

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-458/92-29

Operating License: NPF-47

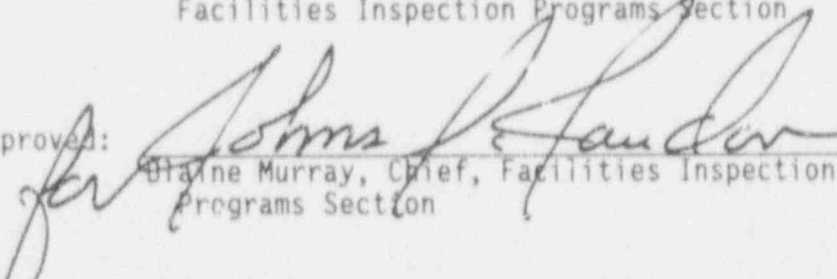
Licensee: Gulf States Utilities
P.O. Box 220
St. Francisville, Louisiana 70775

Facility Name: River Bend Station

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

Inspection Conducted: August 31 through September 4, 1992

Inspector: A. D. Gaines, Radiation Specialist
Facilities Inspection Programs Section

Approved: 
Blaine Murray, Chief, Facilities Inspection
Programs Section

9/22/92
Date

Inspection Summary

Areas Inspected: Routine, announced inspection of the radiation protection program including: organization and management controls; training and qualifications; and maintaining occupational exposures ALARA.

Results:

- Radiation protection staff was maintained at an appropriate level. The staff turnover rate was low (paragraph 1.1).
- Quality assurance surveillances and audits were very good (paragraph 1.1).
- Personnel contamination events exceeded 1992 goals, and indicated that poor radiological work practices were a contributing factor (paragraph 1.1).
- Responses to Radiological Deficiency Reports were not always timely (paragraph 1.1).
- Training programs for radiation protection personnel and general employees appeared to be very good; however, radiation worker job

performance was not indicative of a very good training program (paragraph 2.1).

- Training instructors were very knowledgeable and well qualified (paragraph 2.1).
- The incorporation of "lessons learned" into training materials was very good (paragraph 2.1).
- The Radiation Protection Training Review Group provided excellent oversight for radiation protection training needs (paragraph 2.1).
- ALARA dose reduction programs performed during the outage were excellent (paragraph 3.1).
- Pre-job ALARA briefings and the use of ALARA practices in radiation work were very good (paragraph 3.1).
- Although person-rem goals for 1992 were exceeded, there was no indication of a breakdown in the ALARA program (paragraph 3.1).
- Written responses to ALARA suggestions were not timely (paragraph 3.1).

Summary of Inspection Findings:

- No violations or deviations were identified.

Attachments:

- Attachment 1 - Persons Contacted and Exit Meeting

DETAILS

1 ORGANIZATION AND MANAGEMENT CONTROLS (83750)

The inspector reviewed the licensee's organization, staffing and management controls to determine compliance with the requirements in Sections 6.2 and 6.5.3.8 of the Technical Specifications and agreement with commitments in Chapter 13 of the Updated Safety Analysis Report.

1.1 Discussion

The radiation protection organization had experienced a low turnover rate for the period January 1991 to August 1992 and noted that only three individuals left the organization. The radiation protection department consisted of 56 positions which included 21 management positions and 35 classified positions. Management positions included the directors of Radiological Programs, supervisors, and foremen. The classified positions included technicians, helpers, and clerks. There were two vacant technician and clerk positions to be filled.

The inspector reviewed three surveillances which had been performed since the last inspection by the quality assurance operations group. These surveillances included:

<u>Number</u>	<u>Title</u>
OS-92-05-33	Radiation Protection Activities
OS-92-06-14	Radiation Protection Activities
OS-92-07-29	Radiation Protection Awareness Survey

The inspector found the surveillances to be of good quality and comprehensive. The surveillances were used as a means for followup on identified program weaknesses and to check areas in which management had determined that additional performance-based observations were needed. This was especially evident with surveillance OS-92-07-29, which was in response to the licensee's most recent Very High Radiation boundary problems (NRC Inspection Report 50-458/92-25).

The inspector met with representatives of the Quality Assurance Department and discussed the audit of the radiation protection program that was performed during the period August 13-24, 1992. At the time of the inspection, the audit report was still being drafted. The auditors discussed with the inspector the scope of the audit and their preliminary findings. The auditors had identified three minor findings and one concern. The audit appeared to be comprehensive and performance based. The audit team was assisted by a technical expert independent of the licensee.

