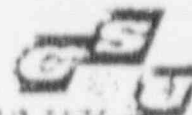


GULF STATES UTILITIES COMPANY



December 13, 1990
RBG- 34151
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. 90-041 for River Bend Station - Unit 1. This report is being submitted pursuant to 10CFR50.73.

Sincerely,

W. H. Odell
Manager-Oversight
River Bend Nuclear Group

WAB
IAE/PDC/DEO/DCH/LAB/pg

cc: U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

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

INPO Records Center
1100 Circle 75 Parkway
Atlanta, GA 30339-3064

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

IE22

SECRETARY OF DEFENSE PER REFERENCE TO COMPTON WITH THIS
REF. MESSAGE. SOURCE'S REQUEST TO GO ON TO FORWARD
SOURCE'S REQUEST FOR INFORMATION ESTIMATE TO THE RECORDED
AND REPRODUCED INFORMATION FROM SOURCE TO THE NUCLEAR
REGULATORY COMMISSION, WASHINGTON DC 20545 AND TO
THE FARMINGTON RECORD ON PHONE 226-0114. OFFICE
OF MANAGEMENT AND BUDGET WASHINGTON DC 20503

At 1716 on 11/13/90 with the unit in Operational Condition 1 (Refueling), during diagnostic signature testing of the reactor water clean up (RWCU) supply line inboard containment isolation valve 1G33*MOV001, it was determined that the valve was not developing the vendor calculated thrust required to fully close under design basis conditions due to improper installation of the torque switch. Therefore, the operability of the valve at that time is indeterminate. This report is submitted pursuant to 10CFR50.73 (a) (2) (i) (B) as operation prohibited by the Technical Specifications.

This event was caused by prior improper installation of the torque switch. The torque switch was removed and reinstalled properly. Functionality of the torque switch was verified by signature testing.

Isolation of the outboard isolation valve alone would be sufficient to prevent the release of radioactivity. In addition, the closure time of the outboard isolation valve is shorter than the inboard valve. Thus, in a design basis accident, the inboard valve probably would not have been subjected to the full differential pressure. Therefore, this event did not adversely affect the health and safety of the public.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN FOR RESOURCES TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST AND BE FORWARDED COMMENTS REGARDING THE REPORT TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-30) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545 AND TO THE INFORMATION REQUEST PROJECT, REGIONAL OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)
		YEAR	SEQUENCE NUMBER	REVISION NUMBER	
RIVER BEND STATION	0 8 0 0 0 4 5 8 9 0	C 4 1	3 0 0	2	OF 0 1

REPORTED CONDITION

At 1716 on 11/13/90 with the unit in Operational Condition 5 (Refueling), during diagnostic signature testing of the reactor water clean up (RWCU) (*CE*) supply line inboard containment isolation valve (*ISV*) 1G33*MOVFO01, it was determined that the valve was not developing the vendor calculated thrust required to fully close under design basis conditions. There is no assurance that this valve would have developed the calculated thrust required to close under design basis conditions (line break); therefore, the operability of the valve at that time is indeterminate. This report is submitted pursuant to 10CFR50.73 (a)(2)(i)(B) as operation prohibited by the Technical Specifications.

INVESTIGATION

The RWCU supply line inboard containment isolation valve (*ISV*) 1G33*MOVFO01 is a 6" Velan flexible wedge gate valve with a Limitorque SB-1-25 motor operator. It has a vendor calculated required thrust to close of 14491 lb. (equivalent to 229 ft-lb torque) against a line pressure of 1250 psig and a differential pressure of 1250 psid. On 11/13/90 at 1716, diagnostic signature testing showed that the valve, with the closing torque switch set at the vendor recommended maximum setting of 2.5 (corresponding to 250 ft-lb torque per Limitorque Corp. spring pack curves), was developing only 1800 lb. thrust at torque switch trip. It should have developed approximately 15833 lb. thrust at this setting. The testing was performed under static conditions (no flow, no differential pressure) and although the thrust was below the vendor calculated required thrust for closing under design basis conditions, the signature traces showed that the valve did fully seat under the static conditions.

