

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-458/85-01

Construction Permit: CPPR-145

Docket: 50-458

Licensee: Gulf States Utilities
Post Office Box 2951
Beaumont, Texas 77704

Facility Name: River Bend Station, Unit 1

Inspection At: River Bend Site, St. Francisville, Louisiana

Inspection Conducted: January 7-11, 1985

Inspectors: W. M. McNeill 2-14-85
W. M. McNeill, Reactor Inspector, Project
Section A, Reactor Project Branch 1 Date

D. L. Garrison 2-13-85
D. L. Garrison, Reactor Inspector, Project
Section A, Reactor Project Branch 1 Date

C. E. Johnson 2-12-85
C. E. Johnson, Reactor Inspector, Project
Section A, Reactor Project Branch 1 Date

Approved: J. P. Jaudon 2/15/85
J. P. Jaudon, Chief, Project Section A,
Reactor Project Branch 1 Date

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Inspection Summary

Inspection Conducted January 7-11, 1985 (Report 50-458/85-01)

Areas Inspected: This was the second Region IV followup on the Construction Appraisal Team (CAT) Report 50-458/84-23. The inspection involved 108 inspector-hours onsite by three NRC inspectors.

Results: Within the scope of this inspection, one new violation was identified beyond those identified in the CAT report. In regard to the CAT report, one of the Potential Enforcement Actions (PEAs) has been identified in part, as a violation. As a result of review of the other comments in the CAT report, one unresolved item was identified.

DETAILS

1. Persons Contacted

Gulf States Utilities (GSU)

- *W. J. Cahill, Senior Vice President
- *E. F. Christnot, QA Engineer
- *T. C. Crouse, QA Manager
- *P. J. Dautel, Licensing Staff Assistant
- *I. M. Malik, Supervisor, Quality Engineering
- *D. G. Seymour, Compliance Specialist
- R. B. Stafford, Director Quality Services
- *R. E. Turner, QA Engineer

Stone & Webster (S&W)

- R. Beaudet, Chief Inspection Supervisor
- J. Brantley, Document Coordinator
- D. Cowarts, Chief Inspection Supervisor
- V. Deavers, Inspection Supervisor
- E. Dulasta, Power Engineer
- J. Green, Inspection Supervisor
- *B. R. Hall, Assistant Superintendent of Field Quality Control
- J. Oglea, Inspector
- S. Slater, Inspection Supervisor
- D. Shellee, QC Engineer
- *R. L. Spence, Resident QC Manager
- *W. T. Tucker, Assistant to Superintendent
- T. Vears, Design Engineer
- R. Whitley, Assistant Superintendent of Field Quality Control
- N. Zink, Pipe Support Engineer

General Electric (GE)

- *T. E. Sigman

The NRC inspector also contacted other site personnel including administrative, clerical, operations, and inspection personnel.

- *Denotes those attending the exit interview conducted on January 11, 1985. The NRC senior resident inspector also attended this meeting.

2. Action on Previously Identified Inspection Findings

(Closed) Violation (458/8416-01) - Documents were not effectively controlled in certain instances in that the procedures are not fully

implemented. Computer reports were not updated daily at one station, housekeeping was not maintained at one station, and a matrix identifying documents assigned to a station was not established for one station.

In response to the above violation, the GSU and S&W updated the computer reports, corrected the housekeeping problems, and established the distribution requirements for the stations in question. This corrective action was verified by the CAT inspection of document control with no further problems identified. Preventative action was to take personnel action and performance of surveillance of all document control stations. This surveillance of document control was verified by review of reports of such for the last quarter of 1984. Both S&W field quality control (FQC) and the document control group were found to be performing surveillance. This preventative action appeared adequate. This violation is considered closed.

(Closed) Open Item (458/8416-02) - The general document control procedure RB-CMP 11.1 was no longer applicable to the ASME document control system which was described elsewhere.

Procedure RB-CMP 11.1 has been revised to reflect that the ASME document control system is described in RB-CMP 8.9 and that RB-CMP 11.1 is not applicable to that system. This item is closed.

(Closed) Open Item (458/8416-03) - Corrective action and close-out of problems identified was not documented on "Activity Surveillance Reports."

