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Rick J. King
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May 24, 2000

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
Licensee Event Report 50-458/00-005-01

File Nos. G9.5, G9.25.1.3

RBG-45355
RBF1-00-0123

Ladies and Gentlemen:

In accordance with 10 CFR 50.73, enclosed is the subject Licensee Event Report. The commitment contained in this document is identified on the Commitment Identification Form.

Sincerely,

William J Trudell
for

RJK/KHJ
attachment
enclosure

IE22

RGN-001

cc: U. S. Nuclear Regulatory Commission
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Arlington, TX 76011

NRC Sr. Resident Inspector
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Attachment
Commitment Identification Form
Subject – LER 00-005-01
RBF1-00-0123
RBG-45355
Date: 5/24/00

COMMITMENT	ONE-TIME ACTION*	CONTINUING COMPLIANCE*
Revise procedure GMP-042 to clarify the discussion of the intent and expectations for the use of "Unique Identifiers."	X	

*Check one only

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION
(6-1998)

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), 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. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
River Bend Station	05000-458	1 of 5

TITLE (4)
Incorrectly Connected Motor Leads for the 'B' Primary Containment Unit Cooler Service Water Supply Valve

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
03	21	2000	2000	05	01	05	24	2000	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	5
POWER LEVEL (10)	0%

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 or in NRC Form 366A
	20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
D. N. Lorfing, Supervisor – Licensing	225-381-4157

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
	YES (If yes, complete EXPECTED SUBMISSION DATE).	✓ NO				

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

On March 21, 2000, with the plant in Mode 5 (Refueling), the motor operator breaker for the 'B' containment unit cooler service water supply valve was discovered to be incorrectly wired. This wiring error caused the valve's motor operator to move the valve in the closed direction upon receipt of an open signal. It was subsequently determined that this valve had been inoperable since the performance of its associated breaker overload functional test on February 9, 2000, when the plant was in Mode 1 (Power Operation). Since the plant was shutdown on March 4, 2000, a time limit specified by Technical Specification 3.6.1.7 was exceeded. The 'A' primary containment unit cooler was continuously operable during this timeframe. This condition is being reported in accordance with 10CFR50.73(a)(2)(i) as operation prohibited by the plant's Technical Specifications. The root cause of this event is personnel error.

The 'B' containment unit cooler service water supply valve was returned to an operable condition prior to plant startup. The failure of this valve had minimal safety or risk significance.

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
River Bend Station	05000-458	00	-- 05 --	01	2 OF 5

REPORTED CONDITION

On March 21, 2000, with the plant in Mode 5 (Refueling), the motor operator breaker (**BKR**) for the 'B' containment unit cooler service water supply valve (**20**) was discovered to be incorrectly wired. This wiring error caused the valve's motor operator to move the valve in the closed direction upon receipt of an open signal.

It was subsequently determined that this valve had been inoperable since the performance of its associated breaker overload functional test on February 9, 2000, when the plant was in Mode 1 (Power Operation). Technical Specification 3.6.1.7 requires the plant to be shutdown following 7 days of operation with one primary containment unit cooler inoperable. Since the plant was not shutdown until March 4, 2000, this Technical Specification time limit was exceeded. The 'A' primary containment unit cooler was continuously operable during this timeframe, therefore; no other sections of this Technical Specification were affected.

This condition is being reported in accordance with 10CFR50.73(a)(2)(i) as operation prohibited by the plant's Technical Specifications.

BACKGROUND INFORMATION

The primary containment unit coolers are automatically initiated on high drywell to containment differential pressure to supplement the condensing capability of the passive heat sinks within containment. These coolers are normally supplied with coolant from the chilled water system. During an accident, standby service water is used for cooling water.

The affected valve is the standby service water supply valve for the 'B' primary containment unit cooler. This valve is designed to automatically open upon primary containment unit cooler initiation.

FACILITY NAME (1)	DOCKET (2) NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
River Bend Station	05000-458	00	-- 05 --	01	3 OF 5

INVESTIGATION AND IMMEDIATE CORRECTIVE ACTIONS

The 'B' Containment Unit Cooler Supply Valve is electrically operated by a three phase motor. An inspection of the breaker for this motor operator revealed that the leads for two of these phases had been reversed. A review of the valve breaker's maintenance history determined that the last time these leads had been disconnected was during the breaker's overload functional test.