Personnel contaminations were tracked by personnel contamination reports. The facilities goal for 1992 was 230 personnel contamination events. As of August 31, 1992, there had been 503 events. The inspector reviewed selected events and noted that they were handled appropriately. The inspector discussed with the licensee the disparity between their goal and the number of events that had occurred. The licensee stated that the goal may have been overly optimistic for the scope of work involved for the refueling outage. The licensee also stated that some of the increase was the result of high temperatures in the drywell, which in turn caused sweat soaked personnel anti-contamination clothing to induce more personnel contaminations. The inspector reviewed a report which listed all the personnel contamination events and gave a brief cause of the events. The inspector noted that many of the causes of the events were listed as poor radiological work practices. The inspector discussed with the licensee that the report indicated that poor radiological work practices were also a major contributor of personnel contaminations.

On March 2, 1992, the licensee instituted a new procedure, RSP-0215 "Radiological Deficiency Reports." The purpose of this procedure was to provide a means of identifying, documenting, and promptly reporting radiological deficiencies to management to ensure appropriate corrective measures were developed and implemented. The new procedure required radiation protection personnel to issue Radiological Deficiency Reports. Prior to the issuance of this new procedure, radiological events were identified and tracked in Condition Reports. Because radiological occurrences were tracked in the plant-wide condition report system, radiation protection events did not always receive appropriate priority or timely resolution. The adoption of the new Radiological Deficiency Report system served to focus the appropriate attention on the timely resolution of important radiological events. However, the inspector expressed concern that the new system had several problems. The inspector reviewed selected Radiological Deficiency Reports and noted that some had neither been responded to nor closed out even though they were past their response due date. One of particular concern to the inspector was Radiological Deficiency Report 92-109, which entailed individuals entering a Very High Radiation area without going through the appropriate entrance. This particular incident occurred April 19, 1992, was to be closed out by June 1, 1992, however, as of September 3, 1992, it had not been closed. The licensee stated that they were working to improve the system. The licensee stated that some of the problems were because the new procedure was implemented at the start of a refueling outage, and the system had been overloaded by including all personnel contamination events in the radiological deficiency report system. The licensee had implemented improvements in the system by the inclusion of only important personnel contaminations in the radiological deficiency report system.

1.2 Conclusions

The radiation protection organization had a low turnover rate and appropriate staffing levels. Quality assurance surveillances and audits were comprehensive and performance based. Personnel contamination events exceeded the 1992 goal. Personnel Contamination Event Reports indicated that poor

radiological work practices were a large contributor to contamination events. The licensee's use of Radiological Deficiency Reports was a very good change from their use of Condition Reports for reporting and tracking radiological events of importance. However, responses to Radiological Deficiency Reports have not always been timely.

2 TRAINING AND QUALIFICATIONS (83750)

The inspector reviewed the licensee's training and qualification program to determine agreement with commitments in Chapter 13.2 of the Updated Safety Analysis Report and compliance with the requirements in Technical Specifications 6.3 and 6.4 and 10 CFR Part 19.12.

2.1 Discussion

The inspector reviewed the training programs for radiation protection technicians and general employee training including a review of training procedure lesson plans, personnel training records, and qualification cards. The inspector determined that very good training programs were being implemented. However, the inspector noted that radiation worker job performance was not indicative of a training program that was very good. This was evidenced by the large amount of contamination events whose causes were poor radiological work practices, exceeding person-rem goals, and problems the licensee has had regarding High Radiation and Very High Radiation areas.

Training records of selected training instructors and members of the radiation protection organization were reviewed. The records indicated that the instructors and members of the radiation protection organization had the required education, experience, qualifications, and training for their positions.

The inspector attended a portion of General Employee Training II requalification training. The instructor was well prepared and very knowledgeable of the material that was presented. From attending the above training, discussions with instructors, and a review of lesson plans, the inspector determined that the instructors were doing a very good job of incorporating "lessons learned" into the training programs. The inspector particularly noted the inclusion of "lessons learned" about problems that have occurred at River Bend regarding High Radiation and Very High Radiation areas.

The inspector reviewed meeting minutes of the Radiation Protection Training Review Group. It was noted that the group had met more frequently than every 6 months as required. The group performed an excellent job of coordinating and evaluating training needs for radiation protection personnel.

There were 12 individuals on the licensee's radiation protection staff who have attained certification from the National Registry of Radiation Protection Technologist. This was an increase of 2 individuals since the last inspection that reviewed this area. Ten of the individuals were in supervisory positions, and two were technicians in the operational radiation protection group.

