

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 50-482
License No.: NPF-42
Report No.: 50-482/99-12
Licensee: Wolf Creek Nuclear Operating Corporation
Facility: Wolf Creek Generating Station
Location: 1550 Oxen Lane, NE
Burlington, Kansas
Dates: August 16-20, 1999
Inspector(s): James S. Dodson, Radiation Specialist
Plant Support Branch
Approved By: Gail M. Good, Chief, Plant Support Branch
Division of Reactor Safety
Attachment: Supplemental Information

EXECUTIVE SUMMARY

Wolf Creek Generating Station NRC Inspection Report No. 50-482/99-12

The NRC conducted an inspection of the solid radioactive waste management and radioactive material transportation programs. Areas reviewed included: the solid radioactive waste management program, radioactive material transportation program, facilities and equipment, staff knowledge and performance, staff training and qualifications, and quality assurance activities.

Plant Support

- The licensee met regulatory requirements associated with the solid radioactive waste management program. Radioactive material was correctly stored and controlled. Radioactive waste was correctly classified and stabilized for burial. Waste manifests were prepared in accordance with regulatory requirements (Section R1.1).
- The licensee met regulatory requirements for the packaging and shipping of radioactive materials and radioactive waste. Packages were properly marked and labeled, and radioactive material transport vehicles were properly placarded. Shipping documentation contained the required information (Section R1.2).
- Some problems were observed with the material condition of the licensee's radwaste facilities; one pipe tee and one valve showed significant surface rust (Section R2).
- The individuals responsible for training, routine oversight, transfer, packaging, and transport of radioactive material were knowledgeable of training and retraining requirements. Additionally, these individuals were knowledgeable of waste classification, packaging, marking, labeling, storage, documentation, vendor supplied computer software operation, and radioactive material transportation regulations (Section R4).
- The licensee provided solid radwaste and transportation personnel with the appropriate initial training and retraining (Section R5).
- The biennial quality assurance audit of the Process Control Program was not comprehensive. The audit only addressed observation of a radwaste shipment, reviews of task observations, a summary of Performance Improvement Requests, and regulatory commitments. The Process Control Program contained approximately 13 areas and implementing procedures for processing, packaging, and transportation of radioactive wastes. As a result, this narrowly focused audit provided management with limited information needed to assess the program's performance (Section R7).

Report Details

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 Solid Radioactive Waste Management Program

a. Inspection Scope (86750)

The inspector interviewed licensee personnel and reviewed the following program areas:

- Waste storage and container accountability
- Waste stream sampling results
- Waste classification
- Waste characteristics
- Waste shipment manifests

b. Observations and Findings

Waste Storage and Container Accountability

During tours of the radiological controlled areas, the inspector confirmed that radioactive waste was stored in accordance with commitments in the Updated Final Safety Analysis Report, Chapter 11.4. The inspector verified that randomly selected radioactive material containers were properly labeled and confirmed that the licensee's tracking system listed the correct location and status of the containers.

Waste Stream Sampling

The inspector reviewed the analysis results and the associated evaluations for the eight identified waste streams. The inspector determined that sampling and analyses were completed at the required intervals. The scaling factors used in the vendor supplied computer code were verified with current analysis results as required by procedure. Analyses were performed by a vendor laboratory and the licensee as required by procedure. During the review of selected waste stream analysis packages, the inspector noted that waste stream analysis package No. 9 was missing the Independent Laboratory Data Checklist in accordance with management expectations. The licensee entered the item in the corrective action program.

Waste Classification

The licensee used a vendor supplied computer software code to perform the calculations necessary to classify radioactive waste. The inspector reviewed sample results from selected radioactive waste shipments and confirmed that the waste shipments were properly classified in accordance with 10 CFR 61.55.

Waste Characteristics

Through record review and observations, the inspector confirmed that the licensee met the structural integrity requirements of 10 CFR 61.56 (b)(1) by using high integrity containers. No adverse findings relating to the licensee's radioactive waste characteristics had been identified by burial site representatives.

