NOTE: THIS TRANSMITTAL CONTAINS INFORMATION WHICH SHOULD NOT BE RELEASED TO THE PUBLIC DOCUMENT ROOM BEFORE FEBRUARY 23, 1994.

GULF STATES UTILITIES COMPANY

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

AREA CODE 504 635 6094 346 8651

December 17, 1993
RBG- 39675
File Nos. G9.5, G9.20.6

U. S. Nuclear Regulatory Commissic
Document Control Desk
Washington, DC 20555

Gentlemen:

River Bend Station - Unit I
Docket No. 50-458

As requested in NRC Inspection Module 82302, "Review of Exercise Objectives and Scenarios for Power Reactors," Gulf States Utilities Company (GSU) is submitting the scenario for the emergency planning exercise scheduled for February 23, 1994. The scenario package contains exercise objectives, observer information, narrative summary, onsite messages including expected player actions and radiological information.

GSU requests that distribution of the attached information be limited to only those Nuclear Regulatory Commission evaluators observing the exercise. This will maintain the confidentiality of the exercise scenario. For this reason, only the following individuals are being provided the scenario attachment:

Mr. Frank J. Conjel, Director (1 copy)
Division of Radiation Protection & Emergency Preparedness
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. Blaine Murray, Chief (4 copies)
Facilities Inspection Programs Section
U. S. Nuclear Regulatory Commission, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

Sincerely,

James J. Fisicaro

070056

James J. Fisicaro
Manager, Safety Assessment
and Quality Verification

11/15/94

JF:jr

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xc: U. S. Nuclear Regulatory Commission (2 copies w/o attachments)
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St. Francisville, LA 70775

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Summary of the 1994 Evaluated Exercise Scenario:

The scenario begins with the plant operating at 60% of rated power. Power had recently been reduced in anticipation of performing tests on the Reactor Recirc Pump runback circuitry. Operations is also aware that some of the fuel pins have started to leak.

Shortly after the exercise begins, the plant operators will receive indication that Main Steam Line and Offgas Pretreatment radiation levels are beginning to increase. This should be an indication that the fuel leaks are increasing and should prompt the operators to obtain a new reactor coolant sample. They will also begin reducing reactor power to mitigate the effects of the increasing fuel leakage. However, Offgas Pretreatment radiation levels will continue to increase prompting the Shift Supervisor to declare a NOTIFICATION OF UNUSUAL EVENT.

As the operators are reducing reactor power, a leak will develop in the Offgas System allowing radioactive gases to escape into the Offgas Building. Radiation levels in the Offgas Building will increase to 1000 times normal. At about the same time, results of the Reactor Coolant sample should be available and will indicate greater than 300 µCi/gm dose equivalent Iodine-131. Either of these condition should prompt the Emergency Director to declare an ALERT.

Operators should be continuing a rapid shutdown of the reactor due to the high radiation levels and, in particular, high hydrogen levels in the Offgas System. However, a mistake in the control rod pull sheet will allow a stuck rod condition to occur. This rod will drop resulting in a rod drop accident and subsequent power and pressure spikes. The power spike results in severe damage in a localized region of the core with severe clad damage and fuel melt and dispersion into the core occurring. The pressure transient should have caused a reactor scram but did not. However, the MSIVs did close due to high radiation levels in the Main Steam Lines. The Anticipated Transient Without a Scram (ATWS) results in the declaration of a SITE AREA EMERGENCY.

At this point, the reactor is still operating at about 18% power with the MSIVs closed. All reactor energy is being released through the SRVs into the Suppression Pool. Feed and Condensate are still available to maintain reactor water level. The operators will begin taking steps to shutdown the reactor in accordance with the plants Emergency Operating Procedures (EOPs) including starting Standby Liquid Control (SLC) and manually inserting Control Rods. When SLC is started, the "A" pump squibb explosive valve will misfire preventing it from injecting. The "B" will have only partial full rated flow increasing the amount of time needed to inject sufficient Boron to bring the reactor subcritical.

The plant operators will continue efforts to bring the reactor subcritical including continuing injection of SLC, manual insertion of control rods, and, when the appropriate EOP conditions are met, a shift into level/power control. While all of this is continuing, the plant will still be blowing down into the Suppression Pool increasing the radiation levels and energy levels in the Drywell and Containment. Drywell pressure will reach 1.68 psig causing, among other things, the "C" Containment Unit Cooler to trip off line and the "A" and "B" Containment Unit Coolers to shift to Standby Service Water. However, "B" Unit Cooler will fail to make a successful transfer, and later on in the scenario the "A" Unit Cooler will trip.

After reactor power has been reduced to 0% but before the plant is depressurized a break will occur in a small line connected to the Reactor Recirc Loop. Plant personnel will notice Containment pressure starting to increase. This will be followed by a failure of an electrical penetration O-rings. The radioactive atmosphere within the Containment will begin leaking through the penetration into the Annulus and from there will be picked up by Standby Gas Treatment and discharged offsite resulting in a small, but

measurable, radioactive release. The fuel clad failure, break in the reactor coolant system, and failure of the Containment electrical penetration should prompt the operators to declare a GENERAL EMERGENCY.

The release will be stopped by depressurizing the reactor and reducing Containment pressure to zero or even slightly negative.

The exercise will be terminated after the release is stopped and initial discussions have been held on appropriate actions to address the remaining inventory of radioactive gases in the Containment.