



GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775
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June 10, 1985
REG- 21,246
File Nos. G9.5, G9.8.6.2

Mr. Harold W. 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 Gulf States Utilities response to an item identified in the River Bend Station (RBS) Safety Evaluation Report (SER). Section 3.6.1 of the RBS SER indicates that a jet impingement analysis is required in the steam tunnel. The enclosed Final Safety Analysis Report (FSAR) revisions provide the results of that analysis. These revisions will be included in a future FSAR amendment. This response provides the final RBS response to SER Outstanding Issue No. 3.

Sincerely,

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

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3C.2 HIGH ENERGY PIPE BREAKS AND EFFECTS OF PIPE WHIP AND JET IMPINGEMENT

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The following systems are described in the noted sections:

Main Steam Piping System		
Including RPV Vent and		
MS Drain Piping	3C.2.1	
Feedwater Piping System	3C.2.2	
Reactor Recirculation	3C.2.3	
RCIC and Connected RHR Systems	3C.2.4	
LPCS/HPCS System	3C.2.5	
LPCI Mode of RHR	3C.2.6	
RHR System	3C.2.7	
RWCU System	3C.2.8	
RCIC Head Spray	3C.2.9	
3-In and Smaller High Energy Piping	3C.2.10	

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Each section references appropriate isometric drawings with break location and restraints. In addition, composite drawings showing pipe/equipment/room configurations have been provided in Section 3.6A, but are not specifically referenced.

The only pipe breaks of concern in the non-Seismic Category I turbine building are those with the potential to have an impact on safety-related equipment in adjacent buildings. Although the reactor protection SCRAM sensors for the turbine stop and control valves are located in the turbine building, they are not considered essential.

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Only the essential jet impingement targets have been mentioned in the following sections. Nonessential targets, such as structural targets, have been evaluated to ensure structural integrity in order to isolate and mitigate jet impingement effects.

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3C.2.1 Main Steam Piping Including RPV Vent and MS Drain Piping

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The locations of postulated pipe breaks and pipe whip restraints for the three systems are shown on Fig. 3.6A-12 through 3.6A-16 for main steam, Fig. 3.6A-14a for RPV vent, and Fig. 3.6A-33b through 3.6A-33d for MS drain. The results of the associated stress calculations are summarized in Tables 3.6A-1 through 3.6A-8, Table 3.6A-4a, and Tables 3.6A-17a through 3.6A-17c for the three systems, respectively.

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An evaluation has also been performed to verify that the plant can be safely shutdown considering the effects of jet impingement from longitudinal cracks in main steam or feedwater piping in the "Break Exclusion Area" of the main steam tunnel. Cracks in this portion of piping are considered highly unlikely due to quality of material and quality assurance requirements specified for the fabrication and installation of this piping. In addition the stress criteria for no postulated breaks as discussed in Section 3.6A have been met. The potential jet impingement targets in this area were identified and assumed to fail to function due to the jet effects. In addition, a structural evaluation was performed to verify that structural integrity was maintained considering the effects of jet impingement, pressure and flooding in this area.