

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-458/83-12

Docket: 50-458

Permit: CPPR-145

Category: A2

Licensee: Gulf States Utilities (GSU)  
P. O. Box 2951  
Beaumont, TX 77704

Facility Name: River Bend Station (RBS), Unit 1

Inspection At: River Bend Station

Inspection Conducted: June 3, 1983, through July 28, 1983.

Inspector: *Ross L. Brown*  
Ross L. Brown, Senior Resident Inspector

8/8/83  
Date

Approved: *W. A. Crossman*  
W. A. Crossman, Chief  
Reactor Project Section B

8/15/83  
Date

Inspection Summary

Inspection Conducted June 3, 1983, through July 28, 1983 (Report: 50-458/83-12)

Areas Inspected: Routine, announced inspection included site tour; follow up of licensee identified construction deficiencies; follow up of IE Bulletins; follow up of Action Item H07003098; follow up of allegations; training; weld material control; design change control; and safety-related piping installation and welding. The inspection involved 217 inspector-hours onsite by one NRC inspector.

Results: Within the eight areas inspected, no violations or deviations were identified.

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DETAILS

1. Persons Contacted

Principal Licensee Employees

- \*P. D. Graham, Director, Quality Assurance
- R. B. Stafford, Supervisor, Quality Assurance
- M. E. Walton, Supervisor, Site Engineering
- W. J. Reed, Director, Nuclear Licensing (Beaumont)
- \*L. A. England, Lead Licensing Engineer (Beaumont)
- \*J. E. Booker, Manager, Engineering, Nuclear Fuels, and Licensing
- \*G. V. King, Supervisor Operations, Quality Assurance
- \*S. R. Radebaugh, Supervisor Preoperative Test
- \*P. R. Radovich, Supervisor Turnover
- \*R. W. Helmick, PGCC Supervisor
- R. J. King, Licensing Engineer (Beaumont)
- \*T. C. Crouse, Project Engineer
- G. R. Kimmell, Quality Assurance Engineer
- D. G. Seymour, Quality Assurance Engineer
- C. L. Ballard, Supervisor, Quality Systems
- P. J. Dautel, Licensing Staff Assistant (Beaumont)
- R. E. Turner, Quality Assurance Systems
- \*E. R. Grant, Licensing Coordinator
- \*K. C. Hodges, Quality Assurance Engineer
- \*E. L. Hammond, Plant Manager
- \*R. D. Gipson, Startup and Testing Engineer
- \*J. E. Price, Nuclear Licensing
- \*D. R. Derbonne, Supervisor Preoperative Test
- \*J. C. Deddens, Vice President River Bend Nuclear Group
- \*P. E. Freehill, Superintendent, Startup and Testing
- \*P. F. Gillespie, Quality Assurance Engineer

Stone and Webster (S&W)

- \*R. L. Spence, Superintendent, Field Quality Control (FQC)
- \*B. R. Hall, FQC Senior Engineer
- \*W. I. Clifford, Senior Construction Manager
- \*J. D. Davis, FQC Assistant Superintendent
- \*W. A. Crumpler, NSSSS Lead Engineer
- \*D. B. Barry, Superintendent, Engineering
- D. Whitlock, FQC Inspector Supervisor
- R. J. Fay, FQC Supervisor, Electrical
- N. W. Pressler, FQC Chief Inspector, Electrical
- G. M. Byrnes, FQC Assistant Superintendent
- V. L. Barton, FQC Inspection Supervisor
- J. J. Zullo, QA Program Administrator
- \*W. R. Whitley, FQC Assistant Superintendent
- \*J. M. Lord, Manager Engineering Assurance Division

- \*C. B. Graham, Supervisor Preoperative Test
- W. L. Speilmann, Assistant Superintendent Piping
- G. J. Elias, Senior Construction Assistant Welding
- P. B. Gross, Chief Construction Supervisor Welding
- T. C. Mitchell, Assistant Superintendent Engineering
- D. M. Cowart, FQC Senior Inspector
- \*F. W. Finger III, PTO/Project Manager
- T. M. Bates, Assistant Superintendent, Engineering
- J. P. Schippert, Assistant Resident Engineer
- G. C. Pentek, Supervisor Engineering

General Electric Company (GE)

- \*K. F. Bullen, GE Operation Superintendent

The senior resident inspector (SRI) also interviewed additional licensee, S&W, and other contractor personnel during this inspection period.

- \*Denotes those persons that attended the management interview.

