GULF STATES UTILITIES COMPANY

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

AREA CODE 504 635 6094 346 8651

April 10, 1985
RBG- 20695
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-289

On March 6, 1985, GSU notified Region IV by telephone of DR-289 concerning the voltage regulator on the HPCS diesel generator supplied by General Electric Company. GSU had determined this condition is reportable under 10CFR50.55(e). The attachment to this letter is GSU's final 30-day written report pursuant to 10CFR50.55(e)(3) with regard to this deficiency.

Sincerely,

J. E. Booker

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

JEB/PJD/trp

Attachment

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

NRC Resident Inspector-Site

INPO

85-214

IE-27

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ATTACHMENT

April 10, 1985
RBG-20695

DR-289/HPCS Diesel Generator
Voltage Regulator

Background and Description of the Problem

The High Pressure Core Spray (HPCS) pump motor would not start when fed only from the HPCS Diesel Generator. When the circuit breaker was closed, the generator voltage dropped to below 1000 volts (normal voltage is 4160 volts). The problem was traced to reversed leads on a current booster transformer which provides a generator output current feedback signal to the generator exciter. With this signal 180° out of phase, the exciter was decreasing excitation current when it should have been increasing excitation current. The deficiency at River Bend Station (RBS) is limited to the HPCS Diesel Generator voltage regulator.

When the HPCS Diesel Generator was field checked for proper phase rotation, it was discovered that the generator output cables were not connected properly. The instruction book for the generator contains the following statements:

> For clockwise rotation facing collector ring end, connect machine terminals T1, T2, T3 to power leads having phase sequence 1, 2, 3. Connect TO with neutral power lead if used.
>
> For counterclockwise rotation facing collector ring end, connect machine terminals T1, T3, T2, to power leads having phase sequence 1, 2, 3. Connect TO with neutral power lead if used.

The HPCS Diesel rotates counterclockwise, but the generator was connected for clockwise rotation. This condition was not picked up by the Stewart and Stevenson factory tests because their resistive load test is not influenced by phase rotation.

The phase rotation was reversed by FDDR LD1-2649, Rev. "0" which rolled the generator leads, but the FDDR did not change the affected exciter control circuit.

Safety Evaluation

Failure of the HPCS Diesel Generator to accept load would result in the loss of HPCS safety system which could adversely affect the safe operations of the plant.

Corrective Action

The voltage regulator wires were reterminated in accordance with FDDR LD1-2997.

To assure proper wiring is maintained, FDDI LD1-2997 requires HPCS Diesel Generator drawing 945E404 Sheet 7 to be revised to show the proper wire terminations for the voltage regulator.