

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-458/84-26

Permit: CPPR-145

Docket: 50-458

Category: 42

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

Facility Name: River Bend Station (RBS)

Inspection At: River Bend Station, St. Francisville, LA

Inspection Conducted: August 1 through September 15, 1984

Inspector:

R. E. Farrell for
D. D. Chamberlain, Senior Resident Inspector

9-21-84
Date

Approved:

J. P. Jaudon
J. P. Jaudon, Chief, Project Section A,
Reactor Project Branch 1

10/1/84
Date

Inspection Summary

Inspection Conducted August 1 through September 15, 1984 (Report 50-458/84-26)

Areas Inspected: Review of licensee action on previous inspection findings, site tours, status of diesel generator testing, evaluation of preoperational test results, and witness of preoperational testing. The inspection involved 151 inspector-hours onsite by one NRC inspector.

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

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DETAILS

1. Persons Contacted

Principal Licensee Employees

C. L. Ballard, Supervisor, Quality Engineering
D. Banks, Joint Test Group (JTG) Records and Procedures Supervisor
T. C. Crouse, Manager, Quality Assurance (QA)
*P. J. Dautel, Licensing Staff Assistant
*J. C. Deddens, Vice President, River Bend
L. A. England, Supervisor, Nuclear Licensing
P. E. Freehill, Superintendent, Startup and Test
R. Fruge, Engineer, Startup and Test
*P. F. Gillespie, Compliance Specialist
*C. B. Graham, Supervisor, Startup and Test
*P. D. Graham, Assistant Plant Manager, Services
*T. O. Gray, Director, Operations QA
J. R. Hamilton, Supervisor, Site Engineering Group
*L. P. Handy, QA Engineer, Quality Systems
K. C. Hodges, Supervisor, Quality Systems
*I. M. Malik, Senior QA Engineer, Operations
*T. F. Plunkett, Plant Manager
S. Sawa, Engineer, Startup and Test
*D. G. Seymour, Compliance Specialist
*R. B. Stafford, Director, Quality Services
B. Sutor, Engineer, Startup and Test

Stone and Webster (S&W)

*F. W. Finger, III, Project Manager, Preliminary Test Organization (PTO)
*B. R. Hall, Assistant Superintendent, Field Quality Control (FQC)
*R. L. Spence, Superintendent, FQC

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

*Denotes those persons that attended the exit interview.

2. Licensee Action on Previous Inspection Findings

- a. (Closed) Violation (458/8408-02): Completed review forms from all reviewers of licensing documents were not being maintained as required by procedure RBPP-8.1.

An interim change notice to procedure RBPP-8.1 was issued on April 26, 1984, to clarify the requirements for reviewer return of review forms. The review forms are intended to document actual comments received and to document that the opportunity for review was provided. Therefore, review forms not received by nuclear licensing on or before the due date will now indicate a "no comment" status. This item is closed.

- b. (Closed) Violation (458/8408-03): Failure to provide specific instructions for the protection and care of dismantled Category I equipment. Category I valve 1E12*LVF065B removed for a preliminary test organization flush had not been inspected and cared for as required.

Immediate corrective action was taken to restore the valve parts to the level of cleanliness required by project specifications. Designated storage areas for equipment and components dismantled under the rework control program have been established. Field quality control (FQC) has established an inspection plan for routine monitoring of the storage areas and equipment. Procedures CSI 1.0.13, "Rework Control Program," and PTPD 5.2, "Work Control During the Preliminary Testing Phase," were revised to provide the necessary controls for maintaining a level of storage and cleanliness required for dismantled equipment. An evaluation of open rework items was conducted and no problems were noted. The SRI reviewed the revised rework program and selected rework items and no deficiencies were noted. This item is closed.

- c. (Open) Open Item (458/8410-03): Plant staff backfit effort to assure that required actions are being implemented for individual IE Bulletin reviews.

The SRI interviewed the compliance coordinator regarding tracking and backfit effort for plant staff action on IE Bulletin information. Plant staff will implement a computer tracking system and all past bulletins/bulletin responses will be reviewed for adequacy of plant staff action and, if past responses/reviews are not adequate, the bulletins will be reissued for plant staff review and action. A file for each bulletin will be maintained by the compliance coordinator to document disposition. Plant staff management present in the NRC exit meeting concurred with the above plans. This item will remain open for SRI review of sample plant staff bulletin files and disposition documentation.

- d. (Open) Open Item (458/8322-02): Further review of GSU audit planning and scheduling activities.

The SRI reviewed a draft audit matrix being prepared by the quality system group and the matrix was apparently addressing major activities. The SRI is interested in some assurance that GSU will audit all elements of the QA program for operational phase activities and it does not appear that the present draft audit matrix provides the necessary detail. This item will remain open for further review during a future NRC inspection.

3. Site Tour

The SRI toured areas of the site during the inspection period to gain knowledge of the plant and to observe general job practices. The SRI observed rework performed on a standby liquid control system pump and reviewed the rework control form and inspection checklist. The rework appeared to be well controlled, and the work area was clean and orderly. The SRI also observed the installation and connection of control rod position switches during this inspection period.

