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January 28, 1985
RBG-19,997
File Nos. G9.5,
G9.19.2

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

Gulf States Utilities Company (GSU) provides the enclosed information addressing Safety Evaluation Report Open Item No. (11) - Submergence of Electrical Equipment. Class 1E electrical equipment, classified as submerged are identified in the Environmental Qualification Master List submitted to your office on October 19, 1984. Nonsafety-related electrical equipment connected to a Class 1E power source are electrically separated as described in FSAR Section 8.3.1.4.3.

The River Bend Station Environmental Qualification Audit is scheduled January 29-31, 1985. The results of the analyses are available for review.

Sincerely,

Eddie R Grant

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

JEB/RJK/kt

Attachments

A048
1/1

2.4 SUBMERGENCE

The approach to design of River Bend Station is to locate devices above expected submergence levels. ~~At the present time~~, the flood levels ~~are being~~ have been determined for the buildings, and for the compartments within the buildings, for the natural phenomena and accident conditions that could cause flooding, ~~in order to verify that the electrical equipment is above submergence levels.~~

INSERT

Upon completion of the analyses, if any Class 1E electrical equipment is found to be located at or below the submergence level, an analysis will be performed to determine the safety significance of the failure of this electrical equipment and the effect on its Class 1E electrical power source as a result of such submergence. If the results of this analysis show a detrimental effect on the safety system, the electrical equipment will be relocated. If it is not possible to relocate the electrical equipment above the submergence level, it will be demonstrated to be qualified to withstand submergence, or it will be appropriately protected and a qualification by test or analysis will be used to demonstrate the adequacy of such protection.

Table 2.4-1 identifies known equipment subjected to submergence.

Attachment (cont'd.)

INSERT

EQD Section 2.4

Equipment that could be submerged during a design basis accident LOCA is identified in the Equipment Qualification Master List in Appendix A and the corresponding system component evaluatic work (SCEW) sheets in Appendix B.

Equipment located inside the drywell weir wall will perform its safety function prior to submergence. Analysis has demonstrated that subsequent failure of this equipment does not result in any safety significant consequences.

Also identified in Appendix A is equipment which is submerged during normal and accident conditions. This equipment is designed and qualified to perform its intended function.

Equipment located in the Reactor Building below el. 109 ft. could be submerged for a duration of up to 7 seconds during suppression pool swell following a LOCA. This equipment has been qualified to withstand the submerged conditions to which it is exposed.

For areas outside containment flooding analyses have been performed as described in FSAR Appendix 3C, Section 3C.4. These analyses demonstrate that electrical equipment required for safe shutdown of the plant is located either above submergence levels or that protective measures (e.g., curbs) are provided to prevent submergence.

Non-Class 1E electrical equipment supplied from Class 1E power sources are identified in FSAR Table 8.3-7. This equipment, as described in FSAR Section 8.3.1.4.3, is electrically separated. Class 1E systems are not degraded as a result of submergence of non-Class 1E electrical equipment.

RBS EQD

TABLE 2.4-1

CLASS 1E EQUIPMENT SUBJECTED TO SUBMERGENCE
ZONES CT-SP, CT-2

Mark No.	Description	Manufacturer	Remarks
1E22*LTN055C	Level Transmitter	GE/Barton	
1E22*LTN055G	Level Transmitter	GE/Barton	
1CMS*RTD24A	RTD	PYCO	
1CMS*RTD24B	RTD	PYCO	
1CMS*RTD24C	RTD	PYCO	
1CMS*RTD24D	RTD	PYCO	
1CMS*RTD24E	RTD	PYCO	
1CMS*RTD24F	RTD	PYCO	
1CMS*RTD24G	RTD	PYCO	
1CMS*RTD24H	RTD	PYCO	
1CMS*RTD24J	RTD	PYCO	
1CMS*RTD24K	RTD	PYCO	
1CMS*RTD40A	RTD	PYCO	
1CMS*RTD40B	RTD	PYCO	
1CMS*RTD40C	RTD	PYCO	
1CMS*RTD40D	RTD	PYCO	
1CMS*RTD42B	RTD	PYCO	
1CMS*RTD42C	RTD	PYCO	
1E51*LTN036A	Level Transmitter	GE	
1E51*LTN036E	Level Transmitter	GE	

DELETE

*Submergence of Class 1E equipment is indicated on the master list in the RBS EQD.

QUESTION 430.50 (6.3)(8.3)

Identify all electrical equipment, both safety and non-safety, that may become submerged as a result of a LOCA. For all such equipment that is not qualified for service in such an environment provide an analysis to determine the following:

1. The safety significance of the failure of this electrical equipment (e.g., spurious actuation or loss of actuation function) as a result of flooding;

2. The effects on Class 1E electrical power sources serving this equipment as a result of such submergence; and

3. Any proposed design changes resulting from this analysis.

RESPONSE

The response to this request is provided in revised Section ~~3.3~~ 2.4 of the Environmental Qualification Document (EQD). ~~supplied with this FSAR.~~