Manifests

The inspector reviewed random shipping documentation and confirmed that the licensee accurately prepared manifests and included the information required by 10 CFR Part 20, Appendix G. The shipment manifests included a certification that the transported material was properly classified, described, packaged, marked, labeled, and in proper condition for transport. The certification was signed and dated by an authorized licensee representative.

c. Conclusions

The licensee met regulatory requirements associated with the solid radioactive waste management program. Radioactive material was correctly stored and controlled. Radioactive waste was correctly classified and stabilized for burial. Waste manifests were prepared in accordance with regulatory requirements.

R1.2 Radioactive Material Transportation Program

a. Inspection Scope (86750)

The inspector interviewed licensee personnel and reviewed selected examples of the following materials:

- Packaging
- Radiation surveys
- Shipping paper documentation
- Package marking and labeling
- Loading and storage, blocking and bracing
- Vehicle placarding
- Driver instructions
- Emergency response information

b. Observations and Findings

Packaging

The inspector reviewed A_1 values for selected radionuclides in the licensee's waste classification computer data base and confirmed that they matched the values in 49 CFR 173.435. The licensee maintained records that documented Type B packages used by the licensee were designed to meet the applicable requirements specified in 10 CFR 71.12.

Radiation Surveys

Radiation surveys were conducted by the inspector during tours of the radioactive waste processing and storage facilities to ensure that external radiation levels were within the allowable limits of 49 CFR 173.441. The inspector verified that radioactive waste package external radiation levels were within allowable limits for randomly selected packages.

Package Marking, Labeling, and Loading and Vehicle Placarding

The inspector reviewed shipping documentation packages and determined that packages were properly marked and labeled and that radioactive material transport vehicles were properly placarded in accordance with 49 CFR 172.504 and 172.506.

Shipping Papers and Documentation

The inspector reviewed selected examples of shipping documentation and confirmed that the licensee provided the shipping papers and information required by 49 CFR Part 172, Subpart C, and the emergency response information required by 49 CFR Part 172, Subpart G. Additionally, the inspector verified that shipping permits, licenses, certificates of compliance, user lists, and shipping regulations were current.

c. Conclusions

The licensee met regulatory requirements for the packaging and shipping of radioactive materials and radioactive waste. Packages were properly marked and labeled, and radioactive material transport vehicles were properly placarded. Shipping documentation contained the required information.

R2 Status of Radiological Protection and Chemistry Facilities and Equipment

a. Inspection Scope (86750)

The inspector reviewed associated documentation and toured the radwaste building and interim onsite storage facility. The inspector also viewed radwaste storage tanks, pumps, valves, and associated piping.

b. Observations and Findings

The licensee made no significant changes to solid radwaste facilities since the last inspection in this area. Changes in equipment were reflected in the current versions of the Process Control Program and implementing procedures. The inspector noted no deviations from commitments in the Updated Final Safety Analysis Report, Chapter 11.4, due to the revision which was in process to correct both fidelity and terminology issues identified by the licensee.

During the tours of the radwaste building and interim onsite storage facility, the inspector noted that the housekeeping was acceptable.

To selectively review the material conditions in the licensee's radwaste facility, the inspector asked to see radwaste storage tanks, pumps, valves and associated piping. The inspector noted that there were problems with the material condition of a reducer pipe tee and Valve HBV-422 in floor drain tank room No. A. Specifically, there were signs of significant surface rust on the pipe tee and in some areas on the valve. The licensee initiated Work Request WR#99-016899 to address this issue.

c. Conclusions

Housekeeping in the solid radwaste facilities was acceptable. Some problems were observed with the material condition of the licensee's radwaste facilities; one pipe tee and one valve showed significant surface rust.