2. Site Tour

The SRI toured areas of the site during the inspection period to observe construction progress, general job practices, housekeeping, and fire protection.

3. Follow Up on Licensee Identified Deficiency Reports, 10 CFR 50.55(e)

(Closed) Deficiency Report (DR-88/GSU Document (DOC) RBG-14033) "Improper Vendor Documentation, Certificate of Compliance (CofC) Instead of Certified Material Test Reports (CMTR)." The SRI reviewed Nonconformance and Disposition Reports (N&D) 3071 and 3129 that described the potential problem and disposition; Engineering and Design Coordination Report (E&DCR) P-30,884 that revised Specification 228,310 to clarify the boundary of the drywell and to delineate the type of documentation required to conform with the requirements of ASME Code Section III, Subsections NC-2130 and ND-2130; E&DCR-PQC-M-1B that permitted the use of seller certificate of compliance for ASME Class 2 and 3 fabrication supports; and S&W letter RBS-8249 to GSU that states the specification has been revised by E&DCR P-30,884 to indicate the specification's original intent, which is to require CMTR's for Code Class 1 material, and Code Classes 2 and 3 reinforcing pad materials welded to pressure boundary parts. In accordance with NC-2130, CofC in lieu of CMTR's are acceptable for all other Classes 2 and 3 non-pressure retaining integral attachments welded to pressure boundary parts.

The SRI concurs that this item is not reportable under 10 CFR 50.55(e).

(Closed) Deficiency Report (DR-91/GSU DOC RBG-14107) "Installation of Unspecified Load Indicator Washer (LIW) in Structural Steel Slip Joints." The SRI reviewed the following documents related to this problem.

S&W letter RBS-8507 to GSU that states that in the original inspection of bolted connections identified, one unspecified LIW had been installed. This LIW was replaced with the specified LIW. Rework Control Form S-144, verified this replacement. Subsequently, approximately 150 slip connections, 4 bolts each, were selected by S&W management for reinspection. This activity was completed and one unspecified bolt in one connection was identified. The proper LIW has been installed.

Calculation S53.2444.1 considered the installation of one Bethlehem Steel LIW in a 4-bolt connection. This review indicated that the use of one Bethlehem Steel LIW in the connection would have no adverse impact on the connection.

GSU memorandum RBG-14,909 states that GSU has reviewed RBS-8507 and Calculation S53.2444.1 and found them acceptable and sufficient.

The SRI also reviewed the Inspection Report 3200080, E&DCR C-4517, and Report of a Problem (ROAP) RBI-FQC-007, and concurs that the condition is not reportable under 10 CFR 50.55(e). This item is closed.

(Closed) Deficiency Report (DR-87/GSU DOC RBG-14002) "Enlarged Bolt Holes/Excessive Torque of the Bolt Connection of Cable Trays to Support Members." The SRI reviewed N&D 3012, N&D 3240, and ROAP RBS-E-019 that describes the problem and gives the location of the discrepancies.

The SRI also reviewed the S&W letter RBS-8382 to GSU that states that it has been demonstrated through testing that the connections with oversize bolt holes and excessive bolt torquing are capable of withstanding the design loads and failure by buckling is not expected.

GSU memorandum RBG-15,002 states that the S&W evaluation is sufficient.

The SRI concurs that the conditions are not reportable under the requirements of 10 CFR 50.55(e). This item is closed.

(Closed) Deficiency Report (DR-60/GSU DOC RBG-12,838) "Installation of Non-seismically Supported Category II Components over Category I (safety-related) Components." The SRI reviewed the GSU Quality Assurance Finding Report (QAFR) 81-12-21-D that states the problem and identified the systems of concern.

The S&W letter RBS-8286 to GSU states that S&W recognizes the necessity for seismically supporting non-Category I piping to prevent damage to

adjacent safety-related equipment. However, the project determined that to identify those pipelines that would require seismic supports would be deferred until such time as the majority of the safety-related equipment was located and piping routing was final. This identification will coincide with completion of the modeling of Category I buildings.

In some areas the density of safety-related equipment justified the addition of seismic supports for nonsafety-related piping. Therefore, many systems are provided with seismically designed supports.

The GSU memorandum RBG-15,204 states that GSU concur that the item is not reportable.

The SRI concurs that the item is not reportable under 10 CFR 50.55(e). This item is closed.

