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

Gentlemen:

RIVER BEND STATION - UNIT 1
DOCKET NO. 50-458/92-34

Pursuant to 10CFR2.201, this letter provides Gulf States Utilities Company's (GSU) response to the Notice of Violation for NRC Inspection Report Item No. 50-458/92-34. The inspection was conducted by Messrs. Smith, Loveless, Bernhard, and Keeton on November 8 through December 19, 1992 of activities authorized by NRC Operating License NPF-47 for River Bend Station - Unit 1 (RBS). GSU's reply to the violations is provided in the three attachments.

Should you have any questions, please contact Mr. L. A. England of my staff at 504/381-4145.

Sincerely,

Philip D. Graham
P. D. Graham

Attachments

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PDR ADOCK 05000458
Q PDR

JE01

cc: Regional Administrator
U.S. Nuclear Regulatory Commission
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NRC Resident Inspector
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ATTACHMENT 1

REPLY TO NOTICE OF VIOLATION 50-458/9234-01 LEVEL IV

REFERENCES

Notice of Violation - Letter from NRC Region IV's A. B. Beach to GSU's P. D. Graham dated January 8, 1993.

LER 92-027 dated December 22, 1992 transmitted under RBG-37963 and subsequent Revision 1 dated January 8, 1993 - W.H. Odell to Document Control Desk.

VIOLATION

Failure to Meet a Limiting Condition for Operation

Technical Specification 3.0.4 states, "Entry into an OPERATIONAL CONDITION or other specified condition shall not be made when the conditions for the Limiting Condition for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval".

Technical Specification 3.7.3., "Limiting Conditions for Operation", states that the reactor core isolation cooling system shall be operable with an operable flow path capable of automatically taking suction from the suppression pool and transferring the water to the reactor pressure vessel. This specification is applicable in Operational Conditions 1, 2, and 3, with reactor steam dome pressure greater than 150 psig. The associated action statement requires a shutdown if the system is not restored within 14 days.

Contrary to the above, on November 25, 1992, the licensee entered a specified condition when the Limiting Conditions for Operation were not met, in that reactor pressure was increased to greater than 150 psig with the reactor core isolation cooling system inoperable.

REASON FOR THE VIOLATION

Prior to the event, reactor startup was in progress. The reactor core isolation cooling (RCIC) system had been manually isolated on the previous shift, prior to automatic isolation on low pressure. Criticality was achieved at 1945 on November 25, 1992. Shortly following entry into the heat up range on the intermediate range monitors (IRMs), pressure started to increase. At this point, a warm up of RCIC was initiated per system operating procedure (SOP)-0035. The shift supervisor and administrative control operating foreman (admin COF) reviewed Technical Specification 3.7.3 for RCIC. It was determined that when 150 psig reactor vessel pressure was reached, a limiting condition for operation (LCO) would be written. This would require the high pressure core spray system (HPCS) to be operable, and it was. The shift supervisor directed the control operating foreman to inform the admin COF when 150 psig was obtained so that the LCO could be initiated. At this time, the shift supervisor and admin COF did not realize that going above 150 psig reactor vessel pressure was a change in the specified applicability conditions of TS 3.7.3. The footnote in Technical Specification 3.7.3 that allowed going above 150 psig for RCIC surveillance testing caused some confusion in how it should be interpreted.

The COF was following General Operating Procedure (GOP)-0001 for the reactor startup. The COF had read the step requiring RCIC to be in the standby mode prior to exceeding 150 psig reactor vessel pressure but did not challenge the directions given by the shift supervisor for initiation of an LCO at 150 psig reactor vessel pressure. Upon re-evaluating his decision, the shift supervisor contacted the acting assistant operations supervisor and Licensing personnel. It was determined that RCIC was required to be in the standby mode prior to exceeding 150 psig RPV pressure. The RCIC system was placed in standby lineup at 2158 hours on November 25, 1992.

The root cause of this event was twofold. First, Technical Specification 3.7.3 was incorrectly interpreted by the shift supervisor and the admin COF. Second, the COF failed to challenge the shift supervisor on not placing RCIC in standby lineup, contrary to the requirements that he read in GOP-0001.

CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

A change notice has been initiated to enhance GOP-0001 to add a CAUTION to the step that initiates warming up of RCIC.

The need for disciplinary action has been evaluated and administered by plant management.