Document control's surveillance reports were reviewed. It was noted that there were ten reports on file that had not been responded to, although more than 15 working days had elapsed. The procedure required a response within 15 days. Four of these reports had been issued to GSU. The reports were Nos. 1061 dated August 3, 1190 dated November 7, 1200 dated November 12, and 1252 dated December 11, 1984. Six additional reports were also found that had been issued to S&W organizations. Also, reports were found that were closed and yet more than 15 working days had been taken to respond. This failure to follow procedure is an apparent violation. (458/8501-02)

3. Construction Appraisal Team (CAT) Inspection Followup on Potential Enforcement Actions (PEAs)

This inspection was the NRC Region IV followup on PEAs identified during the CAT inspection on July 30-August 10 and August 20-31, 1984, at the River Bend Unit 1 site, which is documented in NRC Inspection Report 50-458/23. The scope of the inspection was to review and evaluate the PEA, and established such as violations, deviations, unresolved items or open items. In addition, the scope was to review and evaluate the corrective action, definition of scope, and preventative action taken as a

result of the individual PEAs. GSU responded to the PEAs in the CAT report with its analysis of the problems, corrective actions, and preventative actions.

PEA 5: Control of Nonconformances and Corrective Actions

Findings

This PEA is based on three elements, which are the following:

- The extent of a problem identified on non-ASME snubbers was not investigated sufficiently to learn that it applied to ASME snubbers.
- A new specification requirement was not clearly identified to be backfitted.
- Inadequate corrective action was being taken to preclude repetition.

Collectively, these findings indicated that there was a failure to assure that conditions adverse to quality have been promptly identified and corrected.

Snubbers

Licensee Response

The review and evaluation of Nonconformance and Disposition (N&D) reports 6992 and 6985 addressed the particular models of snubbers and each was treated as a separate problem. The PSA-10 model snubber had an interference problem with the end bracket (1001-15) and the PSA-100 model had an interference with the clamp (6202-120). N&Ds 7565, 7720, and 7977 subsequently have been issued on the PSA-10 model. As preventative action, the specification 228.312 and procedure CSI 8.1.1, "Procedure for Area Clearance Evaluation," were revised to address inspection of this characteristic interference of snubbers and end brackets and clamps. GSU issued 10 CFR 50.55(e) reports on the problems with both models (DR-238 and DR-243).

Inspection Findings

Seven different models of this manufacturer's snubbers have been used at this site for about 360 applications. A total of 121 model 10 and 15 model 100 snubbers have been purchased. The N&Ds addressed inspection of 66 model 10s and 10 model 100s and are dispositioned for repair all except about 8 snubbers which were accepted "as is". The difference between the purchased quantities and inspected quantities is a matter of application. Not all snubbers of a given model are matched with the same clamp and/or end bracket. The NRC inspector selected a sample of 12 snubbers of all

model types to inspect visually to verify the inspection and repair. The procedure CSI 8.1.1 was verified to address inspection of appropriate characteristics after installation and as-built verification. It was noted that the scope of this problem, applicability to other models, and combinations of hardware has not been addressed. Further investigation into the cause of these interferences appeared to be absent as well. S&W suggested that the model 10 problem was a design error and the model 100 problem was a manufacturing error; however, there is no evidence to support these conclusions.

Conclusions

The NRC inspector verified that the extent of an interference problem was not investigated sufficiently to define the scope of the problem. This scope of problem has been recognized by industry, in general, for sometime. NRC Circular 79-25 addressed a similar problem. The corrective and preventative actions implemented are satisfactory. This part of the PEA is a violation; however, it is closed, and no response is required. (458/8501-01)

Although the identification of the causes of the conditions which caused this problem has not been documented, there are two open 10 CFR 50.55(e) reports. The closeout of the 10 CFR 50.55(e) reports (DR-238 and DR-243) will identify the licensee's investigation of the causes of these problems. Review of this action will be documented routinely in an inspection report, and an open or unresolved item is therefore not required.

