APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-458/85-43 CP: CPPR-145

Docket: 50-458

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

Facility Name: River Bend Station (RBS)

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

Inspection Conducted: May 1 through June 15, 1985

Inspector: for D. D. Chamberlain, Senior Resident Inspector (pars. 1, 2, 3, 4, 5, 6, 7, 11) — 8/1/85 Date

for J. R. Boardman, Reactor Inspector, Operations Section, Reactor Project Branch (par. 8) — 8/1/85 Date

J. P. Jaudon, Chief, Project Section A, Reactor Project Branch — 8/1/85 Date

Approved: J. P. Jaudon, Chief, Project Section A, Reactor Projects Branch — 8/1/85 Date

Inspection Summary

Inspection Conducted May 1 through June 15, 1985 (Report 50-458/85-43)

Areas Inspected: Routine, unannounced inspection of licensee action on previous inspection findings, site tours, reactor protection system preoperational test witness, reactor pressure vessel leakage test witness, control rod drive system full core scram test witness, reactor coolant system hydrostatic test results evaluation, construction quality assurance (QA) program review, Inspection and Enforcement (IE) Bulletin followup, and allegation followup. The inspection involved 147 inspector-hours onsite by three NRC inspectors.

Results: Within the areas inspected, one violation was issued in the area of construction QA program review (failure to obtain NRC approval of a QA program change, paragraph 8).

DETAILS

1. Persons Contacted

Principal Licensee Employees

K. Arnstedt, Quality Assurance (QA) Engineer
*W. H. Cahill, Jr., Senior Vice President, River Bend Nuclear Group
*T. F. Crouse, QA Manager
J. Davis, QA Engineer
*P. J. Dautel, Licensing Staff Assistant
*J. C. Deddens, Vice President, River Bend Nuclear Group
D. R. Derbonne, Supervisor, Startup and Test
S. Finnegan, Control Operating Foreman
*P. E. Freehill, Superintendent, Startup and Test
*D. R. Gipson, Assistant Plant Manager, Operations
P. D. Graham, Assistant Plant Manager, Services
R. W. Helmick, Director, Projects
K. C. Hodges, Supervisor, Quality Systems
D. Jernigan, Engineer, Startup and Test
*G. R. Kimmell, Supervisor, Operations QA
*G. V. King, Supervisor, Plant Services
J. L. Pawlik, Engineer, Startup and Test
*T. L. Plunkett, Plant Manager
*S. R. Radebaugh, Assistant Superintendent, Startup & Test
*S. F. Sawa, Control Superintendent, Startup & Test
*J. E. Spivey, QA Engineer
R. B. Stafford, Director, Quality Services
K. E. Suhrke, Manager Project Planning & Coordination
L. Sutton, QA Engineer
*P. F. Tomlinson, Director, Operations QA
*A. Valenzuela, Startup and Test
*J. Venable, Mechanical Maintenance Supervisor
D. White, Engineer, Startup and Test

Stone and Webster

D. P. Barry, Superintendent of Engineering
W. I. Clifford, Senior Construction Manager
F. W. Finger, III, Project Manager, Preliminary Test Organization (PTO)
M. Fischete, Engineer, Startup and Test
*P. H. Griffin, Site Advisory Manager
B. R. Hall, Assistant Superintendent, Field Quality Control (FQC)
Q. E. Harper, Hydro Test Engineer
D. Hill, Maintenance Engineer
R. L. Spence, Superintendent, FQC

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

*Denotes those persons that attended the exit interview conducted on June 21, 1985.

2. Licensee Action on Previous Inspection Findings

a. (Open) Open Item (458/8408-01): Review to determine if and how the diesel generator loading restrictions of calculation 12210-E-122 are implemented in plant operating procedures.

The SRI obtained a copy of calculation 12210-E-122, Revision 4, "Standby Diesel generator Loading Calc.," dated March 1, 1984. This revision of the calculation is based on a 3500 KW loading limit on the diesel and does not reflect the latest load restriction of 3130 KW. However, a GSU letter RBG - 20,086 dated February 6, 1985, contains revisions to the FSAR "to establish a qualified load for each of the diesel generators." These revisions include, for diesel 1EGS*EG1A loading, a requirement that "LPCS or RHR A pump shall be manually tripped after 2.0 hr of LOCA, depending upon the available diesel generator sets" and for diesel 1EGS*EG1B loading, a requirement that "RHR C is stripped manually by the operator after 2.0 hr of operation after LOCA, depending upon the combination of the available diesel generator sets."