Further investigation revealed that the torque switch had been installed incorrectly. The gear driven torque switch was installed one tooth off center which rendered it unbalanced. The valve was developing more thrust in the open direction at torque switch trip and less thrust in the close direction at torque switch trip for the same torque switch setting. The valve was not backseating; therefore, the condition of the torque switch had no effect on the valve opening. In the closing direction, the torque switch stops the valve. The closing torque switch is bypassed for 95% of full stroke, so regardless of the developed thrust at torque switch trip, the valve would have closed at least 95%. The incorrect installation of the torque switch would cause it to trip prematurely (prior to the valve fully seating) which would lead to the motor stopping as soon as the close torque switch bypass opens at 95% of full stroke. The valve might have closed somewhat further than this due to inertia; however there is no assurance that the valve would have fully seated under line break conditions. A review of the maintenance and testing history showed

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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTED IN REQUEST FOR AND FORWARD CURRENTLY REQUIRED BY REGULATORY BRANCH TO THE RECORDS AND RECORDS MANAGEMENT BRANCH (130) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545 AND TO THE PAPERWORK REDUCTION PROJECT (1050104) OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (4)		PAGE (5)	
RIVER BEND STATION	0 5 0 0 0 4 5 8 9 0	YEAR	REG. ENTRY NUMBER	REVISION NUMBER	
		— 0 4 1	— 0 0	0 3	OF 0 4

LET IT HAVE AFTER IT REQUIRED USE ATTENDING NRC FORM 388A (1-77)

that the operator had been disassembled, regreased and reassembled during the second refueling outage (RF2) which began May 11, 1989. It is likely that the torque switch was reinstalled incorrectly during RF2. Based on the discovery of the incorrectly installed torque switch and the as-found thrust at torque switch trip, there is no assurance that the valve would have been capable of performing its design function of fully closing to isolate a line break.

A review of previous LERs revealed no similar events.

CORRECTIVE ACTION

The torque switch was removed and reinstalled in the proper position. The correct (balanced) functioning of the torque switch was then verified by diagnostic signature testing. The torque switch was set at the vendor recommended maximum setting of 2.5 for both opening and closing - this corresponds to a thrust of 15833 lb. which is greater than the minimum required thrust to close under design basis conditions per the vendor calculations (14491 lb.).

In accordance with the guidance in Generic Letter 89-10, all safety-related motor-operated valves (MOV's) will receive diagnostic signature testing periodically and post-maintenance. This testing program is designed to detect malfunctions in valves such as those caused by incorrect torque switch installation. The testing program is also designed to verify proper torque switch function following maintenance involving torque switch installation.

SAFETY ASSESSMENT

Both the inboard containment isolation valve (*ISV*), 1G33*MOV001, and the outboard containment isolation valve (*ISV*), 1G33*MOV004, are required to provide containment isolation or isolation of the system under line break conditions. The outboard valve has a closure time of 6.6 seconds, while the inboard valve, has a closure time of 19.8 seconds. Since these valves receive the same isolation signals, it is likely that if a line break had occurred during the time the inboard valve was inoperable, the outboard valve would have closed first, thus providing the necessary isolation, and also reducing the differential pressure across the inboard valve. Although the inboard valve was not developing the calculated required thrust for line break conditions, it is likely that it would have closed under lesser differential pressure conditions as has been evidenced in system isolations reported in LERs 90-019 and 90-026. In these cases, the valve closed against normal system pressure. In addition, the isolation of the outboard valve alone would be sufficient to prevent the release of radioactive materials, via this pathway, in the event of an accident. Therefore, this event did not adversely affect the health and safety of the public.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN FOR RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST. SEE HRS FORWARD COMMENTS REGARDING BURDEN ESTIMATES TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (PSD) U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (DSD-0104) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON, DC 20503

FACILITY NAME (1) RIVER BEND STATION	DOCKET NUMBER (2) 0500045890-041-0004 OF 01	LER NUMBER (3) YEAR SEQUENCE NUMBER REVISION NUMBER	PAGE (3) 4 OF 01
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TEXT CONTINUATION OF LER. USE ADDITIONAL NRC FORM 380A (2-89).

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