



GULF STATES UTILITIES COMPANY

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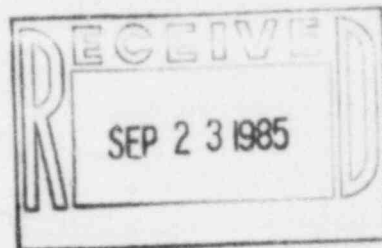
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September 16, 1985
RBG- 22,116
File Nos. G9.5, G9.25.1.1

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-259



On January 3, 1985, GSU provided Region IV a final 30-day written report on DR-259 concerning split terminal blocks manufactured by Underwriter's Safety Device Company (Part No. 13549). The attachment to this letter is GSU's revised final written report pursuant to 10CFR50.55(a)(3) with regard to this deficiency.

Sincerely,

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

JEB PJD
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

September 16, 1985

RBG- 22,116

DR-259/Split Terminal Blocks Manufactured by Underwriter's Safety Device Company

Background and Description of the Problem

The problem concerns split terminal blocks, manufactured by Underwriter's Safety Device Company (Part No. 13549), that were found to be partially or fully separated. During testing, the GSU Startup and Test Group (SU&T) identified various safety-related valves that either failed to operate or did not complete their open and/or close cycle. Upon investigation, it was determined that the valve failure was due to a loss of continuity through the two-part terminal block located in the motor control center (MCC), which had become partially or fully separated. Further discussions with other GSU SU&T, Preliminary Test Organization (PTO), Site Engineering Group (SEG), and Quality Assurance personnel established reason to believe that this problem could exist in any MCC containing these two-part blocks.

The exact cause of the terminal block separation in each case is unknown; however, any one or all of the following factors may have contributed:

1. Terminal block not securely fastened to begin with.
2. Excessive wear on terminal block connection points.
3. Terminal block and/or connecting cable jarred during maintenance or testing of adjacent circuits.
4. Excessive vibration in the area.

Safety Implication

Two of the valves among those that failed during testing are 1E21*MOVFF005 (LPCS injection shutoff valve) and 1E12*MOVFF009 (RHR suction cooling isolation valve). These two valves are required to open and close for plant safety.

Under certain postulated accident conditions, one of the two core sprays (HPCS or LPCS) is required for safe shutdown. If normally closed valve 1E21*MOVFF005 failed to open because of terminal block separation, the LPCS injection system would be inoperative. Then, assuming a single

failure on the HPCS system, the safe operations of the plant would be adversely affected. Valve 1E21*MOVFO05 is also required to maintain the pressure boundary of the containment. If 1E21*MOVFO05 opened for operation of the LPCS system and subsequently failed to close, there could again be an impact on the safety of the plant.

Normally closed valve 1E12*MOVFO08 (RHR suction cooling valve) is required to open under certain accident conditions. This valve permits cooling of the reactor water through the RHR heat exchangers in order to maintain a hot shutdown condition of the reactor. Valve 1E12*MOVFO08, like 1E21*MOVFO05, is required to close to maintain the pressure boundary of the containment. Therefore, failure of 1E12*MOVFO08 to open or close could adversely affect the safety of the plant.

Corrective Action

As corrective action, Engineering & Design Coordination Report (E&DCR) No. C-26,399, has been initiated providing details to incorporate a bracket in MCC cubicles containing these two-part terminal blocks. However, where it is not feasible to install brackets due to space limitations, E&DCR C-26,399B was initiated to use Tefzel tie wraps as an alternative method to secure the split terminal blocks. Corrective Maintenance Procedure No. 1026 has been changed to require replacement of the restraints (brackets or tie wraps) if removed for maintenance.