



GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775
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August 21, 1989
RBG- 31384
File Nos. G9.5, G15.4.1

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

Gentlemen:

River Bend Station - Unit 1
Refer to: Region IV
Docket No. 50-458/89-18

Pursuant to 10CFR2.201, this letter provides Gulf States Utilities Company's (GSU) response to the Notice of Violation for NRC Inspection Report No. 50-458/89-18. The inspection was performed by Messrs. R. C. Stewart, L. E. Ellershaw and W. B. Jones during the periods of May 1-5 and 15-19, 1989 of activities authorized by NRC Operating License NPF-47 for River Bend Station - Unit 1. GSU's response to the violation is provided in Attachment 1. GSU's response to the concerns addressed in the body of the letter is provided in Attachment 2. GSU's response to the notice of violation is complete.

Should you have any questions, please contact Mr. L. A. England at (504) 381-4145.

Sincerely,

J. E. Booker
Manager-River Bend Oversight
River Bend Nuclear Group

JEB/LAE/RJK/MSF/RGW/AJK/ch

Attachments

cc: U. S. Nuclear Regulatory Commission
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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)
(River Bend Station - Unit 1)

AFFIDAVIT

J. E. Booker, being duly sworn, states that he is Manager-River Bend Oversight for 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; that he has read all of the statements contained in such documents attached thereto and made a part thereof; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

J. E. Booker
J. E. Booker

Subscribed and sworn to before me, a Notary Public in and for the State and Parish above named, this 21st day of August, 1989. My Commission expires with Life.

Claudia J. Hurst
Notary Public in and for
West Feliciana Parish, Louisiana

ATTACHMENT 1

RESPONSE TO NOTICE OF VIOLATION 50-458/8918-01 LEVEL III

REFERENCES

Inspection Report 89-18 - Letter from J. L. Milhoan to J. C. Deddens, dated June 6, 1989.

Meeting Summary of Enforcement Conference held June 6, 1989 - Letter from J. L. Milhoan to J. C. Deddens, dated June 22, 1989.

Notice of Violation - Letter from J. D. Martin to J. C. Deddens, dated July 21, 1989.

FAILURE TO ESTABLISH A TEST PROGRAM

Criterion VI of Appendix B to 10CFR50 requires, in part, that a test program shall be established to assure that all testing required to demonstrate that structures, systems and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

Contrary to the above, in November 1988 it was identified that Gulf States Utilities (GSU) had failed to establish a test program at River Bend Station to assure that all testing required to demonstrate that structures, systems and components will perform satisfactorily in service is identified and performed. Specifically, GSU failed to establish a test program to demonstrate that two independent fuel building ventilation charcoal filtration subsystems and two independent main control room air handling unit/filter train subsystems would perform satisfactorily in service. As a result, GSU failed to discover design and installation flaws that would have prevented these subsystems from operating as intended under certain design conditions.

REASON FOR THE VIOLATION

Gulf States Utilities Company's (GSU) performed a detailed review to determine the cause of the subject violation. During the start-up test program each system or subsystem was considered to be a separate entity. This cause was determined to be GSU's failure to adequately test the interface between the instrument air and HVAC systems which is considered to be an isolated incident. GSU considered interconnected instrument air systems operable based on each system or subsystem test and did not realize the need for simultaneous testing.

The control building and auxiliary building heating, venting and air conditioning (HVAC) systems were released for start-up testing prior to the release of the instrument air system. The need for pressure decay testing of the auxiliary, control and fuel building's instrument air accumulators was

not recognized during initial plant start-up. The ASME Section XI valve testing program was thought to provide an adequate indication of system operability. Neither Technical Specifications nor the ASME XI code requires simultaneous interacting system performance start-up testing. GSU did not interpret Criteria XI of Appendix B to 10CFR Part 50 to require testing of interacting systems in addition to performance testing of structures, systems and components. The initial design was inadequate and testing of the instrument air system would have discovered the problem as GSU discovered in subsequent testing. However, the RBS current design modification process requires functional tests such that operability of a system can be assured prior to its return to service.

GSU initiated a self assessment of the River Bend Station instrument air system by performing a Safety System Functional Inspection (SSFI) during the fall of 1988. During the inspection a question was raised on the instrument air system accumulator supply capacity for post-accident conditions.

Subsequent testing was performed during refueling outage 2 which showed that the accumulator air supply was not sufficient for the areas identified. Further investigation identified that solenoid valves had been installed in reverse which did not allow the valves to seal in the correct position. RBS submitted Licensee Event Report (LER) No. 89-022. Other aspects relating to the instrument air system were addressed in the LER and GSU's response to Generic Letter 88-14. GSU's response to the notice of violation will focus on the area of testing.