Abnormal Operating Procedure AOP - 0004, Revision 1, "Loss of Offsite Power," dated April 10, 1985, appears to address the latest loading restrictions (3130 KW) for the diesels, but the stated action for manual tripping of an RHR or LPCS pump in Section 5.8 needs some clarification. For example, it is not clear under what conditions that RHR A pump is tripped instead of the LPCS pump. This item will remain open pending issue of an approved calculation reflecting qualified diesel loading and pending the required clarifications in procedure Section 5.8.

b. (Open) Unresolved Item (458-8408-04): Review of licensee program for tracking of commitments to the NRC.

GSU has developed and implemented a commitment tracking program at River Bend. Project Procedure No. 8.2, "Identifying and Tracking Project Commitments," was issued on August 9, 1984, to "provide guidelines for River Bend Nuclear Group (RBNG) organizations for identifying, documenting, tracking, and closing commitments made to regulatory agencies." Nuclear licensing is responsible for the tracking system with QA responsible for verification of completion of commitments on a sampling basis. GSU uses the "TRAC" computer program and they have identified approximately 2,152 commitments to date. The present status of the 1,191 open commitments is 717 high priority commitments required for fuel load and 156 required after fuel load, and there are 280 low priority commitments required for fuel load and 38 required after fuel load.

This item will remain open for the SRI to evaluate the GSU method of identifying commitments that require closure prior to fuel load and for identifying those that can be completed after fuel load.

c. (Closed) Open Item (458/8434-01): Implementation of preoperational test commitments by the control rod drive (CRD) hydraulic preoperational test procedure (1-PT-052).

The specific items of concern were implementation of the following Final safety Analysis Report (FSAR), Chapter 14, test commitments:

"1.e. To verify the failure mode of the CRD system on loss of power."

"3.j. The CRD pumps are tripped and the time for accumulator inoperable alarms to occur is recorded as baseline data."

"4.f. All scram valves open on a loss of instrument air to the CRD system."

The above items were addressed in the following manner:

1.e. The failure mode of the CRD system was tested by verifying the scram function on a loss of power to the scram pilot solenoids.

3.j. A minor change request (MCR 09) was issued to require recording of the times for all hydraulic control units which exhibited low accumulator pressure alarms within 10 minutes after tripping of the CRD pump.

4.f. An acceptance criteria step 10.9 was added by a major change request (MRC 06) to reference the backup scram valve test which demonstrates that the scram valves open on a loss of instrument air.

This item is closed.

d. (Closed) Violation (458/8507-01): Procedures were not implemented to maintain Class B cleanliness requirements in the spent fuel storage area where the new fuel was to be stored in accordance with the Special Nuclear Material License issued on January 15, 1985.

GSU took immediate action to issue an unsatisfactory inspection report and fuel receipt was delayed 1 day to allow removal and inspection of the spent fuel racks and clean up of the spent fuel pool floor. Following the cleaning, the spent fuel racks were reassembled in the pool and fuel receipt progressed as scheduled. Also, to prevent recurrence of this type of item, housekeeping and cleanliness procedures shall be implemented as a prerequisite to the governing procedures.

This item is closed.

e. (Closed) Deviation (458/8507-02): Preoperational test procedures are not being provided for NRC review 60 days prior to the scheduled test performance in all cases.

Only four preoperational test procedures remained to be submitted for NRC review at the time of this deviation. The four remaining procedures were expedited and all have now been submitted.

This item is closed.

f. (Closed) Open Item (458/8522-07): GSU has installed motor operated valve (MOV) circuit breaker trips that can be reset either manually or automatically. GSU has not established control to verify that all such resets are in the manual mode.

