

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

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License No.: NPF-29
Report No.: 50-416/98-12
Licensee: Entergy Operations, Inc.
Facility: Grand Gulf Nuclear Station
Location: Waterloo Road
Port Gibson, Mississippi
Dates: August 17-20
Inspector(s): Michael C. Hay, Radiation Specialist
Plant Support Branch
Approved By: Blaine Murray, Chief, Plant Support Branch
Division of Reactor Safety

Attachment Supplemental Information

EXECUTIVE SUMMARY

Grand Gulf Nuclear Station NRC Inspection Report 50-416/98-12

This routine, announced inspection reviewed the implementation of the radiological environmental monitoring and the meteorological monitoring programs. Training and qualifications, quality assurance oversight, facilities and equipment, and annual reports were also reviewed.

Plant Support

- Overall, an effective radiological environmental monitoring program was implemented. Sample collection, shipment, and analyses were properly performed. Air sampler operability was 98.8 percent throughout 1997 (Section R1.1 and R2.1).
- Overall, an effective meteorological program was in place. The meteorological monitoring equipment was maintained in excellent operating condition. Housekeeping of all observed areas was very good. Meteorological data recovery in 1997 was 98 percent.(Sections R1.2 and R2.2).
- The licensee did not perform a comprehensive independent assessment as part of the 1997 annual quality assurance audit of the radiological environmental monitoring program. The audit utilized the results of an NRC inspection report to satisfy approximately 90 percent of the programmatic elements listed in the audit plan (Section R7.1).

Report Details

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 Radiological Environmental Monitoring Program

a. Inspection Scope (84750)

The radiological environmental monitoring program was reviewed to determine compliance with Technical Specifications, Technical Requirements Manual, and Offsite Dose Calculation Manual requirements. Selected environmental sampling stations were inspected.

b. Observations and Findings

Inspection of air and vegetation sample stations verified that the stations were maintained as described in the Offsite Dose Calculation Manual. The inspector accompanied and observed a health physicist collect and prepare for shipment particulate and charcoal cartridge air samples. These activities were conducted in accordance with approved procedures. The inspector noted that the collection of air sample media was performed by replacing the sampler heads in the field minimizing the potential for cross contamination and preserving sample integrity. A review of the sample collection logs, sample shipment forms, and sample analyses reports revealed the these documents were properly maintained.

The inspector determined that collection frequency, processing, and analyses of the radiological environmental samples were performed in accordance with the Offsite Dose Calculation Manual. The 1997 annual land use census was properly performed, and the land use census results were documented as required in the appropriate annual radiological environmental operating report. A comprehensive radiological environmental monitoring report for 1997 was submitted in a timely manner. Review of 1997 environmental biota, river water, and groundwater sample results indicated that the operation of Grand Gulf Nuclear Station resulted in no detectable buildup of radioactivity in the environment, and thermoluminescent dosimeter results indicated that plant operations did not affect the ambient radiation levels in the environment.

All environmental samples were analyzed at the Entergy Operations corporate environmental laboratory located at River Bend Nuclear Station. The corporate environmental laboratory participated in an interlaboratory comparison program as required by the Technical Requirements Manual. The inspector verified that analytical results from the interlaboratory comparison program satisfied performance criteria and were properly reported in the annual radiological environmental operating reports.

d. Conclusions

Overall, an excellent radiological environmental monitoring program was effectively implemented in accordance with the Technical Specifications and the Offsite Dose Calculation Manual. Sample collection, shipment, and analyses report forms were properly maintained. The 1997 annual land use census was properly conducted and documented in the radiological environmental operating report. The 1997 radiological environmental operating report was comprehensive and submitted in a timely manner.

R1.2 Meteorological Monitoring Program

a. Inspection Scope (84750)

The meteorological monitoring program was reviewed to determine agreement with commitments in the Updated Final Safety Analysis Report and the recommendations in NRC Regulatory Guide 1.23. The inspector reviewed data collection and data displays at station facilities.

b. Observations and Findings

The inspector noted that the meteorological tower's primary and secondary instrumentation and configuration agreed with the guidance in Regulatory Guide 1.23 and commitments in the Updated Final Safety Analysis Report. The primary tower provided for meteorological instrument redundancy at the 33- and 162-foot levels. The inspector was informed that the primary tower utilized three separate power supplies to ensure power was continuously maintained.

The inspector verified that appropriate meteorological data was transmitted and displayed in the station's emergency facilities and the control room. The system engineer stated that meteorological data was connected to the site-wide computer system so that all computers connected to that system had access to the meteorological data.

The 1997 meteorological data recovery for wind direction, wind speed, temperature, and delta temperature instruments was 98 percent indicating that overall a very effective meteorological program was in place.

c. Conclusions

Overall, an effective meteorological program was in place. The performance of the meteorological monitoring program agreed with the guidance contained in Regulatory Guide 1.23 and commitments in the Updated Final Safety Analysis Report. Meteorological data recovery in 1997 was 98 percent.

