

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report No. 50-458/92-16

Operating License No. NPF-47

Licensee: Gulf States Utilities (GSU)  
P.O. Box 220  
St. Francisville, Louisiana 70775

Facility Name: River Bend Station (RBS)

Inspection At: RBS Site, St. Francisville, Louisiana

Inspection Conducted: April 20-24, 1992

Inspector: Lorenzo Wilborn, Radiation Specialist  
Facilities Inspection Programs Section

Approved: Blaine Murray 5/11/92  
Blaine Murray, Chief, Facilities Inspection Programs Section Date

Inspection Summary

Inspection Conducted April 20-24, 1992 (Report No. 50-458/92-16)

Areas Inspected: Routine, unannounced inspection of the radiological environmental monitoring program (REMP).

Results: Within the areas inspected, no violations or deviations were identified. The summary of inspection findings are:

- o The REMP received strong support from management and other plant departments.
- o The REMP was well managed and included good implementing procedures.
- o An appropriate number of qualified personnel was in place to implement the REMP.
- o Good training and qualification programs had been established for personnel responsible for implementing the REMP.
- o A comprehensive audit program had been established to review and evaluate REMP activities.

- An excellent meteorological monitoring program had been established.
- The environmental services laboratory facilities, equipment, and supplies were appropriate and well maintained.
- Good counting room radiochemical analysis and quality control programs were in place.

DETAILS

1. PERSONS CONTACTED

GSU

- \*P. D. Graham, Plant Manager
- \*W. H. O'Dell, Manager-Oversight
- \*D. L. Andrews, Director, Quality Assurance (QA)
- \*R. J. Backen, Supervisor, QA Systems
- \*J. B. Blakley, Supervisor, Inservice Inspection
- \*R. D. Carlyle, Inservice Inspection Coordinator
- \*F. N. Carver, Director, Employee Relation
- M. Dillman, Foreman, Instrument and Control
- \*W. J. Fountain, Senior QA Engineer
- \*M. A. Harrington, Supervisor, Environmental Service Group (ESG)
- \*B. S. Kienlen, Senior Inspector, Non-Destructive Testing
- \*F. E. Lenox, Jr., Technical Specialist
- \*D. N. Lorfing, Supervisor, Nuclear Licensing
- \*I. M. Malik, Supervisor, Operations QA
- S. Mayeux, Radiation Protection Technician
- \*J. H. McQuirter, Licensing Engineer
- \*C. L. Miller, Supervisor, Maintenance Support
- \*S. M. Prudhomme, Student Engineer
- \*C. D. Redding, QA Engineer
- \*M. Reed, Environmental Analyst
- \*F. L. Richter, QA Engineer/Lead Auditor
- L. S. Smith, Instrument Technician
- \*J. E. Spivey, Senior QA Engineer/Audits Coordinator
- \*C. G. Spranger, Senior QA Engineer
- S. K. Stoma, Environmental Analyst
- \*K. E. Suhrke, General Manager Engineering Administration
- N. E. Tison, Nuclear Environmental Technician
- \*R. J. Vachon, Senior Compliance Analyst
- \*C. W. Walker, Supervisor, Operations Quality Control

Others

- \*E. J. Ford, Senior Resident Inspector, NRC
- \*D. P. Loveless, Resident Inspector, NRC
- \*W. M. McNeill, Reactor Inspector, NRC

The inspector also interviewed other licensee personnel during the course of the inspection.

\*Denotes those present at the exit meeting on April 24, 1992.

