

**REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)**

ACCESSION NBR:9410190099      DOC.DATE: 94/10/07      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.  
 YOUNG,D.E.      Carolina Power & Light Co.  
 RECIP.NAME      RECIPIENT AFFILIATION

SUBJECT: LER 94-003-01:on 940208,locking pin for modulating air damper in EDG intake air sys came out.Caused by damaged component.EDG-B air intake sys disassembled & inspected.W/ 941007 ltr.

DISTRIBUTION CODE: IE22T      COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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10 CFR 50.73

Carolina Power & Light Company  
Robinson Nuclear Plant  
PO Box 790  
Hartsville SC 29551

Robinson File No.: 13510C  
Serial: RNP/94-1799

OCT 7 1994

United States Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
LICENSEE EVENT REPORT NO. 94-003-01

Gentlemen:

The purpose of this letter is to revise our expected submission date for Licensee Event Report No. 94-003-00. We expect the root cause analysis of the pin failure and determination of any resultant corrective actions to be completed in the near future. A revised submission will be sent to the NRC by November 30, 1994.

Questions regarding this matter may be referred to Mr. K. R. Jury at (803) 383-1363.

Very truly yours,

D. E. Young  
Plant General Manager

RES:res

Enclosure

c: Mr. S. D. Ebner  
Ms. B. L. Mozafari  
Mr. W. T. Orders

9410190099 941007  
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Highway 151 and SC 23 Hartsville SC

JEZ

NRC FORM 366  
(5-92)

S. NUCLEAR REGULATORY COMMISSION

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

## LICENSEE EVENT REPORT (LER)

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

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  
(MNB 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.

FACILITY NAME (1)

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2

DOCKET NUMBER (2)

050-261

PAGE (3)

1 OF 3

TITLE (4) TS REQUIRED SHUTDOWN DUE TO EMERGENCY DIESEL GENERATOR INOPERABILITY

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
02	18	94	94	-- 003 --	01	10	07	94	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

  

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
		20.402(b)		20.405(c)	
POWER LEVEL (10)	29	20.405(a)(1)(i)		50.36(c)(1)	
		20.405(a)(1)(ii)		50.36(c)(2)	
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)	
		20.405(a)(1)(iv)		50.73(a)(2)(ii)	
		20.405(a)(1)(v)		50.73(a)(2)(iii)	

50.73(a)(2)(iv)	73.71(b)
50.73(a)(2)(v)	73.71(c)
50.73(a)(2)(vii)	OTHER
50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
50.73(a)(2)(viii)(B)	
50.73(a)(2)(x)	

## LICENSEE CONTACT FOR THIS LER (12)

NAME

R. D. Crook, Regulatory Affairs

TELEPHONE NUMBER (Include Area Code)

(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	EK	LC	F010	Y					

## SUPPLEMENTAL REPORT EXPECTED (14)

X	YES	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	(If yes, complete EXPECTED SUBMISSION DATE).					
				11	30	94

## ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On February 18, 1994, H. B. Robinson Steam Electric Plant (HBRSEP), Unit 2 was operating at twenty-nine percent power. During operability testing for the "B" Emergency Diesel Generator (EDG), a locking pin for the modulating air damper in the EDG intake air system came out and was propelled through the engine's air system, inflicting damage to the scavenging air blower and turbochargers. Because repairs could not be completed within the Technical Specification (TS) Allowed Outage Time (AOT), the plant was placed in shutdown conditions. The cause of the damper pin ejection is unknown. The EDG air intake system was disassembled and inspected. Loose material from the system was removed, and the damaged components were replaced. Upon restoration of the EDG-B to service, Operators then removed EDG-A from service for inspection of the air inlet modulating air damper. The damper pins were found to be acceptable with no discrepancies noted. A supplement to this LER will be provided when the EDG-B damper pin ejection mechanism is identified.

This event had minimal effect on plant safety. During the time the EDG was inoperable, EDG-A was operable, and off-site power was available to provide sufficient power to run normal operating and required emergency core cooling equipment. This report is submitted pursuant to 10 CFR 50.73(a)(2)(i)(A) as the completion of a shutdown required by TS.

