

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-285/87-01

License: DPR-40

Docket: 50-285

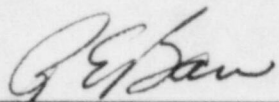
Licensee: Omaha Public Power District (OPPD)
1623 Harney Street
Omaha, Nebraska 68102

Facility Name: Fort Calhoun Station (FCS)

Inspection At: FCS Site, Blair, Nebraska

Inspection Conducted: January 5-9, 1987

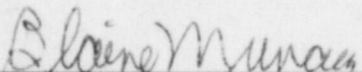
Inspector:



R. E. Baer, Radiation Specialist, Facilities
Radiological Protection Section

2/5/87
Date

Approved:



B. Murray, Chief, Facilities Radiological
Protection Section

2/5/87
Date

Inspection Summary

Inspection Conducted January 5-9, 1987 (Report 50-285/87-01)

Areas Inspected: Routine, unannounced inspection of the licensee's transportation and solid radioactive waste program including: organization and management controls, training and qualifications, 10 CFR Part 20, and 10 CFR Part 61 waste generator requirements, transportation activities, and onsite low-level radioactive waste storage.

Results: Within the areas inspected, no violations or deviations were identified.

DETAILS1. Persons Contacted

- *R. L. Andrews, Division Manager, Nuclear Production
- *W. G. Gates, FCS Plant Manager
- M. P. Anderson, Chemistry/Radiation Protection (C/RP) Senior Technician
- A. Bilau, Radwaste Coordinator
- M. A. Breuer, C/RP Senior Technician
- C. J. Brunnert, Supervisor, Operations Quality Assurance
- R. A. Cords, C/RP Senior Technician
- D. W. Dale, Senior Quality Control (QC) Inspector
- S. Dixon, C/RP Senior Technician
- *J. J. Fisicaro, Supervisor, Nuclear Regulatory and Industry Affairs
- *J. P. Gasper, Manager, Administrative and Training Services
- T. W. Jamieson, Chemistry Training Instructor
- *R. L. Jaworski, Section Manager, Technical Services
- J. M. Mattice, Plant Health Physicist
- *K. J. Morris, Division Manager, Quality Assurance (QA)
- *A. W. Richards, Manager, QA
- *G. L. Roach, Supervisor, C/RP
- B. A. Schmidt, Chemist
- M. W. Williams, Training Instructor

Others

- D. W. Anderson, Junior Technician, IRM
- A. J. Konwinski, Junior Technician, IRM
- M. D. Struhar, Training Instructor, NUS
- *P. H. Harrell, Senior Resident Inspector, USNRC
- A. Schubert, state of Florida, Department of Health and Rehabilitative Services

The NRC inspector also interviewed other licensee and contractor employees including C/RP, QC, QA, administrative, and training personnel.

- *Denotes those individuals present during the exit interview on January 9, 1987.

2. Licensee Action on Previous Inspection Findings

(Closed) Violation (285/8502-05): Control of Radioactive Material - This violation involved the lack of surveying and "Hot Spot" posting a bag of radioactive material. The licensee had revised station procedures to correct inconsistencies between implementing procedures. Violation (285/8502-05) is considered closed.

(Closed) Violation (285/8601-01): Failure to Identify Shipment of Radioactive Material - This violation involved the shipment of a radiologically contaminated main steam valve without properly identifying and marking the valves as radioactive. The licensee revised outage procedures to require radiological posting on potentially contaminated main steam components. Violation (285/8601-01) is considered closed.

(Closed) Violation (285/8601-03): Failure to Control Very High Radiation Area - This violation involved the lack of locked doors to control a very high radiation area. The licensee had locked or otherwise secured all doors leading into the very high radiation area and later removed the source of very high radiation from the area. Violation (285/8601-03) is considered closed.

(Closed) Violation (285/8601-04): Failure to Perform Surveys - This violation involved the lack of a radiation and contamination survey on a radiologically contaminated main steam system valve prior to shipping the valves offsite. The licensee revised outage procedures to require radiological surveys of potentially contaminated main steam components. Violation (285/8601-04) is considered closed.