R2.1 Environmental Monitoring Equipment

a. Inspection Scope (84750)

Selected environmental sampling stations were inspected to verify that the stations were properly maintained and that sampling equipment was operable and properly calibrated. The environmental monitoring program storage areas were inspected to verify sufficient supplies, and equipment were available to perform the licensee's environmental sampling program. The licensee's maintenance and calibration program for the air sampling equipment was reviewed.

b. Observations and Findings

The inspector toured and inspected selected air sampling stations. All air samplers were verified to be in proper operational condition. Air samplers were calibrated every 6 months as required. The inspector noted that, along with the three air samplers required for use in the field, five additional calibrated air samplers were maintained as spares. Only one air sampler failure resulting in a loss of sample occurred in 1997. During 1997, air samplers functioned properly 98.8 percent of the time indicating that a high level of quality was maintained to ensure that the air samplers remained operational.

The environmental storage area was stocked with the necessary equipment and sufficient supplies to perform the required sampling activities.

c. Conclusions

Sufficient supplies and environmental sampling equipment were available and properly maintained. Air sampler operability was 98.8 percent throughout 1997.

R2.2 Meteorological Monitoring Equipment

a. Inspection Scope (84750)

The meteorological tower instrumentation was inspected. Instrument calibration procedures and records were reviewed to ensure that the meteorological instrumentation was operable and properly calibrated and maintained in accordance with commitments in the Updated Final Safety Analysis Report and the guidance contained in Regulatory Guide 1.23.

b. Observations and Findings

The inspector verified that calibration tolerances for the meteorological instrumentation were within the recommendations of Regulatory Guide 1.23. Calibrations were performed at the required frequencies.

The inspector toured the primary and backup meteorological towers and instrumentation areas. All instrumentation and equipment observed were maintained in proper operational condition. Housekeeping within these areas was very good.

c. Conclusions

The meteorological monitoring equipment was maintained in excellent operating condition. Calibrations were performed at the required frequencies. Housekeeping of all observed areas was very good.

R3 Procedures and Documentation

R3.1 Radiological Environmental Monitoring Program Implementing Procedures

a. Inspection Scope (84750)

The inspector reviewed the radiological environmental monitoring program implementing procedures.

b. Observations and Findings

The radiological environmental monitoring program implementing procedures described the responsibilities and requirements for the collection and shipment of environmental samples, tracking the shipment of samples, receipt of analyses results, reporting of analyses results, evaluation of analyses results, and performance and recording requirements of the land use census. The procedures contained sufficient detail for personnel to effectively implement the licensee's environmental monitoring program and report the analyses results of the environmental samples collected at the facility. The inspector determined that the requirements contained in the station Technical Specifications and Offsite Dose Calculation Manual were appropriately described in the station procedures.

c. Conclusions

Good environmental monitoring program implementing procedures were maintained.

R4 Staff Knowledge and Performance

a. Inspection Scope (84750)

Selected environmental monitoring program personnel were observed and interviewed to determine their knowledge of the radiological environmental monitoring program sampling and analyses requirements and implementing procedures.

b. Observations and Findings

The inspector observed excellent sample handling practices used by the health physics technicians collecting air samples. Through discussion and observation the inspector noted that the staff responsible for implementing the radiological environmental monitoring program demonstrated outstanding knowledge with regards to the requirements contained in the Offsite Dose Calculation Manual.

c. Conclusions

Excellent sampling and handling practices were used for collecting environmental air samples. Overall, the knowledge and performance of the radiological environmental monitoring program personnel were outstanding.

R5 Staff Training and Qualification

a. Inspection Scope (84750)

The training and qualification programs for the personnel implementing the radiological environmental monitoring program were reviewed.

b. Observations and Findings

The inspector determined that proper training and qualification programs were implemented. Personnel responsible for implementing the radiological environmental monitoring program were trained, experienced, and met the qualifications for the independent work they performed.

c. Conclusions

Training and qualification programs were appropriately implemented. A well trained, experienced, and qualified staff were responsible for implementing the radiological environmental monitoring program.

R6 Organization and Administration

a. Inspection Scope (84750)

The organization, staffing, and assignment of the radiological environmental monitoring program responsibilities were reviewed.

b. Observations and Findings

The organizational structure and staffing qualifications for the radiological environmental program met Technical Specification requirements. Since the last inspection, an organizational change was made; however, the personnel administrating the program remained the same. The organizational change consisted of changing the title of the person responsible for administration of the radiological environmental monitoring program from Technical Specialist to Health Physics Coordinator/Chemistry Support for the Effluents Group. Personnel from the chemistry department's effluents group was responsible for the collection, shipment, and documentation of radiological environmental samples.

c. Conclusions

The organizational structure and staffing qualifications for the radiological environmental monitoring program met Technical Specification requirements. A very stable and experienced staff were responsible for implementing the radiological environmental monitoring program.

