

**GULF STATES UTILITIES COMPANY**



RIVER BEND STATION

POST OFFICE BOX 920

ST. FRANCISVILLE, LOUISIANA 70776

AREA CODE 504

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346-3851

September 14, 1992

RBG- 37492

File Nos. G9.5, G9.25.1.3

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

Gentlemen:

River Bend Station - Unit 1

Docket No. 50-458

Please find enclosed Licensee Event Report No. 92-016 for River Bend Station - Unit 1. This report is submitted pursuant to 10CFR50.73.

Sincerely,

*FOR*

W.H. Odell

Manager - Oversight

River Bend Nuclear Group

*ADD SK DCH CLM*  
LAE/PDG/FRC/DCH/CLM/kvm

9209180268 920914  
PDR ADOCK 05000458  
S PDR

*JE22*

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

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

INPO Records Center  
1100 Circle Parkway  
Atlanta, GA 30339-3064

Mr. C.R. Oberg  
Public Utility Commission of Texas  
7800 Shoal Creek Blvd., Suite 400 North  
Austin, TX 78757

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

## LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.6 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (IMRB 7714), 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.

FACILITY NAME (1)

RIVER BEND STATION

DOCKET NUMBER (2)

05000 458

PAGE (3)

1 OF 3

TITLE (4) Isolation of Containment Isolation Valves-Engineered Safety Feature Actuation (ESF)

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
08	16	92	92	016	00	09	14	92		05000
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more) (11)							
4			20.405(b)			20.405(c)			X 50.73(a)(2)(iv)	
POWER LEVEL (10)			20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)	
0			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vi)	
			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(vii)(A)	
			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(vii)(B)	
			20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(x)	
									OTHER	
									Specify in Abstract below and in Text, NRC Form 366A	

## LICENSEE CONTACT FOR THIS LER (12)

NAME

L.A. ENGLAND, DIRECTOR - NUCLEAR LICENSING

TELEPHONE NUMBER (include Area Code)

(504) 381-4145

## 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	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X			10	05	92

## ABSTRACT (Limit to 1100 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

At 1358 on 8/16/92 with the unit in Operational Condition 4 (Cold Shutdown), shutdown cooling was lost when containment isolation valves 1E12\*MOVFO09 and 1E12\*10VFO53 isolated. The isolation occurred while welding activities were in progress in the RHR "B" pump cubicle. Subsequent investigation for a similar ESF which occurred at 1713 on 9/5/92 revealed a loose terminal connection on leakage detection temperature instrumentation which may also have caused the ESF on 8/16/92. This event constitutes an Engineered Safety Feature (ESF) actuation and is reported pursuant to 10CFR50.73 (a) (2) (iv).

Following the isolation on 8/16/92, the welding in the RHR pump cubicle was stopped, the valves were reset, both RHR pumps were restarted and the system was returned to normal operation. The total time shutdown cooling was secured was approximately twelve (12) minutes.

The system responded as designed during this event with no noted increase in reactor vessel temperatures. Additionally, the cause of the event did not prevent restart of the residual heat removal system to restore shutdown cooling.

REQUIRED NUMBER OF DIGITS/CHARACTERS  
FOR EACH BLOCK

BLOCK NUMBER	NUMBER OF DIGITS/CHARACTERS	TITLE
1	UP TO 46	FACILITY NAME
2	7 TOTAL 3 IN ADDITION TO 05000	DOCKET NUMBER
3	VARIES	PAGE NUMBER
4	UP TO 76	TITLE
5	6 TOTAL 2 PER BLOCK	EVENT DATE
6	7 TOTAL 2 FOR YEAR 3 FOR SEQUENTIAL NUMBER 2 FOR REVISION NUMBER	LER NUMBER
7	6 TOTAL 2 PER BLOCK	REPORT DATE
8	UP TO 18 -- FACILITY NAME 6 TOTAL -- DOCKET NUMBER 3 IN ADDITION TO 05000	OTHER FACILITIES INVOLVED
9	1	OPERATING MODE
10	3	POWER LEVEL
11	1 CHECK BOX THAT APPLIES	REQUIREMENTS OF 10 CFR
12	UP TO 50 FOR NAME 14 FOR TELEPHONE	LICENSEE CONTACT
13	CAUSE VARIES 2 FOR SYST. '1 4 FOR COMPON. '1 4 FOR MANUFACTURER NPRDS VARIES	EACH COMPONENT FAILURE
14	1 CHECK BOX THAT APPLIES	SUPPLEMENTAL REPORT EXPECTED
15	6 TOTAL 2 PER BLOCK	EXPECTED SUBMISSION DATE

