ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos.:	50-313; 50-368
License Nos.:	DPR-51; NPF-6
Report No.:	50-313/97-20; 50-368/97-20
Licensee:	Entergy Operations, Inc.
Facility:	Arkansas Nuclear One, Units 1 and 2
Location:	Junction of Hwy. 64W and Hwy.333 South Russellville, Arkansas
Dates:	November 17-20, 1997
Inspector:	Gilbert L. Guerra, Radiation Specialist
Approved By:	Blaine Murray, Chief, Plant Support Branch Division of Reactor Safety
Attachment:	Supplemental Information

EXECUTIVE SUMMARY

Arkansas Nuclear One, Units 1 and 2
NRC Inspection Report 50-313/97-20; 50-368/97-20

Plant Support

- A good radiological environmental monitoring program was implemented (Section R1.1).
- A good meteorological monitoring program was implemented (Section R1.2).
- A process had not been established for excluding inaccurate meteorological monitoring data from the performance reports (Section R1.2).
- Environmental monitoring stations were properly maintained with operable and calibrated equipment (Section R2.1).
- The meteorological tower was maintained in excellent condition (Section R2.2).
- Effective radiological environmental monitoring program implementing procedures were in place (Section R3.1).
- Personnel responsible for implementing the radiological environmental monitoring program were properly trained and qualified. Licensee staff had an excellent understanding of the radiological environmental monitoring program, the Offsite Dose Calculation Manual, and regulatory requirements (Section R5.1).
- A proper staff was maintained for implementing the radiological environmental monitoring program. Management provided excellent support for the program. (Section R6.1).
- A thorough, comprehensive audit of the radiological environmental monitoring program was performed (Section R7.1).
- The annual radiological environmental monitoring reports were submitted in a timely manner and contained the required information (Section R8.1).

Report Details

Summary of Plant Status

During the inspection, the Arkansas Nuclear One Units 1 and 2 were at power operations. No operational events occurred that affected the results of the inspection.

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 Radiological Environmental Monitoring Program (84750)

a. Inspection Scope

The inspector reviewed the radiological environmental monitoring program to determine compliance with the requirements in Unit 1 Technical Specification 4.30.1, Unit 2 Technical Specification 3/4.12, and Offsite Dose Calculation Manual, Table 4-1.

b. Observations and Findings

Overall, the inspector found that the collection, processing, and analyses of radiological environmental media samples were conducted in accordance with Technical Specifications, station procedures, and the Offsite Dose Calculation Manual. Licensee staffing was adequate and management controls were appropriate. Environmental samples were analyzed by the River Bend Station Environmental Laboratory. Good results were obtained from the laboratory intercomparison program. The land use census was performed as required. The annual radiological environmental operating reports were written and submitted to the NRC as required.

c. Conclusions

A good radiological environmental monitoring program was implemented in accordance with Technical Specification requirements.

R1.2 Meteorological Monitoring Program (84750)

a. Inspection Scope

The inspector reviewed the meteorological monitoring program to determine compliance with Unit 2 Technical Specification 3.3.3.4, the commitments in the Updated Safety Analysis Report, and agreement with the recommendations in NRC Regulatory Guide 1.23. Also, the inspector reviewed data collection and review procedures and discussed the data results with licensee personnel.

b. Observations and Findings

The meteorological tower instrumentation and tower configuration agreed with the guidance in Regulatory Guide 1.23. Good backup methods of obtaining data from the meteorological tower were in place. Backup power was provided by an uninterruptible

power supply (battery) and a propane electrical generator. No redundancy was provided for tower meteorological monitoring instrumentation. The inspector noted that there was no regulatory requirement for maintaining redundant monitoring instrumentation.

Meteorological data was available in both units' control rooms and the emergency response facilities via the safety parameters display system.

Records reviewed indicated a greater than 99 percent data recovery rate for 1995 and 1996. However, the inspector found that the meteorological data validation process was weak. Data from the meteorological tower was collected without validation as to whether it was good or bad. For example, when the meteorological tower was being calibrated, the data during that time frame was not noted as invalid or inaccurate. That was because the data logging components of the meteorological tower continue to log data during calibration; however, the tower was not in its normal configuration; hence, the data would be inaccurate. The same situation existed when an instrument which was reading erratically. There was no communication link to the person who compiled the meteorological data to exclude certain data because of it being inaccurate. The licensee acknowledged the inspector's comment and initiated methods for notifying the staff responsible for maintaining the meteorological data when meteorological tower parameters were inaccurate.

