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August 4, 2000

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

Subject: River Bend Station
Docket No. 50-458
License No. NPF-47
Licensee Event Report 50-458 / 00-010-00

File Nos. G9.5, G9.25.1.3

RBG-45453
RBF1-00-0165

Ladies and Gentlemen:

In accordance with 10CFR50.73, enclosed is the subject Licensee Event Report. There are no commitments in this document.

Sincerely,

Rick J. King

RJK/dhw
enclosure

IE22

cc: U. S. Nuclear Regulatory Commission
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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 3

TITLE (4)
Unplanned Automatic Isolation of the Reactor Core Isolation Cooling System During Surveillance Testing Due to Hydraulic Perturbation in Instrument Lines

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
07	5	2000	2000	010	00	08	4	2000	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1
POWER LEVEL (10)	100%

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

	20.2201(b)		20.2203(a)(2)(v)		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)	X	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)
J. W. Leavines, Manager - Licensing	225-381-4642

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 July 5, 2000, at 0920 hours with the plant in Mode 1 (Power Operation) at 100 percent power, an unplanned automatic isolation of the Division II steam supply valve to the reactor core isolation cooling (RCIC) system occurred during scheduled surveillance testing. This event is being reported in accordance with 10CFR50.73(a)(2)(iv) as an event that resulted in the automatic actuation of an engineered safety feature.

The Division II isolation signal was caused by a hydraulic perturbation in the common sensing lines while the Division I transmitter was being removed from service. Evaluation of recorded data indicates that a small pressure drop occurred in the common low pressure side sensing line when the equalizing valve was opened. This caused a momentary increase in differential pressure. The technicians performed the instrument valve manipulations in accordance with their training and procedural requirements.

The Division II RCIC steam supply containment isolation valve responded as designed. The high pressure core spray (HPCS) system was operable at the time, and remained so for the period that the RCIC system was out of service. The RCIC system was restored to its normal standby alignment approximately four hours after the event. This event had minimal potential to affect the health and safety of the public.

REPORTED CONDITION

On July 5, 2000, at 0920 hours with the plant in Mode 1 (Power Operation) at 100 percent power, an automatic isolation of the Division II steam supply valve (**ISV**) to the reactor core isolation cooling system occurred during scheduled surveillance testing. This event is being reported in accordance with 10CFR50.73(a)(2)(iv) as an event that resulted in the automatic actuation of an engineered safety feature.

INVESTIGATION

The RCIC steam supply line is instrumented with redundant safety-related steam flow transmitters (**PDT**) that serve the leak detection system in monitoring the flow path for a postulated line break. Divisional motor-operated valves (MOV) in the line act as primary containment isolation valves. The Division I and II steam supply valves receive automatic isolation signals from their respective transmitters in response to a high flow signal. The Division II steam flow transmitters share common sensing lines with the Division I transmitters. The sensing lines are connected to common root valves, and branch before leading to separate instrument racks. These transmitters operate at greater than 1000 psi on both sensing lines, and the high steam flow signal actuates at a differential pressure of 74.5 inches of water (<3psi) to cause an isolation signal. In this condition, a very small hydraulic perturbation can be sufficient to reach the trip set point.

The purpose of the scheduled surveillance test was to calibrate the Division 1 steam flow transmitter. The RCIC system had been declared inoperable for testing. In accordance with the test procedure, the steam supply valves were left open. The Division I RCIC containment isolation function was disabled by de-energizing the MOV while the transmitter was being calibrated. The Division II RCIC containment isolation function remained operable.

ROOT CAUSE ANALYSIS AND IMMEDIATE CORRECTIVE ACTIONS

The Division II isolation signal was caused by a hydraulic perturbation in the common sensing lines while the Division I transmitter was being removed from service. Evaluation of recorded data indicates that a small pressure drop occurred in the common low pressure side sensing line when the equalizing valve was opened. This caused a momentary increase in differential pressure. The technicians performed the instrument valve manipulations in accordance with their training and the test procedure.

The HPCS system was operable at the time of the event and remained so for the period that RCIC was out of service. The RCIC system was restored to its normal standby status approximately four hours after the event.

CORRECTIVE ACTION TO PREVENT RECURRENCE

The configuration of the RCIC steam flow transmitter sensing lines causes the calibration of these instruments to present a risk of spurious hydraulic perturbation in both divisions during manipulation of transmitter instrument valves. The scheduling of RCIC surveillance procedures has been changed such that calibration activities will be performed either during refueling outages or RCIC system outages when the system is not required to be operable.

PREVIOUS OCCURRENCE EVALUATION

There have been two previous ESF actuations of the RCIC steam supply valves this year. The first event was caused by human error. The cause of the second event, while inconclusive, was likely human error induced by a cramped work environment.

The event being reported in this LER was caused by the configuration of the instrument sensing lines and its susceptibility to small hydraulic perturbations during test activities. The technicians manipulated the instrument valves in accordance with their training and procedural requirements. The risk of spurious trip signals notwithstanding, the calibration of these transmitters has been successfully performed with the steam supply isolation valves open since at least January 1997.

SAFETY SIGNIFICANCE

The RCIC system is not part of the emergency core cooling systems. The RCIC system is designed to operate either automatically or manually following a reactor pressure vessel (RPV) isolation accompanied by a loss of coolant flow from the feedwater system to provide adequate core cooling and control of RPV water level. Under these conditions, the HPCS and RCIC systems perform similar functions. Should a design basis control rod drop accident occur, the RCIC system can be used in conjunction with the HPCS system to meet the single failure criteria in mitigating the consequences of the event.

The Division II RCIC steam supply valve responded to the isolation signal as designed. The HPCS system was operable at the time, and remained so for the period that the RCIC system was out of service. The RCIC system was restored to its normal standby alignment approximately four hours after the event. This event had minimal potential to affect the health and safety of the public.

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