NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
River Bend Station	0 5 0 0 0 4 5 8	1 OF 0 4

TITLE (4)
Reactor Core Isolation Cooling System Isolation on High Temperature

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 NAMES	DOCKET NUMBER(S)
0 1	3 0	8 6	8 6	0 1 6	0 0	0 3	0 1	8 6		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10)	0 2 3		20.402(b)		20.405(c)	X	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 (Specify in Abstract below and in Text, NRC Form 366A)		
			20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)				
			20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)				
			20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)				

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
J. S. Miller - Senior Nuclear Engineer	5 1 0 4 6 3 5 - 1 6 0 9 4

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	

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 fifteen single-space typewritten lines) (16)

At 0505 on 01/30/86 with the unit operating at 23 percent power, a Reactor Core Isolation Cooling (RCIC) steam line containment isolation occurred (Engineered Safety Feature actuation) with the closure of isolation valve 1E51*MOVF064 on a high temperature differential transmitter 1E31*TDSN605E trip. This trip was caused by a high differential temperature between the main steam line (MSL) tunnel inlet and outlet ventilation. At 0650 increasing differential temperature caused a half group isolation on the main steam isolation valves and a Reactor Water Cleanup isolation. Reactor power was reduced, local conditions brought back to normal, and the isolation signal reset. There were no significant safety consequences or implications to the public. Modifications are currently underway to reduce the high temperature conditions in the steam tunnel.

NRC Form 366
(9-83)

IE22 1/1

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River Bend Station	0 5 0 0 0 4 5 8	8 6	— 0 1 6	— 0 0	0 2 OF 0 4

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

Reported Condition

On 01/30/86 at 0505 with the unit operating at 23 percent power, an unplanned Engineered Safety Feature actuation occurred when the main steam supply line outboard isolation valve 1E51*MOVF064 received a signal to close from trip unit 1E31*TDSN605E. The closure of this isolation valve stops steam flow from main steam line (MSL) A to the Reactor Core Isolation Cooling (RCIC) (IEEE:BN) turbine which caused the RCIC system to be temporarily inoperable.

Temperature detection instruments, 1E31*T/CN029A and 1E31*T/CN030, monitor MSL tunnel inlet and outlet ventilation temperature and provide signals to trip unit 1E31*TDSN605E to enable main steam supply line outboard isolation valve 1E51*MOVF064 to close on high differential temperature. The purpose of this instrumentation is to detect possible high energy pipe breaks in the steam tunnel and isolate the potential high energy sources by closing the appropriate isolation valves.

Subsequent to the isolation of the RCIC system, the shift supervisor checked the steam tunnel temperature by inspection of control room instruments and found the steam tunnel ambient temperature to be approximately 138 degrees F. At 0515 reactor power was reduced to 19 percent and an operator was dispatched to the steam tunnel for a visual inspection. The operator found no significant steam leaks in the steam tunnel.

At 0650 increasing MSL ventilation differential temperature caused a half group isolation on the main steam isolation valves (MSIVs)

(IEEE:ISV) and a Reactor Water Cleanup (IEEE:CE) isolation. Reactor power was further reduced to 10 percent and in approximately one hour MSL tunnel temperatures had dropped. At approximately 0800 the half group MSIV isolation was reset, the RWCU and RCIC isolation valves opened and the RCIC system declared operable.

Investigation

The high temperature differential signal results from the high temperature difference between the ventilation inlet and outlet temperature monitor locations in the steam tunnel during normal operating conditions.

Due to the placement of unit coolers, uninsulated piping and some minor steam leaks, the temperature at one end of the steam tunnel was much higher than at the other end. At some combinations of reactor power and unit cooler effectiveness, the differential temperature is large enough to cause the subject isolations.

Corrective Action

Several modifications have been completed or are presently underway to reduce temperatures in the steam tunnel. Work which has been completed includes the addition of temporary HVAC to the steam tunnel having a total capacity of 50 tons (Emergency Modification Request 86-003), the addition of insulation to uninsulated piping and components including the supply air duct (Modification Requests (MRs) 86-0186, 0216, 0224), and the relocation of thermocouples from dead

air spaces. Work which is not complete includes a modification of ductwork to redistribute steam tunnel air flow (MRs 85-927 and 86-082) and the possible addition of chilled water in lieu of service water to steam tunnel unit cooler 1HVR*UC8 (MR 86-0232).

Safety Assessment

Any situation that results in the reduced availability of Engineered Safety Features (ESFs) is of safety concern. The event described above was a result of main steam tunnel normal operating temperatures exceeding Technical Specification main steam tunnel temperature setpoints. This caused a RCIC isolation without the presence of a high energy line break, the condition for which the isolation was intended.

The RCIC system provides makeup water to the core during a reactor shutdown in which feedwater flow is not available. Without the use of the RCIC system and assuming a loss of feedwater, several alternatives exist to provide makeup water to the core. High Pressure Core Spray (HPCS) can provide an adequate source of makeup at high pressure. Assuming HPCS failure, the operator could initiate the Automatic Depressurization System (ADS) or manually operate safety relief valves to reduce the system pressure in order to use the Low Pressure Core Spray (LPCS) system or the Low Pressure Coolant Injection (LPCI) to mitigate the transient.

The safety implications of the event described in this LER are insignificant due to the availability of the redundant ESFs. Therefore, there was no impact on the health and safety of the public.

GULF STATES UTILITIES COMPANY

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File Nos. G9.5, G9.25.1.3

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Dear Sir:

River Bend Station - Unit 1
Docket No. 50-458

Please find enclosed Licensee Event Report No. 86-016 for River Bend Station - Unit 1. This report is submitted pursuant to 10CFR50.73.

Sincerely,

Eddie R Grant

for J. E. Booker
Manager-Engineering,
Nuclear Fuels & Licensing
River Bend Nuclear Group

JEB/TFP/DRG/BEH/ebm

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