

GULF STATES UTILITIES COMPANY

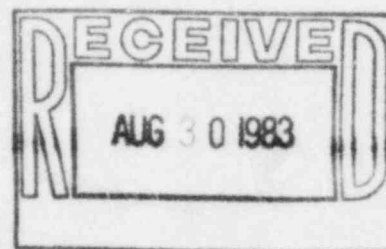
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August 25, 1983
RBG-15,789
File Nos. G9.5, G9.25.1.1

Mr. John T. Collins, Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV, Office of Inspection and Enforcement
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011



Dear Mr. Collins:

River Bend Station Unit 1
Docket No. 50-458
Final Report/DR-30

GSU notified Region IV on July 26, 1983 by telephone it had determined DR-30 to be reportable under 10CFR50.55(e). The attachment to this letter is GSU's final written report pursuant 10CFR50.55(e)(3) with regard to this deficiency. If you should have any questions concerning this final report, please let me know.

Sincerely,

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

WJ PJD
JEB/PJD/kt

cc: Director of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

R. L. Brown (SRI)

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ATTACHMENT
DR-30/B. F. Shaw Radiographs

Description of the Deficiency

During an investigation into B. F. Shaw Radiographic Examination documentation (DR-20), 15 welds were identified as having either material or technique discrepancies. On December 2, 1981, Gulf States Utilities Company (GSU) notified Region IV of a condition potentially reportable under 10CFR50.55(e) concerning the difficulty with interpreting radiographs performed by B. F. Shaw Company because of the poor quality images (DR-30).

Background - Investigation

On September 17, 1981, GSU had notified Region IV of a potentially reportable condition concerning a breakdown in the B. F. Shaw Quality Assurance Program. During GSU's initial investigation (DR-20), 101 additional packages of radiographic film and reports were reviewed. Of these, 15 packages were identified as having material or technique discrepancies. Thus GSU initiated DR-30 to investigate the quality of work being accomplished by B. F. Shaw in the Radiographic Examination discipline of their Non Destructive Examination Program.

Because of the subjectivity involved with the interpretation of radiographs, GSU requested that Hartford Steam Boiler (HSB) review radiograph packages supplied by B. F. Shaw Company. Report Number 2871 submitted by HSB provided the results of their review. The report stated that in the opinion of their reviewer, radiographs for 22 welds did not meet code quality requirements, radiographs for 27 welds did not exactly meet code requirements (but were interpretable), and radiographs for 75 welds were acceptable. After reviewing the HSB report, GSU decided to review all of the B. F. Shaw radiographs supplied between May 1, 1980 and September 30, 1981. Approximately 1550 packages of radiographs were reviewed. Additional radiography was performed to help resolve the subjective interpretation due to the image quality in the original radiographs. Nonconformance and Disposition Report (N&D) 3098 was issued which identified 16 welds interpreted to contain rejectable indications. These were identified as follows:

| | |
|----------------------|---------|
| *1. 1-CCP-118-3-003 | END-4 |
| *2. 1-CSH-001-2-038 | WELD-2 |
| *3. 1-CSH-004-2-048 | WELD-1 |
| 4. 1-CSL-004-2-026 | WELD-4 |
| 5. 1-CSL-043-1-042 | WELD-3 |
| 6. 1-HVC-006-3-042 | WELD-1 |
| 7. 1-RHS-199-2-011 | WELD-3 |
| *8. 1-RHS-044-2-040 | WELD-1 |
| *9. 1-RHS-006-2-144 | WELD-9 |
| *10. 1-RHS-039-2-167 | WELD-1 |
| *11. 1-RHS-039-2-168 | WELD-1 |
| 12. 1-RHS-028-2-171 | WELD-14 |
| *13. 1-RHS-036-2-203 | WELD-4 |

| | |
|----------------------|--------|
| *14. 1-RHS-022-2-224 | WELD-1 |
| *15. 1-SWP-116-3-971 | WELD-1 |
| 16. 1-WCS-022-2-055 | WELD-5 |

NOTE:

CCP-Reactor Plant Component Cooling Water System
CSH-High Pressure Core Spray System
CSL-Low Pressure Core Spray System
HVC-Control Building Air Conditioning System
RHS-Residual Heat Removal System
SWP-Service Water Piping System
WCS-Reactor Water Clean-up System

Following additional evaluation and radiography, N&D 3439 superseded N&D 3098 and required the repair of the 10 welds indicated by an asterisk above. Items 5, 6, 7, 12, and 16 were dispositioned "accept as is". Item 4 was scheduled for repair, however, due to a design modification it was eliminated.

Safety Implications

Insufficient data exists to perform calculations to answer conclusively whether the weld defects could have propagated to failure, thereby adversely affecting the safe operations of the plant. Several scenarios noted below were postulated that could occur upon failure at these multiple weld locations and possibly jeopardize a safe shutdown.

1. Failure of the welds could render both high-pressure core spray and reactor core isolation cooling systems inoperative.
2. Failure of welds that are associated with the residual heat removal (RHR) B loop heat exchangers combined with a postulated single failure associated with the RHR A loop heat exchangers could render all RHR heat exchangers inoperative.
3. Failure of welds that are located in service water piping (SWP) or reactor component cooling water (CCP) lines combined with a postulated single failure on the redundant SWP or CCP loops could preclude any cooling water from being supplied to the containment unit coolers or spent fuel pool.

Corrective Action

The disposition of N&D 3439 required that the 10 welds be repaired as follows: (1) grind indications until clear and verify by performing loose particle/magnetic tests; (2) reweld in accordance with applicable weld procedures; and (3) perform final radiographic test examination of the repaired area.

As a result of GSU concerns, B. F. Shaw implemented the use of new equipment (lead screens) and additional training in film processing to correct the film quality problem. A majority (98%) of B. F. Shaw shop fabrication and radiography had been completed at the time the deficient radiographic interpretation was discovered. In light of the comprehensive review of all film packages, further corrective action is not felt to be warranted.