(Closed) Deficiency Report (DR-21/GSU DOC RBG-11,126, dated 9/2/81 and RBG-11327, dated 10/5/81) "Improperly Manufactured Delaval Valve Springs." The SRI reviewed N&D 1780 that states that inspection of the two Transamerica Delaval standby diesel generators, confirmed that all springs were the deficient type reported to the NRC on 7/30/81, as a 10 CFR Part 21 report. N&D 1780 also states that the correct springs were installed and verified by FQC and the defective parts returned to the vendor. This item is closed.

(Closed) Deficiency Report (DR-84/GSU DOC RBG-13,897, dated 12/6/82) "Linear Indication in Root Area of Fillet Weld of a Bracket to One SRV Quencher." The SRI reviewed N&D 2931 that identifies the problem and verifies completion of the rework.

The SRI also reviewed the GE letter GSS-3694, dated 3/7/83, that states that the loading of the bracket is such that the linear indication would not be expected to propagate into the full penetration portion of the weld.

The GSU memorandum RBG-14,676, dated 3/24/83, states that the GSU project engineer and director of quality assurance concur with the GE evaluation in GSS-3694 and therefore, GSU does not consider the defect reportable under 10 CFR 50.55(e).

The SRI concurs with the evaluation. This item is closed.

#### 4. Action Item

(Closed) AIT-H07003098, "P21-80-331-000 Ascertains Whether Power Generation Control Complex (PGCC) Flexible Conduit Grounding Problem is Properly Resolved." GE notified the NRC by letter MFN 212-80, dated 12/8/80, of the reportable defect under 10 CFR Part 21.

GE Procedure 30 4A164-OGA "Grounding Requirements Document," describes the requirements and method of grounding the termination cabinets of the PGCC to the floor sections and those sections to the building grounding system.

The PGCC Grounding Scheme (S&W file 242426000438 B) shows the cabinets and floor sections of the PGCC are grounded to the building grounding system and ground cables bridging the points of interfaces.

The SRI inspected the majority of PGCC cabinets to floor mountings and determined that grounding of these items are in accordance with the applicable drawings. This item is closed.

5. Personnel Training (except welders and nondestructive test examiners)

The SRI reviewed the following S&W procedures and documents relative to the indoctrination training and supplemental training of RBS personnel.

- a. Quality Standard (QS) 2.12, "Qualification, Certification, Indoctrination, and Continuing Education of Personnel."
- b. Quality Assurance Directive (QAD) 2.1, "Quality Assurance Department Continuing Education System."
- c. Engineering Assurance Procedure (EAP) 2.4, "Indoctrination, Continuing Education, and Certification Requirements."
- e. Training record of pipefitters and millwrights.
- f. 1983 Training Matrix.

The training program requires all new S&W and their subcontractors' employees or newly assigned personnel to receive the indoctrination training.

The craftsmen/engineers training programs are generated by the training section in collaboration with the specific discipline representative. These programs are reviewed and approved by the discipline management, quality control, and site management.

The training matrix describes the training sessions available for 1 year, and identifies the discipline that should attend.

The department head, supervisor, or designee are responsible to provide the roster of those persons who are required to attend a particular training session.

S&W engineering and construction management have issued instructions to their respective department supervisors that they are responsible for the dissemination of quality information to the working level personnel during their weekly gang meetings. A record of these meetings and a list of attendees is required.

The SRI reviewed the training records for FQC, engineering, and craftsment that indicates that dissemination of quality information to the working level is being done on a continuing basis.

No violations or deviations were identified in this area.

6. Follow Up on IE Bulletins

The SRI reviewed the following IE Bulletins applicable to RBS to determine their status and disposition.

- . 80-16 Potential Misapplication of Rosemount, Incorporated Models 1151 and 1152 Pressure Transmitters With Either 'A' or 'D' Output Codes. The SRI reviewed the GSU-Doc's RBG-8464 and RBG-14,482 that states the Rosemount Pressure Transmitters, Model 1151 or 1152 with 'A' or 'D' output codes, are not used at RBS.

The SRI reviewed the S&W letter 5609 and GE letter GSS-3769 that verified these transmitters are not used in the safety-related systems. This item is closed.

- . 80-17 Failure of Control Rods to Insert During a Scram at a BWR. This bulletin was sent to GSU for information and no response was required, however, GSU letter RBG-9594 requested GE to review their scope of work for applicability and respond. GE processed an engineering change notice (ECN). This ECN was not available for review.

