CATEGORY 1

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ACCESSION NBR:9804130509 DOC.DATE: 98/04/10 NOTARIZED: NO DOCKET #
FACIL:50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
AUTH.NAME AUTHOR AFFILIATION
CHERNOFF,H.K. Carolina Power & Light Co.
MOYER,J.W. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 98-001-00:on 980311,open travel limit for purge valves was found to exceed requirements of TS 3.6.3.Cause of event is still under investigation.Threaded shaft has been modified.W/980410 ltr.

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Carolina Power & Light Company
Robinson Nuclear Plant
3581 West Entrance Road
Hartsville SC 29550

Robinson File No: 13510C
Serial: RNP-RA/98-0068

APR 1 0 1998

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. 1998-01-00

Gentlemen:

The attached Licensee Event Report is submitted in accordance with the requirements of 10 CFR 50.73. Should you have any questions regarding this matter, please contact Mr. H. K. Chernoff of my staff.

Very truly yours,

J. W. Moyer
Plant General Manager

Attachment
c: Mr. L. A. Reyes, USNRC, Region II
Ms. J. W. Shea, USNRC
USNRC Resident Inspector, HBRSEP

IE22

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION
(04-1998)

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2	05000261	1 OF 4

TITLE (4)
OPEN TRAVEL LIMIT FOR CONTAINMENT PURGE VALVES FOUND TO EXCEED REQUIREMENTS OF TECHNICAL SPECIFICATION 3.6.3

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
										05000
03	11	1998	1998	- 01	-- 00	04	10	1998	FACILITY NAME	DOCKET NUMBER
										05000

OPERATING	6
POWER LEVEL (10)	000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.2201(b)		20.2203(a)(2)(v)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)
	20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)
	20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
	20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER
	20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below
	20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		or in NRC Form 366A

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
H. K. Chernoff, Supervisor, Licensing/Regulatory Programs	(843) 857-1544

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED	MONTH	DAY	YEAR
X	YES (If yes, complete EXPECTED SUBMISSION DATE).	NO		05	30	1998

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

On March 11, 1998 the inboard containment purge supply valve was found blocked at approximately 79 degrees. On March 25, 1998 the inboard containment purge exhaust valve was found blocked at approximately 80 degrees. This condition existed during plant operations in which Technical Specification3.6.3 required these valves be blocked to restrict opening to less than 70 degrees, therefore this report is submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

The containment purge valves were replaced in 1987 and included an open travel limit consisting of a threaded shaft installed through the actuator housing to mechanically limit valve opening to 70 degrees. A Technical Specification surveillance requirement to verify the open travel limit became effective on November 13, 1997 when Improved Technical Specifications (ITS) were implemented. The 70 degree open travel limit was previously specified in the Technical Specification Bases. The incorrect valve block settings were discovered by utility mechanics during performance of surveillance testing. An investigation is still in progress to determine if the incorrect valve travel limit occurred during valve replacement or was introduced during subsequent valve maintenance or modification. The threaded shaft has been modified to limit valve opening to less than 70 degrees.

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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2	05000261	1998	-- 01	-- 00	2 OF 4

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

I. DESCRIPTION OF EVENT

On March 11, 1998, at approximately 1215, the mechanical travel limit (EIIS Component: 5, EIIS system: ISV) for the containment purge supply valve, V12-7, (EIIS Component: ISV, EIIS system: JM) located inside containment, was discovered to be set at a position that would allow an open position of greater than the 70 degree limit specified by Technical Specification 3.6.3. H.B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, was depressurized with RCS temperature approximately 95 degree F, with preparations in progress for reactor vessel head removal at the time this condition was discovered.

On March 25, 1998, at approximately 0125, the mechanical travel limit (EIIS Component: 5, EIIS system: ISV) for the containment purge exhaust valve, V12-9, (EIIS Component: ISV, EIIS system: JM) located inside containment, was discovered to be set at a position that would allow an open position of greater than the 70 degree limit specified by Technical Specification 3.6.3. HBRSEP, Unit No. 2, was defueled at the time this condition was discovered.

