



**GULF STATES UTILITIES COMPANY**

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July 24, 1985

RBG - 21681

File No. G9.5

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

Pursuant to discussions with your staff, Enclosure 1 provides references to submittals which have been provided to address Safety Evaluation Report concerns identified by the Power Systems Branch. Enclosure 2 provides a revised response to question 430.86 which will be incorporated into a future FSAR amendment.

Sincerely,

*J. E. Booker*

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

JEB/ERG

Enclosures

*✓ Book 1/40*

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## ENCLOSURE 1

SER Page 9-58, Section 9.5.5

Re: HPCS Cooling Water System Keep Warm Function

As discussed in FSAR Section 9.5.5.2 and our letter of June 26, 1985 the HPCS cooling water system is provided with a 15 KW electric heater which is capable of maintaining engine jacket water and lube oil temperatures at ready standby conditions in an ambient room temperature environment down to 40°F and lower.

Our response to Question 430.86 and our letter of June 26, 1985 indicates that the diesel generator and its auxiliary equipment are designed to operate within an ambient room temperature down to 40°F. Therefore, proposed Technical Specification 4.8.1.1.2g will require periodic surveillance of the room temperature.

Section 8.3.1. of the FSAR indicates that an HPCS diesel generator trouble alarm is provided in the main control room with a local alarm to warn the operator of improper operation of several diesel generator functions, including low engine lube oil temperature and auxiliary system power failure (i.e. loss of power to the jacket water heater).

Alarm Response Procedures are provided which require immediate operator actions in these conditions.

SER Page 9-61, Section 9.5.6.1

Re: DG Air Start System I&C

Amendments 11 & 13 of the FSAR and our letter of August 21, 1984, information of Section 9.5.6.5 such that the discussion of the instrumentation and controls is consistent with discussions in the remainder of the FSAR. All alarms discussed in this section have been verified to be identified on the logic diagrams included in our letter of August 21, 1984. Alarms shown on these figures, not discussed in Section 9.5.6, are discussed in Section 8.3.

## RBS FSAR

## QUESTION 430.86 (9.5.5)

In section 9.5.5.3, you state that on standby service the diesel generator jacket cooling water is maintained at a constant temperature by circulating the water through a separate electric immersion heater. Forced circulation is used on the standby diesel generators, while the HPCS diesel utilizes natural circulation. Expand this section of the FSAR to show that these jacket water heating systems are adequate to maintain recommended jacket water temperature for the coldest temperatures possible in the diesel generator building, assuming a failure of the heating system. If the jacket water heating systems are not adequate for this purpose, describe the measures which will be taken to maintain diesel generator availability in the event the diesel generator building heating system fails.

## RESPONSE

A description of the diesel generator cooling water system operation in the standby condition is provided in Section 9.5.5.2.

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21 | The RBS HPCS diesel generator is specified to operate at room temperatures ranging from 40°F to 122°F. The diesel generator building HVAC systems are designed to maintain the required environmental conditions between the minimum and maximum ambient conditions specified. The design basis thus provides an ambient room temperature ranging from 40°F to 122°F. When the ambient temperature of the HPCS diesel generator room drops below 45°F due to loss of the HPCS diesel generator room heater, the HPCS diesel generator will be declared inoperable as required by technical specifications. An engine low temperature condition will be  
13 | annunciated in the diesel generator control room and in the main control room through a low temperature alarm in the lube oil system.

21 | To address the concern of HPCS diesel generator operability with the room temperature below 65°F, GSU will demonstrate, prior to full power operation, the engine's capability to start and accept load within 10 sec at an ambient room temperature of approximately 45°F. In addition, required monthly surveillance testing will demonstrate engine start tests over a range of room temperatures. Additional parameters that will be monitored prior to the monthly test include room and engine block temperatures on the day before and the day of the test, and temperatures of the lube oil and cooling systems. An assessment of the impact of ambient temperatures on the diesel generator starting

performance will be made by identifying and trending the frequency of test failures at room temperatures below 65°F. Visual inspection for wear will be included in maintenance procedures when the unit is dismantled for overhaul.

A failure of a diesel generator start test results in increased test frequency per Regulatory Guide 1.108 and will provide additional data points.

After 24 months of required surveillance testing, an evaluation of the diesel generator performance during these tests will be submitted to the NRC Staff along with justification for continued operation or with proposed design modifications to either the HPCS diesel generator room HVAC system or to the diesel generator cooling water system to assure suitable engine preheating and improve starting reliability.

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