APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-458/90-09 Operating License: NPF-47

Docket: 50-458

Licensee: Gulf States Utilities Company
P.O. Box 220
St. Francisville, LA 70775

Facility Name: River Bend Station (RBS)

Inspection At: RBS, St. Francisville, Louisiana

Inspection Conducted: April 2-6, 1990

Inspector: _____ 4/25/90
L. E. Ellershaw, Reactor Inspector, Material and Quality Programs Section, Division of Reactor Safety — Date

Approved: _____ 4/25/90
I. Barnes, Chief, Materials and Quality Programs Section, Division of Reactor Safety — Date

Inspection Summary

Inspection Conducted April 2-6, 1990 (Report 50-458/90-09)

Areas Inspected: Routine, unannounced inspection of the RBS quality assurance (QA) program, followup on licensee's actions regarding NRC Bulletin 87-02, and licensee's actions on previous inspection findings.

Results: An annual review of the RBS QA program was conducted as part of a response to recommendations contained in the most recent Systematic Assessment of Licensee Performance report (NRC Inspection Report 50-458/90-01) to conduct inspections in the areas of QA program implementation and self-assessment capability. The inspection revealed that a significant organization change had occurred, in which new positions had been created and changes in personnel had taken place. The personnel changes included the elimination of the title of Manager of Quality Assurance and the incorporation of those responsibilities into those of the Manager of Oversight. Review of the qualifications of the Manager of Oversight raised a question with respect to his QA experience. This

item has been identified as an unresolved item and is addressed in paragraph 4. Review of revisions to the Updated Safety Analysis Report revealed that the changes had been incorporated into the implementing procedures.

During this inspection, three inspector followup items were closed and review was completed with respect to followup to NRC Bulletin 87-02 (Temporary Instruction 2500/27).

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

DETAILS

1. PERSONS CONTACTED

GSU

*T. F. Plunkett, General Manager, Business Systems & Oversight
*J. E. Booker, Manager, Nuclear Industry Relations
*P. D. Graham, Plant Manager
*L. A. England, Director, Nuclear Licensing
*M. F. Sankovich, Manager, Engineering
*P. E. Freehill, Assistant Plant Manager
*J. W. Leavines, Supervisor, Nuclear Safety Assessment
*T. C. Crouse, Manager, Administration
*K. E. Suhrke, General Manager, Engineering & Administration
*M. S. Feltner, Engineer, Licensing
*K. J. Giadrosich, Supervisor, Quality Engineering
*D. N. Lorfing, Supervisor, Nuclear Licensing
*J. C. Maher, Engineer, Licensing
*G. K. Henry, Director, Quality Operations
*C. W. Walker, Supervisor, Quality Control
*I. M. Malik, Supervisor, Operations QA
*J. E. Spivey, Senior QA Engineer

Cajun Electric Power Cooperative, Inc.

*W. S. Day, Joint Operation Engineering

NRC

*E. J. Ford, Senior Resident Inspector

*Denotes attendance at the exit interview conducted on April 6, 1990.

The inspectors also contacted other licensee personnel during this inspection.

2. ACTION ON PREVIOUS INSPECTION FINDINGS (92701)

2.1 (Closed) Inspector Followup Item (458/8916-02): Actions and criteria used with respect to assessment of ultrasonic examination (UT) results on service water piping welds.

The licensee evaluated the UT results obtained during Refueling 2 with respect to ASME Section III Code allowable stresses. The evaluation considered stress concentration from pits, wall thinning around the pipe circumference and at pits, and revised existing stresses in piping. The stress levels were found to meet ASME Section III Code limits. Reinspections were performed at 100 locations by UT during Cycle 3 in order to gather data regarding corrosion rates. The licensee has identified in its letter RBG-30927 dated May 22, 1989,

that a final plan for addressing service water system issues will be developed in the time period from the mid-Cycle 3 outage until the beginning of the third refueling outage. Plan actions for long-term restoration of the service water system are currently scheduled to be implemented by the completion of the fourth refueling outage.

2.2 (Closed) Inspector Followup Item (458/8916-04): Verification of mid-cycle actions taken in regard to testing of service water isolation valves.

