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 FACIL: 50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
 AUTH. NAME AUTHOR AFFILIATION
 BAUR, D.H. Carolina Power & Light Co.
 CHAMBERS, R.H. Carolina Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-025-00: on 921205, evaluation determined that plant in unanalyzed condition re criticality analysis of spent fuel pit temp. Caused by failure of spent fuel pit temp indicator. Temp probe will be installed. W/930112 ltr.

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 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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RNPD/93-0052
(10CFR50.73)

United States Nuclear Regulatory Commission
Attn: Document Control Desk
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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
LICENSEE EVENT REPORT NO. 92-025-00

Gentlemen:

The enclosed Licensee Event Report (LER), is submitted in accordance with
10 CFR 50.73 and NUREG 1022, Supplements No. 1 and 2.

Very truly yours,

Ray H. Chambers

R. H. Chambers
General Manager

H. B. Robinson S. E. Plant

DHB:lst

Enclosure

cc: Mr. S. D. Ebner
Mr. L. W. Garner
INPO

9301220174 930112
PDR ADOCK 05000261
S PDR

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NRC FORM 366 (5-92)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95					
LICENSEE EVENT REPORT (LER)					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.					
(See reverse for required number of digits/characters for each block)										
FACILITY NAME (1) H. B. ROBINSON, UNIT NO. 2				DOCKET NUMBER (2) 05000 261		PAGE (3) 1 OF 4				
TITLE (4) SPENT FUEL PIT TEMPERATURE BELOW ANALYZED LIMITS										
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
12	15	92	92	-- 025 --	00				FACILITY NAME	DOCKET NUMBER
										05000
										05000
OPERATING MODE (9)		N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		100	20.402(b)		20.405(c)		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	
			20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in	
			20.405(a)(1)(iv)		X 50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		Abstract below	
			20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)		and in Text, NRC Form 366A)	
LICENSEE CONTACT FOR THIS LER (12)										
NAME David H. Baur - Regulatory Compliance							TELEPHONE NUMBER (Include Area Code) (803)-383-1296			
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	DA	TI	F180	N						
SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).				X	NO					
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)										
At 1157 hours on December 15, 1992, with the H. B. Robinson Unit No. 2 operating at 100% power, an evaluation determined that the Plant was in an unanalyzed condition, relative to the criticality analysis of record, due to a 64 degree F temperature in the Spent Fuel Pool. The low temperature was caused by the failure of the Spent Fuel Pool temperature indicator. The criticality analysis of record assumes a minimum temperature of 68 degrees F and an evaluation of the lower temperature concluded that at no time was the Spent Fuel Pool in danger of experiencing criticality or of violating Technical Specifications. An additional evaluation, concerning the Spent Fuel Rack thermal loading, concluded that the low temperature had no significant impact on the structural integrity of the Spent Fuel Racks. A Temporary Modification has been initiated to install a temperature probe into the Spent Fuel Pool for interim temperature measurement until a permanent change can be developed and implemented that will provided adequate long-term temperature monitoring.										

NRC FORM 366A
(5-92)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95**LICENSEE 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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
	05000 261	92	-- 025 --	00	2 OF 4

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

I. DESCRIPTION OF EVENT

At 1157 hours on December 15, 1992, with the H. B. Robinson Unit No. 2¹ operating at 100% power, an evaluation determined that the Plant was in an unanalyzed condition, relative to the criticality analysis of record, due to a low temperature in the Spent Fuel Pool. The Spent Fuel Pool temperature was determined to be 64 degrees F at 0016 hours on December 13, 1992, when the normal temperature indicator was suspected of being incorrect. Subsequent evaluations were conducted to determine the effect of the AS FOUND temperature on the criticality analysis and the thermal loading of the fuel racks.