NRC FORM 366A (5-92)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
<b>LICENSEE EVENT REPORT (LER)</b> <b>TEXT CONTINUATION</b>				ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THE INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNRB 7714), 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.	
FACILITY NAME (1)		DOCKET NUMBER (2)		LER NUMBER (3)	
RIVER BEND STATION		05000 458		YEAR 92	SEQUENTIAL NUMBER 016
				REVISION NUMBER 00	PAGE (3) 2 OF 3

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

## REPORTED CONDITION

At 1358 on 8/16/92 with the unit in Operational Condition 4 (Cold Shutdown), shutdown cooling was lost when containment isolation valves (\*20\*) 1E12\*MOV009 and 1E12\*MOV053 isolated. The isolation occurred while welding activities were in progress in the RHR "B" pump cubicle. Subsequent investigation for a similar ESF which occurred at 1713 on 9/5/92 revealed a loose terminal connection on leakage detection temperature instrumentation which may also have caused the ESF on 8/16/92. This event constitutes an Engineered Safety Feature (ESF) actuation and is reported pursuant to 10CFR50.73 (a) (2) (iv).

## INVESTIGATION

Mechanical Maintenance personnel were beginning to repair a pin hole leak on a RHR line in the "B" RHR cubicle when the event occurred. Based on interviews with the mechanic involved, the welding machine was grounded by a ground clamp attached to a RHR pipe in the RHR cubicle on the 92' elevation. The welding preparation was started on the 70' elevation. During the amp setting of the welding machine, the welder was contacted by the control room and told to stop. The welder stated that he was not sure if the pump trip occurred just prior to or after the initial weld arc, however it appeared to have occurred just following the initial weld arc. The distance between the ground clamp and the weld was due to the welding machine being located in a contaminated area. To minimize the possibility of spreading contamination, the welder elected to run only one cable outside of the "C" zone. While the possibility exists that the ESF may have been caused by an induced voltage spike on leakage detection temperature instrumentation, a more probable cause was discovered during troubleshooting activities for a similar ESF which occurred at 1713 on 9/5/92. This is based on previous welding experience in close proximity to operating plant equipment and the following information.

QC inspections performed on 8/16/92 identified a poor terminal connection in control room panel 1H13\*P642A. On 9/5/92, System Engineering personnel were evaluating the condition of the same connection when two other unexpected ESF isolations occurred, each resulting in a loss of RHR shutdown cooling. The first isolation occurred when a 24VDC power supply to RHR leakage detection instrumentation de-energized. The most probable cause for this loss of power was the loss of the signal ground from power supply 1E31-K600B. The loss of the signal ground caused an electrical transient on the power supply to the Riley temperature trip units, resulting in the isolation of containment isolation valve 1E12\*MOV009. Based on the preliminary investigations, the poor terminal connection identified in a QC inspection report appears to be the primary causal factor. The second isolation of 1E12\*MOV009 and subsequent loss of shutdown cooling occurred at 1933 on 9/5/92 when a system engineer moved a wire in control room panel 1H13\*P642A while trying to locate a poor terminal



**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
RIVER BEND STATION	05000 458	92	016	00	3 OF 3

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

connection as identified in a previous QC inspection report. Review of completed QC inspection reports shows that inspections were being performed on the same day as the first ESF isolation (8/16/92). A control room walkdown and interviews with the responsible QC inspectors revealed that they were inspecting the same connection when the ESF occurred on 8/16/92. The inspections were being performed as part of a routine quarterly inspection which requires visual inspection of random control room panel terminal block connections. Both QC inspectors stated that during the inspection they observed a spark in the panel on the fuse block where the poor connection was identified. This appears to have happened concurrent with the timing of the ESF isolation. Both inspectors also stated that no wires were moved in their visual quarterly inspections; although, based on the System Engineering evaluation on 9/5/92, the ESF could have occurred due to someone bumping against the panel door or the fuse block.

### CORRECTIVE ACTION

In all of the ESF actuations identified above, the valves were reset and shutdown cooling was restored with no effect or increase in reactor temperature. Immediate corrective action involved the closure of the control room panel with no admittance without Shift Supervisor approval until the terminal connection can be reworked. Additional evaluation and root cause investigation is continuing based on the events which occurred on 9/5/92. Since this evaluation cannot be completed within the timeframe for submission of this LER, a supplement to this LER will be submitted by 10/5/92, outlining the results of the investigation into the poor terminal connection and the corrective actions taken.

### ROOT CAUSE

Although the primary causal factor appears to have been identified through task analysis and interviewing techniques, no definitive root cause has been determined. The supplement to this LER will provide the final root cause evaluation and the corrective action to prevent recurrence.

### SAFETY ASSESSMENT

The system responded as designed during this event. No increase in reactor temperature was observed and the cause of the event did not prevent restoration of the RHR system to normal operation.

NOTE: Energy industry identification codes are indicated in the text as (\*XX\*).