Backfit

Licensee Response

Engineering and Design Coordination Report (E&DCR) C-12,157 was intended to be backfitted to installed hardware. A new E&DCR C-14,330 was issued to effect the back fit since E&DCR C-12,157 had been closed. Engineering has issued a memo which will be incorporated into the E&DCR procedure that details how back fit type changes will be handled. The scope of this problem has been investigated. A sample of 11 specifications and almost 500 changes were reviewed. Two additional E&DCRs were identified where back fit had not been accomplished. It appears that the problem was isolated to one organizational unit and its specification and its changes.

Inspection Findings

E&DCR C-14,330 has been closed. The two additional E&DCRs that exhibited the same problem have been addressed by N&Ds 5405, 5406, and 7659. Further review found no additional problems.

Conclusions

It was verified that new specification requirements were not clearly identified to be backfitted. The scope, corrective and preventative actions have been satisfactorily addressed. This part of this PEA is a violation; however, it is closed and no response is required. (458/8501-01)

Corrective Action

Licensee Response

S&W has concluded that the nonconformances referenced in the CAT report were not significant in nature. For example, the N&Ds issued on the low electrical resistance problem were duplicative in nature such as the same motor operator valve and the same problem but different dispositions. The second N&Ds were issued only the change the dispositions. Clearance problems are to be reinspected as part of the program for area clearance evaluation as documented in procedure CSI 8.1.1. This inspection is independent of installation and "as-built" inspections. The specification has been changed to reflect this field-run and walkdown philosophy of construction and inspection. N&D 5482 did have a misplaced decimal point. Other N&Ds, like N&D 5482 issued by the same personnel, have been reviewed for similar errors with no further problems. N&Ds on incorrect schedule of pipe were the result, in part, to changes to the specification requirements, flip-floping from one schedule and back. In addition, as drain lines were involved, it was noted that dead legs are by natural crud traps.

Inspection Findings

The N&Ds for the past 5 weeks which covered about 300 N&Ds were reviewed. The nonconformances, such as those referenced in the CAT report, were not found at a very frequent level such as more than four or five. The N&Ds were also reviewed to establish if there was a current pattern of highly repetitive nonconformances. The only thing found was a generalized pattern on control of welding which represented about 10% of the N&Ds and some on the subject of separation about 3%. Separation, as noted earlier, is being addressed as part of a new program CSI 8.1.1. In regard to welding, these nonconformances were found to be addressed for the most part in the "Quality Concerns" program. When the level of N&Ds was compared to the FQC Monthly Report, the rate of rejection was found to be about 5%.

Conclusions

It was not verified that inadequate corrective action was being taken to preclude repetition. This part of the PEA is not a violation.

4. CAT Inspection Followup on Other Observations

This inspection was the NRC Region IV followup on other observations sometimes identified as irregularities, discrepancies, deficiencies, problems, etc., which are documented in the CAT report. The scope of inspection was to review and evaluate the other observations and any related actions taken by the licensee on his contractors.

a. B.F. Shaw Welds (page IV-5)

The CAT team found deficiencies with three B.F. Shaw welds FW1 on 1-2-009, W3 on 1-RHS-15-2-043, and W1 on 1-CSL-1-2-003.

N&D 7079 has been issued on FW1 of 1-2-009 and the lack of fusion indication has been repaired. This film was reviewed by the NRC inspector. N&D 7219 has been issued on W3 of 1-RHS-15-2-043; however, a linear defect was found in the weld build-up repair and the N&D is open. This is an open item. (458/8501-5).

W1 of 1-CSL-1-2-003 was reradiographed and found acceptable. The NRC reviewed this film. In addition, ten more welds were reradiographed by S&W where like this weld reradiographs by B.F. Shaw without a repair were found to be acceptable. These films were reviewed by the NRC inspector. One difference in interpretation was identified. View 8/12 of W6 on 1-ICS-12-2-018 appeared to the NRC inspector to have a transverse crack type of indication and appeared to S&W to have a slag type of indication. Triangulation radiographs made during this inspection appeared to confirm the NRC inspector's interpretation in that the indication disappeared in one-angle views. This is an unresolved item. S&W will forward one set of film to its Level III and the NRC inspector will forward one set of film to a consultant for interpretation and resolution of disposition for acceptability. (458/8501-3)

b. Carrier Weld (page IV-12)

The CAT inspection identified a questionable indication on film 917A of the Spent Fuel Chiller supplied by Carrier Corporation.

