APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-458/89-34 Operating License: NPF-47

Docket: 50-458

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

Facility Name: River Bend Station (RBS)

Inspection At: RBS, St. Francsiville, Louisiana

Inspection Conducted: September 11-15, 1989

Inspector: J. Blair Nicholas 10/30/89
J. B. Nicholas, Senior Radiation Specialist Date
Facilities Radiological Protection Section

Approved: Blaine Murray 10/30/89
B. Murray, Chief, Facilities Radiological Protection Section Date

Inspection Summary

Inspection Conducted September 11-15, 1989 (Report 50-458/89-34)

Areas Inspected: Routine, unannounced inspection of the licensee's liquid and gaseous radioactive waste management programs.

Results: The inspector determined that the licensee was implementing the radioactive waste effluent program (RWEP) in accordance with the Radiological Effluent Technical Specifications (RETS) and Offsite Dose Calculation Manual (ODCM). The licensee had performed 1,096 radioactive liquid batch releases and 95 gaseous batch releases during the period January 1, 1987, through June 30, 1989. The quantities of radionculides released in the radioactive waste effluents were within the limits specified in the RETS. Offsite doses had been calculated using methods specified in the ODCM and were within Technical Specification (TS) limits. The licensee reported three unplanned radiological liquid releases during the second calendar quarter of 1989. The licensee had not made any major equipment or design changes in the radioactive waste management systems since October 1987. The licensee had submitted changes to their Process Control Program (PCP) and ODCM and had received NRC approval for these changes. No Licensee Event Reports (LERs) had

been written in 1987, 1988, and through August 1989 involving radioactive effluent release activities. The licensee had submitted their Semiannual Effluent Release Reports and respective addendum reports for 1987, 1988, and 1989 as per TS requirements. Quality Assurance (QA) surveillances and audits had been performed as required by the TS.

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

DETAILS

1. Persons Contacted

GSU

*J. C. Deddens, Senior Vice President, River Bend Nuclear Group
*T. F. Plunkett, Plant Manager
R. J. Backen, Supervisor, Quality Systems
*J. E. Booker, Manager, Oversight
T. D. Burnett, Chemistry Foreman
*E. M. Cargill, Director, Radiological Programs
*J. W. Cook, Lead Environmental Analyst, Licensing
*T. C. Crouse, Manager, QA
J. D. Davis, QA Surveillance Coordinator
*R. G. Easlick, Supervisor, Radwaste
*L. A. England, Director, Nuclear Licensing
C. L. Fantacci, Supervisor, Radiological Engineering
*W. J. Fountain, Senior QA Engineer
*P. D. Graham, Executive Assistant
*J. R. Hamilton, Director, Design Engineering
R. P. Hebert, Senior QA Engineer
*G. K. Henry, Director, Quality Operations
*K. C. Hodges, Supervisor, Chemistry
*R. E. Horn, Nuclear Training Coordinator - Technical
D. L. Jarrell, Plant Chemist
J. A. Johnson, Chemistry Training Instructor
*G. R. Kimmel, Director, Quality Services
*R. J. King, Supervisor, Nuclear Licensing
T. P. Laiche, Radiation Protection Specialist
G. D. Lipham, Senior Chemistry Specialist
I. M. Malik, Supervisor, Operations QA
*J. H. McQuirter, Licensing Engineer
S. D. Rima, Radiation Protection Training Instructor
*M. F. Sankovich, Manager, Engineering Department
J. E. Spivey, Internal QA Audits Coordinator
*K. E. Suhrke, Manager, Project Management
*R. G. West, Assistant Plant Manager, Technical Services
*D. Williamson, QA Engineer

Others

*E. J. Ford, NRC Senior Resident Inspector - RBS
W. B. Jones, NRC Resident Inspector - RBS
*L. G. Johnson, Manager, Technical Operations - Cajun
*J. M. Miller, Director, Joint Operations - Cajun

*Denotes those present during the exit interview on September 15, 1989.

