

APPENDIX

US NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report No. 50-458/92-06

Operating License No. NPF-47

Licensee: Gulf States Utilities

Facility Name: River Bend Station (RBS)

Inspection At: RBS, St. Francisville, Louisiana

Inspection Conducted: March 2-5, 1992

Inspectors: Nemen M. Terc, Emergency Preparedness Analyst
Kriss M. Kennedy, Operator License Examiner

Approved: Blaine Murray
Blaine Murray, Chief, Facilities
Inspection Programs Section

Date 4/13/92

Inspection Summary:

Inspection Conducted March 2-5, 1992 (Report 50-458/92-06):

Areas Inspected: Routine, announced inspection of the operational status of the emergency preparedness program including: evaluation of three control room crews during walkthroughs using a simulator in a dynamic mode; changes to the emergency plan and implementing procedures; changes to emergency facilities, equipment, instrumentation, and supplies; organization and management control; independent audits of the emergency preparedness program; and training of emergency response personnel.

Results:

Within the areas inspected, no violations or deviations were identified. One exercise weakness was identified concerning the failure of control room emergency responders to make accurate protective action recommendations during walkthroughs. (See paragraph 6.4.)

- o Control room emergency response staffs evaluated during walkthroughs using a simulator in a dynamic mode were very effective in implementing the emergency plan and procedures. Coordination and direction of the emergency response, classification, and notifications were very good. Training records were in place and individuals who participated in walkthroughs had received all required training.

- Two commitments made during the previous operational status inspection were implemented. (See paragraphs 3 and 4.)
- Changes to the emergency plan and implementing procedures were made in accordance with regulatory requirements.
- Emergency facilities and equipment were well maintained.
- No changes had been made to the emergency response organization.
- Increased flexibility of the control room emergency response organization has been implemented by assigning a health physics technician to perform dose assessment responsibilities in the control room during emergencies.
- Comprehensive independent audits were performed by personnel with technical expertise in the area of emergency preparedness.

1. PERSONS CONTACTED

RBS

*D. Lorfing, Supervisor, Nuclear Licensing
*K. Sahrke, General Manager, Engineering and Administration
*W. Odell, Manager, Oversight
*T. Crause, Manager, Administration
*D. Andrews, Director, Nuclear Licensing
*W. Smith, Supervisor, Emergency Planning

*Denotes those present at the exit interview.

2. EMERGENCY PLAN AND IMPLEMENTING PROCEDURES (82701-02.01)

The inspectors reviewed the Emergency Plan and Emergency Implementing Procedures and procedure revisions and plan changes to determine whether the changes were subjected to a 10 CFR Part 50.54(q) review to ascertain their adequacy and whether these changes would reduce the effectiveness of their emergency preparedness program.

The inspectors noted that three revisions were made to the Emergency Plan. Revision 5 was dated October 30, 1990; Revision 6 was implemented on April 29, 1991; and Revision 7 on January 3, 1992.

The inspectors noted that the licensee performed a 10 CFR 50.54(q) review in order to ensure that changes to the plan did not decrease their emergency response readiness. This review was made using the guidance of Procedure EIP-2-101, "Periodic Review of the Emergency Plan."

The inspectors noted that procedure changes were made according to Procedure EIP-2-2100, "Procedure Review, Revision, and Approval," which implements Administrative Procedure SSP-1-001, "Preparation, Revision, and Control of Station Support Manual Procedures." These procedure changes were submitted in accordance with the requirements of 10 CFR Part 50, Appendix E.

Procedure changes were checked for consistency against other related procedures and distributed to users on a timely basis using mechanisms for document control contained in Administrative Procedure SSP-1-001.

No violations or deviations were identified in this program area.

Conclusion:

Changes to the emergency plan and implementing procedures were made in accordance with administrative procedures to ensure compliance with regulatory requirements.

3. EMERGENCY FACILITIES, EQUIPMENT, INSTRUMENTATION, AND SUPPLIES
(82701-02.02)

The inspectors toured key emergency facilities and equipment to verify that they were maintained adequately.

The inspectors observed that emergency facilities, equipment, and supplies were in place and maintained adequately and that no adverse changes were made since the last inspection.

The inspectors noted that commitments made during the last operational status inspection pertaining to the need for additional computer support for performing simultaneous notifications and dose assessment functions during a rapidly developing emergency had been implemented. Since the last inspection, the licensee had provided an additional personal computer for independently making dose assessments in the control room.

The inspectors noted that although emergency supplies were adequate, supplies exceeded inventory lists. The licensee stated that they were in the process of reviewing supply needs and incorporating new equipment on inventory lists to ensure that actual inventories maintained agreed with the inventory lists.

No violations or deviations were identified in this program area.

Conclusion:

Emergency facilities and equipment were found maintained adequately. A commitment made during the previous inspection involving additional computer support was implemented. Actual supplies and equipment in some cases were in excess or improved as compared to those reflected in inventory lists. The licensee was in the process of upgrading inventory lists to reflect actual equipment and supplies.

