally, conduit seals and qualified penetrations splice repairs were installed.

II. CAUSE OF EVENT

NUREG 0737 requires the installation of an environmentally qualified reactor vessel head high point vent system. CP&L complied with this requirement by implementing a Plant Modification to install a head vent system which was completed in 1984. At that time, H. B. Robinson was not yet required to be in compliance with 10CFR50.49, which requires each operating nuclear plant to maintain an EQ program. The original modifications was developed to install an environmentally qualified reactor vessel head venting system. At the time, what was thought to be fully qualified valves, cable, and cable splices were installed. It was not known by the licensee that conduit

<sup>1</sup>/H. B. Robinson Steam Electric Plant, Unit No. 2 is a Westinghouse 2300 megawatt thermal pressurized water reactor power plant, in commercial operation since March 1971.

NRC Form 366A  
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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
H. B. ROBINSON S. E. PLANT UNIT NO. 2	05000261	88	020	00	03	OF 04

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entrance seals were needed to fully qualify the system. In addition, the equipment in the system was inadvertently omitted from the EQ master equipment list when the EQ program was later developed at H. B. Robinson. As a result, qualification data packages were not developed nor was this equipment included in the EQ maintenance program.

During August of this year, CP&L's Harris Plant personnel discovered cracked reed switch wires and unidentified terminal blocks in their EQ Target Rock valves. When this was reviewed at H. B. Robinson, it was discovered that the Target Rock valves used on the Reactor Vessel Head Vent System were not included in the H. B. Robinson EQ program. Subsequently, the system component documentation and installation configuration was reviewed and equipment upgrades were initiated where needed.

### III. ANALYSIS OF EVENT

The purpose of the Reactor Vessel Head Vent System is to vent non-condensable gases from the Reactor Coolant System (RCS) which may inhibit core cooling during natural circulation. Although the lack of conduit entrance seals on the solenoid valves and lack of documentation for other components jeopardized the environmental qualification of the system, there are other methods available, that could be used to remove voids from the reactor vessel head area (i.e., forced flow by reactor coolant pump(s), safety injection pump(s), and repressurization via pressurizer heaters).

### IV. CORRECTIVE ACTIONS

An upgrade of the head vent system valves installed cable entrance seals and upgraded electrical splices at the penetration. In addition, new reed switches and terminal strips have been installed since documentation did not exist for the original installed parts. The Reactor Vessel Head Vent System meets the requirements of 10CFR50.49 and is included in the Licensee Environmental Qualification Program.

CP&L performed a review of the post-TMI NUREG-0737 requirements to identify other EQ commitments made pursuant to NUREG-0737 that may have been overlooked. None were found.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 388A's) (17)

V. ADDITIONAL INFORMATION

A. This condition was caused by a design deficiency and is not attributed to an equipment failure.

## B. Previous Similar Event

LER-88-003-01 reported and EQ deficiency with regard to heat shrinkable tubing splices.<sup>2</sup>

LER-87-007-00 reported on five apparent EQ Program deficiencies.<sup>3</sup>

## C. Other Information

The NRC has issued Inspection Report No. 50-261/76-10 concerning an inspection of the Plant EQ Program.<sup>4</sup>

<sup>2</sup>/Letter, R. E. Morgan, CP&L, to NRC, Serial: RNP/87-2732, dated June 12, 1987.

<sup>3</sup>/Letter, R. E. Morgan, CP&L, to NRC, Serial: RNP/87-2713, dated June 12, 1987.

<sup>4</sup>/Letter, S. A. Varga, NRC, to E. E. Utley, CP&L, NRC INSPECTION REPORT NO> 50-261/87-10, dated July 23, 1987



**Carolina Power & Light Company**

ROBINSON NUCLEAR PROJECT DEPARTMENT  
POST OFFICE BOX 790  
HARTSVILLE, SOUTH CAROLINA 29550

OCT 14 1988

Robinson File No: 13510C

Serial: RNPD/88-4870  
(10 CFR 50.73)

United States Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261  
LICENSE NO. DPR-23  
LICENSEE EVENT REPORT 88-020-00

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

FLL:jch

Enclosure

cc: Dr. J. N. Grace  
Mr. L. W. Garner  
INPO

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