

APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-458/88-10

Operating License: NPF-47

Docket: 50-458

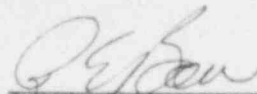
Licensee: Gulf States Utilities (GSU)
P.O. Box 220
St. Francisville, Louisiana 70775

Facility Name: River Bend Station (RBS)

Inspection At: RBS Site, St. Francisville, Louisiana

Inspection Conducted: April 11-15, 1988


Inspector:



R. E. Baer, Senior Radiation Specialist
Facilities Radiological Protection Section

5/29/88
Date

Approved:



B. Murray, Chief, Radiological Protection
and Safeguards Branch

5/25/88
Date

Inspection Summary

Inspection Conducted April 11-15, 1988 (Report 50-458/88-10)

Areas Inspected: Routine, unannounced inspection of licensee's radiation protection program including external occupational exposure control and personnel dosimetry; internal exposure control and assessment; control of radioactive materials and contamination, surveys, and monitoring; facilities and equipment; allegations regarding implementation of the radiation protection program; and Inspection and Enforcement Bulletin 78-06 test results.

Results: Within the areas inspected, two violations were identified (failure to follow procedures for daily and weekly reviews of radiation work permits, and failure to maintain procedures, paragraph 6).

DETAILS1. Persons ContactedGSU

*T. F. Plunkett, Plant Manager
 W. T. Bullard, Senior Health Physicist
 *E. M. Cargill, Director, Radiological Programs
 *J. M. Cook, Lead Environmental Analyst
 *T. C. Crouse, Quality Assurance (QA) Manager
 C. L. Fantacci, Supervisor, Radiological Engineering
 D. N. Fauver, Supervisor, Radiological Health
 M. N. Guidry, Instrument and Control (I&C), Acting Foreman
 W. C. Hardy, Radiation Protection (RP) Supervisor
 *G. K. Henry, Director, Quality Operations
 E. L. Hensley, RP Foreman
 *R. E. Horn, Nuclear Training Coordinator, Technical
 *G. R. Kimmell, Director, Quality Services
 P. A. LeFort, RP Foreman
 *J. H. McQuirter, Licensing Engineer
 D. L. Meyers, RP Foreman
 *W. H. Odell, Manager, Administration
 R. R. Turstall, RP Foreman
 M. A. Vierra, ALARA Coordinator
 A. D. Wells, RP Foreman

Others

*W. B. Jones, Resident Inspector, NRC

*Denotes those individuals present at the exit interview on April 15, 1988.

The NRC inspector also interviewed several other licensee employees, including radiation protection, I&C, operations, and administrative personnel.

2. Licensee Action on Previously Identified Inspection Findings

(Closed) Open Item (458/8725-01): Radiation Protection Staff Training - This item was identified in NRC Inspection Report 50-458/87-25 and involved the lack of a comprehensive training program for the radiation protection staff. The licensee had implemented a training program for newly hired personnel and refresher/retraining for radiation protection technicians.

3. NRC Inspector Observations

The following are observations the NRC inspector discussed with the licensee during the inspection and at the exit interview on April 15, 1988. These observations are neither violations nor unresolved items. These items were recommended for licensee consideration for program improvement, but they have no specific regulatory requirement. The licensee stated that the observation would be evaluated for program improvement.

Portal Monitor Calibration and Sensitivity - The portal monitors are presently calibrated to detect 200 nanocuries of cesium-137 activity passed through the center of the detector frame. See paragraph 6 for details.

4. External Occupational Exposure Control and Personal Dosimetry (83724/83524)

The NRC inspector reviewed the licensee's external occupational exposure control and personal dosimetry program including audits and appraisals, program changes, planning and preparation for outages, personal dosimetry, physical and administrative controls, records, reports, and notifications to determine compliance with 10 CFR Parts 20.101, 20.102, 20.104, 20.202, 20.401, 20.405, 20.407, 20.408, and 20.409, and Technical Specifications (TSs) 6.8 and 6.11.

No violations or deviations were identified.