LER 92-27 was submitted on December 22, 1992 and subsequent Revision 1 dated January 8, 1993, describing this event and associated corrective actions taken.

CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER FINDINGS

Training has been initiated for all reactor operators (ROs) and senior reactor operators (SROs) on interpretation of Technical Specification 3.7.3. This training is being conducted during license operator requalification training.

- o Requirements for RCIC operability will be discussed during classroom review of GOP-0001. The condition report (CR) and licensee event report (LER) will be discussed at that time.
- o Technical Specification review of Sections 3.0 and 4.0 will discuss in particular the 3.0.4 requirements detailed as "Special Conditions" and provide a classroom exercise to reinforce the lecture.
- o Four hours of simulator time scheduled for review/practical reactor startup will include, specifically, heat up through placing RCIC in service and meeting the Technical Specification/GOP requirements.

A human performance enhancement evaluation (HPES) review is being performed for this event by the shift supervisor involved and the HPES coordinator. A case study will be developed and presented to all ROs and SROs during licensed operator requalification training which will include:

- o Recreate and document this incident on film (completed January 6, 1993).
- o Develop a case study of the event
- o Review and discuss the case study evolution with each operating crew

- o Summarization of lessons learned from this event and to other recent events including operators not heeding procedural requirements and not complying with technical specifications requirements.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Compliance was achieved on November 25, 1992 when RCIC was restored to an operable condition.

Training on Technical Specification 3.7.3 will be completed by February 19, 1993.

The case study and associated operator training will be completed by May 30, 1993.

ATTACHMENT 2

REPLY TO NOTICE OF VIOLATION 50-458/9234-02 LEVEL IV

REFERENCES

Notice of Violation - Letter from NRC Region IV's A. B. Beach to GSU's P. D. Graham dated January 8, 1993.

LER 92-028 dated January 4, 1993 transmitted under RBG-37966 - W.H. Odell to Document Control Desk.

VIOLATION

Failure to Perform Action Statement Requirements

Technical Specification 3.3.1, Table 3.3.1-1, requires at least three channels of the intermediate range monitors to be operable in each trip system with the plant in Operational Condition 3 and 4; otherwise, within 1 hour, verify all insertable control rods to be inserted in the core and lock the reactor mode in the shutdown position.

Technical Specification 3.3.7.6 requires at least two channels of the source range monitors to be operable with the plant in Operational Conditions 3 and 4; otherwise, within 1 hour, verify all insertable control rods to be inserted in the core and lock the reactor mode switch in the shutdown position.

Contrary to the above, on December 6, 1992, the reactor operator failed to lock the reactor mode switch in the shutdown position after entering into Operational Condition 3, with all channels of the intermediate range and source range monitors inoperable.

REASON FOR THE VIOLATION

On December 6, 1992, a shutdown was in progress in preparation to repair the 'B' reactor recirculation pump seal. At 1729 a manual reactor scram was inserted and the reactor mode switch was placed in the shutdown position. Abnormal operating procedure (AOP)-0001 ("REACTOR SCRAM") was entered and all immediate operator actions were completed, including a verification that all rods were fully inserted. Completion of the immediate actions of AOP-0001 was documented in the control room log book on December 6, 1992 at 1731.

Placing the reactor mode switch in the shutdown position placed the plant in Operational Condition 3, Hot Shutdown. Per Technical Specification 3.3.1, "Reactor Protection System Instrumentation", the intermediate range monitors (IRMs) are required to be operable in Operational Condition 3 with a minimum of three instruments per trip system. At this time, the weekly functional surveillance test procedure (STPs) for the IRMs were not current due to the fact that these STP's cannot and are not required to be performed during power operations. With these STPs not current, all IRMs were inoperable. The fact that the IRMs were inoperable was not noted by Operations personnel until 0630 on December 7, 1992. Technical Specification 3.3.1 action 'b' requires that with less than the minimum number of channels operable in both trip systems, that one trip system be placed in the tripped condition within one hour and that the required actions per Table 3.3.1-1 be taken.

Similarly, the source range monitors (SRMs) are required to be operable in Operational Condition 3 per Technical Specification 3.3.7.6. As with the IRMs, the weekly functional STPs were not current, causing the SRMs to be inoperable. Again, the fact that these STP's cannot be performed during power operation is a known condition. Operations personnel noted this also at 0630 on December 7, 1992, the same time it had been discovered that the IRMs were inoperable.