2. FOLLOWUP ON INSPECTION OBSERVATIONS

Four inspector observations for licensee consideration regarding REMP activities were discussed during the previous REMP inspection conducted

December 4-8, 1989 (NRC Inspection Report 50-458/89-43). These observations and their status are as follows:

- o The licensee did not review the daily performance check logs for the environmental services laboratory liquid scintillation counting system in a timely manner. The inspector reviewed the daily performance check logs and noted proper reviews and timely authentication.
- o The licensee was not plotting quality control information to trend and evaluate data biases for the liquid scintillation system in the environmental services laboratory. The inspector reviewed the liquid scintillation system quality control data and noted proper plotting, trending, and evaluation of data. The inspector also noted that the licensee had developed a computer program and that the liquid scintillation system generated its own plot and printout of quality control data.
- o The licensee did not plot daily quality control data for the alpha/beta counting system in the environmental services laboratory. The inspector reviewed the alpha/beta counting system quality control data and noted proper plotting. Discussions with licensee personnel revealed that a study to establish a computer program which would plot and print out quality control data for the alpha/beta system was under investigation.
- o The licensee did not review the environmental services laboratory gross beta analysis data sheets in a timely manner. The inspector reviewed the gross beta analysis data sheets and noted proper reviews and timely authentication.

### 3. ORGANIZATION AND MANAGEMENT CONTRCLS (84750)

The inspector reviewed the licensee's organization, staffing, staff functional assignments, and lines of authority as they related to the REMP to determine agreement with commitments in Chapter 13.1.2 of the Updated Safety Analysis Report (USAR) and compliance with the requirements in Section 6.2 of the Technical Specification (TS).

The inspector determined that the licensee had not made organizational changes which would adversely affect the REMP. The basic organizational structure had not changed since the last inspection conducted December 4-8, 1989 (NRC Inspection Report 50-458/89-43). However, personnel changes within the structure had taken place as follows: The environmental supervisor position had been filled by the senior environmental analyst. The senior environmental analyst position responsibilities were shifted to an environmental analyst, and the environmental analyst position was filled by the nuclear environmental technician. The nuclear environmental technician position was filled with a technician transferred from the licensee's chemistry/radiochemistry section. The inspector determined that the organizational structure and staffing of the ESG were as described in the USAR and TS.

The inspector reviewed the staff assignments and management control procedures for the implementation and management of the REMP. The inspector verified that the administrative control responsibilities specified in the applicable procedures were being satisfied.

The inspector determined that the lines of authority relating to the REMP were as specified in the licensee's procedures and in accordance with licensee commitments.

No violation or deviations were identified.

#### Conclusions

The REMP was well managed and included good implementing procedures.

The staffing levels and lines of authority were sufficient to accomplish REMP responsibilities. The staff was knowledgeable and competent.

#### 4. TRAINING AND QUALIFICATIONS (84750)

The inspector reviewed the training and qualifications of the ESG personnel who had been assigned responsibilities for REMP activities to determine agreement with the commitments in Chapter 13.2 of the USAR and with the guidance of ANSI/ANS 3.1-1978, and compliance with the requirements of Sections 6.3 and 6.4 of the TS.

The inspector determined that the education and experience, training, and working knowledge of personnel in the ESG met or exceeded the minimum training and qualifications specified in USAR commitments, and the requirements of the TS.

No violations or deviations were identified.

#### Conclusions

Good training and qualification programs had been established for personnel responsible for implementing the REMP. The responsible staff had successfully completed the required training and were qualified to perform their respective assigned tasks.

#### 5. AUDITS (84750)

The inspector reviewed the Licensee's QA audit program for the REMP to determine agreement with commitments in Chapter 17 of the USAR and the requirements in Section 6.5.3.8 of the TS.

The inspector reviewed the QA audit schedules for 1990, 1991, and 1992; audit plans and checklists; and the qualifications of the QA auditors and technical specialists who performed audits of REMP activities. The inspector reviewed the licensee's 1990 and 1991 QA Audit Reports (90-06-I-ENVL and 91-05-I-ENVL)

for the audits conducted during the periods June 19-28, 1990, and May 28 through June 10, 1991.