The inspector verified that local leak rate tests were performed on a total of 14 service water system valves during the mid-Cycle 3 outage, with stroke testing performed on an additional 6 valves. Two containment isolation valves (one motor operated, one check valve) failed the initial local leak rate test and required cleaning actions to achieve a satisfactory test result. The remainder of the tests exhibited satisfactory results. It was noted from review of photographs that the general condition of the two valves, which exhibited the initial local leak rate test failures, was significantly improved (with respect to fouling and corrosion product buildup) over that noted during the previous refueling outage. This subject area will be additionally considered during review of the licensee's final plan for long-term restoration of the service water system.

2.3 (Closed) Inspector Followup Item (458/8916-05): Review of actions taken regarding systems and components impacted by service water corrosion product buildup in small bore piping and instrument lines.

The inspector ascertained that a requirement to flush service water instrument sensing lines every 6 months had been added to the preventive maintenance programs (Procedure MSP-0003) to verify unimpeded flow was present.

3. FOLLOWUP TO NRC BULLETIN 87-02 (FASTENER TESTING TO DETERMINE CONFORMANCE WITH APPLICABLE MATERIAL SPECIFICATIONS) - TEMPORARY INSTRUCTION (TI) 2500/27

TI 2500/27 was issued on May 22, 1989, for the purpose of evaluating the adequacy of certain licensees' root cause analyses and the implementation of corrective actions in response to discrepancies identified during NRC Bulletin 87-02 fastener testing. Initial inspection followup was performed at RBS with respect to this TI as part of NRC Inspection 50-458/89-42. An unresolved item (458/8942-01) was identified during that inspection in regard to the adequacy of actions taken in response to a test discrepancy associated with one of the two fasteners specified by TI 2500/27 for followup at RBS (i.e., Sample RBS-16N-X, ASTM A 563 Grade DH, 1 1/1-8, Heavy Hex Nut).

The inspector ascertained that Condition Report CR 89-1212 was initiated in response to the Equotip hardness test values that were obtained at the inspector's request during NRC Inspection 50-458/89-42 from seven Sample RBS-16N-X nuts. The testing, after surface conditioning of the nuts, resulted in an average equivalent Brinell hardness number (BHN) which ranged from 200 to 232 BHN versus a specification required range of 248 to 352 BHN. The licensee forwarded six of the nuts to an approved laboratory for confirmatory hardness testing, proof load testing, and chemical analysis. The

Brinell hardness test values obtained ranged from 229 to 248 BHN. All six nuts successfully passed the proof load test, which was performed at the mandrel stress value of 175 KSI required by ASTM A563 for this size and grade of nut. The chemical composition, which was checked on two of the six nuts, was found to be in conformance with ASTM A563 Grade DH requirements.

The licensee, in its evaluation of the discrepant hardness properties, reviewed the guidance contained in Table X1 of ASTM A563 regarding the suitability of the different grades of ASTM A563 nuts for application with various bolting materials. It was noted from this review that ASTM A563 Grade D, with a required hardness range of 159-352 BHN and proof load stress value of 150 KSI, was an acceptable alternate to Grade DH for the bolting materials used at RBS. The licensee concluded that the Sample RBS-16N-X nuts were acceptable for use at RBS based on: (a) the correlation of hardness properties with tensile properties is an approximation, (b) the satisfactory proof load test results for the nuts at applied stress values considerably in excess of the tensile strength of bolting used at RBS, and (c) the use of lower hardness nuts being permitted by ASTM A563 for the bolting materials used at RBS.

The inspector concurred with the licensee conclusions, which closes out inspection at RBS with respect to TI 2500/27 and also resolves the outstanding unresolved item 458/8942-01.

4. QA PROGRAM ANNUAL REVIEW (35701)

The most recent Systematic Assessment of Licensee Performance (SALP) which covered the period from October 1, 1988, to December 31, 1989, was documented in NRC Inspection Report 50-458/90-01. Assessment of the Safety Assessment/Quality Verification functional area indicated that QA management actions did not always reflect the independence, objectivity, and staff support required to implement an effective QA program. The SALP report recommended that NRC regional initiative inspections be conducted in the areas of QA program implementation and self-assessment capability.