2. Inspector Observations

The following are observations that the inspector discussed with the licensee during the exit interview on September 15, 1989. Observations are not violations, deviations, unresolved items, or open items. These observations were identified for licensee consideration for program improvement, but the observations have no specific regulatory requirement. The licensee stated that the observations would be reviewed.

a. Nuclear Training Department Records - The licensee had not included in an individual plant staff's computerized permanent training record any training received prior to Institute of Nuclear Power Operations (INPO) accreditation. (See paragraph 4)

b. QA Surveillance Reports - The licensee had not performed a QA surveillance directly related to the performance of the RETS activities during 1988 and 1989. (See paragraph 7)

3. Organization and Management Controls (84750)

The inspector reviewed the licensee's organization, staffing, and staff functional assignments related to the liquid and gaseous radioactive waste programs to determine agreement with commitments in Chapters 13.1.2 and 13.5 of the Updated Safety Analysis Report (USAR) and compliance with the requirements in Section 6.2 of the TS.

The inspector verified that the organizational structures of the RBS radwaste operations section, radiological engineering section, and chemistry/radiochemistry section (C/RS) responsible for the performance of the RWEP were as defined in the FSAR and TS. The RBS staff assignments, management control procedures, and position descriptions were reviewed for the assignment of responsibilities for the management and implementation of the RWEP. The organizational structure and staffing of the radwaste operations section, radiological engineering section, and C/RS for managing and implementing the RWEP appeared to be sufficient to meet the requirements for the routine performance of the liquid and gaseous radwaste activities. The inspector verified that the administrative control responsibilities specified in the RBS procedures were being implemented. Selected procedures listed in Attachment 1 to this report were reviewed.

The inspector reviewed the staffing of the radwaste operations section, radiological engineering section, and the C/RS and determined that all three sections were fully staffed except for two nuclear chemistry technician position vacancies.

No violations or deviations were identified.

4. Training and Qualifications (84750)

The inspector reviewed the licensee's training and qualification program for nonlicensed nuclear equipment operators, radiological engineering staff, and C/RS personnel responsible for conducting the RWEP to determine agreement with commitments in Chapter 13.2 of the USAR and compliance with the requirements in Sections 6.3 and 6.4 of the TS.

The inspector reviewed the qualifications of the present radiological engineering section staff and selected personnel from the radwaste operations section and C/RS responsible for the implementation of the RWEP and verified that they met the required qualifications specified in the USAR and TS. It was determined that the licensee had an adequately qualified staff.

The inspector reviewed the licensee's training program for radwaste nuclear equipment operators, radiation protection specialists, and C/RS nuclear chemistry technicians, including a review of the various training instructors' qualifications, training facilities, training procedures, course descriptions, job performance measures, and individual staff training records. The inspector found that the licensee's training programs for the three areas; radwaste operation, radiation protection, and chemistry were being implemented and documented in accordance with RBS procedures. It was determined that the RBS nuclear training department had received INPO accreditation.

The inspector reviewed individual staff training records for selected nuclear equipment operators, radiological engineering personnel, and C/RS personnel who perform RWEP activities. The inspector verified that all of the selected RBS staff responsible for various aspects of the RWEP had completed the required training on the RETS, ODCM, and radwaste systems to perform liquid and gaseous effluent releases in accordance with RBS procedures and TS. However, it was noted that any training received by RBS personnel prior to the INPO accreditation of the nuclear training department was not included as part of an individual's computerized permanent training record. This made the tracking of an individual's training in specific task areas difficult if that individual had been trained using procedures, course materials, and lesson plans which were utilized prior to INPO accreditation. This observation was discussed with the licensee during the inspection and at the exit interview on September 15, 1989. The licensee agreed to evaluate the inspector's concern for an individual's complete training documentation not being included in the nuclear training department's computerized permanent training records.

No violations or deviations were identified.