The inspector determined that the audits of REMP activities had been well planned, comprehensive, and conducted at frequencies to satisfy the commitments of the USAR and the requirements of the TS. The inspector also determined that the audits had been performed in accordance with QA procedures and schedules and by qualified auditors and technical specialists knowledgeable in REMP activities.

The inspector noted that audit findings had been reviewed by management and that responses and corrective actions had been completed in a timely manner and documented in accordance with QA procedures. All audit findings requiring responses had been resolved in a timely manner.

No violations or deviations were identified.

### Conclusions

A comprehensive audit program had been established to review and evaluate REMP activities. The audit process was capable of identifying programmatic weaknesses and making recommendations for corrective action.

### 6. RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM (84750)

The inspector reviewed the licensee's REMP to determine compliance with the requirements in Sections 3/4.12 and 6.9.1.7 of the TS and the Offsite Dose Calculation Manual (ODCM).

The ESG staff was responsible for collection, documentation, and analysis of radiological environmental samples. The ESG staff was supported by the RBS radiation programs section staff for maintenance and calibration of air samplers and for reading and annealing of TLDs. The ESG staff performed the required sample analyses in the environmental services laboratory. The procedures for the administration of the REMP and the collection and analyses of the radiological environmental samples were written with sufficient detail to ensure compliance with the TS and ODCM requirements.

The inspector determined that the REMP samples were collected pursuant to Table 3.12.1-1 from the specific locations given in the table and figure(s) in the ODCM, and analyzed pursuant to the requirements of Table 3.12.1-1 and the detection capabilities required by Table 4.12.1-1 of the TS.

The inspector determined that the annual land use censuses for 1990 and 1991 had been conducted, and the results were reported in the Annual Radiological Environmental Monitoring Reports. The inspector also determined that changes incorporated into the REMP and ODCM as results of the land use censuses were described in the Semiannual Radioactive Release and the Annual Radiological Environmental Monitoring Reports.

The inspector visited and examined selected environmental sampling stations associated with the REMP. The following types of sampling stations were examined: airborne (iodine and particulate), direct radiation (TLD), broad leaf vegetation, and surface water. The inspector noted that the required equipment at the selected stations was in place, calibrated, and operational at the time of the visit. The inspector verified that the locations of the selected stations were as described in the ODCM, Table 4.1.

The inspector discussed the maintenance and calibration program for REMP air samplers with the licensee. The inspector reviewed applicable procedures for the maintenance and calibration program for REMP air samplers. The inspector also reviewed the maintenance and calibration records for the REMP air samplers and determined that the radiation programs section staff had conducted the program semiannually in accordance with approved procedures.

The inspector discussed the environmental TLD reading and annealing program with the licensee. The inspector reviewed applicable procedures for the program. The inspector determined that the radiation programs section staff had processed the environmental TLDs in accordance with approved procedures.

No violations or deviations were identified.

### Conclusions

The ESG staff's overall performance as well as that of the radiation programs section staff giving support in conducting the REMP activities were found to be in compliance with the requirements of the TS and ODCM.

### 7. METEOROLOGICAL MONITORING PROGRAM (84750)

The inspector reviewed the licensee's meteorological monitoring program to determine compliance with the requirements in Section 3/4.3.7.3 of the TS and the recommendations of Regulatory Guides 1.23 and 1.97 and ANSI/ANS Standard 2.5-1984.

The inspector examined the meteorological tower data monitoring and recording equipment. The inspector reviewed meteorological instrumentation calibration procedures, surveillance procedures, and associated records.

The inspector determined that meteorological sensing and recording equipment had been calibrated semiannually by the licensee's Instrument and Controls technicians in accordance with approved Procedures STP-554-4201 through 4210 and surveillance checked by the ESG staff in accordance approved Procedure ESP-8-012.

The inspector determined that the required meteorological monitoring instrumentation channels had been demonstrated operable at the frequencies shown in Table 4.3.7.3-1 of the TS. The inspector also determined that the meteorological monitoring program performance satisfied the requirements of the TS and agreed with the guidance contained in the applicable Regulatory Guides and ANSI standards.