Motor control center starters for MOVs at River Bend have both thermal overload trip and magnetic trip devices. The magnetic trip devices trip the manual circuit breaker to remove the overload condition. The magnetic trip device then resets automatically, but the circuit breaker must be manually reclosed to provide power to the starter. The thermal overload trip device opens the circuit to the motor starter to remove the overload condition. The thermal overload device has a hand/automatic option on reset. GSU has chosen to place all of the thermal overload devices in the hand reset position. Temporary Change Notice No. 85-131 has been issued to revise Procedure No. CMP-1026, "Corrective Maintenance of MCC Starters," to include a step for verifying that hand automatic reset selectors are in the hand position for thermal overload trip devices. GSU operations was notified of this condition per memorandum APM-M-85-94 dated June 13, 1985. It was also noted during the review of this item that certain loss of coolant accident initiated MOVs would have not thermal overload trip devices installed.

This item is closed.

g. (Closed)) Open Item (458/8522-12): A system had not been provided for assuring that each piece of measuring and test equipment (M&TE) is calibrated and adjusted on or before the date required.

Procedure ADM-0029, Revision 4, "Control of Measuring and Test Equipment (M&TE)," has been revised via temporary Change Notice 85-733 to clarify the system used and the responsibilities for the recall of M&TE for calibration. Also, in addition to the recall requirements, the M&TE issue facility must verify that the M&TE calibration due date is current prior to issue of the M&TE and users of M&TE are required to verify that the calibration of M&TE is current prior to use. All of these requirements are intended to preclude the use of any M&TE for which the calibration has expired.

This item is closed.

3. Site Tours

The SRI toured areas of the site during the inspection period to gain knowledge of the plant and to observe general job practices. The site tours conducted included special tours on separate occasions with Commissioner Bernthal and with a group from NRC Nuclear Reactor Regulation headed by Harold Denton. Both of these tours included the conduct of mock scenarios on the River Bend plant simulator.

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

4. Reactor Protection System Preoperational Test Witness

The SRI witnessed portions of the reactor protection system response time measurements testing conducted during this inspection period. The specific testing witnessed included reactor pressure sensor response timing, reactor vessel level sensor response timing and drywell pressure sensor response timing. Testing personnel experienced several problems with the set up of the response time test equipment which caused testing delays. They also experienced problems with interpreting the response time curves such that the proper ramp was generated for acceptance criteria purposes. The vendor for the test equipment was brought to the site and the test equipment problems were corrected. Also, a uniform method for interpreting the response time curves was formulated. The SRI conducted a preliminary review of several response time curves and it appeared that the response times were within acceptance criteria limits. The major testing remaining for the reactor protection system preoperational test at the end of this inspection period was the intermediate range monitor (IRM) and average power range monitor (APRM) response time measurement testing.

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

5. Reactor Pressure Vessel Leakage Test Witness

This special reactor pressure vessel (RPV) leakage test (1.MPRV.002) was performed in order to disposition a Nonconformance and Disposition (N&D) Report No. 11275. This N&D resulted when the review of the N-5 data reports on the reactor pressure vessel indicated that no hydrostatic test was performed subsequent to the installation of reactor internals or rework on nozzle safe ends. This included installation of items such as control rod drive (CRD) housings, incore housings, recirculation and feedwater safe end rework, jet pump penetration seals, etc. The reactor pressure vessel system hydro procedure (1-G-ME-15) and associated documentation did not identify the welds for these items as being within the scope of the RPV hydro test inspections. Therefore, during the RPV hydro conducted in May 1984, documentary evidence of the inspection of these welds was not obtained.

The SRI witnessed the RPV leakage testing and weld inspections performed on May 16, 1985. The leakage testing was performed at a design pressure of 1250 psig. Initially, trouble was experienced with obtaining the test pressure due to excessive leakage through the gaged safety relief valves. Test personnel obtained approval from the relief valve vendor which allowed the relief valve gags to be torqued to 30 foot pounds psig at a RPV pressure of 1000 psig. This was accomplished and they were then able to obtain the required test pressure. The test pressure was held for a minimum of 1 hour prior to the performance of the official inspections. The inspections were performed and no problems were identified.