N&Ds 7226, 8149, and 10017 have issued on the repair and reradiography of this weld. The NRC inspector reviewed this film. This item is closed.

c. Omission of Evaluation Details (page III-2)

The inspection plan for as-built verification of erection of piping required pipe support locations to be verified to the drawings. For Isometric 1-RHS-091-CDB, the elevations for two pipe supports were

not identified on the drawings. The elevation data is required to reconcile any design to as-built requirements.

The NRC inspector examined the documents concerning this item and found that the required elevation data for supports 1-BZ-71TV and 1BZ-71TW had been noted on the control drawing for incorporation into Revision 3 of Isometric 1-RHS-091-CSB.

The CAT inspector had noted that this omission represented a minor error during the as-built FQC inspection; the followup inspection concludes the same, as this was apparently an isolated instance, which is now being corrected.

d. Pipe Bend Data (page III-2)

The inspection instruction required 5D pipe bends to be identified. It was observed by the CAT inspector on Isometric 1-RHS-087-CDS that the installed pipe with a 5D bend was not noted or identified as such.

The NRC inspector reinspected the piping configuration at the AN and 3 line on elevation 85', and observed that the 5D bend has been accepted as-built on September 9, 1984 (Line 1-RHS-004-87-2 to drawing 1-RHS-087-A). S&W Inspection Report P4300762 was issued which identified this as unsatisfactory and noted that the radius had not been specified on this drawing for the bend. When an unsatisfactory inspection report is written, it is sent to the construction checklist completion group for disposition then rework. Being that the drawing was deficient, a revision was required.

It was verified by the NRC inspector that an E&DCR had been issued to effect this change. This item is closed.

e. Incorrect Marking (page 111-2 and 3)

Procedures require that components of piping systems be verified to material lists for type, size, and marking. The CAT inspector observed that the pipe spool shown on Isometric 1-RHS-041-B as piece 1-RHS-041-2-231 was actually marked as 1-RHS-041-2-251; further research indicated that the pipe had been mismarked.

The NRC inspector reinspected the piping in question and ascertained that the pipe had been correctly marked.

No other visual deficiencies were noted or action required.

f. Piping Verification to As-Built Drawings (page III-3)

The CAT inspector noted in certain cases the reconciliation of some as-built designs would be or could be performed to earlier revisions of the drawings. In these cases, however, the reconciliation would have to be performed again and to the correct revision of the drawing. This condition exists when the designer backfits something in a completed system.

The NRC inspector reviewed the process and procedures and found that, although this condition can exist, it will be picked up by engineering and QC during the review as performed in accordance with the ASME program requirements. These requirements have been more clearly written and are explained in Revision B to Quality Control Instruction FRI-ASME-3-02B, "As-Built Verification and Code Certification."

This item appears to be satisfactory and no other problems were noted.

g. Hanger Axial Clearance From Welds (page III-3)

Site specifications require that minimum axial clearances from hangers to welds subject to inservice inspection be maintained. The CAT inspector noted that these clearances were not maintained for two hangers shown on Isometric Drawing Nos. 1-RHS-035-CDS and 1-RHS-036-CDA.

The NRC inspector reexamined the system and associated documentation with the following observations:

- This item was previously addressed by the licensee on Engineering and Design Report C-134-32-A, C-14,095, and Nonconformance Report 6010.
- Nonconformance Report 7017 was initiated to cover this item with the disposition to accept as-is based on the fact that the clamps can be easily removed for inspection of the pipe; also, this criteria is to be added to the specification (228.160) Engineering and Design Report C14095 clearance criteria were verified as being incorporated in the specification. Nonconformance 7017 disposition criteria is referenced in the specification. Additionally, Inspection Report P4660334 documents the balance of systems hangers that will require consideration for inservice inspection requirements on welds near them.

