

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-458/85-46

Construction Permit: CPPR-145

Docket: 50-458

Category: A2

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

Facility Name: River Bend Station (RBS)

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

Inspection Conducted: June 3-7, 1985

Inspector:

Wesley L. Holley  
W. L. Holley, Radiation Specialist, Facilities  
Radiological Protection Section

7/24/85  
Date

Approved:

Blaine Murray  
Blaine Murray, Chief, Facilities Radiological  
Protection Section

7/24/85  
Date

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

7/29/85  
Date

Inspection Summary

Inspection Conducted June 3-7, 1985 (Report 50-458/85-46)

Areas Inspected: Routine, announced inspection of radioactive waste (radwaste) management and transportation activities including: organization, audits, liquid radwaste system, gaseous radwaste system, controls for effluent releases, solid radwaste system, air cleaning systems, radiation monitoring instrumentation, radiological effluent technical specification (RETS), process control plan (PCP), personnel selection/qualification criteria, and radwaste

training/retraining programs. The inspection involved 46 inspector-hours onsite by one NRC inspector.

Results: Within the 12 areas inspected, no violations or deviations were identified.

DETAILS1. Persons ContactedGSU

\*W. Cahill, Senior Vice President  
 \*J. C. Deddens, Vice President, RBS Nuclear Group  
 \*T. F. Plunkett, Plant Manager (PM)  
 \*D. L. Andrews, Training Director  
 \*T. P. Anthony, Senior Mechanical Engineer (Engineering Radwaste Coordinator)  
 C. L. Ballard, Projects Supervisor  
 \*J. Bleau, Radwaste Specialist  
 \*J. E. Booker, Manager, Engineering, Fuels, and Licensing  
 \*L. N. Campo, Radwaste Specialist  
 J. Cook, Lead Environmental Engineer, Nuclear Licensing Group  
 \*T. C. Crouse, Quality Assurance (QA) Manager  
 J. Cutchin, Technical Specification (TS) Engineer  
 \*P. J. Dautel, Licensing Staff Assistant  
 J. D. Davis, QA Engineer  
 S. L. Driscoll, Radiation Protection and Chemistry Coordinator  
 \*R. G. Easlick, Radwaste Supervisor  
 \*L. A. England, Licensing Supervisor  
 \*P. E. Freehill, Startup and Test Superintendent  
 \*D. R. Gibson, Assistant PM  
 Olin Hale, Radiation Protection Specialist  
 \*K. C. Hodges, System QA Supervisor  
 P. G. Humphrey, SU and Test Engineer  
 D. E. Jacobson, Technical Staff Engineer  
 \*G. R. Kinnell, Operations QA Supervisor  
 \*G. V. King, Plant Services Supervisor  
 W. J. Lambert, Systems Engineer  
 \*M. Y. Lett, Protection/Radwaste Technician  
 J. M. McGhee, Radwaste Foreman  
 C. L. Nash, Chemistry Supervisor  
 \*S. R. Radebaugh, SU and Test Assistant Superintendent  
 \*D. Reymerson, Executive Assistant  
 \*C. Rohrmann, Technical Training Coordinator  
 \*J. E. Spivey, QA Engineer  
 \*R. B. Stafford, Quality Services Director  
 \*P. F. Tomlinson, Operations QA Director  
 J. P. Wilson, ALARA Coordinator

Others

\*W. R. Bennett, USNRC RIV Reactor Inspector  
 R. D. Breedlove, Senior Engineer/Instructor, General Physics Corporation  
 R. Coad, Radiological Engineering Consultant, CDI Corporation

- R. T. Dunn, Lead Heating Ventilation and Air Conditioning (HVAC)  
SU Engineer, Air Cleaning Systems, Inc.
- \*F. W. Finger III, Preliminary Test Organization Project Manager, Stone  
and Webster Engineering Corp.
- \*B. R. Hall, Field Quality Control Assistant Superintendent, Stone and  
Webster Engineering Corp.
- A. G. James, SU and Preoperational Test Engineer, Sunbelt Technical  
Services, Inc.
- J. Newton, SU Test Engineer, Sunbelt Technical Services, Inc.

The NRC inspector also interviewed other licensee and contractor  
personnel.

\*Denotes those present at the exit interview.

2. Open Items Status

<u>Open Item</u>	<u>Description</u>	<u>Status</u>	<u>Paragraph</u>
458/8414-01	Management Control Procedures	Closed	3
458/8414-02	Radiological Effluent Technical Specifications and Process Control Program	Open	4
458/8414-03	Liquid Radwaste System	Open	5a
458/8414-04	Gaseous Radwaste System	Open	5b
458/8418-05	Effluent Release Procedures	Open	6
458/8414-06	Solid Radwaste System	Open	7
458/8414-07	Radiation Monitoring System	Open	8
458/8414-08	Air Cleaning Filter System	Open	9
458/8414-09	Transportation Activities	Closed	10
458/8414-10	Audits	Closed	11

3. Radwaste Organization and Management Control

The NRC inspector examined the licensee's onsite organization regarding  
radwaste management to determine compliance with the Final Safety Analysis  
Report (FSAR) commitments.

