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May 10, 1985
RBG- 20,969
File No. G9.5, G9.8.6.2

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

River Bend Station - Unit 1
Docket No 50-458

Enclosed is supplemental information for the River Bend Station High Energy Line Break Evaluation Report (Effect On Nonsafety-Related Control Components). This response addresses a reduction in feedwater temperature event due to a HELB in Zone III, and completes Gulf States Utilities response to Safety Evaluation Report (NUREG-0989) Confirmatory Item No. 41.

Sincerely

J. E. Booker

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Enclosure

Section 3.0 of our High Energy Line Break Evaluation Report (effect on nonsafety-related control components) submitted with GSU's letter of February 15, 1985 (RBG-20,164) identified one event which required further analysis. This event is a hypothesized combination of conditions which can occur from a pipe break within the turbine building, simultaneously causing a partial loss of feedwater heating and a turbine trip if the appropriate controls are disabled, leading to improper valve positioning.

The reduction in feedwater inlet temperature causes a gradual rise in reactor power, and depending upon the specific timing of the event, the turbine trip may occur at a reactor power elevated between the operating value and the trip level. It has been concluded that the occurrence of this event is highly unlikely. This conclusion is based in part on consideration of the probability that a combination of the following worst case conditions occurs concurrently:

a. The worst case pipe segment breaks on the most important line.

b. Pipe whip or jet impingement can strike all targets in an area and cause failures in worst case modes.

c. Breaks occur at worst case locations.

d. Both turbine trip and reactor high power-level trip occur at appropriate (i.e., worst cases) times.

Should the unlikely worst case combined sequence occur, the reactor may experience a change in critical power ratio (CPR), greater than that shown in the Unacceptable Results for Incidents of Moderate Frequency - Anticipated Operational Transients, but only for a short time. However, the effects of this accident event, even considering a single active component failure in a mitigating safety system, pose no threat to the unacceptable results for Limiting Faults - Design Basis (Postulated) Accidents presented in the FSAR Chapter 15. It is concluded that the hypothesized HELB, with resulting effects on control systems, poses no significant risk to the health and safety of the public.