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James J. Fiscaro  
Director  
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November 20, 1995

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Mail Stop P1-37  
Washington, D.C. 20555

Subject: River Bend Station - Unit 1  
Docket No. 50-458  
License No. NPF-47  
Licensee Event Report 50-458/95-008-00  
File Nos. G9.5, G9.25.1.3

RBG-42186  
RBF1-95-0275

Gentlemen:

In accordance with 10CFR50.73, enclosed is the subject report.

Sincerely,

JJF/jr  
enclosure

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PDR ADOCK 05000458  
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cc: U. S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011

NRC Sr. Resident Inspector  
P. O. Box 1051  
St. Francisville, LA 70775

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Austin, TX 78757

Louisiana Department of Environmental Quality  
Radiation Protection Division  
P.O. Box 82135  
Baton Rouge, LA 70884-2135  
ATTN: Administrator

FACILITY NAME (1): **River Bend Station** DOCKET NUMBER (2): **05000-458** PAGE (3): **1 OF 3**

TITLE (4): **DIVISION II REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM ISOLATION DUE TO A SPURIOUS TRIP CAUSED BY A FAULTY TEMPERATURE SWITCH FOR THE RCIC ISOLATION MAIN STEAM TUNNEL VENTILATION**

EVENT DATE (6)			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
10	24	95	95	008	00	11	20	95	NA	05000
									NA	05000

OPERATING MODE (9): **1**

POWER LEVEL (10): **99.5**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (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)	<input checked="" type="checkbox"/> 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: **JEWEL SUMMERS, LICENSING SPECIALIST** TELEPHONE NUMBER (Include Area Code): **(504) 336-6345**

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE):  NO

EXPECTED SUBMISSION MONTH:  DAY:  YEAR:

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

On October 24, 1995, with the plant operating at 99.5% thermal power, the Division II Reactor Core Isolation Cooling (RCIC) System (BN) isolated on an invalid high differential temperature signal. The invalid temperature signal was generated due to failure of a newly installed temperature switch for the RCIC Isolation Main Steam Tunnel Ventilation. The faulty temperature switch was replaced with the original switch since it would still meet its design function by providing an operable instrument channel. The failure was determined to be applicable to the new switch only.

The health and safety of the public was not compromised at any time during the event.

Note: Energy Industry Identification Codes are identified in the text as (\*XX\*).

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)	
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RIVER BEND STATION	05000					
	458	95	008	00	2	3

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

REPORTED CONDITION:

On October 24, 1995, with the plant operating at 99.5% thermal power, the Division II Reactor Core Isolation Cooling (RCIC) System (BN) isolated on an invalid high differential temperature signal. The spurious trip of the RCIC leak detection logic and closure of the system's containment isolation valve is an Engineered Safety Feature (ESF) actuation, which is being reported pursuant 10 CFR50.73 (a) (2) (iv).

INVESTIGATION:

On October 24, 1995, the temperature switch for the RCIC Isolation Main Steam Tunnel Ventilation (BN-TS) was in the process of being replaced in accordance with Maintenance Work Order R302222 and Surveillance Test Procedure (STP)-207-4206. The responsible system engineer decided to replace the switch as a matter of prudence because its reset function exhibited inconsistencies in the past, although it successfully passed its last required calibration surveillance (i.e., October 16, 1995). The trip function associated with the RCIC Isolation Main Steam Tunnel Ventilation was operating normally and was not related to the decision to replace the temperature switch. Additionally, the "as-found" calibration data obtained were within tolerance and satisfied all requirements of the MWO and STP.

The vendor manual requires a four hour heat soak in the panel at ambient temperature prior to final calibration. This allows for stabilization of the setpoint circuitry. The System Engineer provided instructions in the work package for a minimum 24 hour burn in on the bench (the actual burn in period was ten days). These instructions were provided for the new switch due to industry experienced infant mortality failures of this type of switch. The switch was calibrated on the bench and checked again when it was installed in the control room panel. The switch functioned as designed and showed no indication of erratic operation. The switch failed after having completed approximately one hour of the required four hour heat soak necessary to restore the switch to an operable condition. This caused a spurious trip signal which subsequently isolated the RCIC System.

Operations immediately contacted Instrumentation and Control (I&C) and the responsible System Engineer to investigate the incident. Upon their return to the Control Room, the switch produced several more spurious trips (i.e., an additional five or six times.). Observation of the trips confirmed that they were produced by the temperature switch for the RCIC Isolation Main Steam Tunnel Ventilation and that the problem was confined specifically to that switch. Temperature indications at the temperature switch meter indicated that there were no abnormal input conditions immediately before or subsequent to the trips. The new switch for the RCIC Isolation Main Steam Tunnel Ventilation was checked by I&C technicians following the trips and was found to be within its calibrated parameters with no erratic operation.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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

The RCIC system was declared inoperable as a result of the isolation. Plant personnel verified operability of the High Pressure Core Spray (HPCS) (BG) and ensured appropriate actions were taken as required by the RBS Technical Specifications.

ROOT CAUSE

The root cause of this condition is equipment failure. Investigation into this event revealed that the new temperature switch generated an erroneous high temperature signal to the isolation logic. The leak detection logic is designed with temperature switches in a configuration that requires only one switch signal to complete the leak detection isolation logic. Additionally, industry experience has indicated a high infant mortality germane to this type of trip unit. This failure was determined applicable to the new temperature switch only.

CORRECTIVE ACTIONS

Compliance with the requirements of Technical Specifications 3.3.6.1 and 3.5.3 were immediately established. The Main Steam Tunnel temperature and differential temperatures were verified to be normal. I&C technicians and the system engineer performed an independent review of the thermocouple leads to confirm that they were properly lifted, relanded on the correct terminals, and that the switch was firmly seated in the plugs of the switch enclosure, with no foreign material on the inside of the enclosure. This review revealed that these actions had been satisfactorily completed. The faulty temperature switch was replaced with the original for the RCIC Main Steam Tunnel Ventilation since it would still meet its design function by providing an operable instrument channel. The trip unit was calibrated satisfactorily within acceptable parameters in accordance with STP-207-4206. The affected valve was reopened and the RCIC system restored to operable status in a timely manner. While precautions were taken to prevent this isolation, an evaluation will be performed to address any additional corrective actions to prevent recurrence. If applicable, these actions will be implemented via the Condition Report.

SAFETY ASSESSMENT

The closure of the isolation valve resulted in the inoperability of the RCIC system. Plant personnel verified HPCS was operable at the time of the occurrence. Therefore, the isolation did not degrade the ability of the plant to mitigate the consequences of an accident. The health and safety of the public was not compromised at any time during this event.