- . 80-19 Failures of Mercury-Wetted Matrix Relays in Reactor Protective Systems of Operating Nuclear Power Plants Designed by Combustion Engineering. The SRI reviewed the GSU letter RBG-8422 that states that the item was not used at RBS.

The SRI also reviewed the S&W letter RBS-6310 and GE letter GSS-2736 that verified the item was not used at RBS. This item is closed.

- . 80-20 Failures of Westinghouse Type W-2 Spring Return to Neutral Control Switches. The SRI reviewed the GSU letter RBG-8628 that states that Westinghouse Type W-2 control switches with spring return to neutral are not used in safety-related systems at RBS.

GE letter GSS-2751 and S&W letter 5697 verified these switches are not employed at RBS. This item is closed.

- 80-21 Valve Yokes Supplied by Malcolm Foundry Company, Inc.  
The SRI reviewed GSU letters RBG-9443 and RBG-10,462 that states that cast parts from Malcolm Foundry Company, Inc., are not used at RBS. This item is closed.
- 80-23 Failures of Solenoid Valves Manufactured by Valcor Engineering Corporation. The GSU letter RBG-9551 to the NRC, also GE and S&W letters verify the item is not used at RBS. This item is closed.
- 80-25 Operating Problems with Target Rock Safety-Related Valves at BWRs. A response to this bulletin was not required, however, GE letter GSS-3226 states that the problem is not expected, but it is recommended that test and start-up and operations be aware. GSU letter RBG-10,580 informed management of the potential problem. This item is closed.

The following bulletins did not require a response, however, they were evaluated by GSU and determined not applicable to RBS: 80-10; 80-11; 80-12; 80-13; 80-14; 80-15; 80-18; 80-22; and 80-24.

#### 7. Safety-Related Pipe Installation and Welding

The SRI witnessed the installation and welding of joints in the main steam, feedwater, service water, reactor core isolation cooling and residual heat removal (RHR) piping systems, and reviewed the document packages at the work stations.

The activities were being performed in accordance with the applicable specifications, instructions, weld data sheets, and drawings.

GSU notified the NRC Region IV of two 10 CFR 50.55(e) deficiencies in a shop weld in a RHR pipe spool piece (DR-122) and wall thickness below minimum (DR-125). These spool pieces were supplied by B. F. Shaw Company.

No violations or deviations were identified in these areas.

#### 8. Design Change Control

The SRI reviewed the S&W EAP 5.4 "Review and Approval of Project Production Drawings," that requires revised drawings to be received and approved using the same review and approval cycle as the original issue, except in those cases where the change clearly does not affect a previous approved area of responsibility as determined by the responsible design supervisor of the originating design group.

The SRI also reviewed the S&W CSI 11.0.6 "Correspondence Control," that establishes the procedure for receiving, logging, identifying, sorting, distributing, and verifying the completeness of all incoming documentation.

To verify conformance with the specified requirements the SRI interviewed members of engineering management, engineers, construction craft management, and FQC. The SRI also reviewed five control drawings, two red-lined drawings, and three logbook records related to ASME piping systems, hangers, supports, and snubbers.

No violations or deviations were identified in this area.

9. Allegation of Poor Construction Practices

The SRI received a copy of an apparent allegation that did not include the mailing address or date, and the signature was illegible.

The SRI requested S&W Security to check their personnel badge file for any identification. The review of files since 1979 revealed several surnames starting with a letter "V", but no given name of Oscar.

The items listed in the allegation lack specificity as to time, system, structure, etc. Without more information a review of the concerns can not be completed. This item is closed.

10. Weld Material Control Allegation

This allegation was reported to Region IV via telephone on June 16, 1983. The allogger stated that he was welding on Category II (Class 4) cooling water system piping when he noticed the welding rod was "not acting right" during the welding. He stated he should have been using E70S2 bare welding rod, however, when he checked the identification flag on the rod he found he was using type 515G. He also checked his rod pouch and found one more 515G rod. He notified his supervisor and he and supervisor checked the rod issuing station and found one type 515G rod mixed in the storage bin designated as and containing E70S2 bare welding rods.

The SRI reviewed the S&W Construction Methods Procedure (CMP) 6.4, "Welding Material Control," that establishes the following requirements:

- a. Welding materials are to be stored in a controlled access, clean and dry area.
- b. All ASME welding materials will be so designated and shall be segregated from other material by bins, walls, or other suitable barriers.
- c. Welding material shall not be issued without a weld material requisition (WMR) form which includes complete and legible entries with an authorized signature.