The inspector verified that the data recovery rate for 1997 was greater than 90 percent. Specifically, the data recovery rate as of the date of this inspection was approximately 96 percent for 1997.

c. Conclusions

A good meteorological monitoring program was implemented. The performance of the meteorological monitoring program satisfied the commitments of the Update Final Safety Analysis Report and agreed with the guidance contained in Regulatory Guide 1.23. A process had not been established for excluding inaccurate meterological monitoring data from the performance reports.

R2 Status of Radiological Protection and Chemistry Facilities and Equipment

R2.1 Environmental Monitoring Equipment and Facilities (84750)

a. Inspection Scope

The inspector visited selected environmental sampling stations to verify that sampling locations were properly maintained, and equipment was operable and properly calibrated. Sample preparation and storage facilities were inspected to verify that sufficient supplies and spare equipment were available.

b. Observations and Findings

The inspector visited selected environmental media sampling locations. The following types of sampling locations were inspected: airborne, surface water, milk, and vegetation. Also, the inspector accompanied and observed a chemistry technician collect air particulate and charcoal cartridge samples for shipment and analyses. Good

sampling techniques were observed. All sample analyses for the radiological environmental monitoring program were performed at another Entergy site (River Bend Station Environmental Laboratory). The chemistry technicians were also responsible for the calibration of the air samplers. New digital volume totalizers had been installed at the environmental air sampling stations and were working properly. All equipment used in the collection of environmental samples was operable and calibrated.

The inspector observed that the location of the licensee's environmental air sampling stations were as required by Technical Specifications. The inspector toured the environmental media sample storage and preparation facilities. These facilities were stocked with the necessary equipment and supplies to perform the required sampling activities and sample shipment preparation.

c Conclusions

The licensee maintained sufficient supplies and spare environmental sampling equipment to perform the activities described in Technical Specifications and Offsite Dose Calculation Manual. Environmental monitoring stations were properly maintained with operable and calibrated equipment.

R2.2 Meteorological Monitoring Equipment (84750)

a Inspection Scope

The inspector observed the meteorological monitoring instrumentation at the meteorological tower and reviewed associated calibration records to ensure that the meteorological instrumentation on the towers was operable, calibrated, and maintained in accordance with written procedures, the guidance in Regulatory Guide 1.23, and Updated Safety Analysis Report.

b Observations and Findings

The inspector toured the meteorological tower with a instrument and controls technician responsible for performing periodic calibrations of the monitoring equipment. The licensee maintained an excellent meteorological tower with monitoring instrumentation at the 10 and 57 meter levels. The instrumentation at these levels included wind speed, wind direction, and temperature sensing instrumentation. Instrumentation, including recording and transmitting equipment, was noted to be in good operating condition.

The inspector reviewed meteorological instrumentation calibration procedures and associated records. The inspector determined that the meteorological sensing and recording equipment was calibrated semiannually by the licensee's instrument and controls department. The calibrations were conducted in accordance with approved procedures. All records reviewed indicated that the meteorological monitoring instruments were being properly maintained, tested, and calibrated at required frequencies.

c. Conclusions

The meteorological tower was maintained in excellent condition and provided excellent data recovery.

R3 Radiological Protection and Chemistry Procedures and Documentation

R3.1 Offsite Dose Calculation Manual and Radiological Environmental Monitoring Implementing Procedures (84750)

a. Inspection Scope

The inspector reviewed the Offsite Dose Calculation Manual and implementation procedures regarding the radiological environmental monitoring program.

b. Observations and Findings

An effective implementing procedure was in place which described the responsibilities for collection, documentation, and shipment of environmental media samples. The inspector determined that the requirements in Technical Specifications and the Offsite Dose Calculation Manual were appropriately implemented.

Revision 8 to the Offsite Dose Calculation Manual had been issued since the last inspection. The inspector noted that changes to the Offsite Dose Calculation Manual did not result in a decrease of the effectiveness of the radiological environmental monitoring program.

c. Conclusions

Radiological environmental monitoring program implementing procedures contained sufficient detail.

R5 Staff Training and Qualification in Radiological Protection and Chemistry

R5.1 Training for Environmental Monitoring Activities (84750)

a. Inspection Scope

The training and qualification programs for the technical staff responsible for implementing the radiological environmental monitoring program were reviewed. The inspector observed and held discussions with personnel involved with the implementation of the radiological environmental monitoring program to determine their knowledge of environmental sampling and implementing procedures.

b. Observations and Findings

Chemistry technicians were properly trained and qualified to perform the environmental sampling activities and were familiar with the requirements of the radiological environmental monitoring program. Nine chemistry technicians were qualified for

conducting the environmental sampling program. The licensee maintained a proper number of backup personnel for conducting the environmental sampling program.