3. Inspector Observations

The following are observations the NRC inspector discussed with the licensee during the inspection and at the exit interview on January 9, 1987. These observations are neither violations nor unresolved items. These items were recommended for licensee consideration for program improvement, but they have no specific regulatory requirement. The licensee stated that these items would be reviewed:

- a. Procedures - The licensee's transportation procedures did not address: (1) the necessary notifications required when transporting a highway route controlled quantity of radioactive material, and (2) those systems to be sampled and the frequency of sample collection for compliance with 10 CFR Part 61.55. See paragraph 4 for additional details.
- b. Trash Compactor Filter - The licensee did not record the pressure drop across the high efficiency particulate air (HEPA) used on the radioactive waste trash compactor. See paragraph 6 for additional details.
- c. Airborne Radioactivity Air Sample - The licensee did not routinely sample the trash compaction area for airborne radioactivity during trash compaction operations. See paragraph 6 for additional details.

4. Organization and Management Controls

The NRC inspector reviewed the licensee's organization and management controls to determine compliance with the FCS Technical Specifications (TS) Sections 2.9.2, 5.22, 5.8, 5.9.4, and 5.10.1, 10 CFR Parts 20, 61, and 71; agreement with commitments in the Updated Safety Analysis Report (USAR) Sections 11 and 12, NRC Inspection and Enforcement (IE) Bulletin 79-19; and the recommendations of NRC Regulatory Guides (RG) 1.33, and 1.8, and NRC IE Information Notices 83-10 and 84-50.

The NRC inspector reviewed the staffing of the C/RP group radioactive waste coordinator and senior technician (Radioactive Waste Specialty) positions and the workload involving solid radwaste management and transportation activities.

The NRC inspector reviewed the licensee's operating procedures for radioactive waste activities listed in Attachment 1. The NRC inspector discussed with licensee representatives several procedures which should be revised to correct inconsistencies. The NRC inspector noted that the licensee's procedures did not address the requirements for transportation of a highway route controlled quantity of radioactive material. The NRC inspector noted that the licensee had not made a shipment of this quantity of radioactive material; however, the licensee stated they would develop a station procedure addressing large quantity radioactive material shipments.

The NRC inspector noted that the licensee's chemistry group had prepared a waste stream characterization and analysis program for compliance with 10 CFR Part 61.55. This program was contained in several chemistry procedures. The NRC inspector observed that the licensee had not developed a specific procedure which specified those waste streams which are required to be sampled and the sampling frequency. The licensee stated this observation would be reviewed. The NRC inspector also reviewed the procedures used by a contractor for radioactive waste solidification and the licensee's control over changes to those procedures. The licensee's burial site contracts, Department of Transportation (DOT) and NRC regulations, and package user manuals were found to be up-to-date.

The NRC inspector reviewed licensee QA audits 3-86 "Radiological Effluent Program" conducted during the period April 14-18, 1986, and internal audit Number 63 of the radiological effluent program conducted during the period November 24-December 5, 1986. These audits were conducted in accordance with QA procedures. Identified deficiencies were resolved in an effective and timely manner.

No violations or deviations were identified.

5. Training and Qualifications

The NRC inspector reviewed the licensee's training program and personnel qualifications to determine compliance with TS sections 5.3, 5.4 and

5.10.2, 10 CFR Parts 19.12 and 71.105(d); agreement with commitments in USAR-Section 12 and NRC IE Bulletin 79-19; and the recommendations of RGs 1.8, 8.2, 8.8, 8.27, and NUREG-0761.

The NRC inspector reviewed position descriptions, training records, training outlines, special training courses, training attendance records, and discussed the training activities and personnel qualifications of personnel performing radioactive waste processing and transportation activities with licensee representatives.

The NRC inspector determined that the licensee had provided periodic training conducted by an offsite vendor to those individuals involved with transportation activities including QA, QC, and training instructors. The station senior technicians (Radioactive Waste Specialty) had been provided additional burial site training. The NRC inspector noted that the licensee had developed a position description for C/RP senior technician (Radioactive Waste Specialty), but had not discussed these responsibilities with the incumbent technician.

No violations or deviations were identified.

6. 10 CFR 20 and 10 CFR 61 - Waste Generator Requirements

The NRC inspector reviewed the licensee's program for disposal of Low-level Radioactive Waste (LLRW) to determine compliance with the requirements of 10 CFR Parts 20.301 and 20.311, 10 CFR Parts 61.55 and 61.56, and TS 5.9.4; commitments contained in the USAR-Section 11.14; and the recommendations of NRC branch technical position papers for LLRW classification and characteristics.

The NRC inspector reviewed the licensee's LLRW process control program, waste manifests, waste classification, waste form and characterization, labeling, tracking of waste shipments, and the disposal site license conditions. The licensee was currently implementing a LLRW program as described in NRC Inspection Report 50-285/86-01.

