



**GULF STATES UTILITIES COMPANY**

RIVER BEND STATION POST OFFICE BOX 220 ST FRANCISVILLE, LOUISIANA 70775  
AREA CODE 504 635-5094 245-8651

June 1, 1988  
RBG- 28009  
File Nos. G9.5, G15.4.1

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

Gentlemen:

**RIVER BEND STATION - UNIT 1**  
**REFER TO: REGION IV**  
**DOCKET NO. 50-458/REPORT 88-08**

This letter responds to the Notice of Violation contained in NRC Inspection Report No. 50-458/88-08. The inspection was performed by Messrs. Chamberlain and Jones during the period of February 16 - March 31, 1988 of activities authorized by NRC Operating License NPF-47 for River Bend Station - Unit 1.

Gulf States Utilities Company's (GSU) responses to Notices of Violation 8808-01, "Inadequate Alarm Response Procedure", is provided in the enclosed attachment pursuant to 10CFR2.201. This completes GSU's response to this item.

Sincerely,

J. C. Deddens  
Senior-Vice President  
River Bend Nuclear Group

*JEB*  
JEB/LAE/JWC/ch  
*JWC*

cc: U. S. Nuclear Regulatory Commission  
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NRC Resident Inspector  
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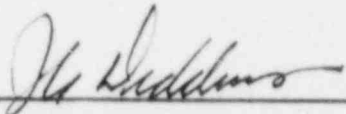
UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

STATE OF LOUISIANA )  
PARISH OF WEST FELICIANA )  
In the Matter of ) Docket No. 50-458  
GULF STATES UTILITIES COMPANY ) 50-459

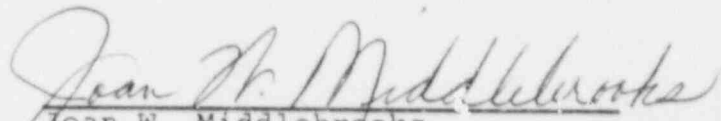
(River Bend Station,  
Unit 1)

AFFIDAVIT

J. C. Deddens, being duly sworn, states that he is a Senior Vice President of Gulf States Utilities Company; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the documents attached hereto; and that all such documents are true and correct to the best of his knowledge, information and belief.

  
\_\_\_\_\_  
J. C. Deddens

Subscribed and sworn to before me, a Notary Public in and for the State and Parish above named, this 1 day of June, 19 88.

  
\_\_\_\_\_  
Joan W. Middlebrooks  
Notary Public in and for  
West Feliciana Parish,  
Louisiana

My Commission is for Life.

Attachment

Response to Notice of Violation 50-458/8808-01

Level IV

REFERENCE:

Notice of Violation - Letter from L. J. Callan to J. C. Deddens, dated May 2, 1988.

INADEQUATE ALARM RESPONSE PROCEDURE:

River Bend Station Technical Specifications, paragraph 6.8.1.a, requires that procedures for activities identified in Appendix A of Regulatory Guide 1.33, Revision 2, February 1987 be established, implemented and maintained. Paragraph 5 to Regulatory Guide 1.33 requires that alarm annunciator procedures "contain: (1) the meaning of the annunciator, (2) the source of the signal, (3) the immediate action that is to occur automatically, (4) the immediate operator action and (5) the long-range actions."

Contrary to the above, it was discovered on March 10, 1988, that the source of the signals defined in alarm response procedure ARP-601-19, "P601-19 Alarm Responses," Revision 2, were incorrect in that the alarm setpoints were incorrectly stated for alarm numbers 2403 and 2409. These alarms are for main steam tunnel ambient temperature high and main steam tunnel ventilation differential temperature high. In addition, the immediate and long range actions were inadequate in that actions for alarm 2403 defined the temperature at which the main steam tunnel temperature should be maintained below 180°F rather than the correct value of 130°F. If cooling systems cannot prevent the temperature from approaching the main steam valve isolation setpoints, no additional operator actions were specified to prevent a full main steam line isolation at high reactor power levels.