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

6. <u>Control Rod Drive System Full Core Scram Test Witness</u>

During this inspection period, two back up scram valve full core reactor scram tests were performed to complete the control rod drive system preoperational testing. Also, a special full core reactor scram test was performed to evaluate the scram discharge volume level instrument response. The SRI witnessed the performance of the special scram test on May 29, 1985. This special scram test was performed in conjunction with reactor protection system response time testing and the scram was initiated by a reactor vessel low water signal.

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

7. <u>Reactor Coolant System Hydrostatic Test Results Evaluation</u>

The SRI conducted a review of the completed test results for the RPV system hydrostatic test (Procedure 1-G-ME-15) and for the subsequent reactor pressure vessel leakage test (Procedure 1.MPRPV.002). The specific areas reviewed and findings noted included the following:

a. Changes to the test procedures were documented and implemented in accordance with the licensee's administrative controls.

b. The system boundary either included all piping and equipment protected by the safety relief valves or documentation was provided to show that separate hydros were performed on equipment or piping that could be isolated from the RPV.

c. The water quality met all requirements.

d. The licensee held the maximum test pressure (1.25 times the design pressure) for at least 10 minutes during the RPV system hydro test.

e. The hydrostatic test pressure did not exceed the maximum pressure allowed.

f. The reactor coolant temperature was maintained above the nil ductility transition temperature throughout the hydro and leak testing.

g. All identified test exceptions have been resolved, but a concern was identified with Test Exception TE-13 for Procedure 1-G-ME-15. This test exception addressed certain flexible hoses that were not installed at the time of the original hydro. There were 40 hoses identified on the test exception and they were apparently identified on system punch lists for installation and hydro at a later date. The SRI selected 4 flexible hoses (Nos. 114, 121, 122, and 140) for a review of the rework documentation to determine if the required hydros were performed. Of the four selected, documentation was obtained to verify that the flex hoses did receive a subsequent hydro test. However, it was noted that the flange connections on these flex hoses had been blanked during the hydro and only two of the four rework control forms required a subsequent operational leak test (OLT). This was discussed with test personnel and it was determined that the performance of OLTs, on a flange connection that is completed after a hydro, has been normal practice at River Bend. Further review revealed that three of the four hoses received an OLT during the RPV leakage test per a startup trouble ticket (STT). The fourth hose was not specifically mentioned on the STT, but it was identified on working drawings as being inspected. The SRI believes that no problem was created by failure to note an OLT requirement on the rework document and test personnel stated that the normal practice will continue for performance of OLTs.

h. The test results have been reviewed and approved by those personnel charged with the responsibility.

The SRI also reviewed selected vendor supplied pump and valve hydro records and no problems were noted.

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

8. Construction QA Program Review

A review of the licensee construction QA program revealed that on June 10, 1983, GSU forwarded for approval a revision of their construction QA program as required by 10 CFR 50.55(f)(2). Discussions with licensee personnel revealed that revised Section 17.1.2.4.A reducing the periodicity of GSU review of all controlled documents from 1 year to 2 years was made after March 11, 1983. Licensee personnel further stated that this change had been implemented, although it had never been approved by NRC.

Implementation of this change is in violation of 10 CFR Part 50.55(f)(3), which requires prior NRC approval of licensee QA program changes made after March 11, 1983, when such changes reduce commitments. (8543-01)

9. Inspection and Enforcement (IE) Bulletin Follow Up

The purpose of this inspection was to followup on licensee action taken in response to Inspection and Enforcement Bulletins (IEBs).

a. IEB 84-03

This bulletin concerned the consequences of a failure of the refueling cavity seal. The NRC inspector reviewed the following licensee correspondence to the NRC (Region IV).

Letter Serial	Date	Items Addressed
RBG-19487	11-29-83	.Cross Seal Failure .Maximum Leak Rate Because of Seal Failure .Make Up Water Capacity .Potential Effect on Stored Fuel and Fuel in Transfer .Other Consequences
RBG- 20042	02-01-84	.Emergency Operating Procedures
RBG- 20635	04-05-85	.Time to Cladding Damage Without Operator Action
RBG-21023	05-15-85	.Time to Cladding Damage Without Operator Action

These four letters address all of the points required by IEB 84-03. The design of the seal used at River Bend is a stainless steel bellows assembly welded to its support structure. The maximum credible leakage rate is within make up capacity. Total failure of the seal without operator action could result in a problem for fuel in transit between the reactor vessel and the containment fuel storage pool. This is addressed in licensee Procedure AOP-0032, which requires the fuel to be placed in either the vessel or storage racks. All other fuel would remain covered with water, and no vital equipment would be flooded by a complete draining caused by a bellows failure. The bellows is also protected from direct impact by a radiation shield and a guard ring.

