

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8706300249 DOC. DATE: 87/05/29 NOTARIZED: NO DOCKET #  
 FACIL: 50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light Co 05000261  
 AUTH. NAME AUTHOR AFFILIATION  
 SAYRE, D. Carolina Power & Light Co.  
 MORGAN, R. E. Carolina Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-008-00: on 870529, potential for injection-to-recirculation switchover procedure following large break LOCA to interrupt flow for up to 10 minutes determined. Caused by faulty design. Procedure revised. W/870624 ltr.

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 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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	AEOD/DOA	1 1	AEOD/DSP/ROAB	2 2
	AEOD/DSP/TFAB	1 1	DEDRO	1 1
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	NRR/DEST/CEB	1 1	NRR/DEST/ELB	1 1
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	NRR/DREP/RPB	2 2	NRR/PMAS/ILRB	1 1
	NRR/PMAS/FTSB	1 1	REG FILE 02	1 1
	RES DEPY GI	1 1	REG2 FILE 01	1 1
EXTERNAL:	EG&G GROH, M	5 5	H ST LOBBY WARD	1 1
	LPDR	1 1	NRC PDR	1 1
	NSIC HARRIS, J	1 1	NSIC MAYS, G	1 1

## 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 0 2
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TITLE (4)  
Injection/Recirculation Switchover Interruption

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 5	2 9	8 7	8 7	0 9	0 0	0 6	2 4	8 7			0 5 0 0 0

OPERATING MODE (9) N		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)									
POWER LEVEL (10) 0 0 0		20.402(b)		20.406(a)		50.73(a)(2)(iv)		73.71(b)			
		20.406(a)(1)(i)		50.38(a)(1)	X	50.73(a)(2)(v)		73.71(c)			
		20.406(a)(1)(ii)		50.38(a)(2)		50.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)			
		20.406(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(vii)(A)					
		20.406(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(vii)(B)					
		20.406(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(ix)					

LICENSEE CONTACT FOR THIS LER (12)							
NAME Don Sayre, Senior Specialist - Regulatory Compliance						TELEPHONE NUMBER 810 13 318 13 1-11 2 14 12	

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
B	B1Q		W 1 2 0	Y						

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 May 29, 1987, with Unit 2 in hot shutdown following a refueling outage, information from the NSSS supplier confirmed a potential for jeopardizing the ECCS acceptance criteria of 10 CFR 50.46. It was determined that the procedure for injection-to-recirculation switchover following a Large Break Loss of Coolant Accident (LBLOCA) could interrupt flow for up to ten minutes. This interval could allow water depletion more rapid than expected in the reactor vessel.

The interruption of Safety Injection (SI) flow was included in the original NSSS design because it was presumed the only loss of water inventory would be due to decay heat. Recent experimental data, however, demonstrated that natural circulation would be sustained longer than expected during a reflood transient which could result in additional water loss.

Accordingly, the injection-to-recirculation procedure has been revised to reduce the SI flow interruption to an acceptable interval.

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1/18706300249 870624  
PDR ADOCK 05000261  
S PDR

NRC Form 388A  
(9-83)

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES 8/31 85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
H. B. Robinson S. E. Plant, Unit 2	0 5 0 0 0 2 6 1	8 7	0 0 9	0 0	0 2	OF	0 2

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

EVENT DESCRIPTION

On May 29, 1987, a potential for rapid water depletion in the reactor vessel following a LBLOCA was confirmed. Based on recent information from the NSSS supplier, the ECCS acceptance criteria of 10 CFR 50.46 may have been jeopardized by the procedure for switchover from the SI phase to the RHR recirculation phase following a LBLOCA. The procedure allowed for all ECCS pumps to be stopped for up to ten minutes, while aligning valves for switchover, resulting in a complete interruption of flow. During this interval, core heatup could have become excessive.

The NRC was notified of a nonemergency event (four-hour) at 2005 hours, in accordance with 10 CFR 50.72.

CAUSE

The original NSSS design included an allowance for interruption of SI flow based on engineering judgement that the only loss of water inventory from the system would be due to decay heat. Recent data was obtained by the NSSS supplier demonstrating that natural circulation through the core and loops would be sustained longer than previously expected during a reflood transient. This natural circulation could contribute to additional water loss during SI interruption, thus invalidating the original design analysis in part.

CORRECTION ACTION

The procedure for injection/recirculation switchover was revised June 6, 1987, in accordance with recommendations by the NSSS supplier to ensure compliance with 10 CFR 50.46. This impact on Unit 2 core cooling requirements during the interim period from May 29 through June 6, 1987, was evaluated by the NSSS supplier as negligible up to 2% power operation since the unit had been shutdown for 63 days, and since one third of the fuel was new to the core.



Carolina Power & Light Company

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

JUN 24 1987

Robinson File No: 13510C

Serial: RNP/87-2886  
(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 87-009

Dear Sir:

The enclosed Licensee Event Report (LER) is submitted in accordance with the Licensee Event Report System of 10 CFR 50.73. The format of the LER follows the recommendations of NUREG-1022 of September 1983.

Very truly yours,

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

DAS:sdm

Enclosure

cc: J. N. Grace  
H. E. P. Krug  
INPO

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