REASON FOR VIOLATION:

The alarms in question are initiated by non-safety related recorders, and thus are not classified as safety related. However, the alarms are designated to alert the operator to high temperature conditions in an area protected by high temperature isolation logic, and are operational aids for that reason. Setpoints are included in the River Bend Station (RBS) alarm response procedures (ARPs) in excess of RG 1.33, "Quality Assurance Program Requirements (Operations)", guidelines as a supplementary source of information for the operator. Thus, the errors cited in the potential violation are considered to have no safety significance as related to the procedure.

Review of the procedural error, undertaken as immediate corrective action and as discussed with the NRC Senior Resident Inspector, revealed that in the past the ARP was correct but the setpoint information was changed to

incorrect values during one of the revision cycles. Both of the alarms had been actuated for an extended period due to unreasonably low setpoint selection. At the time the ARP errors were discovered, modification requests (MRs) 85-1154 and 86-1035 were in process of being worked to raise the setpoints of the alarms in question to values within two degrees of the erroneous values. Corrective action for the specific errors has been completed and TCNs were issued correcting the inaccurate ARPs.

The root cause of the error is determined to be lack of understanding of the system alarm design details during procedure development. As designed, each leak detection thermowell contains two thermocouples, each identified with the same mark number. One thermocouple provided input to the Riley temperature switch, which in turn supplies a trip signal at the isolation setpoint to the trip logic, the isolation alarm, and the meter module. The other thermocouple inputs to the temperature recorder, which actuates the pre-isolation alarm at a lower setpoint. The ARPs in question listed as the initiating device both the temperature switch and the temperature recorder that are fed by the thermocouples with identical mark numbers. The isolation setpoint, rather than the correct pre-isolation setpoint, was listed in the ARP.

Contributing factors to the lack of understanding of the system design details during procedure development is the method of identifying two thermocouples with the identical mark number.

#### CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND RESULTS ACHIEVED:

A 100% review of thirty-one high temperature leak detection alarms was performed. Errors similar to those cited were identified and corrected. Thirteen ARPs contained errors based on the same confusion between the temperature switch/temperature recorder as the alarm initiating device. For pre-isolation alarms, when the temperature switch was erroneously included as an initiating device, the temperature switch's setpoint was invariably listed as the alarm setpoint. In some of the thirteen ARPs, pre-isolation alarms erroneously included the automatic, operator, and long term actions appropriate to the isolation alarms. In addition, two ARPs were found to contain random setpoint errors. Corrective action for the above deficiencies is complete, and consisted of portions of TCNs 88-0296, 88-0298, 88-0303, and 88-0304.

Nine additional alarm deficiencies were detected during the corrective action review that are attributed to design documentation errors. Four alarm windows, for Divisions 1, 2, 3, and 4 turbine shield wall high temperature, had been installed without the installation of the alarms themselves. Corrective action to remove the four alarm windows is work complete via MR 88-0136.

Five alarms contained incorrect wording. Three of the five describe the isolation as originating in a specific division, rather than the correct origination in either division. The remaining two incorrectly list the area experiencing the high temperature. Corrective action for the five alarm wording deficiencies is included as a portion of MR 88-0146.

The ARP deficiencies, and the design documentation errors described above, are considered to have no safety significance. Automatic plant responses would have occurred as required. Furthermore, the availability of actual area temperature data, and other diverse indications of plant system operations continued to provide the operator with a comprehensive plant status.

CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS:

Corrective action to prevent recurrence will consist of training and required reading for all licensed personnel. The training will consist of a review of leak detection system design drawings and loop calibration reports. The required reading will consist of the TCNs that corrected the ARP errors. This corrective action will be complete in September 1988. The two ARPs with random setpoint errors are considered to be isolated human errors, thus no specific corrective action to prevent reoccurrence is addressed.

Additional corrective action shall consist of a 100% review of ARPs for main control room alarms. The review will be performed in accordance with plant procedure OSP-005, "Operations' Procedure Review and Revision", and will include verification of alarm name, initiating device, setpoint, automatic actions, operator actions, long term actions, possible causes, and references. This review will be complete in March 1989.

Engineering will initiate a document change only MR to revise the two subject thermocouple mark numbers with their own unique mark numbers.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Corrective action will be completed by March 31, 1989.