5. Internal Exposure Control and Assessment (83725/83525)

The NRC inspector reviewed the licensee's internal exposure control and assessment program including audits and appraisals, program changes, planning and preparation for outages, assessing intakes of radioactive materials, engineering and administrative controls, respiratory protection equipment, bioassays, reports, records, and notifications to determine compliance with 10 CFR Parts 20.103 and 20.405.

No violations or deviations were identified.

6. Control of Radioactive Materials and Contamination, Surveys, and Monitoring (83726/83526)

The NRC inspector reviewed the licensee's control of radioactive materials and contamination, surveys, and monitoring program including audits and appraisals, changes, area radiation and airborne radioactivity monitors, portable survey and contamination monitoring instruments, protective clothing and equipment, surveys and monitoring, and radioactive material and contamination control program for compliance with 10 CFR Parts 20.5, 20.201, 20.203, 20.205, 20.207, and 20.301.

The NRC inspector discussed with licensee representatives the calibration of the portal monitors used both within the plant and at the security building. The licensee uses a 200 nanocurie cesium-137 standard source to establish the high radiation alarm setting for these instruments as recommended in the manufacturers instruction manual. The licensee stated that they would review the calibration methods presently used and attempt to lower the high radiation alarm setting.

Technical Specification 6.8.1 states that:

"Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978."

Appendix A of Regulatory Guide 1.33, Section 7.e(1) states, in part, that written procedures are recommended for access control to radiation areas including a Radiation Work Permit (RWP) system.

Radiation Protection Procedure RSP-0200, "Radiation Work Permits," Revision 3, dated July 13, 1987, Section 6.6.1.2, states, in part, that radiation protection (RP) personnel will, daily, evaluate radiological conditions for active RWPs and enter the date and radiological survey number as a minimum, if a survey was performed. Section 6.6.2.1 states, in part, that RP foreman/designee will review all active RWPs as necessary and indicate the review by initialing and dating.

On April 15, 1988, the NRC inspector determined from a review of RWPs issued between September 1987 through January 1, 1988, and discussions with RP personnel that active RWPs were not routinely updated daily during the refueling outage or reviewed weekly by a RP foreman/designee. An example was RWP 37-3057 which had been reviewed and updated to include the date and radiological survey number and survey data. A single individual entered all the data from September 15 through October 21, 1987. The data for surveys conducted on September 30 was entered on the RWP addendum before the September 29 survey data and there was no documentation of a foreman/designee review between September 15 through November 1, 1987. The NRC inspector also reviewed several RWPs that had not been reviewed and updated by the licensee. These RWPs did not contain any dates, radiological survey numbers or survey data other than the original radiological information used to initiate the RWP.

The failure to update active RWPs daily and to review them weekly is considered an apparent violation of TS 6.8.1 (458/8810-01).

Procedure RSP-0200, Section 6.1.1 requires the responsible supervisor or planner for a job/task to initiate an RWP (Attachment 1) and in Section 6.2.1.h RP personnel to initiate the RWP addendum (Attachment 3) as necessary. The NRC inspector determined the licensee had revised the RWP (Attachment 1) and RWP addendum (Attachment 3) in November 1987

without revising Attachments 1 and 3 for Procedure RSP-0200. The failure to revise the attachments to Procedure RSP-0200 is considered an apparent violation of TS 6.8.1 (458/8810-02).

7. Facilities and Equipment (83727/83527)

The NRC inspector reviewed the licensee's radiological control facilities and equipment for changes that have been made since the previous NRC inspection and agreement with commitments were in the Updated Safety Analysis Report (USAR).

The licensee had not made any major changes to facilities that were not in agreement with the USAR. The licensee had purchased a radiological parts monitor that was installed at the primary exit from the radiologically controlled area (RCA). The parts monitor ensures that no detectable radioactive material is released from the RCA without the licensee's knowledge.

No violations or deviations were identified.

8. Allegation Followup (99014)

a. Allegation No. RIV-87-A-0083

This allegation was received on October 28, 1987, and concerned an individual who reportedly was told to take his shirt home and wash it after radiation was detected on the shirt. The same shirt was later found to contain radioactive material.

