

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) H. B. Robinson Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 2 6 1	PAGE (3) 1 OF 0 2
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TITLE (4)  
Reactor Trip Resulting From "C" Main Transformer False "Fault Pressure" Signal

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	9	11	8	5	0	2	0	0	0	1	0	0	5	0	0	0
0	9	11	8	5	0	2	0	0	0	1	0	0	5	0	0	0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)										
POWER LEVEL (10)	20.402(b)		20.405(c)	<input checked="" type="checkbox"/>	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 (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)(ix)							

LICENSEE CONTACT FOR THIS LER (12)									
NAME Carson L. Wright							TELEPHONE NUMBER		
							AREA CODE		
							8 0   3 3 8   3 -   4 5 2 4		

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	

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 September 11, 1985, the reactor was at 100% power. At 2217 hours, a main transformer "fault pressure" signal resulted in a Generator Lockout/Turbine Trip and a subsequent Reactor Trip. Between 1800 and 2000 hours, while an intense thunderstorm moved through the area causing spurious and valid alarms, a main transformer trouble alarm was received. Two of the five fan banks were running on "C" Main Transformer. "C" Main Transformer winding temperatures did not appear to be excessive. Troubleshooting commenced, and at 2205 hours the two running fan banks stopped. The alternate fan power supply, MCC-4, was reset, starting the fans (MCC-3 had previously faulted). The Main Transformer Deluge System was actuated at 2217 hours. Since "C" Main Transformer control cabinet was open for troubleshooting, water was sprayed directly into the cabinet, generating a false "fault pressure" signal which resulted in the Reactor Trip. The faulted Main Transformer "C" power supply plug was replaced and the MCC-3 breaker component was repaired. Also, the deluge nozzles in front of each main transformer control cabinet have been redirected away from each cabinet.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  H. B. Robinson Unit 2	DOCKET NUMBER (2)  0 5 0 0 0 2 6 1 8 5 - 0 2 0 - 0 0 0 2 OF 0 2	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		

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

On September 11, 1985, the reactor was at 100% power. At 2217 hours, a main transformer "fault pressure" signal resulted in a Generator Lockout/Turbine Trip and a subsequent Reactor Trip.

On September 11, 1985, between the hours of 1800 and 2000, an intense storm system moved through the general area of the Plant site. Large amounts of rain were received along with a great deal of lightning. Plant personnel observed many "bolts" of lightning and received spurious and valid alarms from lightning strikes in the surrounding area. At 1930 hours, a main transformer trouble alarm was received. Local observation showed "Group One Cooler" and "Undervoltage" indications on Main Transformer "C." Two of the five fan banks were running and indicated winding temperature was approximately 80°C. This was not excessive when compared with Main Transformers "A" and "B." The Transmission Line and Service Crew were contacted and arrived onsite at approximately 2145 hours. The winding temperature was approximately 100°C, and a small amount of oil reservoir overflow was noted. The Line Crew began troubleshooting with assistance from Plant Operations personnel.

At 2205 hours, the two running fan banks on Main Transformer "C" were observed to have stopped. An Operator was dispatched to the alternate fan power supply breaker on MCC-4, since the normal fan bank power supply from MCC-3 had been previously identified to be faulted. The MCC-4 supply breaker to the main transformer cooling fans was reset at 2210 hours, starting the fan banks.

The Main Transformer Deluge System was actuated at 2217 hours. Since Main Transformer "C" control cabinet was open for troubleshooting, water was sprayed directly into the cabinet, generating a false "fault pressure" signal which resulted in a Generator Lockout/Turbine Trip and subsequent Reactor Trip.

Investigation showed that a number of equipment problems resulted in the unit trip. A faulted power supply plug was identified on a group one fan bank. The suspected cause of this short circuit was a plug failure in conjunction with water entering the plug due to the heavy rains. This fault generated a breaker trip internal to the main transformer control cabinet, resulting in the loss of three of the five fan banks. Also, the supply breaker from MCC-3 was found to have tripped on overcurrent/overload. The suspected cause of this fault is most likely an overcurrent condition generated by the faulted plug. Failure due to lightning is also a possibility. These faults identified the problems which prevented restoration of the lost cooling fans.

When the remaining banks of fans tripped, air flow across the oil coolers was stopped. The oil coolers then saw a short buildup of heat. The restart of the fan banks removed this heat from the transformer coil area, displacing it to a heat actuated fire detection device which actuated the Main Transformer Deluge System. One of the deluge nozzles, which was pointed directly into the control cabinet, sprayed water into the cabinet. This resulted in a false transformer "fault pressure" signal causing the Generator Lockout/Turbine Trip and subsequent Reactor Trip.

The faulted power supply plug on Main Transformer "C" was replaced, and the MCC-3 breaker component was repaired. Also, the deluge nozzles in front of each main transformer control cabinet have been redirected away from each cabinet.



Carolina Power & Light Company

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OCT 3 1985

Company Correspondence

Robinson File No: 13510C

Serial: RNP/85-3220

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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 85-020

Dear Sir:

In accordance with 10CFR50.73, Licensee Event Report, the enclosed Licensee Event Report is submitted. This report fulfills the requirements for a written report within (30) days of a reportable event and is in accordance with the format set forth in NUREG-1022, September, 1983.

Very truly yours,

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

CLW:sdm

Enclosure

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

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