Placing the valve's control switch in the open position during the performance of a surveillance test caused the valve operator to attempt to close the valve. Since the valve was already fully closed, the motor drove the valve disk into the valve seat until the breaker thermal overloads tripped.

An engineering analysis was performed to evaluate the stresses experienced by the motor operator and the valve when the valve attempted to stroke in the wrong direction. This analysis concluded that the actual stresses applied to all motor operator and valve components were less than the corresponding material allowable stresses.

The valve's breaker was inspected, rewired, and tested to ensure that it had not been damaged. The valve was also inspected and tested to restore it to an operable condition.

All other three-phase breakers that were tested during the most recent performance of the breaker overload functional test were evaluated to ensure that similar wiring errors had not occurred. Each connected component was verified to be functional by the performance of surveillance testing, normal component operation, or other methods that would adequately confirm the component's function.

ROOT CAUSE AND CORRECTIVE ACTIONS TO PREVENT RECURRENCE

On February 9, 2000, utility maintenance technicians performed the breaker overload functional test for the 'B' containment unit cooler service water supply valve breaker. This procedure requires lifting the primary leads in accordance with General Maintenance Procedure (GMP)-042, "Lifted Leads and Jumpers," removing the breaker assembly from the cubicle, performing the overload testing, and reinstalling the breaker. During the breaker reinstallation, the associated breaker phase leads for the B and C phases were reversed.

This event was caused by personnel error during the reinstallation of the 'B' containment unit cooler service water supply valve breaker. Contributing factors include poor color coded labeling of the phase leads and the conditions at the breaker cubicle. GMP-042 requires that lifted leads be uniquely identified and logged when lifted and re-landed. The unique identification utilized for this test was previously existing strips of widely spaced black tape on the black cable (i.e., 1 strip for A phase, 2 strips for phase B, and 3 strips for phase C). In addition, the breaker was located at the bottom of the cubicle forcing the technicians to lie down to access the leads, the leads were connected behind the fuse block, and the cubicle lighting was limited.

To prevent recurrence of this event, procedure GMP-042 will be revised to clarify the discussion of the intent and expectations for the use of "Unique Identifiers." Additional corrective actions to prevent recurrence will be tracked in the River Bend corrective action program.

PREVIOUS OCCURRENCE EVALUATION

A search of River Bend Licensee Event Reports submitted since January 1995 found one previous instance of inadequate component restoration following surveillance testing. This event was reported in LER-00-003 and consisted of a high resistance terminal connection for the division 3 battery following a service discharge test. Although this event was also caused by personnel error, it did not involve connection of the terminal leads to an incorrect location.

SAFETY SIGNIFICANCE

The 'A' primary containment unit cooler was continuously operable while the 'B' primary containment unit cooler was inoperable. For this reason, this event did not involve a loss of safety function and this LER is not a safety system functional failure.

An evaluation was performed to determine the safety significance of the long-term inoperability of a primary containment unit cooler. For the purposes of this evaluation, it was conservatively assumed that the redundant unit cooler also failed to operate.

USAR Section 6.2.2 states that the primary containment unit coolers are not required to mitigate the effects of a loss of coolant accident (LOCA) except in the case of drywell steam bypass. Calculations were performed to determine the magnitude of steam bypass leakage that would cause the primary containment pressure or temperature limits to be exceeded if no unit coolers were operating. The resulting leakage rates were greater than the Drywell Bypass Leakage Rate Surveillance Test acceptance criteria. The most recent performance of this surveillance test determined an actual leakage rate of approximately 11% of this acceptance criteria. Therefore, prior plant operation with one primary containment unit cooler inoperable would not have resulted in exceeding the primary containment pressure or temperature limits during a LOCA.

To further evaluate the significance, a risk evaluation for the inoperable unit cooler supply valve was performed. This evaluation concluded that failure of the containment ventilation system has insignificant impact on core damage frequency.

For these reasons, it may be concluded that failure of the 'B' Containment Unit Cooler Supply Valve had minimal safety or risk significance.

(Note: Energy industry component identification codes are annotated in the text as (**XXX**).)