Discussion

The NRC inspector discussed, with licensee representatives, the instructions provided to RBS RP personnel regarding the monitoring of personnel who alarm the personnel contamination monitor (PCM) on exiting the RCA. The current instruction requires that the item that alarms the PCM be identified and not be removed from the RCA. The prior practice, in place at the time the allegation was received, was if the PCM alarmed a RP technician would survey the individual and attempt to locate the radioactive material using a pancake type Geiger-Mueller tube detector with a count rate meter.

The licensee had recovered the shirt and removed the radioactive particle which was the size of approximately a pin head. The radioactive particle was used to determine if it would have been detected by the portal monitor located in the security building through which all personnel must pass to exit the licensee's facility. The particle, which measured approximately 8.2 nanocuries in radioactive strength, would not alarm the portal monitor. (See the NRC inspector's observation in paragraph 6.)

The RP technician who allegedly told the individual to take the shirt home and wash it was a contract technician and no longer available to question. The licensee and the Louisiana Department of Environmental Quality had performed radiological surveys of the individual's residence and found no detectable radioactive materials.

Conclusion

The licensee substantiated that a contract RP technician allowed this alleged to remove the shirt from the RCA after surveying it and not finding any radioactivity. The RP technician had told the individual to take the shirt home and wash it. The NRC inspector substantiated the shirt had been removed from the RCA, but could neither substantiate or disclaim that the shirt had been removed from the licensee's facility and taken to the alleged's residence.

No violations or deviations were identified.

b. Allegation No. RIV-87-A-0094

This allegation was received on December 11, 1987, and concerned: (1) RP technicians changing the requirements of RWPs without documenting the changes, and (2) work crews performing the same job were not having the radiation exposure divided equally among workers.

(1) Discussion

The NRC inspector discussed with licensee representatives and reviewed procedures and RWPs that were in effect during the last refueling outage to determine if RP technicians were changing the requirements for protective equipment specified on the RWPs for work being performed in the RCA. RP technicians acknowledged that, at times, changes would be made based on the current radiological surveys and work being performed in the area. These changes were to wear less protective equipment than specified on the RWP. The licensee stated that RWP protective equipment requirements are based on worse case conditions.

Procedure RSP-0020, "Radiation Work Permits," Section 5.5 states, in part, RP technicians providing coverage may make changes to requirements and instructions based on an immediate evaluation of radiological conditions. Section 6.7.1 addresses revisions to an RWP and states, "Deletion or reducing requirements does not necessitate a revision."

Conclusion

The allegation that RP technicians are changing the protective clothing requirements without changing the RWP is substantiated.

No violations or deviations were identified.

(2) Discussion

The NRC inspector discussed the alleged circumstance with licensee representatives and reviewed related records such as RWPs, ALARA work packages, and personnel radiation exposure records.

The licensee stated they request vendors/contractors to distribute radiation exposures among all workers. The licensee does not closely follow exposures to determine they are equal but rather that the distribution of exposure among workers are reasonable. Conditions which are beyond the licensee's control include an individual's experience, working habits, and shift assignment. Certain types of work are performed during the afternoon shift that cannot be done during the day shift and could result in higher exposure levels to those individuals. The radiation exposure of those persons employed by the contractor varied from a low of approximately 270 to 1450 mrem with a mean exposure of about 800 mrem. The number of employees above 800 mrem were about the same as those below.

Conclusion

The allegation that personnel do not have the radiation exposure divided equally among workers is substantiated.

No violations or deviations were identified.

9. Bulletin Followup (25023)

NRC Bulletin 78-08 was issued directing licensees to evaluate the radiological controls for boiling water reactors for access to and work in the drywell during spent fuel movements.

The licensee, during the first refueling outage RF-1, implemented Temporary Procedure 87-15 which provided for dose rate measurements to be performed during spent fuel transfers. The licensee verified that radiation intensities within the general area (15 mrem/hr) of the drywell was acceptable and the highest area (20-25 rem/hr) was at the main steam line penetrations. The licensee had established administrative controls for access to the drywell above the 114-foot elevation, the personnel airlock is located at the 96-foot elevation, during fuel transfer.

No violations or deviations were identified.

10. Exit Interview

The NRC inspector met with the personnel identified in paragraph 1 at the conclusion of the inspection on April 15, 1988. The NRC inspector summarized the scope and findings of the inspection.