Being that the welds with hanger devices too close and exceeding the specification requirement are documented, and the clamps are removable, inservice inspection requirements can be performed satisfactorily. This item is satisfactory.

ii. Dimensional Discrepancy on 1½" line (page III-3)

The CAT inspector noted that the inspection plan for field fabrication/erection of small bore piping requires inspection to drawing tolerances. It was found that a vertical run of 1½" line shown on Isometric 1-CCP-076-CDS, Revision 3, starting at elevation 76'3" which was indicated to be 3'10" was actually 2'11".

The NRC inspector reexamined the drawings and hardware and noted that Revision 2 to the isometric indicated correct dimensions. How or why the dimensions were changed (drawing error) on Revision 3 could not be exactly determined. However, an unsatisfactory inspection report (P470009) and nonconformance (10084) were generated to document this item. The control drawings have been revised and noted as to the changing to the correct dimensions.

This item is considered to be an isolated transposition error.

i. Documenting Dimensional Deviations (page III-7)

The CAT inspector indicated a concern in the as-built inspection program in that quality control inspectors were documenting (out-of-construction tolerances) on red-lined isometric drawings. The concern was that this method bypassed reviews by quality assurance in the area of nonconformance trends and generic problems.

The NRC inspector reviewed this phase of as-building and concluded that, although QA review at this point could identify deficient item; dimensional deviations are also written up as nonconformances if inspection to the final as-built drawing indicates any out-of-tolerance condition. This is in accordance with specification 228.312, Revision 3. This item appears to be satisfactory.

j. Damaged Pipe Nipple (page III-8)

The CAT inspector observed that a 3/4" ASME class/pipe nipple had been bent out of position at elevation 101', azimuth 10° in the containment in order to accommodate a fit-up of piping through a hanger. It was also noted that a nonconformance was generated to document this item.

The NRC inspector examined the repairs to this line (cut out and replace) and verified the disposition of Nonconformance 7187, which recommended cut-out and replacement. An as-built accept tag for the repair of line 1WCS-222-D partial dated September 22, 1984, was affixed to the line.

No other discrepancies were visually noted in the area.

k. Document Packages (page III-8)

It was found by the CAT inspector in three instances that Conditional Construction Revision Notices were used to approve or rework hardware that had not been installed to the drawing requirements (drawings BZ-31QE, 72AA and 71K). The documentation examined was satisfactory except for these items. This review was after the packages had gone through the final fabrication and installation control review but had not had the final FQC document verification.

The NRC inspector reviewed procedures, drawings, inspection reports and nonconformance reports concerning this program and concluded that the three work items were completed outside of procedure guidelines. The licensee contractor quality supervisor assured the NRC inspector that this practice, although minimal in the past, was stopped and that these items are now reported on nonconformances or unsatisfactory inspection reports.

Inspection Report P4660314 documents further investigation into the matter whereby 25 packages were reviewed and all were found to be satisfactory.

l. Crack on East Wall at Shake Space Adjoining Shield Wall (page V-2/3)

During the CAT inspection, a crack in the east wall at approximately elevation +80 of the Fuel Handling Building at the shake (rattle) space adjoining the reactor shield wall was identified. It was apparently caused by grout in the 3" rattle space restricting differential expansion.

There were three N&D s and nine inspection reports generated. The licensee performed a 100% reinspection of all rattle spaces between the reactor shield wall and at various locations at the Fuel Handling and Auxiliary Buildings. All compressible material was removed from the rattle spaces.

The licensee revised the Concrete Finish Inspection Plan to include additional inspection attributes to ensure the removal of compressible materials and cracks on final finish concrete. During

this reinspection, the licensee also noted that the 3" shake space criteria was violated at several locations.

Areas less than the 3" criteria was evaluated by S&W engineering on a case-by-case basis. Review of this analysis by the NRC inspector indicated that these areas were determined by S&W as acceptable.

Observations by the NRC inspector of these areas were not possible because the shake space was covered with fire protection material (1" Dymeric and 3½" of Curablanket).

Corrective action appeared to be adequately addressed.

This item is considered closed.

m. Crack on Soffit of Doorway Caused by Concrete Anchors (page V-2)

During the CAT inspection, a crack was identified in the soffit of the doorway leading to the control rod drive (CRD) work area at elevation 95'-9" of the Auxiliary Building. This crack was apparently caused by the installation of an expansion type concrete anchor bolt with insufficient edge distance.