2.2 Conclusions

The licensee's training programs for radiation protection technicians and general employees appeared to be very good. However, radiation worker job performance was not indicative of a very good training program. Training instructors were well qualified and very knowledgeable. The incorporation of "lessons learned" into training materials was very good. The Radiation Protection Training Review Group provided excellent oversight for radiation protection training needs.

3 MAINTAINING OCCUPATIONAL EXPOSURES ALARA (83750)

The inspector reviewed the licensee's ALARA program to determine compliance with 10 CFR 20.1(c) and agreement with the recommendations of Regulatory Guides 8.8 and 8.10.

3.1 Discussion

The inspector reviewed the ALARA programs efforts to reduce existing radiation levels and activities to prevent and/or reduce radioactive concentrations in the reactor coolant system and found them to be excellent. Some of the actions that were performed during the outage included chemical decontamination of the reactor recirculation and reactor water cleanup systems; repacking approximately 1000 valves to reduce fission gas problems; flushing hot spots; and as part of their cobalt reduction program, the reactor water cleanup ring header, valve seats, and valve disks were replaced with low cobalt materials.

Selected ALARA packages for the refueling outage were reviewed. The packages included pre-job and some post-job ALARA reviews and were found to be of very good quality.

The inspector observed a pre-job ALARA briefing for work under RWP 92-0009, which entailed the transfer of a radwaste High Integrity Container. The ALARA pre-job briefing was very good and covered appropriate dose reduction techniques for the transfer. The inspector observed the transfer and noted that very good ALARA practices were observed, especially the use of a video camera for the remote manipulation of the transfer.

ALARA goals were reviewed and the person-rem goal for 1992 was 570 person-rem. On August 31, 1992, the person-rem expended was approximately .85 man-rem. Although the goal was exceeded, the inspector determined from discussions with licensee personnel and a review of records, that this was not an indication of a break down of the ALARA program. Instead, some of the reasons for exceeding the person-rem goal were attributable to out-of-scope work performed during the outage, bad welds on the feedwater nozzle, and heat stress in the drywell.

The inspector reviewed the ALARA suggestion program and noted that there had been 35 suggestions in 1991 and 10 suggestions in 1992. The program appeared to be good in that it encouraged participation by rewarding good suggestions. However, the inspector noted that after the first eight suggestions in 1991,

there had not been an official written response to the suggestions. Discussions with the ALARA coordinator indicated that although they were behind and there had not been official written responses to the suggestions, there had been verbal ones. The inspector expressed concern that some individuals that had not received an official written response may be discouraged from participating in the suggestion plan.

The licensee's goal for radioactively contaminated areas was 5 per cent of the total square footage of the radiologically controlled area. A report prepared on September 3, 1992, indicated that the contaminated area was 5.4 percent.

3.2 Conclusions

ALARA dose reduction programs performed during the outage were excellent. ALARA packages for the outage were of good quality. Pre-job ALARA briefings were very good. Radiation work that was observed used good ALARA practices. Although person-rem goals for 1992 have been exceeded, there was no indication of a breakdown in the ALARA program. The ALARA suggestion program was good, but had not provided timely written responses to suggestions. The per cent of radioactively contaminated area of the plant was close to the licensee's goal of 5 per cent.

ATTACHMENT 1

1 PERSONS CONTACTED

1.1 Licensee Personnel

- *D. L. Andrews, Director Quality Assurance
- *E. M. Cargill, Director Radiological Programs
- *J. C. Deddens, Senior Vice President, Gulf States Utilities
- *L. A. England, Director, Nuclear Licensing
- *C. L. Fantacci, Supervisor Radiological Engineering
- *K. D. Garner, Engineer Licensing
- *P. D. Graham, Plant Manager
- *E. L. Hensley, Radiation Protection Foreman
- R. E. Horn, Nuclear Training Coordinator
- *D. N. Lorfing, Supervisor Nuclear Licensing
- *I. M. Malik, Supervisor Operations Quality Assurance
- *W. H. O'Dell, Manager Oversight
- *M. F. Sankovich, Manager Engineering
- *K. E. Suhrke, General Manager, Engineering and Administration

1.2 NRC Personnel

- *E. J. Ford, Senior Resident Inspector

*Denotes personnel that attended the exit meeting. In addition to the personnel listed above, the inspector contacted other personnel during this inspection period.

2 EXIT MEETING

An exit meeting was conducted on September 4, 1992. During this meeting, the inspector reviewed the scope and findings of the inspection. The licensee did not identify as proprietary, any of the materials provided to, or reviewed by the inspector during the inspection.