R4 Staff Knowledge and Performance

a. Inspection Scope (86750)

The inspector interviewed a quality assurance specialist, health physics supervisor radwaste, and the training instructor involved in the radioactive material transportation program.

b. Observations and Findings

The quality assurance specialist who conducted quality assurance observations and surveillances was knowledgeable of regulatory and procedural requirements for solid radioactive waste management and transportation. The training instructor responsible for radwaste personnel training was knowledgeable of the regulatory training and retraining requirements. The health physics supervisor radwaste was knowledgeable of radioactive waste classification, packaging, marking, labeling, storage, documentation, vendor supplied computer software operation, and radioactive material transportation regulations.

c. Conclusions

The individuals responsible for training, routine oversight, transfer, packaging, and transport of radioactive material were knowledgeable of training and retraining requirements. Additionally, these individuals were knowledgeable of waste classification, packaging, marking, labeling, storage, documentation, vendor supplied computer software operation, and radioactive material transportation regulations.

R5 Staff Training and Qualification

a. Inspection Scope (86750)

The inspector reviewed initial training lesson plans, retraining lesson plans, and training records for the health physics supervisor radwaste, and two radwaste technicians.

b. Observations and Findings

Training lesson plans and records confirmed that the licensee provided the appropriate initial training and periodic retraining in Department of Transportation and NRC regulatory requirements. Additionally, the training and retraining programs included instructions and a review of operating procedures for personnel involved in the transfer, packaging, and transport of radioactive material.

c. Conclusions

The licensee provided solid radwaste and transportation personnel with the appropriate initial training and retraining.

R7 Quality Assurance in Radiological Protection and Chemistry Activities

a. Inspection Scope (86750)

The inspector interviewed licensee personnel and reviewed the following items:

- Quality assurance audit
- Quality assurance surveillances
- Vendor audits
- Self-assessments
- Performance Improvement Requests

b. Observations and Findings

The licensee conducted one audit, WCNOG QA Audit K-508, since the previous NRC inspection of solid radioactive waste management and transportation activities. Procedure AP 20A-003, Revision 3, "Audit/Surveillance Scheduling," identified the 24-month audit elements as the Process Control Program, implementing procedures for processing, packaging, and transportation of radioactive wastes including Type B and fissile quantities of radioactive materials and low-level radioactive waste. The elements of the Process Control Program, as delineated in Procedure AP 31A-100, Revision 2, "Solid Radwaste Process Control Program," were: waste stream identification, solidification/encapsulation methods, operation and maintenance of dewatering equipment, high integrity container usage, waste characterization, waste classification, waste packaging, regulatory requirements, quality control, certifications, waste management facility requirements, administrative controls, and surveillance requirements.

The scope of the program audit included observation of a radwaste shipment, a review of task observations, a summary of Performance Improvement Requests, and regulatory commitments. Due to the narrow scope of the audit, the inspector determined that the audit was not comprehensive.

Since the previous inspection, quality assurance personnel conducted four observations. These observations were general and addressed segments of activities and practices.

The observations provided minimal oversight of radwaste management and transportation activities.

Three vendor audits were conducted for radwaste management related support functions. The vendor services were for the waste stream analysis laboratory and radwaste processing. The results of the vendor audits were satisfactory.

One self-assessment audit was conducted by quality assurance during this inspection period. Deficiencies identified by the evaluators were properly placed in the corrective action program. The inspector noted no problems with the assessment.

The inspector reviewed a summary of performance improvement requests and selected performance improvement requests relating to transportation and radioactive waste management activities. Selected corrective actions and closure documentation were reviewed and determined to be adequate. The inspector noted that corrective actions were completed in a timely manner.

c. Conclusions

The biennial quality assurance audit of the Process Control Program was not comprehensive. The audit only addressed observation of a radwaste shipment, reviews of task observations, a summary of Performance Improvement Requests, and regulatory commitments. The Process Control Program contained approximately 13 areas and implementing procedures for processing, packaging, and transportation of radioactive wastes. As a result, this narrowly focused audit provided management with limited information needed to assess the program's performance.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at an exit meeting on August 20, 1999. The licensee acknowledged the findings presented. No proprietary information was identified.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

