NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

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TITLE (4)
Reactor Scram Due to Stuck Open Feed Water Regulator 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 NAMES	DOCKET NUMBER(S)
0 1	1 5	8 6	8 6	0 0 7	0 0	0 2	1 4	8 6		0 5 0 0 0
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OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
1	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 1 7	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
Richard H. Martin - Sr. Systems Engineer	AREA CODE 5 0 4 6 3 5 - 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)

On 01/15/86 at 0329 while preparing to line up one of the main feed water regulator valves the operator placed the control switch for 'B' feed water regulator valve inlet isolation valve (1FWS-MOV27B) to the open position. When 1FWS-MOV27B started to come open reactor vessel level increased rapidly to the reactor scram, main turbine trip, and reactor feed pump trip setpoints. Immediate action was taken to place the unit in a safe shutdown condition. Feed water pump 1FWS-P1B was restarted and level control was restored without difficulty. Plant conditions were stabilized at 0341. Investigation later revealed that the 'B' feed water regulator valve was stuck 70 percent open but appeared closed with its controller indicating zero demand. In an effort to prevent recurrence a modification is underway to provide actual valve position indication.

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

Reported Condition

On 01/15/86 at 0329 with the unit at 17 percent power and 950 psig, an automatic reactor scram occurred on high water level while attempting to line up the 'B' feedwater train. Prior to the scram the feedwater system was in normal line up with one feedwater pump (1FWS-P1B) maintaining level and the startup feedwater regulator valve (1C33-LVF002) in automatic. All feedwater regulator valves (1C33-LVF001A, B & C) were in manual and indicating zero demand on the controllers at panel P680 in the main control room. All feedwater regulator valve inlet isolation valves (1FWS-MOV27A, B & C) were closed. While attempting to line up 'B' feedwater regulator valve to control water level for continued power ascension, the operator placed the control switch for "B" feedwater regulator valve inlet isolation valve (1FWS-MOV27B) to the open position. However, the 'B' feedwater regulator valve was actually open with its controller indicating zero demand and water was injected into the vessel as 1FWS-MOV27B went open. Within a few seconds reactor vessel level increased to the reactor scram, main turbine, and reactor feed pump trip setpoints. Abnormal Operating Procedures AOP-0001 "Reactor Scram" and AOP-0002 "Main Turbine and Generator Trips" were entered to place the unit in a safe shutdown condition. Feedwater pump 1FWS-P1B was restarted and level control restored without difficulty. All steam loads were secured to minimize reactor plant cooldown. At 0341 plant conditions were stabilized.

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

Investigation

Upon visual inspection of the 'B' feedwater regulator valve, it was discovered that the valve was stuck approximately 70 percent open. Since the controller for this valve in the main control room only shows the demand signal, the valve appeared closed because the controller showed zero demand.

When the valve was disassembled, abrasions were found between the plug and the cage. The vendor was brought on site to inspect the valve and it was determined that the abrasions were caused by small particles wedging themselves between the plug and the cage at continuous low flow conditions. This was the first time the 'B' feed water regulator valve had been placed into service since the startup and test program.

Corrective Action

The valve plug and cage were polished to remove the high spots and to smooth out any pits. Two new sets of plug and cage with harder trim are on order and will be placed in the warehouse as spares to be used as needed.

In an effort to prevent a similar occurence, Maintenance Work Request 18905 has been initiated to repair the existing feed water regulator valve position indication to the Emergency Response Information System (ERIS). In the interim, Station Operating

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Procedure SOP-009 "Reactor Feedwater System" has been revised (TCN 86-191) to require an operator to locally verify valve position before opening the feed water regulator valve inlet isolation valves. Furthermore, Modification Request 86-0256 was initiated to provide positive feed water regulator valve position indication in the control room.

Safety Assessment

There were no safety consequences or implication to the public as a result of this event. The reactor scram, main turbine, and feed pump trip functions performed as designed to mitigate the consequences of a feed water level control failure.

GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775

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February 19, 1986
RBG- 23198
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. 86-007 for River Bend Station - Unit 1. This report is submitted pursuant to 10CFR50.73.

Sincerely,

J. E. Booker

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

JEB/TFP/DRG/BEH/ebm

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