

GULF STATES UTILITIES COMPANY

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U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555

Gentlemen:

River Bend Station - Unit 1
Docket No. 50-458/90-02

This letter provides a status for corrective actions identified in Gulf States Utilities Company's (GSU) supplemental response dated February 7, 1992, to the Notice of Violation for NRC Inspection Report No. 50-58/90-02. The inspection was conducted by Messrs. Johnson, Singh and Murphy during the period of January 22-26, 1990, of activities authorized by NRC Operating License NPF-47 for River Bend Station - Unit 1 (RBS). The status of the corrective action is provided in the attachment.

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

Sincerely,



W.H. Odell
Manager - Oversight
River Bend Nuclear Group

Did not meet with KDG
LAE/JRH/DLA/KDG/kvm

Attachment

cc: U.S. Nuclear Regulatory Commission
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Arlington, TX 76011

060060

NRC Resident Inspector
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ATTACHMENT 1

SUPPLEMENTAL RESPONSE TO NOTICE OF VIOLATION 50-458/9002 AND GSU'S LETTER DATED FEBRUARY 7, 1992

REFERENCE

1. Response to Unresolved Item 92-04 - Letter from W.H. Odell to U.S. NRC, dated May 6, 1992.
2. Inspection Report 92-04 - Letter from A.B. Beach to J.C. Deddens, dated March 27, 1992.
3. Supplement to Response to Violation - Letter from W.H. Odell to U.S. NRC, dated February 7, 1992.
4. Response to Violation (Rev 3) - Letter from W.H. Odell to U.S. NRC, dated March 12, 1991.
5. Response to Violation (Rev 2) - Letter from W.H. Odell to U.S. NRC, dated December 12, 1990.
6. Response to Violation (Rev 1) - Letter from W.H. Odell to U.S. NRC, dated September 18, 1990.
7. Response to Violation - Letter from J.C. Deddens to U.S. NRC, dated May 7, 1990.
8. Notice of Violation - Letter from S.J. Collins to J.C. Deddens, dated April 6, 1990.
9. Enforcement Conference Summary - Letter from S.J. Collins to J.C. Deddens, dated March 26, 1990.
10. Notice of Enforcement Conference - dated March 6, 1990.
11. Inspection Report IR 90-02 - Letter from S.J. Collins to J.C. Deddens, dated February 25, 1990.

BREAKER/FUSE COORDINATION ANALYSIS

FROM REFERENCE 3

A specific short circuit analysis for the protection and coordination of 125 VDC and 120 VAC control circuits was not performed. GSU has decided to perform such an analysis and develop a single source document to enhance control of breaker/fuse coordination for these control circuits. The analysis is scheduled to be completed and design improvements, if required, identified by October 30, 1992.

CURRENT STATUS

Calculation G13.18.3.6*5 was generated to verify breaker/fuse coordination for these control circuits. No design improvements were necessary relative to Appendix R and the associated circuitry.

APPENDIX R SEPARATION CONCERNS

FROM REFERENCE 3

Three areas were identified where compliance with Appendix R separation criteria, as identified in the FHA and/or USAR, was not provided. Two of the areas, the main control room and a fire area in the fuel building, involved equipment required for spent fuel pool cooling only and not equipment required for safe shutdown of the reactor. In both cases, immediate actions were taken and administrative controls implemented to address the concerns with spent fuel pool cooling until permanent corrective action can be identified and implemented. Permanent corrective actions for these two areas will be identified by March 31, 1992.

The third area is in the reactor containment building. Containment cooling could be lost due to potential fire damage in this fire area since separation, in accordance with Appendix R, Section G requirements are not provided. The affected raceways were treated as having missing fire barriers and fire watch requirements specified in Technical Specification 3/4.7.7, "Fire Rated Assemblies" were implemented. Permanent corrective action for this concern will be identified by March 31, 1992.

PREVIOUS STATUS FROM REFERENCE 1

A. Fire Area C-25:

The FHA identifies Fire Area C-25 as an area where alternate shutdown capability is provided. FHA Table 3 (Method 1E - Main Control Room Fire Required Items) lists specific spent fuel pool cooling & cleanup (SFC) system and fuel building ventilation (HVF) system equipment as being required and therefore, independent of the fire in the control room. The review of circuits for this equipment determined that the circuits are not electrically independent from the control room and potential fire damage could cause

loss of the equipment which may result in loss of spent fuel pool cooling.

GSU took immediate actions and implemented administrative controls to address the concerns with spent fuel pool cooling until permanent corrective actions could be identified and implemented. Engineering analysis determined that the time required for the spent fuel pool temperature to reach the cooling system design limit of 155.6 degrees F with the existing fuel load conditions prior to RF-4 was approximately 5.3 days. Administrative controls were implemented and AOP-0031 (Shutdown From Outside Main Control Room) was revised to provide the necessary manual actions to restore spent fuel pool cooling in case of a fire in the main control room. The entire reactor core was offloaded to the fuel building spent fuel pool for RF-4. With the increased heat load in the fuel pool, the minimum time required to reach the cooling system design limit of 155.6 degrees F is approximately 4 hours. This is sufficient time to take the manual actions identified in AOP-0031.

The corrective action for addressing the concerns with spent fuel pool cooling is to complete an analysis which demonstrates a design which allows a higher spent fuel pool temperature and still allows sufficient time to restore spent fuel pool cooling. With this revised design bases, the spent fuel pool cooling equipment presently identified as required by the FHA would not be immediately required. This analysis is scheduled to be completed by July 10, 1992.

