



**GULF STATES UTILITIES COMPANY**

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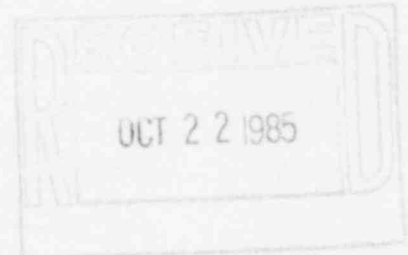
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October 16, 1985

RBG- 22395

File Nos. G9.5, G9.25.1.1

Mr. Robert D. Martin, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76011



Dear Mr. Martin:

River Bend Station - Unit 1  
Docket No. 50-458  
Final Report/DR-314

On August 30, 1985, GSU provided Region IV a 30-day written report on DR-314 concerning leakage of the fluid Fyrquel from pump seals to the pump drive motor in Borg-Warner electrohydraulic operators for Copes-Vulcan modulating valves. The attachment to this letter is GSU's final written report pursuant to 10CFR50.55(e)(3) with regard to this deficiency.

Sincerely,

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

*M/AD*  
JEB/PJD/lp

cc: Director of Inspection & Enforcement  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

NRC Resident Inspector-Site

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## ATTACHMENT

October 16, 1985

RBG-

### DR-314/Electrohydraulic Operators

#### Background and Description of Problem

This deficiency concerns leakage of the fluid Fyrquel from pump seals to the pump drive motor in Borg-Warner electrohydraulic operators for Copes-Vulcan modulating valves 1SWP\*PVX32B and D and 1SWP\*PVY32A and D. This problem was identified by the Startup and Test (SU&T) Group at the River Bend Station (RBS) site. A report from the field identified valves 1SWP\*PVX32B and D and 1SWP\*PVY32A and D as having a fluid leak from the pump seal to the pump motor, thereby failing the valve in the as-is position instead of the preferred fail position. These modulating valves are bought under Specification No. 247.497 from Copes-Vulcan. Borg-Warner is the subcontractor for the valves' electrohydraulic operators. The electrohydraulic operator contains the pump motor and Fyrquel fluid to place the valve actuator in the desired position in response to an electrical signal corresponding to process requirements. A change in the process requirements necessitates a change in the valve actuator position, which is achieved by the valves' electrohydraulic operator. Failure of electric power causes the valves to fail in the preferred design position, i.e., fail closed or fail open. Because of this fluid leak, pump motors have an open circuit and thus are incapacitated, thereby failing in the as-is position.

Based on input received from the vendor, dirty hydraulic fluid and improper installation of the fluid were the underlying causes of the deficiency.

There are eight valves from the same vendor in the service water system, and ten similar valves in the penetration valve leakage control system, main steam valve leakage control system, and control building chilled water system. The ten other valves have not experienced similar failures.

#### Safety Implication

Failure of valves 1SWP\*PVX32B and D and 1SWP\*PVY32A and D in the as-is position instead of the designed fail open or fail closed position will render the control building chilled water system, and therefore control building HVAC operation, erratic or ineffective. Improper operation of the control building HVAC System may adversely affect safety-related operation of equipment.

Corrective Action

For the eight valves in the service water system, valves 1-SWP\*PVX32A through D were replaced with a spool piece with a blank and valves 1-SWP\*PVY32A through D were replaced with a spool piece. The standby service water temperature will be monitored daily by operators who will take appropriate action should the water temperature approach 56°F. In the event that the chilled water system is unavailable, Control Building cooling will be provided by supplying service water directly to the air conditioning units cooling coils.

Actuator assemblies for the eight valves in the service water system were repaired by Borg-Warner in accordance with Nonconformance and Disposition Report No. 12,146. Also, the motors were reoriented in a motor-over-valve configuration to prevent the possibility of hydraulic fluid getting into the motor should any leakage occur.

For the other ten valves, the hydraulic fluid is being replaced in the operators for valves 1HVK\*PV16A&B, 1HVK\*PV17A&B, 1HVK\*PV18A&B, and 1LSV\*PV10A&B. The existing operators on valves 1E33\*PVF002 and 1E33\*PVF022 are being replaced by two of the valve operators that were repaired and modified by Borg-Warner.