



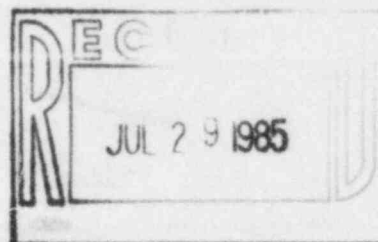
**GULF STATES UTILITIES COMPANY**

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

AREA CODE 504 635-6094 346-8651

July 24, 1985  
RBC- 21659  
File Code: 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-290

On July 24, 1985, GSU notified Region IV by telephone that it had determined DR-290 concerning the leak rates of charcoal filtration system ductwork 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  
Manager-Engineering,  
Nuclear Fuels & Licensing  
River Bend Nuclear Group

*JEB* ASD  
JEB/PJD/amg

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

NRC Resident Inspector-Site

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ATTACHMENT

July 24, 1985  
RBG- 21659

DR-290/LEAK RATES OF CHARCOAL  
FILTRATION SYSTEM DUCTWORK

Background and Description of the Problem

The deficiency concerns the leak rates of charcoal filtration system ductwork. ANSI Standard N-509 1980 requires that ductwork associated with charcoal filtration systems be leak tested to meet specific leak rates as defined in the Standard. The Standard requires that those portions of ductwork which are subjected to fan peak pressure shall be leak tested at this pressure.

The field and leak testing was performed on the applicable portions of the HVC, HVF, and GTS systems installed ductwork at pressures less than the fan peak pressure. This problem affects only the ductwork on the downstream side of the filters. Ductwork on the upstream side is not affected, since the HVF, HVC, and GTS filter housing suction side dampers were installed with instant response limit switches designed to shut off the system fan when the damper is not in full open position. The mechanism's response time is instantaneous and trips the fan as soon as the damper moves a fraction off its wide open position. Since these limit switches function in lieu of pressure-relieving devices as defined in ANSI Standard N-509, the ductwork upstream of the filter housings was tested appropriately at system operating pressure and is not a subject of this evaluation.

The actual fan curves (performance graphs) for the filter fans were not available from the vendor during the early stages of HVAC ductwork system design. In order to advance the duct design effort to the point necessary to allow vendor fabrication of the sheet metal ductwork, theoretical performance characteristics (pressures) were selected from the vendors generic fan catalog. These pressures, with some margin, were used as the duct system design pressures and are listed within the ductwork fabrication specifications (216.110 and 216.160).

When the various system fan curves became available, the information was not incorporated into the duct fabrication specifications. Actual fan peak pressures were up to 25 percent higher than those pressures to which the ductwork was originally tested. Consequently, the leak rates associated with these portions of ductwork would have been higher if the correct peak pressure had been applied.

Safety Implication

Since it cannot be absolutely demonstrated that the ductwork would have performed its intended safety function, it is conservatively assumed that the leak rates could have been high enough to affect the safe operations of the plant.

Corrective Action

As a result of various factors, all affected ductwork is being retested using actual fan pressures taken from vendor-supplied fan performance curves. Retesting is ongoing and will be completed by fuel load.

SWEC HVAC pressure and leak test Procedure No. 1.MPGEN.002 for charcoal and conventional duct systems had some deficiencies in the areas of charcoal filtration system testing (i.e., appropriate instrumentation, calibration, and quality control during test). New Procedure No. 1.MPGEN.003 is now being used for charcoal filtration system, while Procedure No. 1.MPGEN.002 has been limited in scope for conventional duct system testing.