CORRECTIVE ACTIONS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

- A. Design Engineering conducted a review of loads which are dependent upon the safety-related headers within the control, auxiliary, and fuel buildings. This study consisted of a review of the two safety related headers within each of these three buildings. As a result of this study:
 1. The control building chilled water pressure differential control valves were modified as described in Section C.1.a below.
 2. Five nonsafety-related loads have been removed from the two instrument air headers within the control building.
 3. Two standby gas treatment and two auxiliary building HVAC outlet air operated dampers within the auxiliary building will be modified.
- B. The first design verification testing included the testing of one of the two instrument air headers within the control building to verify that each header would stay pressurized for the calculated two days upon loss of the instrument air compressors.
- C. The results of the first control building header pressure retention test revealed the volume of the associated accumulator to be significantly undersized and the following design changes and repairs were then implemented:

1. Control Building:

- a. The major instrument air users, the control building chilled water pressure differential control valves, were modified to remain mechanically secured in a throttled position instead of remaining as air operated control valves.
- b. The pressure retention time of each of the two safety-related headers was increased through the 180 degree realignment of the inlet header solenoid operated valves (SOV) to an orientation which seated the valves in the correct position to keep air in the accumulator.
- c. The inlet check valve of each of the two safety-related headers received seat relapping and spring change-out.

2. Auxiliary Building:

- a. The pressure retention time of each of the two safety-related headers was increased through the 180 degree realignment of the inlet header SOVs to an orientation which seated the valves in the correct position to keep air in the accumulator.

3. Fuel Building:

- a. The pressure retention time of each of the two safety-related headers was increased through the 180 degree realignment of the inlet header SOVs to an orientation which seated the valves in the correct position to keep air in the accumulator.
- b. The damper fail positions of four dampers were changed to "fail open" from "fail closed", thereby resulting in instrument air not being required within the fuel building to mitigate the release of radioactivity after an accident.

D. The final design verification testing included the testing of the two safety related headers of the control building and the two safety related headers of the auxiliary building to verify that each header remained pressurized to assure the respective HVAC systems would perform their design basis functions following an accident.

1. Control Building:

- a. Each of the two safety related accumulators, along with its associated header, was tested for pressure retention time upon the failure of the instrument air compressors. Each safety related header was found to remain pressurized for an adequate time period to assure the control building atmosphere would remain habitable after an accident only when an auxiliary compressed air source is also connected to each header.

2. Auxiliary Building:

- a. Each of the two safety related accumulators, along with its associated header, were tested for pressure retention time upon the failure of the instrument air compressors. Each header was found to remain pressurized for an adequate time period to assure the auxiliary, containment, and drywell building HVAC systems would perform their design basis functions following an accident only when an auxiliary compressed air source is connected to each header.

E. The control building and auxiliary building safety related accumulator pressure retention times were then increased through the following design modifications:

1. Control Building:

Each of the two accumulators' capacities was increased through the installation of two banks of high pressure air bottles at each accumulator inlet.

2. Auxiliary Building:

Each of the two accumulators' capacities was increased through the installation of two banks of high pressure air bottles at each accumulator inlet. These bottles are subject to removal upon the installation of the backdraft dampers.

CORRECTIVE ACTIONS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

- A. The two standby gas treatment and two auxiliary building HVAC outlet air operated dampers will be replaced by self-actuating back draft dampers thereby eliminating the need for safety related instrument air.
- B. Field Engineering is establishing a control building safety-related accumulator air retention test to be performed every refueling outage.
- C. In addition, GSU will review the testing methods, the bases for ASME categorization and the leak rate criterion for check valves.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The River Bend Station instrument air system is currently in full compliance. The current system configuration is adequate and the following are enhancements to increase system performance and reliability.

- A. The back draft dampers will be installed in the standby gas treatment and HVAC system prior to start-up following the third refueling outage.
- B. The control building accumulator air retention test procedure will be developed by November 15, 1989.
- C. The review of testing methods, the bases for ASME categorization and the leak rate criterion for check valves will be completed prior to start-up following the third refueling outage.

ATTACHMENT 2

As discussed in your letter dated July 21, 1989 transmitting Notice of Violation 8918-01, GSU is providing its response concerning your questions about reportability and operability of the instrument air system at River Bend Station. The reporting requirements contained in 10CFR Parts 50.72 and 50.73 and GSU's reporting evaluation process via the condition report procedure (ADM-0019), will be emphasized in required training for engineering department personnel. Operability of systems or components with questionable characteristics, as identified on condition reports, will be documented in greater detail in the disposition of the condition report justifying continued operation. Determination of the extent of the nonconforming conditions will be an important element in resolution of the reported condition.