The inspector noted that good practices were used by the chemistry technician in maintaining sample integrity. All activities observed were conducted in an orderly fashion. The inspector noted that the licensee's staff knowledge of sampling procedures, the Offsite Dose Calculation Manual, and NRC requirements was excellent.

c. Conclusions

Personnel responsible for implementing the radiological environmental monitoring program were properly trained and qualified. Licensee staff had an excellent understanding of the radiological environmental monitoring program, the Offsite Dose Calculation Manual, and regulatory requirements.

R6 Radiological Protection and Chemistry Organization and Administration

R6.1 Environmental Monitoring (84750)

a. Inspection Scope

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

b. Observations and Findings

An appropriate organization was maintained for implementing the radiological environmental monitoring program. The responsibilities for implementing the radiological environmental monitoring program rested with the radiation protection/chemistry department. An environmental specialist was responsible for coordinating all aspects of the radiological environmental monitoring program.

The staff for the radiological environmental monitoring program had remained unchanged. The inspector determined that management provided excellent support for the environmental monitoring program.

c. Conclusions

A proper staff was maintained for implementing the radiological environmental monitoring program. Management provided excellent support for the program.

R7 Quality Assurance in Radiological Protection and Chemistry Activities

R7.1 Audits of Environmental Monitoring Activities (84750)

a. Inspection Scope

Quality assurance audit reports concerning the radiological environmental monitoring and meteorological programs were reviewed. Selected condition reports were reviewed.

b. Observations and Findings

The inspector noted that since the previous environmental inspection, quality assurance audits involving the radiological environmental monitoring program were changed from an annual to a biennial frequency. The most recent audit performed during April-May 1996 was reviewed. The audit adequately covered the activities of the environmental monitoring program and was effective in identifying items for improvement. The inspector noted that the audit was comprehensive, thorough, and provided management with the appropriate oversight of the radiological environmental monitoring program.

No surveillances were performed since the last audit. Quality assurance surveillances were used based on management evaluations of program effectiveness.

Audits of the River Bend Environmental Laboratory were performed by the River Bend quality assurance organization utilizing specialists from the other Entergy, Inc., power plants.

The inspector identified no negative trends of the condition reports reviewed. Corrective actions were appropriate and timely.

c. Conclusions

A thorough, comprehensive audit was performed. The audit was effective in identifying items for improvement and evaluating the performance and implementation of the radiological environmental monitoring program.

R8 Miscellaneous Radiological Protection and Chemistry Issues

R8.1 Annual Environmental Operating and Effluent Release Reports (84750)

a. Inspection Scope

The inspector reviewed the annual reports concerning radiological environmental monitoring program activities to determine compliance with the requirements in Technical Specifications.

b. Observations and Findings

Good annual radiological environmental operating reports were written. The reports were submitted in a timely manner and contained the required information. Any discrepancies or missed samples, including the summary of the results of the annual land use census, were reported as required. The inspector determined that the Technical Specification required sampling, analyses, and reporting requirements were met.

c. Conclusions

The annual radiological environmental operating reports were submitted in a timely manner and contained the required information.

V. Management Meetings

X1 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at an exit meeting on November 20, 1997. The licensee acknowledged the findings presented. No proprietary information was identified.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Edington, General Manager
G. Ashley, Licensing Supervisor
R. Bement, Manager, Radiation Protection/Chemistry
R. Buckley, Senior Staff Coordinator - Nuclear Support
D. Calloway, Environmental Specialist
M. Cooper, Licensing Specialist
R. Gresham, Emergency Planning Manager
P. Miller, Instruments and Controls
D. Mims, Director, Licensing
R. Partridge, Acting Chemistry Superintendent
S. Pyle, Licensing Specialist
M. Prock, Chemistry Supervisor
D. Wagner, Quality Assurance Supervisor
J. Vandergrift, Director, Quality

NRC

J. Melfi, Acting Senior Resident Inspector
D. Schaefer, Security Specialist

INSPECTION PROCEDURE USED

84750 Radioactive Waste Treatment, and Effluent and Environmental Monitoring

LIST OF DOCUMENTS REVIEWED

Procedures:

1304.062 Meteorological Monitoring System Calibration, Revision 8

1608.005 Environmental Radiation Monitoring Program, Revision 24

Quality Assurance Audits:

QAP-28-96 Environmental Monitoring

Reports:

Annual Radiological Environmental Operating Report - 1995 and 1996

Other:

Offsite Dose Calculation Manual, Revision 8

Condition Reports - C-97-0007, C-97-0063, C-97-0093, C-97-0116, 2-97-0328, C-97-0278, C-97-0292, C-97-0302, C-97-0303

Chemistry Training Records

Radiation Protection/Chemistry Organization Chart