5. Liquid Radioactive Waste Systems (84750)

The inspector reviewed the licensee's liquid radioactive waste effluent program including: liquid waste system operation, liquid waste sampling, and procedures for liquid waste effluent systems to determine agreement with commitments in Chapter 11 of the USAR and compliance with the requirements in Sections 3/4.11.1.1, 3/4.11.1.2, 3/4.11.1.3, 3/4.11.1.4, 6.8, 6.14, and 6.15 of the TS and the ODCM.

The inspector reviewed the licensee's implementation of the RETS and ODCM to ensure agreement with analysis sensitivities, reporting limits, analytical results, sampling requirements, surveillance tests, RWEP operating procedures, and offsite dose projections and results from liquid radioactive waste effluents. Selected documents and records listed in Attachment 1 to this report were reviewed.

The inspector reviewed current approved revisions of RBS procedures governing the release of liquid radioactive waste. These liquid effluent release procedures provide for the following: representative sampling of liquid radioactive waste; chemical and radionuclide analyses prior to release; calculation of effluent release rate, effluent radiation monitor setpoints, projected offsite radionuclide concentrations, and offsite doses prior to release; recording effluent dilution parameters during releases; and verifying effluent discharge flow rates and effluent volume discharged.

The inspector reviewed a representative number of liquid release permits for the period January 1988 through August 1989. It was determined that the processing, sampling, and analysis of liquid radioactive waste effluent and approval and performance of liquid radioactive waste discharges were conducted in accordance with RBS procedures. Quantities of radioactive nuclides released in the liquid effluents were within the limits specified in the RETS. Offsite doses had been calculated according to the CDCM and were within the TS limits. Effluent radiation monitor setpoints were calculated in accordance with the ODCM.

The inspector determined that no design changes had been made to the liquid radwaste systems since the previous NRC inspection of this area conducted in June 1988.

No violations or deviations were identified.

6. Gaseous Radioactive Waste Systems (84750)

The inspector reviewed the licensee's gaseous radioactive waste effluent program including: gaseous waste system operation, gaseous waste sampling, procedures for gaseous waste effluent systems, and air cleaning systems to determine agreement with commitments in Chapter 11 of the USAR and compliance with the requirements in Sections 3/4.6.5.4, 3/4.6.5.6, 3/4.7.2, 3/4.11.2.1, 3/4.11.2.2, 3/4.11.2.3, 3/4.11.2.5, 3/4.11.2.6, 3/4.11.2.7, 6.8, 6.14, and 6.15 of the TS and the ODCM.

The inspector reviewed the licensee's implementation of the RETS and ODCM to ensure agreement with analysis sensitivities, reporting limits, analytical results, sampling requirements, surveillance tests, RWEP operating procedures, and offsite dose projections and results from gaseous effluents. Selected documents and records listed in Attachment 1 to this report were reviewed.

The inspector reviewed current approved revisions of RBS procedures and surveillance tests which govern the release of gaseous radioactive waste. These gaseous effluent procedures and surveillance tests provide for the following: representative sampling of gaseous radioactive waste, calculation of offsite doses, and verification of effluent discharge flow rates and effluent volume discharged.

The inspector reviewed selected analyses of samples taken from the main plant exhaust duct, fuel building ventilation, and radwaste building ventilation continuous release paths for the period January 1988 through July 1989. It was determined that the continuous gaseous waste releases were being performed according to procedure and the quantities of gaseous radioactive nuclides released were within the limits specified in the RETS. Offsite doses had been calculated according to the ODCM and were within the TS limits. The inspector reviewed weekly noble gas activity data measured prior to the offgas holdup pipe and determined that the TS requirement was being met. The inspector reviewed selected operation's daily surveillance log sheets for the period January 1988 through August 1989 and verified continuous monitoring of the hydrogen concentration in the offgas treatment system. The inspector determined that no design changes had been made to the gaseous radwaste management systems since the previous NRC inspection in June 1988.