NRC FORM 366A  
(5-92)

U.S. NUCLEAR REGULATORY COMMISSION

PROVED BY OMB NO. 3150-0104  
EXPIRES 5/31/95LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
H. B. ROBINSON, UNIT 2	050-261	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		94	-- 003 --	01	

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

I. DESCRIPTION OF EVENT

On February 12, 1994, H. B. Robinson Steam Electric Plant (HBRSEP), Unit 2 was operating at twenty-five percent power. During performance of Operations Surveillance Test (ST) Procedure OST-401, "Emergency Diesels," the "B" Emergency Diesel Generator (EDG-B) (EIIS Code: EK), failed to maintain the Technical Specification (TS) Section 4.6.1.1 required load of 2350 to 2500 kW. The Allowed Outage Time (AOT) for TS 3.7.2 for an inoperable diesel generator had been entered at 2216 hours on the previous day for the scheduled ST. This AOT allows power operations to continue for seven days if one EDG is inoperable. The cause of the loading failure was diagnosed, and following corrective maintenance activities, the EDG-B was tested on February 18, 1994, for operability in accordance with Operations Surveillance Test Procedure OST-409, "Emergency Diesels (Rapid Speed Start)." During this testing, which was being conducted with the plant at twenty-nine percent power, a locking pin for the modulating air damper in the EDG air intake system came out and was propelled through the engine's air system, inflicting damage to the scavenging air blower and turbochargers (EIIS Code: LC).

Because repairs to the EDG-B scavenging air blower could not be completed within the time remaining in the TS AOT, a plant shutdown was initiated on February 18, 1994, at 0312 hours. The NRC was notified of this event at 0323 hours in accordance with 10 CFR 50.72(b)(1)(i)(A) as a shutdown required by TS.

II. CAUSE OF EVENT

This event was caused by a damaged component. The February 12, 1994, EDG-B loading problem was caused by a malfunction of the EDG intake air modulating air damper that controls flow of combustion air into the engine. The damper position is designed to change based upon the load of the engine and the operation of the turbochargers. The air damper malfunction resulted in a reduction of combustion air that would normally be provided by the scavenging air blower during the start up sequence. The modulating air damper failed because a locking pin came out of the disc/stem, allowing the disc to move freely and therefore be incapable of carrying out its control function. After the locking pin was reinserted, the EDG was successfully tested. However, during the February 18, 1994, operability test, the locking pin came out once again, and caused severe damage to the EDG combustion air system components.

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(5-92)

U.S. NUCLEAR REGULATORY COMMISSION

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FACILITY NAME (1)		DOCKET NUMBER (2)		LER NUMBER (6)		PAGE (3)
H. B. ROBINSON, UNIT 2		050-261		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
				94	-- 003 --	01
						3 OF 3

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

III. ANALYSIS OF EVENT

This event had minimal effect on plant safety. During the time the EDG-B was inoperable, EDG-A was operable, and off-site power was available to provide sufficient power to run normal operating and required emergency core cooling equipment. The basis for TS Section 3.7.2 states that the safety features operated from the EDG-A are sufficient to adequately cool the core for any Loss-of-Coolant Accident and to maintain the containment pressure within the design value.

This report is submitted pursuant to 10 CFR 50.73(a)(2)(i)(A) as the completion of a shutdown required by TS.

IV. CORRECTIVE ACTIONS

The EDG-B air intake system was disassembled and inspected. Loose material generated from the travel of the ejected pin through the combustion air system component was removed, and the damaged components were replaced. The disc in the modulating air damper was replaced with an improved design incorporating interference fit pins. The pins were installed and staked at the factory and the entire disc assembly was replaced as a single unit. This improved disc design is also utilized in the EDG-A damper. The EDG-B was tested satisfactorily in accordance with Procedure OST-409. Operators removed EDG-A from service for inspection of the air inlet modulating air damper. The damper pins were found to be acceptable with no discrepancies noted.

The root cause of the pin failure and any resultant corrective actions will be provided in a supplement to this LER.

V. ADDITIONAL INFORMATION

## Failed Components

This event was caused by failure of a component in the EDG-B intake air system. The EDGs are original plant equipment manufactured by Fairbanks Morse, EIIIS Codes: System-EK; Component-LC; Manufacturer-F010.