The required actions of both Technical Specifications 3.3.1, action 'b' and 3.3.7.6, action 'h' are to verify within 1 hour that all insertable control rods are inserted into the core, and to lock the reactor mode switch in the shutdown position (by removing the key). These requirements were satisfied at 0636 on December 7, 1992 as documented by Limiting Condition for Operation (LCO) 0029. During the period from 1829 on December 6, 1992 until 0636 on December 7, 1992, the requirements of Specification 3.3.1, action 'b' were not met; however, all rods remained inserted into the core and the reactor mode switch remained in the shutdown position. At 1400 on December 7, 1992, all required IRM STPs were completed and action 'b' of Specification 3.3.1 was exited. The weekly functional STPs for the SRMs were started 1352 on December 7, 1992. At 1434, the minimum number of SRMs were operable and at 2112, on December 7, 1992, all SRMs were operable. With the required SRMs operable, action 'b' of Specification 3.3.7.6 was exited.

Technical Specification 3.3.1, action 'b' and 3.3.7.6, action 'b' were not entered at the proper time due to a failure of the shift supervisor to recognize that the IRM and SRM STPs were not current. The shift supervisor had reviewed the outage schedule and found that the nuclear instrument STPs were not scheduled to begin until the day shift on December 7, 1992. From this information, he assumed that the STPs were still current. The "Surveillance Test Events - Shutdown/Startup Logic" sheet listed the last time these STPs were performed and, had it been reviewed by the shift supervisor, this error could have been prevented.

The root cause in this incident was failure of the shift supervisor to recognize a required entry into an action statement due to the fact that the SRM and IRM STP's were not current, not a failure to perform STP's in a timely manner. The error of entering into Operation Condition 3 (Hot Shutdown) when the SRMs and IRMs were not current was caused by Operations personnel reviewing the outage schedule instead of using the "Surveillance Test Events - Shutdown/Startup Logic" sheet which would have shown these STPs to be past their due date.

CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

The need for disciplinary action has been evaluated and administered by plant management.

As an enhancement to prevent recurrence, change notices have been initiated to General Operating Procedure (GOP)-0002, "POWER DECREASE/PLANT SHUTDOWN" and GOP-0003, "SCRAM RECOVERY", to include a caution to remind personnel that if the plant has been operating for greater than 7 days that the SRM/IRM STPs are not current, and to add a step for operations shift supervisor (OSS) and control operator foreman (COF) to verify that the SRMs and IRMs are operable.

LER 92-028 was submitted on January 4, 1993, further describing this event and resultant corrective actions taken.

CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER FINDINGS

As previously described in reply to Notice of Violation 50-458/9234-01, GSU is developing a case study concerning that event described in Attachment 1. The case study will be analyzed by each operating crew

as an integral part of training to specifically address Technical Specification violations, including this event (as described in LER 92-028).

A self checking policy was developed by Operations and implemented on January 19, 1993.

Other actions being taken by plant management to address the negative trend with operators not heeding procedural requirements and not complying with Technical Specification requirements include:

- A shift supervisor meeting was held December 15, 1992

Topics discussed included

- o Challenges of management changes
 - * Standards and expectations
 - * Operations Department SALP performance
- o Departmental trends
 - * Rising trend of errors
 - * Errors that are of higher significance
 - * Other improvements
- o Self Checking Program recently developed for the Operations Department

- A shift technical advisor (STA) meeting was held on January 6, 1993.

Topic of Discussion - Methods to improve STA oversight role during normal plant operation.

- Reinforcement of policies, practices and procedures by management to all department personnel is continuing during crew meetings, operator qualifications and day-to-day interface. Subject matters include:

- o Standards and expectations
- o Self checking
- o Closed loop communication
- o Procedural and Technical Specification compliance
- o Attention to details
- o Identifying, reporting and correcting of equipment and Procedure deficiencies
- o Control room formality

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on December 7, 1992 when Technical Specifications were met.

The case study and associated operator training will be completed by May 30, 1993.

ATTACHMENT 3

RESPONSE TO NOTICE OF VIOLATION 50-458/9234-03 LEVEL IV

REFERENCE

Notice of Violation - Letter from NRC Region IV's A. B. Beach to GSU's P. D. Graham dated January 8, 1993.