The inspector reviewed the licensee's procedures, surveillance tests, and selected records and test results for maintenance and testing of air cleaning systems which contain high efficiency particulate air (HEPA) filters and activated charcoal adsorbers. The inspector verified that the licensee's procedures and surveillance tests provided for the required periodic functional checking of ventilation system components, evaluation of HEPA and activated charcoal adsorbers, and replacement and in-place filter testing of the filter systems. The inspector reviewed records and test results for the period January 1987 through August 1989 for the main control room air conditioning system, fuel building ventilation system, and the standby gas treatment system. The in-place filter testing and activated charcoal laboratory tests had been performed in accordance with approved procedures by a contract laboratory and the test results were verified to be within TS limits except on two surveillance tests of the charcoal adsorber material found in the Fuel Building Ventilation Filter, HVF-FLT-2B, tested on August 22, 1989, and in the Standby Gas Treatment System Filter, 1GTS-FLT-1B, tested on November 3, 1988. It was noted that the licensee took immediate corrective action following the unacceptable test results and replaced the unsatisfactory activated charcoal adsorber material in each of the filter systems. The new activated charcoal adsorber material was tested and the test results met

TS requirements. The inspector reviewed and verified the test results of the replacement activated charcoal adsorber material. The licensee had performed QA audits on the contractors performing the testing on the station ventilation systems and had placed the contractors on the RBS qualified suppliers list.

No violations or deviations were identified.

7. QA Audit Program (84750)

The inspector reviewed the licensee's QA surveillance and audit programs for the RWEP 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 surveillance and audit plans and checklists, selected QA department procedures, audit schedules for 1988 and 1989, and the qualifications and training of the QA surveillance inspectors, QA auditors, and technical specialists who performed the surveillances and audits of the RWEP activities. Surveillances and audit reports of QA activities performed during 1988 through August 1989 in areas related to radwaste processing were reviewed for scope, thoroughness of program evaluation, and timely followup of identified deficiencies. The inspector determined that the QA audits were performed by qualified personnel knowledgeable in radioactive waste activities at nuclear power facilities and an effective use of technical specialists was being implemented. The licensee's QA audits had been performed in accordance with RBS QA procedures and schedules and had not identified any significant problems. The documents which were reviewed are listed in Attachment 1 to this report.

It was noted by the inspector that the QA operations surveillance section was unable to produce a QA surveillance report for the period of January 1988 through August 1989 which was directly related to the performance of RETS activities and the associated TS surveillance requirements. However, QA surveillances have no specific regulatory requirement. It was apparent that the licensee did not have a means for readily retrieving or determining if a QA surveillance had been performed on a specific RBS surveillance test procedure in a specific area of plant activities. This observation was discussed with the licensee during the inspection and at the exit interview on September 15, 1989. The licensee indicated they would evaluate the inspector's concerns for the lack of QA surveillance activities involving the RWEP and especially the implementation of the RETS and ODCM and the lack of ability to readily retrieve or determine if a QA surveillance report covering specific RETS surveillance activities had been performed.

The inspector determined that the licensee was using a contractor laboratory to perform TS required radiochemistry analyses on several radioactive effluent composite samples. The licensee was also using several contractors to perform in-place filter testing and laboratory charcoal adsorber analyses on the station ventilation systems as required by TS. The licensee had performed QA audits on all of these contractors

and had placed them on the R qualified suppliers list. The inspector reviewed the audits performe the licensee on the contractors and found the audits to be adequate.

No violations or deviations were identified.

8. Licensee Event Reports (LERs) (84750)

The inspector determined that the license had not written any LERs since the previous NRC inspection of the radioactive waste effluents program in June 1988 that involved radioactive effluent release activities.

No violations or deviations were identified.

9. Reports of Radioactive Waste Effluents (84750)

The inspector reviewed the licensee's reports concerning radioactive waste systems and effluent releases to determine compliance with the requirements of 10 CFR Part 50.36(a)(2) and Section 6.9.1.8 of the TS.