The criticality analysis of record assumes a minimum temperature of 68 degrees F. The evaluation of the lower temperature was complete at 1157 hours on December 15, 1992, and it concluded that at no time was the Spent Fuel Pool in danger of experiencing criticality or of violating Technical Specifications which require the pool Keff remain below 0.95. An additional analysis, also completed December 15, 1992, concluded that the 64 degree F temperature had no significant impact on the structural integrity of the Spent Fuel Racks.

The low temperature condition was identified following an addition of water to the Spent Fuel Pool. This addition of water was expected to cause a decrease in the Spent Fuel Pool temperature. When this indicated decrease did not occur, Operations personnel used a pyrometer at the inlet piping to the Spent Fuel Pool Heat Exchanger and a thermometer immersed in the pool water to determine an actual temperature of 64 degrees F. At this time the normal Spent Fuel Pool temperature indicator, which was indicating approximately 117 degrees F, was taken out of service. The Component Cooling Water flow to the Spent Fuel Pool Heat Exchanger was immediately reduced to allow the temperature of the pool water to increase. The Spent Fuel Pool temperature rose to 70 degrees F in appropriately 15 hours.

¹H. B. Robinson Unit No. 2 is a Pressurized Water Reactor in commercial operation since March, 1971.

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(5-92)

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
H. B. ROBINSON, UNIT 2	05000 261	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 4
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

II. CAUSE OF EVENT

This event was caused by equipment failure and by an original design configuration in which neither a redundant temperature indication nor a low temperature alarm was provided. Contributing causes included lack of rigorous calibration of the installed temperature indicator and lack of trending of pool temperature. Due to apparent damage to the Thermowell assembly, the temperature element cannot readily be removed from its installed location to be checked for physical condition, operability, and response to temperature changes. Recent annual calibrations of this device consisted only of measuring Spent Fuel Pool temperature and adjusting the indicator accordingly. Also, the temperatures recorded in the Operator's Log each shift were not trended to allow detection of anomalous readings.

III. ANALYSIS OF EVENT

This event is being reported pursuant to 10CFR50.73(a)(2)(ii)(B), Unanalyzed Condition, and was previously reported to the NRC Operations Center at 1240 hours on December 15, 1992, as a one hour report pursuant to 10CFR50.72(b)(1)(ii)(B), Unanalyzed Condition.

As previously stated, evaluations of the 64 degree F temperature condition were conducted on the criticality analysis of record and thermal expansion loading of the Spent Fuel Racks.

The criticality analysis of record assumes a minimum temperature of 68 degrees F. An evaluation performed subsequent to the event concluded that at 64 degrees F the Spent Fuel Pool was never in an unsafe or non-conservative condition relative to the criticality analysis of record and that no Technical Specifications were violated.

The thermal expansion loading of the Spent Fuel Racks is based on a temperature range of 65 to 254 degrees F. When the actual condition of 64 degrees F was compared to the design conditions subsequent to the event, it was concluded that there was no significant impact on the structural integrity of the Spent Fuel Racks.

NRC FORM 366A
(5-92)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95**LICENSEE EVENT REPORT (LER)**
TEXT CONTINUATIONESTIMATED 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
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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
H. B. ROBINSON, UNIT 2	05000 261	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 4
		92	-- 025 --	00	

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

IV. CORRECTIVE ACTIONS

Spent Fuel Pool temperature is being monitored by Operations personnel using a thermometer immersed in the pool.

A Temporary Modification has been initiated to install a temperature probe into the Spent Fuel Pool in approximately the same location as the originally installed equipment. This equipment will be designed to provide adequate temperature indication until a permanent installation can be designed and installed.

The above Temporary Modification will be made permanent, or a permanent change will be developed and implemented that will provide adequate temperature monitoring and will be designed to allow for calibration and maintenance of the equipment. Appropriate trending of the resulting temperature data will be implemented.

V. ADDITIONAL INFORMATION**1. Failed Component Identification**

The originally installed temperature indicator is a Foxboro Model 43E.

2. Previous Similar Events

None