GULF STATES UTILITIES COMPANY

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

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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 for your review are revisions to Gulf States Utilities' Final Safety Analysis Report (FSAR) for River Bend Station. These revisions are provided in response to verbal concerns from your Containment Systems Branch and will be included in a future FSAR amendment.

Sincerely,

J. E. Booker

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Manager-Engineering,
Nuclear Fuels & Licensing
River Bend Nuclear Group

JEB/ERG/je

Enclosure

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the hydrogen mixing system are shown on Fig. 6.2-66.

7. All components of the combustible gas control system are of Seismic Category I design and are capable of withstanding the transient environmental conditions of temperature, pressure, humidity, and radiation to which they are exposed following a LOCA, with the exceptions previously noted.

8. The combustible gas control system is designed to meet General Design Criterion 42 with respect to testing and General Design Criterion 43 with respect to inspection. Section 6.2.5.4 provides a further discussion of the periodic tests and inspections performed on the system.

9. The system does not rely on equipment shared with another unit. Two permanently installed thermal recombiners are located on opposite sides of the containment refueling floor (el 186 ft-3 in). This location precludes the need for shielding around the recombiners, since the containment is not readily accessible after a LOCA.

10. As a backup to the redundant hydrogen recombiner systems ~~To aid the cleanup of the containment atmosphere~~ 20
and to comply with Regulatory Guide 1.7, the containment hydrogen purge system provides the capability to purge the containment and drywell through the shield building annulus and standby gas treatment system (SGTS) to the atmosphere.

11. Initiation of the hydrogen mixing system, the recombiners, and igniters is based on manual 19
actuation from the main control room. The hydrogen control systems are manually initiated when hydrogen concentration reaches 3.5 volume percent.

6.2.5.2 System Design

The combustible gas control system provides effective control of the hydrogen generated following a LOCA or degraded core hydrogen generation event. The system 19
consists of the following features:

1. A hydrogen mixing system which operates to mix the drywell and containment atmospheres approximately 2.5 hr after the design basis LOCA, so that the 19 20
hydrogen concentration in the drywell does not reach the 4 volume percent limit in the short term.

20 19 2. A hydrogen recombiner system which is initiated approximately 14 days after the design basis LOCA, to limit the hydrogen concentration in both the drywell and containment to less than 4 volume percent.

20 3. A containment hydrogen purge system is also provided as a backup ~~to aid in the post-LOCA containment atmosphere cleanup as required in~~ in accordance with Regulatory Guide 1.7.

4. A hydrogen analyzer system for measuring the amount of hydrogen in the drywell and containment atmospheres. The concentration of hydrogen in the drywell and containment is measured during normal operation and LOCA conditions and is displayed in the main control room. Piping and instrumentation for this system is shown on Fig. 6.2-71. Safety-related display instrumentation for containment and drywell monitoring is listed in Table 7.5-1.

19 15 19 5. All controls for operating the hydrogen mixing system, the hydrogen recombiner system, and the igniter system are located in the main control room. The controls for operation of the containment hydrogen purge system are local.

6. A tabulation of the design and performance data for each system component is listed in Table 6.2-41.

7. Environmental qualification information for safety-related equipment, as required by Regulatory Guide 1.7, is given in Section 3.11.

8. Electrical requirements for equipment associated with this system are in accordance with the appropriate IEEE standards, as referenced in Section 8.1.

6.2.5.2.1 Hydrogen Mixing System

The primary function of the hydrogen mixing system is to mix the drywell and primary containment atmospheres. The zirconium-water reaction which is assumed to occur in the reactor core results in a higher hydrogen concentration in the drywell than in the primary containment
19 in the short term after the design basis LOCA. The hydrogen mixing system uses the larger,