VIOLATION

Failure to Identify a Condition Adverse to Quality

10CFR Part 50, Appendix B, Criterion XVI states, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, from April 15, 1991, through December 4, 1992, measures had not been established to identify the degradation of the safety-related high pressure core spray pump room unit cooler. As a result, the filter elements of the unit cooler had deteriorated to the point that they were breaking down and clogging the cooling coils.

REASON FOR VIOLATION

On December 2, 1992, a buildup of foreign material was found on the discharge screen from auxiliary building Unit Cooler 1HVR*UC5. This unit cooler provides cooling air to the high pressure core spray pump room. Approximately one-third of the discharge screen was blocked. This condition was identified by NRC management personnel during a routine plant tour.

Initially, preventive maintenance on all plant unit coolers provided for the replacement of filters on a routine basis. During the second refueling outage (1989), it was determined that this was excessive. Therefore, the preventive maintenance tasks were revised and scheduled to be performed only when the operators requested them. This was an acceptable solution for most of the unit coolers because they had external filters that could be readily observed and evaluated to determine when they required changing. However, Unit Cooler 1HVR*UC5 had filters internal to the unit cooler casing. Therefore, the operators could not routinely observe the filters and as such, did not request preventive maintenance to be performed.

A root cause analysis was performed in accordance with River Bend Nuclear Procedure (RBNP)-022 using the task analysis and barrier analysis methods. A review of the previous history for the missed preventive maintenance (PM) tasks was performed to determine the reason for the current frequency assignment of the PM tasks identified in the disposition of CR 92-0930. This review revealed that change/deletion forms were completed on April 14, 1989 and May 1, 1989 to change the PM frequencies from a scheduled 26 week frequency to an as-needed basis. The history for these changes showed that Maintenance personnel and the responsible system engineer changed all of the filter inspection/replacement PM tasks to an as-needed frequency. The basis was that Operations personnel would check these filters on their scheduled building rounds and would notify Maintenance when replacement was required. While this was an acceptable practice for some of the auxiliary building unit coolers with external filters, there were others identified in the disposition of the CR with internal filters which could not be inspected without Maintenance support to open the filter duct. Based on the review of the

Maintenance effort to reduce the PM workload in 1989, it concluded that an inadequate field verification for filter accessibility was performed by both Maintenance and System Engineering personnel during the initiation and approval of the change/deletion form. Since the PM change/deletion required the approval of a maintenance supervisor and a system engineer, this was identified as the primary barrier which should have prevented this condition from occurring. If the individuals performing the evaluation had completed their assigned tasks correctly which would have included a review of the unit cooler filter arrangement, the condition would not have occurred. Both the initiator and the discipline supervisor responsible for the PM frequency change no longer work at River Bend Station.

In summary, the root cause was determined to be an incorrect change to the PMs from a routine basis to an on-request basis without a proper walk-down.

CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND RESULTS ACHIEVED

The foreign material was reported to the main control room and Condition Report (CR) 92-0930 was issued. The preventive and corrective maintenance history of Unit Cooler 1HVR*UC5 was reviewed. Maintenance Work Order (MWO) P562428 was initiated to evaluate and clean the unit cooler. The technicians inspected the internal filters and found that they had collapsed onto the cooling coils and that the filter media had disintegrated and had been drawn into the coils. The filters and filter media were removed. The coils were cleaned and a determination was made that further cleaning was not necessary. New filters were installed on December 4, 1992.

The maintenance records for unit coolers identified during the investigation revealed that their coils had been replaced as identified below:

<u>EQUIPMENT</u> <u>MARK #</u>	<u>MWO#</u>	<u>COMPLETION</u> <u>DATE</u>
1HVR*UC2	R126209	5/22/89
1HVR*UC5	R126301	5/18/89
1HVR*UC6	R133380	4/14/89
1HVR*UC8	R124891	5/12/89
1HVR*UC9	R139291	1/13/92
1HVR*UC10	R139292	5/21/92

Following identification of the condition described in the CR, mechanical maintenance cleaned the visible filter media off the front coils, replaced the filters and cleaned the supply register screen. This was completed on December 4, 1992. On December 7, 1992 it was recognized that other HVR unit coolers would require performance of the same type of preventive maintenance (PM) task. PM tasks were forced out to complete this activity and an operability evaluation was performed. This was documented in an interim disposition to CR 92-0930 in order to establish the acceptance criteria for current unit cooler operability. Additionally, on December 7, 1992, a review of five other safety related unit coolers with internal filters was performed.

