

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-285/88-04

Operating 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 11-15, 1988

Inspector:

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

*2/10/88*  
Date

Approved:

*B. J. Murray*  
B. Murray, Chief, Facilities Radiological  
Protection Section

*2/10/88*  
Date

Inspection Summary

Inspection Conducted January 11-15, 1988 (Report 50-285/88-04)

Areas Inspected: Routine, unannounced inspection of the licensee's solid radioactive waste and radioactive materials transportation programs including: organization and management controls, training and qualifications, solid radioactive waste, transportation, transportation activities, radioactive waste management, and low-level radioactive waste storage facilities.

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

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DETAILS1. Persons ContactedOPPD

- \*W. G. Gates, FCS Plant Manager
- M. P. Anderson, Chemistry/Radiation Protection (C/RP) Senior Technician
- \*W. Bateman, Quality Assurance (QA) Procurement Supervisor
- A. Bilau, Acting Plant Health Physicist
- \*M. A. Breuer, Acting Radwaste Coordinator
- \*C. J. Brunnert, Operations QA Supervisor
- R. A. Cords, C/RP Senior Technician
- \*M. R. Core, Maintenance Supervisor
- \*J. J. Fisicaro, Nuclear Regulatory and Industrial Affairs (NR&IA) Supervisor
- \*L. L. Gundrum, NR&IA Senior Nuclear Production Engineer
- \*W. Hasher, Licensing Engineer
- J. M. Mattice, Acting ALARA Coordinator
- \*K. J. Morris, Division Manager, Quality Assurance and Regulatory Affairs
- \*T. Patterson, Acting Technical Supervisor
- \*A. W. Richards, Manager, QA
- \*G. L. Roach, C/RP Supervisor
- \*B. Saucier, Operations QA Inspector
- F. K. Smith, Plant Chemist
- \*P. Walling, Administrative Services Supervisor
- M. W. Williams, Training Instructor

Others

- D. R. Doering, Services Supervisor, DURATEK
- W. H. Frazer, Field Services Supervisor, LN Technologies
- S. McCoy, LN Technologies
- J. A. Sarnowski, Nuclear Technician, LN Technologies
- J. W. Craig, Chief, Plant Systems Branch, Nuclear Reactor Regulation (NRR), NRC
- \*P. H. Harrell, Senior Resident Inspector, NRC
- J. Lee, NRR, NRC
- \*T. Reis, Resident Inspector, NRC

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

\*Denotes those individuals present during the exit interview on January 15, 1988.

2. Open Items Identified During This Inspection

An open item is a matter that requires further review and evaluation by the NRC inspector. Open items are used to document, track, and ensure

adequate followup on matters of concern to the NRC inspector. The following item was identified:

Open Item (285/8804-01): Demineralizer Skid, Hoses and Connections - This item involves the lack of a preventative maintenance/hydrostatic testing program on the temporary demineralizer skid. (See paragraph 5.)

3. Organization and Management Controls (83722/83522)

The NRC inspector reviewed the licensee's staff functional assignments including: organization, responsibilities, authorities, staffing, identification and correction of weaknesses, audits and appraisals, communication to employees, and documentation and implementation relating to solid radioactive waste and transportation programs to determine compliance with Inspection and Enforcement (IE) Bulletin 79-19 and Technical Specification (TS) Section 5.1, and commitments in Chapters 11 and 12 of the Updated Safety Analysis Report (USAR).

The NRC inspector reviewed those procedures listed in the attachment and the audit report listed below:

- ° 87-QA-317, Internal Audit Report No. 56, Transportation of Radioactive Material, dated July 10, 1987

No violations or deviations were identified.

4. Training and Qualifications (83723/83523)

The NRC inspector reviewed the licensee's training program including: adequacy of training, employee knowledge, qualification requirements, new employees, INPO accreditation, audits and appraisals, training not covered by INPO, and transportation of radioactive materials and solid radioactive waste activities to determine compliance with the requirements of IE Bulletin 79-19 and TS 5.3, 5.4, and 5.10.2; and commitments in Chapter 12 of the USAR.

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

No violations or deviations were identified.

5. Solid Radioactive Waste (84722/84522)

The NRC inspector reviewed the licensee's solid radioactive waste program including: processing and storage; audits and appraisals; program changes; construction and installation of solid waste system; liquid leakage; overflow and spillage; sampling; preoperational test program;

completion of preoperational test; procedures; disposition of low-level waste; and installation, calibration, and testing of process monitors to determine compliance with commitments in Chapter 11 of the USAR.

The NRC inspector discussed with licensee representatives the placement of a temporary portable demineralizer skid in the auxiliary building railroad loading and unloading area (Room 25). The licensee had previously modified the waste evaporator in Room 30 and added three valves, V-1135, V-1136, and V-1137 which would permit the use of a demineralizer in place of the waste evaporator. The NRC inspector noted that system drawings P&ID 11405-M-9, Revision 25 (Valve V-1137) and Aqua-Chem 627-D-8053, Revision 27 (all three valves) depicted the valves but did not indicate their intended purpose.

The NRC inspector determined that the licensee had not established a preventative maintenance/hydrostatic test program for the portable demineralizer system including approximately 250 feet of rubber hose which connects the demineralizer skid to waste evaporator system. The licensee stated they would review the temporary demineralizer system and connecting hose for preventative maintenance needs. The NRC inspector stated that this matter is considered an open item (285/8804-01) pending development of a preventative maintenance schedule for this equipment.

No violations or deviations were identified.

6. Transportation (86721)

The NRC inspector reviewed the licensee's program for transportation of radioactive materials including: audits and appraisals, procedures, procurement and lease of packaging, implementation of the transportation program, and transportation incidents to determine compliance with the requirements of 10 CFR Part 71.