B. Fire Area FB-1:

Fuel building ventilation dampers 1HVF*AOD037A, 102 and 122 are identified in the FHA as equipment required for spent fuel pool cooling. Potential fire damage to electrical cables, located in Fire Area FB-1, for these dampers may cause spurious operation of the dampers which could potentially cause loss of ventilation to the one remaining spent fuel pool cooling pump and thus loss of spent fuel pool cooling. Previously, the Pre-fire Strategies for this area stated that these dampers must be verified to be in their proper position and if not, power must be removed so that they remain in the correct position. Removing power to these dampers may not cause the dampers to go to the correct position since a potential hot short could cause the damper to remain in an incorrect position.

The immediate corrective action GSU took was to treat the electrical cables as having missing fire barriers and initiate a continuous fire watch per RBS Technical Specification. After the actions identified above for the main control room were implemented and Pre-fire Strategies for Fire Area FB-1 were revised to identify the manual actions required to place the dampers in the correct position, the continuous fire watch was removed. The permanent corrective action for this condition will be addressed with completion of the analysis and any modifications, if required, as discussed above for the main control room.

- C. The FHA states that the unit coolers are separated from each other by a distance of 24 ft. and a 10 ft. missile barrier which serves as a radiant energy shield. During the final review of the FHA it was found that cables required for operation of the unit coolers did not meet the 20 ft. horizontal separation criteria as stated in 10 CFR 50 Appendix R, Section III.G. The immediate corrective action taken was to treat the cables as having missing fire barriers and initiate an hourly fire watch per RBS Technical Specification.

The permanent corrective action for this condition will be to provide an analysis which demonstrates that the unit coolers are not required for safe shutdown or install noncombustible radiant energy shields to provide separation in accordance with Appendix R, Section III.G.2.f. Modification request (MR) 92-0037 has been approved to install the required radiant energy shields if needed. The analysis to demonstrate that the unit coolers are not required and the preparation of MR 92-0037 will proceed concurrently. This approach will allow the analysis to be completed and/or installation of the radiant energy shields to be completed prior to startup from RF-4.

CURRENT STATUS

- A. A design which allows a higher spent fuel pool temperature will not be implemented. Calculation G13.18.14.C*61-0 demonstrates that during cycle 5 the time required for the lower spent fuel pool temperature to reach the design limit of 170°F (previously reported as 155.6°F) is 72.4 hours and 36.3 hours to reach the SRP 9.1.3 guideline for "Normal heat loads" (140°F). This is sufficient time to take the manual actions identified in ACP-0031 to restore spent fuel pool cooling. MR 92-0038 has been approved to implement plant modifications to assure spent fuel pool cooling can be maintained with a fire in the main control room or fuel building. As the current corrective action is adequate for cycle 5, this MR will be prioritized for implementation in accordance with plant procedures and policies.
- B. The permanent corrective action for this condition will be addressed with completion of the analysis and any modifications, if required, as discussed for the main control room in A above.
- C. An analysis which demonstrates that the unit coolers are not needed for post fire safe shutdown is documented in condition report (CR) 92-0031. Calculation G13.18.14.1*07 R/2 demonstrates that temperatures in containment will not exceed maximum equipment qualification temperatures during shutdown following a fire event. Therefore, the affected equipment is no longer maintained as safe shutdown items and MR 92-0037 is no longer necessary.

NEW FIRE AREA/PRE-FIRE STRATEGIES DEFICIENCIES

ROOM REFERENCE 3

During the final FHA review, all fire areas except one were found to have a fire hazards analysis and 58 of 62 fire areas were found to have administrative controls identified in

the FHA included in their pre-fire strategies. A preliminary fire hazards analysis for the new fire area, not previously identified in the FHA, was performed to determine potential impact on safe shutdown capability. The preliminary analysis indicated that safe shutdown for this new fire area is provided utilizing Method 1 shutdown equipment and by initiating high pressure core spray (HPCS) in lieu of reactor core isolation cooling (RCIC) for level control during a fire. Furthermore, administrative controls to align valve 1SFC*MOV120 to supply cooling to the upper fuel pools were necessary. MR 92-0013 was initiated on January 27, 1992, to make necessary document changes to the FHA and USAR for the new fire area. A new pre-fire strategy was prepared to identify this information to reactor operators and the fire brigade. Pre-fire strategies for the four fire areas were revised to include the omitted administrative controls identified in the FHA.

CURRENT STATUS

MR 92-0013 was initiated to revise the FHA to incorporate the evaluation of the additional room, AB-070-507, and it was completed prior to October 30, 1992. Also, licensing change notice (LCN) 9A-2-18 was initiated and added the room to USAR Tables 9A.2-5 and 9A.2-6.

MULTIPLE HIGH IMPEDANCE FAULTS

FROM REFERENCE 3

Multiple high impedance faults involving associated circuits as identified in Generic Letter 86-10, section 5.3.8 have not been analyzed. A draft procedure has been prepared which provides information necessary to recover from a high impedance fault during a fire. This procedure will be implemented, with training completed, prior to startup from the fourth refueling outage which is scheduled to begin in March, 1992.

CURRENT STATUS

Two procedures have been prepared to enable a recovery from multiple high impedance faults resulting from a fire. Abnormal Operating Procedure (AOP)-0031 was revised to incorporate this type of event initiated by a fire in the control room. Conversely, AOP-0052 has been written to allow recovery from multiple impedance faults started by a fire outside the control room. Operators were trained on both procedures prior to startup from the fourth refueling outage.

ADDITIONAL ACTIONS

FROM REFERENCE 4/CURRENT STATUS

An independent contractor conducted a final review and verification of the fire hazards analysis and documented the design bases and assumptions. An additional verification of consistency between the fire hazards analysis and procedures will be implemented through a follow-up SSFI. The SSFI has been rescheduled to be completed by January, 1993.