The NRC inspector reviewed procedures, ADM-0043, "Radwaste Management  
Plan," ADM-0038, "Radioactive Waste Management Program," ADM-007,  
"Selection, Training, Qualifications, and Evaluation," and the Radwaste

Policy statement contained in RBS Policy Procedure 020. Other site approved procedures reviewed are listed in Section 1 of the attachment.

The NRC inspector noted that the radwaste organization had been established. The Radwaste Supervisor reports to the Assistant Plant Manager and has a Radwaste Specialist/Shipping Radwaste Specialist/Storage, and a Radwaste Foreman reporting to him. The radwaste organization had 12 permanent personnel and an undetermined number of plant utility personnel will also be functionally assigned to this organization. The NRC inspector reviewed the radwaste organization's job position description/responsibilities and personnel qualifications. The radwaste organization appears to agree with the FSAR commitments.

Open item (458/8414-01) is considered closed.

No violations or deviations were identified.

#### 4. Technical Specifications

The NRC inspector determined that the licensee had submitted the final draft of the RETS to the Office of Nuclear Reactor Regulations (NRR) for review and approval. The first revision of the Offsite Dose Computational Manual (ODCM) was submitted to NRR on May 31, 1985, for review and approval.

The licensee had selected a contractor to solidify radwaste, and had developed a PCP (incorporating the contractor's approved PCP) and submitted it to the NRR for review and approval. Open item (458/8418-02) remains open pending:

- Approval of the RETS
- Approval of the ODCM
- Approval of the PCP

No violations or deviations were identified.

#### 5. Radioactive Waste Management

The NRC inspector reviewed selected portions of the radwaste management program with respect to FSAR Chapter 11, "Radioactive Waste Management"; Chapter 12, "Radiation Protection"; Chapter 13, "Conduct of Operations"; and Chapter 14, "Initial Tests and Operations."

##### a. Liquid Radioactive Waste System

The NRC inspector determined that the construction and installation of this system had been completed and that preoperation tests were in progress according to Preoperational/Acceptance Test Procedure, 1-PT-603, "Liquid

Radwaste Systems." The liquid radwaste system operating procedures reviewed are listed in Section 2 of the attachment. These procedures had been approved except for the ARP/SOP-0101 and ARP/SOP-0108 which were missing instrumentation set-points.

The NRC inspector determined that a review of the liquid radwaste system per IE Bulletin 80-10 had been completed, but the results had not yet been documented. The ALARA "as-built" radwaste system review, including the recommendation's of ANSI/ANS-55.6-1979, had been completed. The licensee had not yet verified tank volumes, recirculation times, representative sampling, discharge flow rates, and recorder readings.

The NRC inspector reviewed the training/retraining program for personnel responsible for operating the liquid radwaste system. The lesson plan, NLO-46, "Radwaste Systems," examination scores and TR-0218, "Radwaste Operator System Qualification Card Certification" were reviewed. The training program appeared adequate.

Open Item (458/8414-03) remains open pending:

- Completion of preoperational tests for all liquid radwaste systems.
- Documentation of the review of the liquid radwaste system and review of the radwaste operating procedures per IE Bulletin 80-10.
- Verification of tank volumes, recirculation times, representative sampling, discharge flow rates, and recorder readings.
- Completion of operating procedures.

b. Gaseous Radioactive Waste System

The NRC inspector reviewed preoperational/acceptance test procedure, 1-PT-606, "Offgas" and determined that the preoperational tests had not been completed. The operating procedures, SOP-0092, "Offgas System" had not been completed.

The NRC inspector reviewed the "as-built" ALARA review which included the recommendations of ANSI/ANS 55.4-1978. The NRC inspector determined that the gaseous radwaste system and its operating procedures had not been reviewed per IE Bulletin 80-10. Also, the NRC inspector discussed with the licensee representatives the need to verify representative sampling, discharge flow rates, and recorder readings.

Open item (458/8414-04) remains open pending:

- Completion of preoperational tests.
- Conduct of a system review and establishment operating procedures per IE Bulletin 80-10.
- Verification of representative sampling, discharge flow rates, and recorder readings.
- Completion of operational procedures.

No violations or deviations were identified.

#### 6. Controls for Effluent Releases

The NRC inspector reviewed Procedure CSP-110, "Control of Plant Liquid Radioactive Discharges" for controlling release of radioactive liquids. Other approved procedures reviewed are listed in Section 3 of the attachment. The NRC inspector determined that controls for effluent releases appeared to be adequate except for the referencing of the technical specification limits and including of total activity released.