The NRC inspector noted the licensee had posted a sign next to the LLRW trash compactor which stated not to operate if the pressure drop across the HEPA filter exceeded 8 inches of water. The inspector discussed with licensee representatives what the flow-rate would be through the filter at 8 inches of water, how often (weekly, monthly) pressure readings were documented, and what the current pressure drop on the filter was. The licensee stated that a procedure had not been established for routine documentation of these items.

The NRC inspector noted the licensee did not routinely collect an airborne radioactivity sample during operation of the waste compactor. The licensee stated that they had collected samples in the past and no detectable radioactivity had been observed and personnel wore respiratory protection equipment as an additional precaution. The NRC inspector discussed the merits and regulatory position of being able to document the

levels of airborne radioactivity even when this level is below the detectable limits. As a result of this discussion, the licensee stated that they would collect airborne samples in the area when compaction is taking place or other work activities which could possibly create an airborne problem.

The NRC inspector noted the licensee had shipped a "Decontamination Van" to the vendor who owned the van and possessed a radioactive material license issued by the state of Florida. The vendor's license stated they could possess activation and mixed fission products as a result of fixed and nonaccessible contamination inside portable nuclear laundry equipment. The decontamination van contained electropolishing and frecon cleaning machines, items that are not usually classified as portable nuclear laundry equipment. The licensee could not provide conclusive documentation that the decontamination van was included in the radioactive material license. The NRC inspector telephoned the state of Florida, Department of Health and Rehabilitative Service, on January 12, 1987 which issued the radioactive material license and confirmed the decontamination van was included as portable nuclear laundry equipment. The Florida representative stated that the new radioactive material license issued to the vendor should remove the confusion.

The NRC inspector reviewed the licensee's record of LLRW shipped from FCS since 1982. The following tabulation shows the total volume of LLRW shipped for the period 1982 through 1986.

<u>Year</u>	<u>Volume-Cubic Feet</u>	<u>Curie Content</u>
1986	4103.0	28.204
1985	12115.5	224.322
1984	13879.9	71.700
1983	15879.0	533.679
1982	12076.8	35.416

The NRC inspector noted that 1986 was a non-outage year and the licensee had established a goal for 1987, which includes a refueling/maintenance outage, not to exceed 7500 cubic feet.

No violations or deviations were identified.

7. Transportation Activities

The NRC inspector reviewed the licensee's transportation program to determine compliance with 10 CFR Parts 20 and 71, and DOT regulations 49 CFR Parts 170-189.

a. Quality Assurance Program

The NRC inspector determined that the licensee had submitted a QA program for approval to the NRC to comply with 10 CFR Part 71, Subpart H. The licensee had received NRC Form 311, Quality Assurance

Program Approval, Approval No. 0256, Revision 2, which expires July 31, 1989. The licensee was implementing this QA program.

b. Procurement and Selection of Packaging

The NRC inspector reviewed the licensee's program for procurement and selection of packaging for compliance with the requirements of 10 CFR Parts 71.12 and 71.54, and 49 CFR Part 173.

The NRC inspector reviewed the licensee's procurement of DOT and NRC certified packaging. The licensee had available the appropriate documentation on design, use, maintenance, testing, and NRC/DOT certification. The licensee routinely uses QA and QC checklists for the receipt inspection and loading of packages.

c. Preparation of Packages for Shipment

The NRC inspector reviewed the licensee's program for preparation of packages for shipment to determine compliance with the requirements of 10 CFR Parts 20.311, 71.12, and 49 CFR Parts 172 and 173.

The licensee routinely used a checkoff list to assure that procedures were followed and that packages were properly prepared in accordance with DOT, state and burial site requirements.

d. Delivery of Completed Packages to Carriers

The NRC inspector reviewed the licensee's program for delivery of completed packages to a carrier for transport to determine compliance with the requirements of 10 CFR Parts 20.311, 71.55 and 49 CFR Parts 170 to 178.

The NRC inspector reviewed licensee records of radioactive material shipments, including low specific activity (LSA) waste shipments and determined the loading, use of seals, placarding, advance notification, and providing instructions for maintaining sole use conditions were adequate.

e. Receipt of Packages

The NRC inspector reviewed the licensee's program for receipt of packages containing radioactive material to determine compliance with 10 CFR Part 20.205.

