

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-458/85-32

Construction Permit: CPPR-145

Docket: 50-458

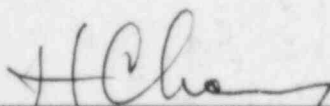
Licensee: Gulf States Utilities (GSU)
P. O. Box 2951
Beaumont, Texas 77704

Facility Name: River Bend Station (RBS)

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

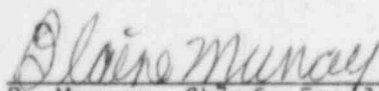
Inspection Conducted: June 24-28, 1985

Inspector:


H. Chaney, Radiation Specialist, Facilities
Radiological Protection Section

8/1/85
Date

Approved:


B. Murray, Chief, Facilities Radiological
Protection Section

8/1/85
Date


J. P. Jaudon, Chief, Project Section A
Reactor Project Branch

8/1/85
Date

Inspection Summary

Inspection Conducted June 24-28, 1985 (Report 50-458/85-32)

Areas Inspected: Routine, announced inspection of the licensee's radiation protection (RP) program, certain TMI action items (NUREG-0737), and selected RP program activities associated with emergency preparedness activities. The inspection involved 53 inspector-hours onsite by one NRC inspector.

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

DETAILS

1. Persons Contacted

GSU

- *J. Deddens, Vice President RBNG
- *I. Plunkett, Plant Manager (PM)
 - D. Andrews, Training Director
- *M. Cassada, Radiological Programs Supervisor
- *W. Anders, Senior Quality Assurance (QA) Engineer
- *E. Cargill, Jr., RP Supervisor
 - G. Collett, RP Foreman
- *J. Conner, Environmental Services Supervisor
- *P. Dautel, Licensing Staff Assistant
- *S. Driscoll, Radiological Engineering Supervisor
 - C. Fantacci, Senior Health Physicist (HP)
- *P. Graham, Assistant PM
- *D. Gipson, Assistant PM
- *K. Garner, Senior Mechanical Engineer
 - S. McKenzie, Nuclear Training Coordinator
 - C. Nash, Chemistry Supervisor
- *E. Oswood, QA Engineer
 - W. Odell, Training Manager
- *B. Hey, Licensing Engineer
- *D. Ross, Radiological Health Supervisor
- *D. Seymour, Compliance Analyst
- *R. Stafford, Director Quality Services
- *H. McClellan, Senior Compliance Engineer
- *P. Tomlinson, Director Operations QA
- *M. Walton, Supervisor Design Engineering
- *G. Kimmell, Supervisor Operations QA

Others

- *D. Chamberlain, NRC Senior Resident Inspector
 - B. Dunn, Startup Engineer (SU)-Consultant
 - J. Newton, SU-Consultant
 - R. Williams, Training-Consultant

*Denotes those present during the exit interview.

The NRC inspectors also contacted other licensee and contractor employees including HP and engineering personnel.

2. Licensee Action on Previously Identified Open Items

(Closed) Open Item (458/8406-01): RP Organization and Management Controls - The licensee had developed and implemented an RP Plan and issued Instructions (RSP-001) on use of Station Administrative Procedure 19, "Condition Reporting" for reporting and tracking radiological deficiencies. The licensee had also staffed the RP organization to a sufficient degree (14 staff positions, 21 technicians, and 2 helpers) to

allow full implementation of the RP programs. These actions have resolved the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-02): RP Staff Qualifications - The licensee had implemented an RP organization qualification and training program (RSP-003), and current training program schedules indicate that the licensee will have an appropriately staffed and qualified RP organization for a mid-July fuel load date. The RP technical staff, RP supervisors, and RP technicians appear to satisfy the licensee's commitments in the Final Safety Analysis Review (FSAR) Section 13, and the recommendations of ANSI/ANS-3.1-1978. The licensee had on hand a sufficient number of personnel (eight) that satisfy ANSI/ANS-3.1-1978 qualifications and commercial operating nuclear power facility experience, as previously committed to by the licensee and referenced in NRC Inspection Report 50-458/85-05. The licensee had also incorporated into Procedure RSP-0003 instructions and documentation for the evaluation of both staff and contractor RP technician qualifications. This item is considered closed.