Open Item (458/8414-05) remains open pending the completion of effluent release procedures.

No violations or deviations were identified.

#### 7. Solid Radioactive Waste System

The NRC inspector reviewed the solid radwaste system to determine compliance with FSAR commitments.

The NRC inspector determined that the licensee had installed a vendor-supplied solidification system. This vendor solidification system will be used to dewater or solidify solid radwaste and provide for filtration and demineralization of liquid radwaste. The NRC inspector determined that the licensee is renovating an existing building to provide a Dry Active Waste Segregation Facility.

The NRC inspector reviewed the "as-built" ALARA review of the solid radwaste system which included the recommendations of ANSI/ANS 55.1-1978. Some progress had been made in several areas of the solid radwaste systems; but the status of the system is essentially the same as discussed in NRC Report 50-458/84-33.

Open Item (458/8414-06) remains open pending:

- Completion of approved preoperational test procedures.
- Verification of representative sampling of waste streams to determine compliance with 10 CFR 61.55 and 61.56.

- Completion of operating procedures.
- Completion of training/retraining programs for solid radwaste systems.

No violations or deviations were identified.

#### 8. Radiation Monitoring Systems-Process and Effluent Monitoring

The NRC inspector reviewed radiation monitoring systems for compliance with Chapter 11, "Radioactive Management" of the FSAR.

The NRC inspector determined that the preoperational test procedures had been completed; but that the preoperational test had not been completed for the radiation monitoring systems. The preoperational testing was approximately 85% complete. The development of a surveillance and calibration program (which included a response test, functional checks, and calibration for the liquid and gaseous process and effluent monitors) had been completed and submitted for review and approval. The NRC inspector discussed with the licensee representatives the need to verify that liquid, particulate, and gaseous monitors are measuring a representative portion of the effluent stream, and that the calibration of gaseous and liquid radioactivity monitors are performed with gaseous and liquid standards traceable to the National Bureau of Standards over the full range of instrumentation.

Open Item (458/8414-07) remains open pending:

- Completion of preoperational tests.
- Final approval of a surveillance and calibration program.
- Verification or representative sampling for offline monitors.
- Review of monitors installed per ANSI/ANS N13.1-1969.

No violations or deviations were identified.

#### 9. Air Cleaning Systems

The NRC inspectors reviewed the air filtration system to determine compliance with Chapter 11, "Radioactive Waste Management" of the FSAR.

The NRC inspector determined that the ventilation preoperational tests were completed except for PT 400-2, "Safety Related Ventilation System Environmental Design and Technical Requirements." Other preoperational test procedures reviewed are listed in Section 6 of the Attachment.

The NRC inspector reviewed the "as-built" ALARA report of air cleaning systems. This ALARA study appeared to be adequate. The NRC inspector

determined that ALARA concerns were documented and submitted to plant review committee for resolution.

Open Item (458/8414-08) remains open pending:

- Completion of preoperational tests.
- Development of an inplace testing program and laboratory analyses per recommendations of ANSI/ASME-N509-1980 and N510-1980 and Regulatory Guides 1.52 and 1.140.

No violations or deviations were identified.

#### 10. Transportation Activities

The NRC inspector reviewed the licensee's transportation program which is described in the procedures listed in Section 7 of the Attachment. The NRC inspector reviewed the licensee's training program in the transportation area. A training course, "Regulatory Awareness-Radioactive Waste Packaging, Transportation, and Disposal" was presented by a vendor for two days to 16 RBS personnel. The NRC inspector reviewed the lesson plan/class notes and the examination for this course.

Open item (458/8414-09) is considered closed.

No violations or deviations were identified.

#### 11. Audits and Revisions

The NRC inspector reviewed the licensee's audit/review program regarding radwaste and transportation activities to determine compliance with FSAR commitments and the QA manual.

The NRC inspector reviewed Quality Assurance Directive (QAD)-18, "Audits," RBS Operations QA manual, QA Audit Plan, Operations Quality Procedure and Instruction manual (Quality Assurance Instrumentation (QAI)-2.1, Audit of Radioactive Waste Management Program," performed by RBS Quality Systems organization during April 17-25, 1985. This audit included pre and post audit meetings, audit procedures, checklist, and included a contracted consultant who was knowledgeable in radwaste and transportation as an audit team member.

Open item (458/8414-01) is considered closed.

No violations or deviations identified.

#### 12. Exit Interview

The NRC inspector met with the licensee representative identified in paragraph 1 at the conclusion of the inspection on June 7, 1985. The NRC inspector discussed the scope and findings of this inspection with the licensee.