4. ORGANIZATION AND MANAGEMENT CONTROL (82701-02.03)

The inspectors reviewed the emergency response organization and management control systems to determine if changes have been incorporated properly into the emergency plan and implementing procedures and have not affected adversely the licensee's emergency response readiness.

The inspectors determined that there were no adverse changes in the organizational structure of the licensee's emergency response organization. The inspectors noted that commitments made during the last inspection pertaining to conflicting responsibilities during emergencies were implemented. During the last inspection walkthroughs, it was noted that the control operations foreman was required to perform dose assessments during accident situations in addition to responding as senior reactor operator in charge of operational assessment and accident mitigation. The inspectors were concerned that in a rapidly developing emergency, one of the emergency response critical functions may be neglected by the control operations foreman. To resolve this conflict, the licensee increased the flexibility of the emergency response organization in the control room by training chemistiv

technicians to perform dose assessment responsibilities and adding them to the control room emergency response organization. As a result, the control operations foreman is now free to perform operational duties.

The inspectors noted that the licensee had a method in place to keep abreast of individuals of the emergency response organization who were either terminated, promoted to another position, or incorporated as new employees to ensure that proper replacements were trained to occupy appropriate positions in the emergency response organization.

The inspectors noted that the licensee's emergency planning organization, in charge of maintaining the emergency preparedness program, did not undergo any adverse changes. An additional emergency planner was added to the staff in 1991.

No violations or deviations were identified in this program area.

Conclusion:

No changes were made to the structure of the licensee's emergency response organization. A commitment made during the previous operational status inspection involving support for the control room operators was implemented. An additional emergency planner was added to the licensee's emergency planning organization. The licensee had a method to ensure that personnel fluctuations would be met with new assignments and commensurate training.

5. TRAINING (82701-02.04)

The inspectors reviewed the emergency preparedness training program and conducted walkthroughs of emergency responders to ascertain that the training program was maintained and to determine if the training was sufficient to ensure that key emergency responders and decisionmakers were proficient in the performance of their duties and responsibilities during a simulated accident scenario. In addition, the inspectors verified that changes to the program since the last inspection were incorporated into the training program and that key emergency responders were aware of such changes, understood them, and had been trained properly to implement them.

In order to accomplish the above, the inspectors interviewed instructors and other members of the training staff and reviewed a sample of training records consisting primarily of records of persons who participated in the walkthroughs. The inspectors reviewed training records to verify that they were in order and that emergency response personnel participating in the walkthroughs had received all the required training.

Conclusion

Training records were found in place. Individuals who participated in walkthroughs had received all required training.

6. WALKTHROUGHS

In a series of three walkthroughs with control room operating teams ("crews"), the inspectors evaluated the adequacy and retention of skills obtained from the emergency response training program. A walkthrough scenario was developed by the inspectors and administered to the crews to determine whether control room personnel were proficient in their duties and responsibilities during a simulated accident scenario.

During the walkthroughs, the inspectors observed the crews while a simulated accident scenario was unfolded by the control room simulator in a dynamic mode. The scenario consisted of a sequence of events requiring an escalation of emergency classifications, culminating in a general emergency. Each walkthrough lasted approximately 90 minutes. During the walkthroughs, the inspectors were able to observe the interaction of the response crews to verify that authorities and responsibilities were defined and understood clearly.

The walkthroughs allowed the evaluation of the crews' abilities to assess and classify accident conditions, perform dose assessments, develop protective action recommendations, and make timely and complete notifications to offsite authorities.

The inspectors identified one area of concern during the course of the walkthroughs. The identified area of concern has been characterized as an exercise weakness according to 10 CFR Part 50, Appendix E.IV.F.5 and is discussed in paragraph 6.4 below.

6.1 Emergency Detection and Classification

The inspectors observed and evaluated the ability of each crew to detect, assess, and classify abnormal and accident conditions.

Crews made accurate and timely emergency classifications in accordance with the emergency implementing procedures. It was observed, however, that crews did not arrive at the same emergency classification given the same plant conditions and indications. Given a small steam leak in the turbine building, a failure of two main steam isolation valves in the same main steam line to close, and indications of failed fuel cladding, two out of three crews upgraded their emergency classification from an alert to a general emergency. The third crew remained at the alert classification and did not classify the event as a general emergency.

The inspectors discussed the classifications with each shift supervisor at the end of the scenario. The shift supervisors who declared a general emergency determined that plant conditions met Emergency Action Level 2 for a general emergency, involving the loss of two of three fission product barriers with a potential loss of the third barrier. The shift supervisor, who did not upgrade the classification, interpreted Emergency Action Level 2 differently and determined that plant conditions did not warrant a general emergency classification. Emergency Implementing Procedure EIP-2-001, "Classification

of Emergencies," does not provide clear guidance as to what plant conditions constitute a loss or potential loss of each fission product barrier.