(Closed) Open Item (458/8406-03): Nuclear Training Department Organization - The licensee had developed and implemented administrative procedures and training program plans that are associated with or support RP training. These actions resolved the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-04): General Employee Training (GET) - The licensee had implemented a GET program that resolves the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-05): Radiation Worker Training (RWT) - The licensee had performed an indepth review and audit of RWT, including respiratory protection training, and deficiencies identified during the audit are being corrected and tracked to completion by the QA department. The licensee had also provided a staff instructor advanced training on respiratory protection equipment, testing, and program development. The licensee's actions resolve the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-06): RP-Technician Training and Qualification - The licensee had implemented a comprehensive RP technician training and qualification program, including qualification matrixes, on-the-job-training, and supervisory board review of candidates for senior RP technician. The NRC inspector reviewed shift assignments and interviewed RP technicians. The licensee was noted to have eight RP technicians that possess greater than 2 years of commercial operating reactor experience. The licensee's actions resolve the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-07): External Radiation Protection Program - The licensee had implemented an external radiation dosimetry program that had passed the National Voluntary Laboratory Accreditation Program conducted by the National Bureau of Standards. The licensee had implemented a personnel monitoring program that appropriately addressed

dosimetry for routine, special, and emergency use. The NRC inspector noted that the licensee's computerized exposure tracking report program was being supplemented by a manual exposure tracking program to handle exposure tracking problems during initial implementation of the computerized access and exposure control program. The licensee's actions resolve the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-08): Internal Dosimetry Program - The licensee had implemented an internal radiation exposure control and dosimetry program that satisfies the recommendations of ANSI N343-1978 and NRC Regulatory Guides 8.9, 8.20, and 8.26. The NRC inspector noted that the licensee had started acquiring baseline whole body counting (WBC) data on all employees. The licensee's procedures were noted to provide for back calculating airborne radioactivity concentrations exposure-hours based on WBC data, tracking of emergency worker's airborne radioactivity exposure, and instructions for performance of indirect bioassay activities. The licensee's actions resolve the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-09): Respiratory Protection Program - The licensee had implemented a respiratory protection program that satisfied the requirements of 10 CFR Part 20.103 and the recommendations of RG 8.15. The NRC inspector noted that the licensee had evaluated the respiratory protection training program, and had improved oversight of the program by the QA and RP organizations. Detailed respiratory protection program instructions and a GSU management policy on respiratory protection practices had been issued. The licensee had procured sufficient respiratory protection equipment for routine use, training, security, and for emergency use. The inventory of air purifying and self-contained breathing apparatus satisfy FSAR commitments. The licensee's facility for decontamination, sanitizing, and repair of respiratory protection equipment will be located in the radioactive waste building and provides sufficient area and facilities for conducting the aforementioned activities. The licensee's actions have resolved the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-013): ALARA Program - The licensee was found to have disseminated a RBS management policy statement regarding ALARA commitments and policies. The licensee's action resolves the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-015): RP Instrumentation and Calibration - The licensee had increased the inventory of portable RP instruments, most notably in the area of exposure dose rate measurement instruments. The licensee's current inventory of RP instruments for routine and emergency response satisfy the licensee's FSAR commitments. There appears to be an adequate prestaged stock of instruments for use at onsite and offsite emergency facilities. The licensee had also provided for periodic inventory of emergency equipment lockers, and the response checking of RP instruments with a known source prior to use during emergency response activities. The licensee's actions resolve the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-016): RP Facilities - The licensee had completed procurement of all RP facilities, including an area for respiratory protection equipment maintenance and cleaning (see open item 458/8406-09). The NRC inspector reviewed the RP attributes associated with the licensee's technical support and operational support center (TSC & OSC), including emergency equipment inventories. These facilities appear satisfactory for conducting RP activities during a reactor accident. Further reviews of these facilities will be conducted following fuel load. Licensee actions resolve the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-017): RP Equipment and Expendable Supplies - The licensee had procured sufficient RP equipment (e.g., portable filtered ventilation units, portable shielding, containments, breathing air compressor, etc.) and expendable supplies for initial startup and operation. The computerized inventory control is being established for routine expendables and instructions have been implemented for inventory of emergency preparedness equipment. The licensee's actions have resolved the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-026): NUREG-0737, Item II.F.1-3, Containment High Range Radiation Monitor - The licensee had installed, preoperationally tested and calibrated two high range radiation detectors in the containment and drywell. Locations of the detectors, dynamic range, and calibration procedures/records satisfy the criteria of NUREG-0737 and RG 1.97. This item is considered closed.