The licensee's activities for receipt of radioactive material are governed by the procedure V11-6, "Radioactive Material Control" Revision 17, October 11, 1985, Section 6.1, "receiving radioactive material." The NRC inspector reviewed this procedure for consistency with regulatory requirements and to determine whether it covered all aspects of the work being performed.

f. Registration of Use of NRC Certified Packagings

The NRC inspector determined the licensee was a registered user of NRC certified packages used to ship radioactive materials/LSA waste material. The licensee also maintained registration for other NRC certified packages not routinely used.

g. Records, Reports, and Notifications

The NRC inspector reviewed selected records of radioactive material shipments made by the licensee during calendar year 1986 for compliance with the requirements of 10 CFR Parts 20.311 and 71.62.

The licensee maintained records of all radioactive material shipments as required. The records were complete with all shipping documentation, including the receipt and shipping radiation survey data.

No violations or deviations were identified.

8. Onsite Low-Level Radioactive Waste Storage

The NRC inspector determined the licensee had not constructed a onsite low-level radioactive waste storage facility.

No violations or deviations were identified.

9. Exit Interview

The NRC inspector met with the NRC senior resident inspector and licensee representatives denoted in paragraph 1 at the conclusion of the inspection on January 9, 1987. The NRC inspector summarized the scope and finding of the inspection, including the observations identified in paragraph 3. The licensee stated they would review the NRC inspector's observations.

ATTACHMENT 1

Documents Reviewed

Radiation Protection Manual

- Section 6 "Radioactive Material Control", Revision 17, dated October 11, 1985
- V11-11-1 "Process Control Procedures," Revision 2, dated October 31, 1986
- V11-11-2 "Mixing Materials for Waste Drums," Revision 1, dated June 4, 1986
- V11-11-4-1 "Radioactive Materials Shipment Procedures," Revision 2, dated October 31, 1986
- V11-11-4-2 "Determination of Package Curie Content," Revision 1, dated May 22, 1986
- V11-11-4-3 "Determination of Waste Form Classification," Revision 1, dated May 16, 1986
- V11-11-4-4 Determination of Dry Active Waste Average Radio-Nuclide Composition and Energy," Revision 1, dated May 22, 1986
- V11-11-4-5 "Outside Storage and Movement of Radioactive Waste," Revision 1, dated May 22, 1986
- V11-11-4-6 "Radioactive Waste Inventory Procedure," Revision 1, dated May 16, 1986
- V11-11-4-7 "In-Plant Collection and Disposal of Radioactive Waste" Revision 1, dated May 22, 1986
- V11-11-4-8 "Verification of Liquid Free Solidified Waste Spent Resin Waste, and Dry Compatible or Noncompactable Waste," Revision 2, dated October 31, 1986
- V11-11-4-9 "Maintenance/NUS Support for Radwaste Solidification," Revision 2, dated November 12, 1986
- V11-11-4-10 "Polyethylene High Integrity Container Overpack Handling Procedure (CNSI)," Revision 1, dated November 6, 1986

Quality Assurance Plan

- Section 9.2, "Training and Certification of Audit Personnel," Revision 0, dated September 1, 1984

Section 10.4, "Deficiency Control and Corrective Action" Revision 0, dated September 1, 1984

Section 11.1, "Radioactive Material Control," Revision 0, dated September 1, 1984

Section 11.5, "Packaging and transportation of Radioactive Waste," Revision 0, dated September 1, 1984

Standing Orders

G-26A "Quality Control Program, Appendix K-low-level Radioactive Material Shipments," Revision 16, dated December 17, 1986

C-63 "Volume Reduction of Radioactive Waste," Revision 0, dated July 30, 1985

Operating Instructions

OI-WDS-1 "Solid Waste Disposal System" Revision 10, dated February 12, 1985

OI-WDS-2 "Waste Solids Baler Operation" Revision 12, dated April 16, 1984

OI-WDS-5 "Solidification Processing of Waste Concentrates," Revision 3, dated June 20, 1986

OI-WDL-1 "Collection and Transfer of Liquid Waste," Revision 28, dated September 24, 1986

OI-WDL-2 "Waste Disposal Liquid Normal Operation Process," Revision 11, dated September 30, 1985

Surveillance Test

ST-WDS-1 "Verification of Liquid Free Solidified Waste", Revision 1 dated November 12, 1986

Solidification Service Procedures

SS-001 "Process Control Program for Radwaste Solidification Service," Revision J, dated October 6, 1986

SS-019 "System Setup/Removal Procedure for NUSPSC Radwaste Solidification System No. 880," Revision B, dated February 2, 1986

SS-020 "Operating Procedure for NUSPSC Radwaste Solidification System No. 880," Revision B, dated March 4, 1986