B. McKinney, Plant Manager
S. Koenig, Manager, Performance Improvement and Assessment
M. Blow, Manager, Chemistry and Radiation Protection
K. Hall, Supervisor, Corrective Actions
V. Cannales, Supervisor, Quality Evaluations
S. Burkdoll, Supervisor, Health Physics and Chemistry Training
C. Medenci, Supervisor, Health Physics Radwaste
C. Stone, Quality Assurance
R. Skiles, Health Physics Radwaste Instructor
C. Reekie, Engineering Specialist, Licensing

NRC

R. Kopriva, Senior Project Engineer

INSPECTION PROCEDURES USED

86750 Solid Radioactive Waste Management and Transportation of Radioactive
 Material

PARTIAL LIST OF DOCUMENTS REVIEWED

Lists of Performance Improvement Requests relating to the inspection areas (3/1/98 to 8/15/99)

Performance Improvement Requests

PIR-97-0737
PIR-98-0011
PIR-98-0624
PIR-98-0759
PIR-98-0765
PIR-98-0791
PIR-98-0939
PIR-98-1286
PIR-98-2090
PIR-98-2811
PIR-98-3327
PIR-98-3607
PIR-99-0801
PIR-99-0948
PIR-99-2150
PIR-99-2316

WCNOC QA Audit K-508, February 18 to March 19, 1999

Self Assessment Report K-473 dated April 10, 1997

Supplier Evaluation Reports

T105 dated September 4, 1998

TB66 dated March 11, 1998

SC75 dated September 3, 1998

Quality Assurance Observations (Plant Evaluation Checklist) OB 98-0138, OB 98-0352, OB 98-0445, and OB 99-0005

Procedures

AP 17C-017	"Manager Chemistry/Radiation Protection Duties and Responsibilities," Revision 2
AP 20A-002	"Audit System," Revision 4
AP 20A-003	"Audit/Surveillance Scheduling," Revision 3
AP 20A-004	"Audit Procedure," Revision 4
AP 20A-005	"Surveillance Procedure," Revision 3
AP 25-001	"Radiation Protection Quality Program Requirements," Revision 1
AP 28D-001	"Self Assessment Process," Revision 4
AP 30D-010	"Contractor Training and Qualification," Revision 1
AP 30D-100	"Health Physics Training Program," Revision 1
AP 30G-001	"Training, Qualification, and Certification of Audit Personnel," Revision 2
AP 31-001	"Packaging for Transporting Type B and Fissile Quantities of Radioactive Materials Quality Program Requirements," Revision 1
AP 31A-001	"Low Level Radioactive Waste Quality Program Requirements," Revision 1
AP 31A-100	"Solid Radwaste Process Control Program," Revision 2
AP 31B-001	"Hazardous Waste Management," Revision 2
RPP 07-101	"Control of Radioactive Material Management Software and Data Bases," Revision 5
RPP 07-110	"Solid Radwaste Packaging," Revision 5
RPP 07-111	"Handling Cartridge Filters," Revision 7
RPP 07-120	"Preparation and Shipment of Radioactive Waste," Revision 11
RPP 07-121	"Preparation and Shipment of Radioactive Material," Revision 11
RPP 07-130	"Verification of Free Standing Water in High Integrity Containers," Revision 2
RPP 07-131	"Bead Resin/Activated Carbon Dewatering Procedure for CNSI 14-215 or Smaller Liners," Revision 3
RPP 07-140	"Mixed Waste Handling, Inspection and Storage," Revision 4
AI 02B-001	"Resin Monitoring Guidelines," Revision 1
AI 21-002	"Standards for Completion of Fundamentals Qualification Special Qualification Card," Revision 0
AI 25A-002	"Radiation Protection Interdepartmental Program Review," Revision 0
AI 28D-001	"Wolf Creek Performance Observation Program," Revision 3
AI 30E-005	"Instructor Training, Qualification, Certification, and Continuing Training," Revision 5