GULF STATES UTILITIES COMPANY

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

AREA CODE 504 635-6094 346-8651

April 26, 1985
RBG- 20816
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-287

On April 3, 1985, Gulf States Utilities Company (GSU) notified Region IV by telephone that it had determined DR-287 concerning fuse blocks located inside Class 1E uninterruptible power supplies furnished by Elgar Corporation to be 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/amg

Attachment

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

NRC Resident Inspector-Site

INPO

85-261

I.E. 27

ATTACHMENT

April 26, 1985
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DR-287/UPS FUSE BLOCK

Background and Description of the Problem

The deficiency concerns fuse blocks located inside Class 1E uninterruptible power supplies (UPSs) furnished by the Elgar Corporation, which were indentified in Nonconformance and Disposition Report (N&D) No. 10,692 and Engineering and Design Coordination Report (E&DCR) No. C-60,882. N&D No. 10,692 and E&DCR No. C-60,882 were initiated March 1, 1985, and February 25, 1985, respectively, to address loose connections found on the fuse block of the 125-V dc power input to Class 1E UPS 1ENB*INV01A. The deficiency involves potential overtightening of nuts attaching the 125-V dc power bus bar to the stud imbedded in the power input fuse block. The particular arrangement is found on 20-kVA UPSs furnished to River Bend Station (RBS).

Overtightening the nuts on the fuse block stud may cause the stud to pull loose from the fuse block material. Should this stud become loose, a poor electrical connection would exist, resulting in a high-resistance connection, which in turn, could lead to high temperatures and possible damage to the fuse and fuse block or to complete loss of continuity.

In addition, the present configuration relies upon the stud itself as a current-carrying conductor as opposed to a direct block-to-bar interface. The stud, being of higher resistance than copper, may also become hotter than desirable due to I^2R losses and cause an additional voltage drop across the interface.

The cause of the problem is the specific configuration used by Elgar on the RBS 20-kVA UPSs for making the block-to-bar connection. Conversations with Elgar's representative indicated that specific information does not exist on Elgar's shop drawings to indicate the proper method of making the electrical connection.

However, no evidence is known to exist which specifically addresses the block-to-bar connection to verify the configuration as it left the manufacturer's facility.

Safety Implication

The deficient block-to-bar connections can result in loose and high-resistance connections in the 125-V dc power input circuit. Loss of this dc input to the UPS, concurrent with the RBS design basis event of loss of offsite power, results in loss of uninterruptible 120-V ac power to Class 1E instrument and control loads. When considered simultaneously with a LOCA, the unavailability of 120-V power output results in the inability of LOCA auxiliary relays and contacts to initiate operation of the ECCS, thus adversely affecting the safe operations of the plant.

Corrective Action

E&DCR No. C-60,882 furnishes the modification which provides a proper block-to-bar connection to disposition N&D No. 10,692 for fuse blocks installed in UPSs 1ENB*INV01A, 1ENB*INV01B, and 1BYS-INV04. No additional 20-kVA UPSs are anticipated to be procured for RBS.