No violations or deviations were identified.

Conclusions

The meteorological monitoring program was capable of fulfilling its required functions.

8. FACILITIES, EQUIPMENT, AND SUPPLIES (84750)

The inspector examined the licensee's environmental services laboratory facilities including the environmental sample receiving and storage areas, environmental sample preparation areas, and the radiochemistry counting room. These areas were sufficiently equipped and supplied with the necessary chemicals, reagents, sample processing equipment, expendable supplies, and analytical instrumentation to perform the analyses required by the TS.

The inspector determined that the areas examined were appropriate for environmental sample receipt, storage, and preparation. The instrumentation in the radiochemistry counting room was well maintained.

No violations or deviations were identified.

Conclusions

The licensee's environmental services laboratory facilities, equipment, and supplies were adequate to perform the required REMP sampling and laboratory analyses to support RBS during normal operations and emergency conditions.

9. QUALITY CONTROL OF RADIOLOGICAL ENVIRONMENTAL ANALYTICAL MEASUREMENTS (84750)

The inspector reviewed the ESG program for calibration and quality control of radiological analytical measurements to determine compliance with Section 3/4.12.3 of the TS and the recommendations in Regulatory Guide 4.15.

The inspector reviewed the environmental services laboratory's procedures for analytical instrument calibration and quality control, analytical instrument calibration and performance check data, and other documentation of analytical instrument performance. The instrument calibration and quality control procedures were appropriate. The inspector determined that the records associated with the calibrations and quality control for the analytical instrumentation indicated compliance with procedures, the requirements of the TS, and the recommendations in Regulatory Guide 4.15.

The inspector noted that the licensee's environmental services laboratory participated in the U.S. Environmental Protection Agency's (EPA) Environmental Radioactivity Laboratory Intercomparison Program as required by the TS. The inspector noted that the licensee's results were within EPA's acceptance criteria.

No violations or deviations were identified.



### Conclusions

Good counting room radiochemical analysis and quality control programs were in place and were implemented by a knowledgeable and competent staff.

### 10. ENVIRONMENTAL REPORTS

The inspector reviewed the licensee's Semiannual Radioactive Effluent Release Reports and the Annual Radiological Environmental Operating Reports to determine compliance with the reporting requirements in Section 6.9 of the TS.

The inspector reviewed the licensee's Semiannual Radioactive Effluent Release Reports for the periods: July 1 - December 31, 1989; January 1 - June 30, 1990; July 1 - December 31, 1990; January 1 - June 30, 1991; and July 1 - December 31, 1991; and the Annual Radiological Environmental Operating Reports for January 1 - December 31, 1989, 1990, and the draft 1991. The inspector determined that these reports contained the required information relating to the REMP and were submitted in accordance with Sections 6.9.1.7 and 6.9.1.8 of the TS.

No violations or deviations were identified.

### Conclusions

Reports including radiological environmental monitoring activities contained the required information and were submitted in a timely manner.

### 11. REPORTABLE OCCURRENCES

The inspector discussed the License Event Reports with the licensee for reportable occurrences dealing with the REMP to determine compliance with the reporting requirements of Section 6.9 of the TS.

No reportable occurrences resulting from REMP activities were identified from documents reviewed and discussions with cognizant licensee personnel. The inspector determined that the licensee had not written any Licensee Event Reports involving REMP activities since the previous NRC inspection of the REMP during the period December 4-8, 1989 (NRC Inspection Report 50-458/89-43).

### 12. EXIT MEETING

The inspector met with the resident inspectors and the licensee representatives denoted in paragraph 1 at the conclusion of the inspection on April 24, 1992. The inspector summarized the scope and findings of the inspection as presented in this report. The licensee did not identify as proprietary any of the materials provided to, or reviewed by, the inspector during the inspection.