6.2 Notifications

The inspectors observed and evaluated the ability of each crew to make accurate and timely notifications to offsite authorities. The three crews made several minor errors in completing the Notification Message Form. As a result, incomplete or erroneous information was communicated to offsite authorities during notifications. Examples of errors or omissions were identified as follows:

- Information was omitted from the forms including the type of radioactive release in progress (gases, particulates, or liquid) and the release rate.
- A notification form indicated that the emergency classification was new when, in fact, it was unchanged.
- A notification form indicated that the release rate was calculated when, in fact, it was measured.
- Two separate notification forms indicated different event declaration times for the same event.

6.3 Crew Response

The inspectors noted that authorities and responsibilities were defined clearly and understood by all crew members. In general, the crews demonstrated good teamwork and communications. However, on one occasion in one of the crews, a miscommunication between the emergency director and the control operations foreman during one scenario resulted in the unnecessary emergency depressurization of the reactor pressure vessel. The control operations foreman thought the emergency director had declared a general emergency based on radioactive release rates meeting an emergency action level for a general emergency and directed the control room operators to emergency depressurize the plant in accordance with EOP-3, "Radioactive Release Control." In fact, a general emergency had been declared for other reasons, but release rates did not exceed the general emergency level.

In all cases, the shift technical advisors contributed effectively to the crews' mitigation of the events presented to them during the walkthroughs. The shift technical advisors monitored key plant parameters, evaluated overall plant response, and formulated mitigation strategies in support of the emergency director and the control operations foreman. In addition, the shift technical advisors reviewed periodically the emergency implementing procedures to ensure that the emergency classification declared by the emergency director was correct for the given plant conditions.

6.4 Dose Assessments and Protective Action Recommendations

The inspectors observed and evaluated the ability of each crew to perform dose projections and assessments. In addition, the inspectors observed their ability to make protective action recommendations. Dose assessments and projections during walkthroughs were performed by chemistry technicians using a personal computer. All computations were determined to be satisfactory.

During one of the walkthroughs, one exercise weakness was identified concerning protective action recommendations to offsite authorities. After a general emergency had been declared, one crew transmitted a Notification Message Form to offsite authorities which contained three different protective action recommendations. One of the protective action recommendations was more conservative than the recommendation generated by the dose projection computer, which was based on actual release rates. A second protective action recommendation was less conservative than that generated by the dose projection computer program. A third protective action recommendation called for the evacuation and shelter of upwind sectors and failed to recommend evacuating the downwind sectors.

The failure to make accurate protective action recommendations to offsite authorities was identified as an exercise weakness (458/9206-01).

No violations or deviations were identified.

Conclusion:

Control room emergency response staffs evaluated during walkthroughs using a simulator in a dynamic mode were very effective in implementing the emergency plan and procedures. Coordination and direction of the emergency response, classifications, and notifications were very good. However, one exercise weakness was identified due to the failure of control room emergency responders to make accurate protective action recommendations.

7. INDEPENDENT AUDITS (82701-02.05)

The inspectors examined independent and internal audit reports for the licensee's emergency preparedness program since the last inspection to determine compliance with the requirements of 10 CFR 50.54(t).

The inspectors also examined the licensee's audit program to determine if it had a corrective action system for deficiencies and weaknesses identified during drill and exercises and to ascertain whether appropriate corrective actions were implemented in a timely manner.

The inspectors held discussions with the quality assurance staff and examined independent and internal audit reports for the licensee's emergency preparedness program performed since the last inspection.

The inspectors also examined the licensee's audit program to determine whether appropriate means existed to record and followup each item until corrective actions were completed.

The inspectors reviewed the annual quality assurance audit of the emergency preparedness program to see if it met the requirements of 10 CFR 50.54(t). The independent review was performed during the period June 11-20, 1991, by a certified lead auditor, two certified auditors, and two persons from outside of the licensee organization who had extensive expertise with emergency preparedness programs at other nuclear power facilities.

The inspectors noted that audits performed were performance oriented in addition to making a programmatic review of the emergency preparedness program and, as such, the audits included training interviews to determine the proficiency of selected emergency responders.

The quality assurance audit included the review of organization and administration; emergency plan and procedures; training, facilities, equipment and resources; public information; and licensee's coordination with offsite agencies.

The inspectors noted that the scope and depth of the audit appeared to meet the requirements of 10 CFR 50.54(t), and that the use of additional emergency preparedness expertise outside of the licensee's organization enhanced the quality of the audit.

No violations or deviations were identified in this program area.

Conclusion:

Independent audits were performed effectively by quality assurance with the participation of experienced auditors assisted by persons outside of the licensee's organization who incorporated a broad amount of expertise and experience in the area of emergency preparedness.

8. EXIT INTERVIEW

The inspectors met with licensee representatives identified in paragraph 1 above on March 5, 1992, and summarized the scope and findings of the inspection as presented in this report. The licensee did not identify as proprietary any of the materials provided to, or reviewed by, the inspectors during the inspection.