The inspector reviewed the licensee's semiannual effluent release reports for the periods January 1 through June 30, 1987; July 1 through December 31, 1987; January 1 through June 30, 1988; July 1 through December 31, 1988; and January 1 through June 30, 1989. These reports were written in the format described in NRC Regulatory Guide 1.21 and contained the information required by TS. During the period January 1, 1987, through June 30, 1989, the licensee had performed 1,096 liquid batch releases and 95 gaseous batch releases. The licensee reported three unplanned radiological liquid releases to the environment during the second calendar quarter of 1989. The inspector reviewed the licensee's changes to the ODCM and PCP as detailed in the appropriate semiannual effluent release reports as per TS requirements.

No violations or deviations were identified.

10. Exit Interview (30703)

The inspector met with the senior resident inspector and the licensee representatives denoted in paragraph 1 at the conclusion of the inspection on September 15, 1989. The inspector summarized the scope and findings of the inspection and discussed the inspector's observations. The licensee representatives stated at the exit interview that they would evaluate the inspector's observations and concerns and take appropriate actions to implement program improvements. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during the inspection.

ATTACHMENT 1

RIVER BEND NUCLEAR STATION

NRC Inspection Report 50-458/89-34

DOCUMENTS REVIEWED

Title	Revision	Date
1. Administrative Procedures		
ADM-0001, Plant Staff Organization, Responsibilities and Authorities	3	10/17/88
ADM-0007, Selection, Training, Qualification and Evaluation of Plant Staff Personnel	4	08/18/88
ADM-0015, Station Surveillance Test Program	13	02/09/89
ADM-0036, Containment Purge Information	5	10/17/88
ADM-0038, Radioactive Waste Management Program	5	06/05/89
ADM-0042, Conduct of Chemistry	4	10/21/87
ADM-0054, Radioactive Liquid Effluent Batch Discharge	3	05/19/88
2. Radwaste Procedures		
RWS-0203, Personnel Qualification for Radwaste Section	4	11/14/88
RWS-0204, Radwaste Processing Control Program	2	11/10/87
RWS-0206, Radwaste Scaling Factors Program	3	06/05/89
RWS-0209, Conduct of Radwaste Vendor Services	3	11/17/87
RWS-0211, General Performance Control for Radwaste	3	04/13/89
RWS-0212, Radwaste Process Logs and Records	3	03/28/89
RWS-0304, Radioactive Waste Handling and Control	5	03/08/89

Title	Revision	Date
3. Chemistry Section Procedures		
CSP-0003, Chemistry Personnel Qualifications	6	04/07/89
CSP-0100, Chemical/Radiochemical Technical Specifications Surveillances	7	08/16/88
CSP-0103, Chemistry Section 10 CFR 61 Compliance Program	2	02/12/88
CSP-0110, Radioactive Liquid Effluent Batch Discharges	5	07/27/88
4. Chemistry Operating Procedures		
COP-0001, Sampling via Various Balance-of-Plant Sample Panels	5	05/03/89
COP-0007, Sampling the Off-Gas Treatment Sample Panels	5	07/16/87
COP-0046, Sampling Gaseous Effluents via the Wide Range Gas Monitors	6	02/02/89
COP-0050, Grab Sampling Gaseous Streams	5	09/08/87
COP-0057, Grab Sampling of Liquid Monitors	3	08/11/89
COP-0301, Operation of the Beckman Liquid Scintillation Counter, Series LS-3800	3	04/18/88
COP-0303, Operation of the Canberra Multi-Channel Analyzer, Series 90	3	03/10/87
COP-0304, Operation of Eberline Solid State Scintillation Counting System-Model MS-2/RD-13	0	02/12/87
COP-0601, Analysis of Air for Tritium, Silica Gel Method	2	12/16/87
COP-0602, Analysis of Aqueous Samples for Tritium	5	01/06/88
COP-0613, Determination of Alpha Activity	3	09/05/87
COP-0804, Determination of Gamma Spectroscopy "a Priori" Lower Limits of Detection (LLD)	2	04/22/87
COP-0809, DRMS System Operation	1	01/18/89