Following completion of the interim disposition, the remaining PM tasks identified for HVR*UC 2, 9 and 10 were completed. The following list shows the completion dates for all of the PM tasks identified for unit cooler inspection and filter replacement.

1HVR*UC2	-	12/9/92	1HVR*UC8	-	12/8/92
1HVR*UC5	-	12/4/92	1HVR*UC9	-	12/9/92
1HVR*UC6	-	12/8/92	1HVR*UC10	-	12/9/92

In addition to completion of the PM task, Operations personnel inspected the supply registers in all emergency core cooling system (ECCS) areas inside the auxiliary building. No problems were identified on this walkdown which was performed on December 10, 1992. A review was performed for all unit cooler, air handling unit and filtration unit PMs. The last performed date shown for those PMs with a frequency of 4-333 (as needed) basis was evaluated to insure no similar type discrepancies existed. This was one of the primary reasons identified for not performing these filter replacements in a reasonable timeframe. The 4-333 frequency was not acceptable for these filters since they cannot be inspected externally by Operations personnel on a weekly or monthly basis.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

To prevent recurrence, a review was performed for all safety-related mechanical, electrical and I&C PM tasks with an assigned frequency of 4-333 (as needed basis). This review did not reveal any other PM tasks which required frequency changes. The Maintenance Department is currently working on an ongoing project to enhance and optimize selected groups of PM tasks. This effort includes standardization of PM task job plans and evaluation of assigned frequencies, and is an on going task. Based on this review, it was concluded that the condition identified in the CR did not represent a programmatic deficiency in the change/deletion process for the preventive maintenance program. It is also believed that the existing barriers (PM change review cycle) are adequate in it's current condition.

An evaluation of all safety related PM tasks with a frequency of 4-333 was performed with no additional problems identified. The operability evaluation which is documented in CR 92-0930 showed that all unit coolers would still perform their design basis functions in their degraded condition. The operability conclusions were made by evaluating unit cooler functions and calculating heat load and coil capacities using conservative flow blockage values based on inspection of unit cooler and filter conditions.

The responsible system engineer has been counseled on the subject of the CR. The CR has been identified as required reading for all System Engineering personnel responsible for PM task review or approval. This action will be completed by February 28, 1993.

CAUSE FOR DELAY IN PERFORMING AN OPERABILITY EVALUATION IN REPLY TO THE NRC CONCERN EXPRESSED IN TRANSMITTAL LETTER

CR 92-0930 was initiated on Thursday, December 3, 1992, as noted above, by the shift supervisor and was approved by the plant manager on Friday, December 4, 1992. The shift supervisor reviewed the amount of blockage on the exhaust register in the HPCS pump room. He noted the upstream exhaust duct size and the widening of the exhaust register and concluded that adequate air flow was available to the room. In addition, the exhaust registers to the other ECCS pump cubicles were inspected and found to be free from debris. The CR only identified a visible blockage on the HPCS pump room ventilation duct and the fact that Mechanical Maintenance had initiated the preventive maintenance task to inspect HVR*UC5. The PM task for this unit cooler was completed on December 4, 1992. The condition report was assigned a "C" level which requires a disposition in 30 days. Following initiation of the CR and the initial inspection of the exhaust register in the other ECCS cubicle, the potential for this condition to be applicable to other unit coolers with similar filter configurations was not immediately recognized.

On Monday, December 7, 1992, following discussions with the NRC senior resident inspector, similar filter arrangements and PM task frequencies were identified and the condition report was upgraded to an "A" level which requires a response in 24 hours. It was also determined that an operability evaluation would be required based on various unit cooler functions. It was recognized that the initial severity level

assignment and operability assessment were incorrect. Although the operability review indicated that the unit coolers were operable, the evaluation was not performed within the expected time frame.

The SS who initiated the CR had no other indication or reason to challenge the other unit coolers. Based on the PM task reviews, it was determined that additional safety-related unit coolers had a potential for being similarly affected. After discussion with Maintenance, the operations shift supervisor upgraded the CR to an "A" level requesting an operability determination. CR 92-0930 has been reviewed by all Operations SRO's.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

River Bend is now in compliance.