R7 Quality Assurance Program

R7.1 Radiological Environmental Monitoring Quality Assurance Program

a. Inspection Scope (84750)

Annual quality assurance audits of the radiological environmental monitoring program were reviewed.

b. Observations and Findings

The inspector reviewed Audit 12.01-97 which was performed to satisfy the quality assurance annual requirement for auditing the radiological environmental monitoring program in 1997. The inspector noted the cover page of the audit stated, "Because of a recent inspection performed by the NRC, not all of the audit plan items were performed this audit." In addition, the Audit Scope/Summary section of the audit stated, "Credit was taken for some aspects of the audit based upon an inspection done by the NRC in June 1997."

The inspector noted that independent licensee audit activities only covered a small fraction of the radiological environmental monitoring program. Specifically, the audit only addressed an evaluation of the interlaboratory and intralaboratory comparison programs required to be implemented by the vendor responsible for analysis of the environmental media samples and a section addressing follow-up on recommendations from the previous audit.

The inspector reviewed the audit plan, which identified the elements to be evaluated in the radiological environmental monitoring program, and noted that over 90 percent of the elements were marked "N/A" (not applicable) with a statement that the activity was already reviewed by the NRC. In discussion with the Acting Quality Audits Supervisor, the inspector was informed that the NRC inspection report was not a substitution for a licensee audit, but to indicate that an evaluation of the NRC inspection report and depth of the inspection performed was conducted and used as a basis for not looking at a particular element or elements contained in the audit plan. The licensee also stated that the NRC inspection of the radiological environmental monitoring program in 1997 was more thorough than usual allowing them to justify reducing the scope of their audit.

The inspector commented that the use of an NRC inspection report is an acceptable performance reference; however, to rely on an NRC inspection report to reduce the scope of a required annual audit plan by approximately 90 percent is not a good replacement for a comprehensive independent assessment.

The licensee's audit program was discussed with the Office of Nuclear Reactor Regulation. It was agreed that the use of an NRC inspection report was not a good replacement for a licensee audit. However, no violations of regulatory requirements were identified.

c. Conclusions

The licensee did not perform a comprehensive independent assessment as part of the 1997 annual quality assurance audit of the radiological environmental program. The audit utilized the results of a previous NRC inspection report to satisfy approximately 90 percent of the programmatic elements listed in the audit plan.

R7.2 Condition Reports and Corrective Actions

a. Inspection Scope (84750)

Selected condition reports were reviewed to evaluate the effectiveness of the licensee's controls in identifying, resolving, and preventing problems.

b. Observations and Findings

No condition reports were issued since the previous NRC inspection conducted in June 1997 concerning the radiological environmental monitoring program. Several condition reports concerning the meteorological monitoring program were reviewed. These reports were initiated as needed and had a proper threshold for identifying problems. The condition reports were effectively used to track and trend problems. The inspector noted that the responses to the condition reports were timely and included prompt corrective actions.

c. Conclusions

The condition reporting system was effectively used to identify problems, perform evaluations and assessments, and implement prompt corrective actions.

V. Management Meetings

X1 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at an exit meeting conducted on August 20, 1998. The licensee acknowledged the findings presented. No proprietary information was identified.

ATTACHMENT
SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Abbott, Acting Audit Supervisor
D. Bost, Manager, Plant Maintenance
C. Brooks, Senior Licensing Specialist
G. Coker, Chemistry Superintendent
J. Czaika, Nuclear Specialist
D. Fearn, Quality Programs Auditor
K. Hughey, Director, Nuclear Safety and Regulatory Affairs
R. Jackson, Senior Licensing Specialist
J. Lassetier, Effluents Coordinator
J. Roberts, Director of Quality
J. Venable, General Manager

NRC

P. Alter, Resident Inspector

INSPECTION PROCEDURE USED

IP 84750 Radioactive Waste Treatment and Effluent and Environmental Monitoring

LIST OF DOCUMENTS REVIEWED

ORGANIZATION CHARTS

Chemistry Department - August 1998

QUALITY ASSURANCE AUDITS

Audit Report 12.01-97 "Reg. Guide 4.15, ODCM, and Radiological Environmental Monitoring Program," 1997

PROCEDURES

- QAP 18.10 "Quality Assurance Audits," Revision 30
- 08-S-08-1 "ODCM Control," Revision 101
- 08-S-08-4 "Training of Environmental Activities," Revision 3
- 08-S-09-7 "Control and Shipment of Radiological Environmental Samples," Revision 2
- 08-S-09-9 "Review of Radiological Environmental Analytical Results," Revision 3
- 08-S-09-8 "Liquids, Solids, Soil and Sludge Sample Collection," Revision 101
- 08-S-09-21 "Air Sampler Calibration," Revision 1
- 06-EN-S000-A-003 "Interlaboratory Comparison Program," Revision 101
- 06-EN-S000-0-0002 "Land Use Census," Revision 101
- 06-EN-S000-V-0001 "Radiological Environmental Sampling," Revision 103

REPORTS

Annual Radiological Environmental Operating Report for 1997