Title	Revision	Date
Chemistry Operating Procedures (Cont)		
COP-1003, Post-Accident Sampling of Gaseous Effluents	3	09/06/89
COP-1004, Post-Accident Sampling of Liquid Effluents	4	12/19/87
5. Radiation Section Procedures		
RSP-0008, Offsite Dose Calculation Manual (ODCM) Procedure	3	02/14/89
6. Radiation Protection Procedures		
RPP-0097, Manual Method of Determining Cumulative Dose Contributions from Liquid Effluents	1	08/11/88
RPP-0102, Dose Calculation from Gaseous Effluents	0	08/11/88
7. Radiation Health Physics Procedure		
RHP-0032, Dose Rate Calculation from Gaseous Effluents	0	08/05/88
8. Surveillance Test Procedure		
STP-000-001, Daily Operating Logs	11	04/05/89
9. Quality Assurance Procedures		
QAP-1.2, Quality Assurance/Quality Control Organizations Responsibilities, and Duties	1	10/26/87
QAP-1.3, Quality Assurance Indoctrination and Training Program Procedure	7	04/07/88
QAP-1.14, Quality Assurance Tracking of Quality Concerns	2	11/05/87
QAP-1.15, Processing of Quality Assurance Finding Reports	4	01/12/89

Title	Revision	Date
10. Quality Assurance Instructions		
QAI-2.0, Planning and Scheduling GSU Quality Assurance Audits	2	02/07/89
QAI-2.1, Audit Performance, Reporting and Followup	6	09/14/88
QAI-2.3, Planning, Scheduling, and Reporting QA Surveillance of Plant Activities	6	09/20/88
QAI-2.4, Quality Assurance Evaluation of Supplier/ Contractor QA Programs	5	05/03/88
QAI-2.11, Qualified Supplier List	6	01/06/88

11. Quality Assurance Surveillances and Audits

1988-1989 QA Audit Schedule

QA Surveillance Report: OS-88-10-12, "Chemistry Tech. Spec. Surveillances for S/U," performed October 13, 1988

QA Surveillance Report: OS-88-06-42, "Conduct of Chemistry and F/U OS-87-11-14," performed July 22, 1988

QA Surveillance Report: OS-89-05-46, "Surveillance Test Performance Program," performed May 27, 1989

QA Surveillance Report: 05-87-03-03, "Radwaste Management IE Notice 87-07," performed March 14, 1987

QA Audit Report: 83-01-I-ODCM, "Offsite Dose Calculation Manual Program," performed January 19-28, 1988

QA Audit Report: 88-05-I-CHEM, "Chemistry Program," performed May 10-19, 1988

QA Audit Report: 88-09- -PCON/RWMP, "Radioactive Waste Management and Process Programs," performed September 6-15, 1988

QA Audit Report: 89-06-I-PCON/RWMP, "Process Control and Radioactive Waste Management Programs," performed June 13-22, 1989

QA Vendor Audit Report: 86-12-A-0163, Chem-Nuclear Systems, Inc., performed December 16-18, 1986

QA Vendor Audit Report: 88-11-P-0261, Nuclear Consulting Services, Inc., performed November 7-11, 1988

QA Vendor Audit Report: 88-09-P-0256, Controls for Environmental Pollution, Inc., performed September 27-28, 1988

QA Vendor Audit Report: 88-07-P-0253, Environmental Engineering and Testing, performed July 19-21, 1988

QA Vendor Audit Report: 87-02-P-0228, Nuclear Air Filtration Testing Associates, performed February 18-19, 1987

12. River Bend Station Semiannual Radiological Effluent Release Reports

January 1 through June 30, 1987
July 1 through December 31, 1987
January 1 through June 30, 1988
July 1 through December 31, 1988
January 1 through June 30, 1989