This inspection was performed to assess changes in the QA program and as a preparatory effort for implementing the SALP report recommendations. The inspection revealed that significant organizational changes had occurred within the River Bend Nuclear Group (RBNG). Of note was the creation of two General Manager positions, particularly the General Manager - Business Systems & Oversight, and the resulting changes in subordinate responsibilities. Prior to the reorganization, which according to the reorganization chart was shown to be in place on February 1, 1990, the Manager of Oversight reported directly to the Senior Vice President of RBNG. Subsequent to the reorganization, the Manager of Oversight began reporting to the General Manager - Business Systems & Oversight, who reports to the Senior Vice President RBNG. It was also noted that the new organization no longer had the position of Manager of Quality Assurance, who formerly reported to the Manager of Oversight. Review of the latest revisions to the RBS Updated Safety Analysis Report (USAR), Section 6 of the RBS Technical Specifications (TS) "Administrative Controls," and the implementing procedures from the Operations Quality Assurance Manual and the Nuclear Procedures Manual, revealed that they still referred to the Manager of

Quality Assurance. The inspector learned through discussion with the General Manager - Business Systems & Oversight that while the title of Manager of Quality Assurance no longer existed, the functions and responsibilities had been incorporated into those of the Manager of Oversight. Further, it was learned that the person holding the title Manager of Oversight, had been appointed at the time of reorganization.

During the inspection, the inspector attended a meeting between the Senior Resident Inspector and the Manager of Oversight, in which the manager's qualifications with respect to QA responsibilities were being discussed. The Manager of Oversight provided a resume which described his educational and work experience. He iterated that while there were no specific QA functions or responsibilities described in the resume, his work experience should be more than sufficient in meeting the qualification requirements established for the senior QA official, in that he had extensive nuclear navy experience including being the director of the Enlisted Department Navy Nuclear Power School, an Executive Officer of a ballistic missile submarine, and had been director of nuclear training and manager of administration at GSU. The inspector had noted during review of Chapter 17.2 in the USAR and TS 6.3, that minimum qualification requirements were specified either directly (USAR) or by reference (TS 6.3 commits to ANSI/ANS 3.1-1978). A comparison of the work experience, as stated in the resume, to the USAR and to ANSI/ANS 3.1-1978, did not clearly establish the work experience as being consistent with the qualification requirements. This item is considered to be an unresolved item pending further licensee clarification or amplification which will provide reconciliation between the work experience stated in the resume and the requirements of ANSI/ANS 3.1-1978. (458/9009-01)

As stated previously, current revisions to applicable documents still referred to the Manager of Quality Assurance. Further discussion with cognizant management personnel revealed that a verbal request had been made with respect to a TS change. In addition, the organizational change is targeted for inclusion in a revision to the USAR which will be dated August 1990. The inspector was provided copies of the following procedures which had been revised to reflect the existing organization, but had not been through the complete review/concurrence cycle:

QAD-1, Revision 7, "Organization:;
QAD-2, Revision 6, "Quality Assurance Program": and
RBNP-002, Revision 4, "Responsibilities and Authority."

The target date for completion of the review/concurrence cycle had been established as April 6, 1990. It was also noted that lower tier procedures could not be revised until after completion of review and concurrence for the three primary procedures.

The inspector reviewed Chapter 17.2 in the USAR to identify the changes made during the last revision dated August 1989, and to assure that these changes were incorporated into implementing procedures. Two changes were made, both dealing with the scope of responsibilities associated with the Manager of Administration and the Supervisor of Administrative Support. The implementing

procedures which address this subject are RBNP-002, "Responsibility and Authority," and QAD-1, "Organization." Review of these procedures revealed that the scope of responsibility was consistent with the changes made to the USAR.

There were no violations or deviations identified in this area of the inspection.

5. EXIT INTERVIEW

An exit interview was conducted on April 6, 1990, with those personnel denoted in paragraph 1. At the exit interview, the inspectors summarized the inspection findings. No information was presented to the inspectors that was identified by the licensee as proprietary.