(Closed) Open Item (458/8406-027): NUREG-0737, Item III.D.1.1, Integrity of Systems Outside of Containment - The licensee had issued procedures for the establishment of a leak reduction program, and preventative and corrective action maintenance programs that address the requirements of NUREG-0737. The licensee's actions resolve the NRC inspector's concerns in this area. This item is considered closed.

(Closed) Open Item (458/8406-022): NUREG-0737, Item II.B.2, Design Review of Plant Shielding - The licensee had addressed the evaluation of plant shielding for access to vital areas used by personnel to assess or mitigate a reactor accident in Amendment 15 to the FSAR (Section 12.3.2.4). The licensee had addressed post-accident access to the TSC, OSC, post-accident sampling station/system (PASS), main control room, chemistry laboratory, main plant exhaust effluent monitoring system, and the security center, i.e., the primary access point to the protected area. Time-motion studies for activities such as PASS and plant ventilation stack sampling indicate that 10 CFR Part 50, Appendix A, General Design Criteria 19 can be met. The licensee had developed procedures and detailed access routes for accomplishing certain post-accident sampling activities. The NRC inspector noted that the ALARA group had identified sample lines within the PASS cubicle, on the 114 foot elevation of the reactor auxiliary building (RAB), that can be further shielded to reduce dose rates in the cubicle. These actions resolve the NRC inspector's concerns in this area of PASS access and sample transport. This item is considered closed.

3. Previously Identified Open Items That Were Not Closed During This Inspection

Open Item (458/8406-20): Normal Ventilation System Air Flow Characteristics - This item has been previously discussed in NRC Inspection Reports 50-458/84-06 and 85-05. The NRC inspector determined that the licensee had experienced extensive leakage due to ventilation duct construction, and only the fuel building and the TSC appear to have satisfied initial flow and balancing criteria. The NRC inspector noted that the River Bend ALARA group had identified several deficiencies regarding various ventilation system characteristics, such as air flow balancing in radioactive waste cubicles and loop seals on filter housing drains. The NRC inspector discussed with licensee representatives the inspectors concerns regarding the observed untested filtered ventilation systems servicing radioactive work areas in the service building (chemistry and HP) that exhaust to the environment without any noticeable radioactivity monitoring of the effluent. These exhaust systems in the service building do not appear to be addressed in the FSAR nor do they appear to satisfy 10 CFR Part 50, Appendix A, General Design Criteria 64 for monitoring radioactive releases.

The NRC inspector determined that the licensee had previously identified the same concerns during an ALARA review and a QA surveillance (ISRZ 85-05-01) of plant modifications. The licensee is tracking these concerns via RB-QA Finding Report No. 0-85-05-01-D of April 26, 1985. This item is considered open pending licensee action to complete plant ventilation system balancing for radiologically controlled areas.

Open Item (458/8406-024): NUREG-0737, Item II.F.1-1, High Range Noble Gas Effluent Monitor - The licensee had installed combination extended range noble gas monitor and grab sampling (particulate and iodines) for monitoring routine and reactor accident effluent releases from the following ventilation stacks:

- Main Plant Exhaust Duct
- Fuel Building Exhaust Duct
- Radwaste Building Exhaust Duct

The systems provides a response range from background to 10^5 microcuries per cubic centimeter. The sample lines are heat traced, and the system employs isokinetic sampling. The licensee had completed preoperational testing and calibration of the fuel and radwaste building effluent exhaust monitors, and expects the main exhaust duct monitors to be operational by mid-July 1985. This item will remain open pending licensee action to complete operational testing and calibration of the main exhaust duct wide range noble gas monitor.