## ATTACHMENT

### RBS Procedures

#### 1. Radwaste Organization and Management Control

RWS-0203, "Personnel Qualification for Radwaste," Rev. 1, 4/18/85  
RWS-0211, "General Performance Control for Radwaste," Rev. 1, 4/18/85  
RWS-0212, "Radwaste Process Logs and Records," Rev. 1, 5/18/85  
RWS-0213, "Radwaste (Process) Shift Relief and Turnover," Rev. 1, 4/16/85  
RWS-0304, "Radioactive Waste Handling and Control," Rev. 1, 4/27/85

#### 2. Liquid Radwaste Systems

ARP-0101, "Liquid Radwaste Collection," Rev. 0, 2/13/85  
SOP-0101, "Liquid Radwaste Collection," Rev. 0, 2/15/85  
ARP-0108, "Liquid Radwaste Processing," Rev. 0, 3/29/85  
SOP-0108, "Liquid Radwaste Processing," Rev. 0, 3/12/85  
RWS-0208, "Water Management and Leak Detection," Rev. 1, 5/18/85

#### 3. Controls for Effluent Release

- COP-0050, "Sampling Gaseous Streams for Iodine, Particulate, Noble Gas, and Tritium Activity," Rev. 1, 4/10/85
- COP-0057, "Sampling Liquid Effluent Process Streams During Inoperable Monitor Conditions," Rev. 1, 4/27/85
- COP-0616, "Determinations of Off-Gas Flow by Radionuclide Analysis," Rev. 1, 3/30/85
- CSP-0133, "Chemistry Surveillance of Liquid Radwaste Systems," Rev. 1, 3/6/85
- CSP-000-9000, "Technical Specifications Surveillance Chemical/Radiochemical Program," Rev. 0, 1/4/85

#### 4. Solid Radioactive Waste System

RWS-0204, "Process Control Program," Rev. 0, 12/28/84  
RWS-0209, "Radwaste Vendor Solidification/Mobile Equipment," Rev. 1, 4/27/85  
RWS-0305, "Use of the Dry Active Waste Storage Facility," Rev. 1, 5/11/85  
Technical Specification for Dry Active Waste Segregation Facility (draft)

#### 5. Radiation Monitoring Systems-Process and Effluent Monitors

STP-000-001, "Daily Operating Logs," Rev. 0, 8/24/84 (Many "Later's")  
STP-000-0201, "Monthly Operating Logs," Rev. 0, 1/11/85

6. Air Cleaning Systems

1-AT-410-1, Turbine Building Ventilation Chilled Water  
1-AT-413-3, Fire Pump House Ventilation  
1-PT-409-1, Reactor Plant Ventilation-Containment Cooling  
1-PT-409-2, Annulus Pressure Control and Annulus Mixing Systems  
1-SST-17, Field Testing of Category I Charcoal Filter Units  
1-SST-18, Field Testing of Category II Charcoal Filter Units

7. Transportation Activities

RWS-0206, "Radwaste Scaling Factors Program," Rev. 1, 4/17/85  
RWS-0207, "Radwaste Shipping Criteria," Rev. 1, 5/18/85  
RWS-0209, "Radwaste Vendor Solidification/Mobile Equipment," Rev. 1,  
4/27/85  
RWS-0211, "General Performance Control for Radwaste," Rev 1, 4/18/85  
RWS-0212, "Radwaste Process Logs and Records," Rev. 1, 5/18/85  
RWS-0213, "Radwaste (Process) Shift Relief and Turnover," Rev. 1, 4/16/85  
RWS-0304, "Radwaste Handling and Control"  
RWS-0305, "Use of the Dry Active Waste Storage Facility"  
RWS-0307, "Radioactive Waste Segregation," Rev. 1, 5/3/85  
RWS-0308, "Evaluation and Determination of Shipping Container Activity,"  
Rev. 1, 5/30/85  
RWS-0313, Receipt Inspection, Storage, and Inventory of Radioactive  
Material Shipping Packages," Rev. 1, 5/11/85  
RWS-0314, "Volume Allocation and Prior Notification," Rev. 1, 4/22/85  
RWS-0324, "Shipping Special Form Radioactive Material," Rev. 1, 5/18/85  
RWS-0325, "Shipping  $\leq$  A<sub>2</sub> Quantities of Radioactive Material," Rev. 1,  
5/11/85  
RWS-0326, "Shipping  $>$  A<sub>2</sub> Quantities of Radioactive Material," Rev. 1,  
5/11/85  
RWS-0327, "Shipping Low Specific Activity (LSA), Radioactive Material,"  
Rev. 1, 6/5/85  
RWS-0328, "Radioactive Instruments and Articles," Rev. 1, 4/18/85  
RWS-0329, "Empty Radioactive Containers," Rev 1, 3/4/85  
RWS-0330, "Limited Quantities of Radioactive Material," Rev. 1, 5/11/85  
RPS-0205, "Receipt of Radioactive Material," Rev. 1, 12/10/84