No violations or deviations were identified in this area of inspection.

4. Status of Diesel Generator Testing

During this inspection period, GSU completed the prerun inspections and reassembly of the "A" Transamerica Delavel diesel engine. Preparations for the initial run was completed on August 18, 1984. The SRI witnessed several attempted runs and the initial 15-minute run at 200-250 RPM was completed around 4 p.m. on August 19, 1984. The required internal inspections were then completed in preparation for setting of the overspeed trips. The setting of the overspeed trips was completed around 9 p.m. and the engine was shutdown for a repeat of the internal inspections. The diesel was restarted on August 20, 1984, and was synchronized to the electrical grid at about 5 a.m. The electrical load on the generator was increased with break-in runs accomplished at 25% (1 hour), 50% (1 hour), 75% (2 hours), and 100% (4 hours) of rated load. The break-in run at 100% of rated load for 4 hours was completed on September 1, 1984, at about 3 a.m.

Various problems and delays were encountered during this initial run of the "A" diesel. Some of the problems identified were:

- a. Internal linkage on Woodward governor improperly connected (governor would not take control of speed).
- b. Pneumatic trip bypass/reset timing found to be incorrect due to improper match of tubing/orifice sizing (temporary additional administrative controls over certain diesel trips were established for the initial run).

- c. Excessive vibration of cooling water piping.
- d. Engine lube oil filter valves found to be misaligned (caused low lube oil pressure on initial starts).
- e. Component failure occurred in the generator voltage regulator (caused lack of stable load control).
- f. Apparent problem with Woodward governor mechanical drive (causes slight actuator jiggle during mechanical speed control but has no effect during electrical load control).
- g. Excessive vibration of engine exhaust piping expansion bellows (caused rupture and leakage of the expansion bellows).
- h. Plugged instrument line to jacket water pressure sensor (caused turbine trip on low jacket water pressure).
- i. Electrical watt and var transducers not properly matched with potential transformer (caused electrical load indication lower than the actual load).

The scheduled 24-hour run of the diesel is presently delayed because of the engine exhaust piping expansion bellows vibration. The expansion bellows vendor representative (Temp Flex) was on site September 12, 1984, to make recommendations regarding operability of the bellows application. Initial indication is that the dual expansion bellows procured by TDI from Temp Flex is a misapplication of the present design and it will be replaced with a modified design.

The TDI diesel engine internal inspections performed during the break-in run period has revealed no problems with the engine internals. The diesel testing performed to date has been well controlled and the personnel involved were well informed and knowledgeable. The SRI will monitor the diesel testing program and report on status during future NRC inspections.

No violations or deviations were identified in this area of inspection.

5. Evaluation of Preoperational Test Results

The SRI conducted an evaluation of the preoperational test (PT) results for test 1-PT-305-2, "125V DC Standby Battery System," and 1-PT-305-5, "BYS 1C Battery and Charger System." The elements reviewed included:

- a. Comparison of generic test requirements with generic test data.
- b. Evaluation of acceptance criteria conformance.
- c. Disposition of test exceptions.

- d. Verification that open test exceptions were being tracked on the master punch list.
- e. Verification of reference document revisions.

During this evaluation, it was noted that certain generic test data required as a prerequisite for one system was being maintained in different system files. This subject was discussed in JTG meeting 178 on September 6, 1984, and the following JTG direction was provided, "The JTG directed that when a test engineer must verify the satisfactory completion of a generic test, on equipment which is not within the boundaries of his system, as a prerequisite to performing his AT/PT: he shall obtain an information copy of the completed test(s) from the responsible test engineer's file and insert the information copy in his file." This should provide for prompt verification of generic test data records during future record reviews without having to refer to more than one system file.

No violations or deviations were identified in this area of inspection.

6. Witness of Preoperational Testing

The SRI witnessed the low pressure core spray (LPCS) system vessel injection test performed on September 4, 1984. The test witness revealed a good symmetrical spray pattern over the reactor core area. The system rated flow of approximately 5010 gallons per minute (GPM) was obtained without full opening of the LPCS injection valve. When the LPCS injection valve was fully opened, the run out flow of approximately 6375 GPM exceeded the General Electric Company (GE) test specification limit. Article B12.2.1.5 of the GE test specification 22A5296AG limits the maximum runout flow of the LPCS pump to the lesser of several limits. The actual runout flow exceeds the most restrictive limit which is the vendor's maximum runout flow of 6220 GPM as shown on Byron-Jackson performance curve #T-36632-3. This would require resizing of the LPCS system discharge flow orifice or GE approval for the higher flow rate.

A GE field deviation disposition request (FDDR #LDI-373) was issued on September 7, 1984, requesting acceptance to operate the LPCS pump up to 6400 GPM. Advance telecon approval of the FDDR was received on September 7, 1984. This approval allows the use of the discharge orifice presently installed.

No violations or deviations were identified in this area of inspection.

7. Exit Interview

An exit interview was conducted September 13, 1984, with licensee representatives (identified in paragraph 1). During this interview, the SRI reviewed the scope and discussed the inspection findings.