Open Item (458/8505-01): NUREG-0737, Item III.A.2, Meteorological Instruments and Measurements - The licensee had resolved five of the seven NRC concern's addressed in NRC Inspection Report 50-458/85-05. The NRC inspector reviewed surveillance and maintenance procedures, offsite

dose assessment instructions, inspected the meteorological tower site and control room meteorological instrument station. The licensee had performed a 60-day reliability study of the meteorological data collection equipment. The joint recovery rate was in excess of the 90 percent recovery rate referenced in NRC RG 1.23. The NRC inspector determined that the licensee had not resolved the two remaining areas:

- Providing onsite procedures for outlining the program and equipment involving the security force's monitoring of the "weather-alert" radio in the personnel access point, and the reporting of local severe weather sightings by the patrolling security force.
- Completing development of remaining surveillance/calibration procedures for meteorological instruments (STP-554-4209 and 4210).

Open Item (458/8406-023): NUREG-0737, Item II.B.3, Post Accident Sampling Capability - The licensee is installing and preoperational testing a PASS for reactor coolant and containment atmosphere. The licensee's PASS system appears to be able to satisfy the sampling and analysis criteria of NUREG-0737 and NRC RG 1.97. The NRC inspector discussed with the licensee the NRC inspector's concern that sample lines carrying undiluted reactor coolant (accident source term) had many uncontained mechanical joints, i.e., joints located outside of cabinets designed to contain and control drainage of escaping liquids. The sample lines and joints are located in areas or adjacent to areas that require access during response to a reactor accident. The PASS and its sample lines are located on the east side of the RAB on the 114 foot elevation, as shown in Figure 12.3-15, Sheet 2 of the FSAR. The NRC inspector discussed the NRC staff's position on mechanical joints and corrective actions taken by other utilities that were found acceptable by the NRC. The licensee still needs to resolve the following items in addition to the mechanical connections noted above:

- Complete preoperational testing of the PASS and associated equipment.
- Develop and implement operating and periodic surveillance procedures for the PASS.
- Develop and conduct PASS training of operations, RP and chemistry personnel, and establish retraining requirements.
- Develop plans and conduct tests to establish representative sampling of the PASS following completion of power ascension tests.

This item is also being tracked with other radiochemistry specific aspects by Open Item (458/8422-05).

Open Item (458/8406-025): NUREG-0737, Item II.F.1-2, Sampling and Analysis of Plant Gaseous Effluents - The licensee had installed a system for obtaining grab samples of plant gaseous effluents at the locations noted in open item (458/8406-024) above. The licensee had developed operational procedures, but had not completed staff training on obtaining grab samples during accident conditions. Section 12.3.2.4 of the FSAR addresses sampling access and egress routes for obtaining reactor accident effluent samples. The licensee had not developed plans for determining the ability of the grab sampling systems to representatively sample the three exhaust ducts, i.e., fuel building, main stack, and radwaste building. This item is considered open pending licensee action to:

- Complete preoperational testing of the sample conditioning skids.
- Establish each system's ability to representatively sample particulates and iodines involving reactor accident ventilation system flow rates.
- Complete staff training on obtaining and transporting grab samples to counting laboratory under simulated accident conditions.

These actions need to be completed prior to the exceeding 5 percent power level.

4. Exit Interview

The NRC inspector met with the licensee's representatives denoted in paragraph 1, and the NRC Region IV resident inspectors at the conclusion of the inspection on June 28, 1985. The NRC inspector discussed the scope and findings of the inspection. The NRC inspector noted that the licensee's radiation protection program appeared to be adequate to support reactor operations. The NRC inspector identified the remaining open items discussed in paragraph 3.