Review of this item by the NRC inspector indicated that N&D No. 7169 was issued. The licensee's corrective action was to chip-out the defective area and repair per approved specification. Visual examination by the NRC inspector indicated that the rework had been completed.

The NRC inspector toured the Auxiliary, Control and Fuel Buildings for similar situations. Only one other similar situation was identified. There were no discrepancies observed with it. This appears to be an isolated case and that it has no safety significance because it is a nonsafety system.

This item is considered closed.

n. Cadwelders Were not Requalified (page V-3)

The CAT inspectors reviewed the qualification, requalification, production visual inspection, and tension testing records of a sample of approximately 162 cadwelders. As a result of the review and inspection, two cases were identified where the cadwelder had not been requalified at the time of his welding.

A GSU representative informed the NRC inspector that a 100% review of all cadwelders was done. During this review, one additional cadwelder was identified as not having been requalified.

The NRC inspector randomly selected two records of cadwelder's qualifications. Review of these records indicated that these welders were qualified in all positions indicated in their records. No discrepancies were noted. The NRC inspector concluded that, even though the cadwelders were not qualified for the few cadwelds made, there existed no hardware problem because of the FQC inspection program where FQC inspects all cadwelds made.

This item is considered closed.

- o. Shim Plate for RHR Support Does not Have Full Contact Surface With Column Base Plate (page V-4)

The CAT inspectors identified a shimplate for the beam to column connection for the RHR heat exchanger supports as undersized, thus leaving a $\frac{1}{4}$ " gap over 30% of the design contact area.

S&W engineering performed an analysis of this shimplate. Calculation 566.296D indicates that the condition is acceptable. These calculations were provided to NRC Independent Design Inspection group.

The NRC inspector reviewed N&D 7211. This N&D was written because of the undersized shimplate. Its disposition was accepted as-is based on calculation 566.296D.

The NRC inspector visually examined the shims and also many others to determine if this was generic. Apparently, this was an isolated case because no other similar conditions were noted.

Based on the visual examinations and the calculation review by IDI, this condition poses no safety-significance.

This item is considered closed.

- p. Metal File Inserted Between Top Plate of Column and Bottom Flange of the Girder (page V-4)

During the NRC CAT inspection of a beam to column shimplate, the CAT inspectors noted a file wedged between the two connection plates.

S&W personnel advised the CAT inspectors that the craft personnel had stuck the file in the gap between the two connection plates and that an unsatisfactory condition did not exist. S&W also informed the NRC inspector that the file had been removed.

The NRC inspector visually examined the girder and column shim plate connection in question. The file had been removed and no visual

defects were observed. The NRC inspector also visually inspected other similar connections. It appears that this was an isolated case.

This item is considered closed.

q. Column not Located in Center of Plate as Shown on Design Drawings; and Anchor Bolt 'Nut' Loose (page V-4)

During the CAT inspection of structural steel members for conformance with design drawings for configuration and location, column P4 in the RHR heat exchanger area was identified to be not located in the center of the base plate as shown on the design drawings. The anchor bolt for this column was also loose.

The licensee generated N&D 7214, however, the N&D was voided after investigation of the problem. Investigation by the licensee indicated that this Type 3, EP-12 plate is allowed a ± 2 " tolerance as specified on Drawing EC-3H. S&W engineers also corrected the drafting error on Drawing ES-66V to include the ± 2 " tolerance.

The NRC inspectors' review indicated that the general notes drawing reference a ± 2 " tolerance for embedded plates. Physical measurements indicated that the plate was located within the tolerance and the column P4 was also located as per design drawings. The loose nut on the anchor bolt had also been corrected during a reinspection by FQC.

There is no safety-significance to this issue.

This item is considered closed.

5. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations, or deviations. The following unresolved items are discussed in this report:

<u>Paragraph</u>	<u>Number</u>	<u>Subject</u>
4	8501-03	Radiography defect

6. Exit Interview

An exit interview was conducted on January 11, 1985, with those personnel denoted in paragraph 1 of this report. At this exit interview, the NRC inspector summarized the scope and findings of this inspection.