On November 13, 1997, H.B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, implemented Improved Technical Specifications (ITS) which specified a surveillance requirement to verify V12-7 and V12-9 would not open greater than 70 degrees. The 70 degree limit for these valves had previously been contained in the Technical Specification Bases. The procedure, performed to satisfy the new surveillance requirement, did not rely on the actuator shaft travel, but required measurement of actual valve rotation at the open limit position. This measurement found that the open limit position for the containment purge valves, V12-7 and V12-9, were set at approximately 80 degrees.

II. CAUSE OF EVENT

The containment purge valves are butterfly valves. A shaft connected to the butterfly disc is rotated by a shaft actuator which uses air pressure to open, and spring pressure to close the valves. The originally installed containment purge valves and their actuators, were replaced in 1987. The inside containment purge valves, V12-7 and V12-9, due to installation orientation, required installation of a travel limiter to prevent opening greater than 70 degrees (90 degrees indicates full open). Limiting open travel is an anti-rotation measure to assure proper valve closure during dynamic conditions. The design of the travel limiter consists of a threaded shaft installed through the actuator housing to limit valve shaft actuator travel. The travel limiter has a drilled hole at a position designed to correspond to a valve position of 70 degrees when installed. A pin is then inserted through the drilled hole to prevent movement of the travel limiter.

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

II. CAUSE OF EVENT (Continued)

Prior to Improved Technical Specifications implementation on November 13, 1997, there was no periodic surveillance requirement to verify the open limit of the containment purge valves located inside containment. Verification of the open limit setting was based on documentation provided by the vendor representative following valve maintenance or refurbishment. The vendor method of verifying the open travel limit has not yet been determined. An investigation to determine the cause of the incorrect open limit setting is still in progress and the results of that investigation will be provided in a supplement to this report. This investigation will include a review to determine whether the valve travel limiter was correctly designed and installed during the valve and actuator replacement in 1987 or if the incorrect travel limit resulted from subsequent valve modification or maintenance activities

The surveillance test performed to ensure valve travel was limited to no more than 70 degrees, measured valve rotation at the open limit position. This surveillance was performed by utility mechanics and revealed that the travel limiter would actually allow the valve to open to approximately 80 degrees.

IV. ANALYSIS OF EVENT

At the time of discovery, the plant operational condition (MODE 6) did not require an open travel limit of 70 degrees.

The containment purge system provides a 42 inch containment penetration for a ventilation supply duct and a separate 42 inch containment penetration for a ventilation exhaust duct. The 42 inch containment purge system is normally closed during plant operation but may be placed in service when needed for safety-related considerations to support plant operations and maintenance activities within containment. Each penetration is provided redundant isolation by one valve located inside containment and another located outside containment. These valves are air operated and are designed to fail closed on loss of air or control signal. The containment atmosphere is monitored for gamma particulate and radioactive gas activity and if either exceeds pre-set levels, an automatic closure signal is provided to each valve. In addition, these valves receive a closure signal from the Emergency Core Cooling System (ECCS), containment isolation signal. This containment isolation signal is initiated by Safety Injection, containment high radiation, or manually.

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

IV. ANALYSIS OF EVENT (Continued)

In the event the containment purge valves located inside containment (V12-7 and V12-9) fail to close, redundant containment penetration isolation would be provided by the containment purge valves located outside of containment. The outside containment purge valves receive the same closure signals and have the same allowed leakage rates and closure stroke times as those required for the inboard containment purge valves. The outside containment purge valves do not have a requirement for an open travel limit and are therefore not affected by this event.

The supplement to this report will address the availability of the redundant containment purge valves located outside of containment, following determination of the time period for which the open travel limit for the containment purge valves located inside containment (V12-7 and V12-9) exceeded the 70 degree open limit.

V. CORRECTIVE ACTIONS

The threaded shaft has been modified for the containment purge valves located inside containment to limit valve opening to less than 70°. This action was completed on April 8, 1998, prior to ascension into MODE 4 from the current refuel outage.

Additional corrective actions identified following completion of the investigation of this event will be provide in the supplement to this report.

VI. ADDITIONAL INFORMATION

A. Failed Component Information

This LER is not the result of a failed component but rather due to an incorrectly set valve travel limit. The valve is manufactured by Posi Seal International under model number 35685-01 (42 inch). The valve actuator is manufactured by GHBETTIS under model number NT416-SR4-S.

B. Previous Similar Events

A determination of previous similar events will be provided in the supplement to this report following determination of the root cause for this event.