- d. Welders shall not be issued more than one classification of electrode or filler metal at any one time.
- e. All waste ends of electrodes, unused bare wire, and all unused electrodes shall be returned by the welder to the issuing station prior to the close of the shift or other work assignment.
- f. The issue station attendant's duties are described as follows:
  - (1) Issue only the filler metal type and size of welding material listed on the WMR.
  - (2) Accurately and legibly record issue transactions in the blocks provided on the WMR.
  - (3) Maintain weld material identification tags/plates on/in weld material storage ovens or bins.
  - (4) Store weld material by type, size, and heat number in ovens or bins whereby the material stored corresponds to the material identification tag/plate.
  - (5) Assure that storage oven thermometers are operating by physically checking on a daily basis per work shift.
  - (6) Dispose of waste material in a container labeled scrap after the quantity returned and time of return have been recorded on the WMR.
  - (7) Issue the weld technique sheet indicated on the WMR to the welder and write the revision number on the WMR for ASME and safety-related welds.
  - (8) Complete applicable portions of weld data sheets at the time of weld material issue.

The SRI interviewed the assistant superintendent of piping (the alleged's supervisor), supervisor of the welding materials issuing station, and FQC person responsible for surveillance of the issuing station and obtained the following information:

- a. Weld Technique Sheet W311014 specified weld wire type E70S2.
- b. The alleged used the 515G type weld wire to only tack weld the one pipe joint.
- c. The alleged told his supervisor the molten weld puddle did not appear the same as other welds.

- d. The allegor was reissued weld wire that was known to be correct.
- e. All questionable weld wire in the E70S2 bin was scrapped, however, samples of the weld wire identified as E70S2 and 515G were sent to the laboratory for chemical analysis. The results show that the weld wire was as identified E70S2 or 515G.
- f. The weld in question has been cut out, removing all deposited weld metal and rewelded with the correct E70S2 weld material.
- g. The weld material type and identification number is recorded on the weld data sheet for all Category I welds and Category II welds to be nondestructively examined. This information is recorded on the WMR only for the remaining welds.
- h. The SRI verified that the issuing station attendants were reinstructed to check the identification on each weld wire prior to issuance and for return to storage, to assure proper wire is either issued or returned to the storage bin.
- i. S&W management stated that all E70S2 welding wire for RBS is purchased as qualified for production use in ASME and safety-related systems, structures, etc.

The SRI verified this requirement by a review of the following:

- (1) S&W Specifications 211,101; 211,104; and 211,102.
- (2) S&W Purchase Orders 5228 for 3/32  $\emptyset$  E7018 and 3/32  $\emptyset$  E316-16 covered electrode and 6386 for 3/32  $\emptyset$  E70S2 bare wire.
- (3) "Certified Material Test Reports (CMTR) for Heats 421J9781 (E7018), 173883 (316-16), and 065303 (E70S2)." These CMTRs include the chemicals, physicals, heat treatment (if applicable) and the suppliers ASME Quality System Certificate number and expiration date.

The SRI verified that the allegor had been issued the wrong type of welding rod, however, it appears that the mixing of the two type of bare welding rods happened at the close of shift the previous day when the station attendant was returning the unused bare rod to the storage bins. He inadvertently placed the 515G type wire in the bin containing the E70S2 bare wire. The SRI concluded that since the welding materials issuing station is so segregated that ASME materials (E70S2) are issued from an ASME window, and non-ASME material (515G) from a non-ASME, it would be difficult to mix the 515G bare wire with E70S2 bare wire for ASME or safety-related use.

The SRI also concluded that the welding materials in the rod issuing stations are properly identified and there is no evidence of intentional mixing of the welding wire or improper identification of the welding materials. This item is closed.

11. Management Interviews

The SRI and Mr. W. A. Crossman, Chief Reactor Project Section B, Nuclear Regulatory Commission (NRC) Region IV, met with many of those persons listed in paragraph 1 on June 16, 1983, to discuss preoperational testing and documentation turnover. GSU presented their organizational arrangement assigned to these activities and the procedures to achieve these tasks. Mr. Crossman and the SRI stated the NRC requirements related to these activities and cited several problem areas that have been encountered during this phase of the work.

The presentations were followed by a question and answer period that was a very good exchange of information.

The SRI conducted a meeting on July 28, 1983, to discuss the scope of the inspection and findings for this period with some of those persons identified by an asterisk in paragraph 1.