IEB 84-03 is considered closed.

b. IEB 77-06

This bulletin concerned General Electric Series 100 containment electrical penetrations. River Bend does not use this type of electrical penetration. Therefore, there is no action required at River Bend for IEB 77-06.

IEB 77-06 is considered closed.

c. IEB 79-15

This IEB addressed deep draft pump deficiencies and the long term operability of these pumps.

The NRC inspector found that the licensee had addressed operability of pumps in the FSAR, and this was recognized in NUREG-0989, the safety evaluation report for River Bend. Additionally, the final draft technical specifications contained surveillance requirements for monthly demonstration of pump operability in accordance with the ASME code, Section XI and an 18-month system operability test. Since the question of deep draft pump operability is being addressed by the normal review process and implementation of the requirements to test is under the routine inspection program, no additional tracking of this IEB is warranted.

IEB 79-15 is closed for record purposes.

d. IEB 79-23

This IEB concerned the potential failure of emergency diesel generators. The failure could result if there was a large circulating current between the exciter transformer and the generator. Such a circuit could be set up by connection through a common ground. It was found that the design of all three emergency diesel generators at RBS was such that exciter transformers had a floating primary neutral. Subsequent testing of the emergency diesel generators did not disclose any problems of the type discussed in this IEB.

IEB 79-23 is considered closed.

e. IEB 79-27

This IEB concerned the loss of non-Class 1-E instrumentation and control power. This IEB was not specifically directed to River Bend, but it was included in the FSAR review, becoming Question 421.003 and as Confirmatory Item 31 of NUREG-0989, the Safety Evaluation Report. Since the action required by this IEB is being tracked as a confirmatory item, IEB 79-27 is closed for record purposes.

f. IEB 80-08

This IEB addressed radiography of flued head design penetrations of the containment. The licensee was found to use flued head design in both the containment and the drywell. The licensee committed to use radiography on all flued head design penetrations of the containment and other nondestructive tests on other penetrations.

This IEB is closed.

g. IEB 80-16

This IEB concerned Rosemont pressure transmitters, Models 1151 and 1152. When these transmitters were fitted with either "A" or "D" output code cards, it was possible for the transmitters to have an ambiguous output and the input signal was either an over pressure or a reverse pressure signal. The licensee found that there were four Rosemont 1152 transmitters with an "A" output code. These four transmitters were modified to have an "N" output board.

IEB 80-16 is considered closed.

10. Allegation Follow Up

The NRC inspecto" did a followup inspection of an allegation.

. Background. An anonymous letter was sent to both Gulf States Utilities (GSU) and the NRC. This letter forwarded an internal piece of Stone and Webster (S&W) correspondence. This S&W correspondence was a letter signed by engineers in the design group for small bore pipe. The letter complained that the group was being required to account for on-the-job time in a log and alleged that such a time accounting procedure was inimical to quality assurance.

. Licensee Action. GSU conducted a quality assurance review of the small bore piping group March 4-22, 1985.

. NRC Review. The NRC inspector reviewed the report of the licensees' review. It was noted that the licensee had concluded that the allegation was not substantiated in that the use of a time log to account for time spent on various charge items does not have a direct relationship to quality assurance. It was further noted that there were four additional concerns noted by the quality assurance review. The NRC inspector noted that the licensee had followed up on these four concerns and closed them.

. Conclusion. The NRC inspector concluded that the allegation was substantiated in that the time log was kept but that it was invalid as a safety concern.

This item is closed.

11. Exit Interview

An exit interview was conducted on June 21, 1985, with licensee representatives (identified in paragraph 1). During this interview, the SRI reviewed the scope and findings of the inspection.