The licensee was a registered user and had available the certificates of compliance for all packages used for the transport of radioactive material. The licensee had not experienced any transportation incidents which caused a reduction in the effectiveness of packaging since the previous inspection.

No violations or deviations were identified.

7. Transportation Activities (86740)

The NRC inspector reviewed the licensee's transportation activities program including: management controls, training, audits and reviews, procurement and selection of packaging, quality assurance program, preparation of packages for shipment, delivery of completed packages to carrier, receipt of packages, periodic maintenance of packaging, and records and reports to determine compliance with the requirements of 10 CFR Parts 20 and 71, and Department of Transportation (DOT) Regulations 40 CFR Parts 170-189.

The NRC inspector reviewed the licensee's Internal Audit Report No. 56, conducted during the period June 22-26, 1987. The licensee identified and documented, including prompt corrective actions taken, two violations of station procedures in Deficiency Reports FCI-87-063 and FCI-87-064. The first Deficiency Report FCI-87-063 involved the maintenance department and their failure to follow Procedure RPM VII, Sections 6.1, 6.1.1, and 6.1.2 for the receipt of packages containing radioactive material. Section 6.1 requires that the supervisor, C/RP or the health physicist be notified immediately upon the arrival of each radioactive shipment. Section 6.1.2 states, in part, that the monitoring of radioactive packages shall be performed within 3 hours of receipt during normal working hours or within 18 hours when received after normal working hours. Section 6.1.1 requires that packages of radioactive material, while in the warehouse, be placed in the nuclear material storage area and kept under direct surveillance of the storage area locked.

The second Deficiency Report, FCI-87-064, was written against the C/RP department. The licensee's QA auditors questioned C/RP personnel and identified the following weakness in their understanding of the station requirements for the receipt of radioactive material shipments:

a. Description of Problem

Out of the 12 radioactive material shipments received in 1987, C/RP was not notified promptly in 6 instances and packages were not monitored for radiological conditions within the required time limit. One package took 7 days and another 10 days from receipt to monitoring, and the packages were not placed in a secure storage cage as specified by station procedure.

b. Licensee Action and Corrective Actions

The licensee determined that the storeroom and C/RP personnel involved in the receipt of radioactive material had not been adequately trained. Stores personnel had not been trained on how to identify and handle incoming radioactive material shipments. The licensee implemented a special training course for stores and C/RP personnel on how to properly receive radioactive material.

Technical Specification 5.11 requires that procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be adhered to.

Procedures were established in the Radiation Protection Manual (RPM) VII, Sections 6.1 and 6.1.2 to meet the requirements of 10 CFR Part 20.205, "Procedures for Picking Up, Receiving, and Opening Packages," which specifies that each licensee shall monitor the external surfaces of packages upon receipt for external radiation levels and removable contamination within 3 hours for normal working hours or 18 hours if received after normal working hours. Procedure RPM VII, Section 6.1.1 was established to meet the requirements of 10 CFR Part 20.207, "Storage and

Control of Licensed Materials in Unrestricted Areas," which requires that licensed material be secured from unauthorized removal from its place of storage and material not in secure storage be tended under constant surveillance and immediate control of the licensee.

The licensee was informed that failure to radiologically monitor the external surfaces of all radioactive material packages within 3 hours of receipt during normal working hours and 18 hours if received after normal working hours would normally be considered an apparent violation of TS 5.11, "Failure to Follow Procedures," specifically Procedures RPM 6.1 and 6.1.2 and that the failure to maintain the radioactive material packages stored in an area under direct surveillance or lock was an apparent violation of TS 5.11, specifically Procedure 6.1.1. However, the NRC Enforcement Policy, 10 CFR Part 2, Appendix C, states that a Notice of Violation will generally not be issued for violations identified by the licensee if: (1) it was identified by the licensee; (2) it fits in Severity Level IV or V; (3) it was reported, if required; (4) it was or will be corrected; and (5) it was not a violation that could reasonably be expected to have been prevented by the licensee's corrective actions for a previous violation. The NRC inspector stated that these apparent violations met the criteria specified in 10 CFR Part 2, Appendix C, and would be considered licensee-identified.

No deviations were identified.

#### 8. Radioactive Waste Management (84850)

The NRC inspector reviewed the licensee's program for disposal of low-level radioactive waste (LLRW) including: management controls, quality control program, manifests, classification, form and characterization, shipment labeling, tracking of shipments, and disposal site license conditions to determine compliance with the requirements of 10 CFR Parts 20.311, 61.55, and 61.56.

The licensee was not solidifying any LLRW at the time of this inspection. The NRC inspector noted the licensee had a moderate volume of dry active waste that still needed to be sorted and compacted into 55-gallon drums.

The NRC inspector reviewed of the licensee's records for LLRW shipped since 1983. The following tabulation shows the total volume of LLRW shipped for the period 1983 through 1987.

<u>Year</u>	<u>Volume-Cubic Feet</u>	<u>Curie Content</u>
1987	4454.0	547.37
1986	4103.0	28.204
1985	12115.5	224.322
1984	13879.0	71.700
1983	15879.0	533.679

The NRC inspector noted that the volume of LLRW generated in 1987, an outage year was not significantly larger than 1986, a nonoutage year.

No violations or deviations were identified.

9. Low-Level Radioactive Waste Storage Facility (65051)

The NRC inspector reviewed the status of the LLRW storage facility program including: basis for construction, QA program, procedures for construction, organization and staffing, training and qualifications, procedures, and effluent monitoring for compliance with FCS license conditions and the recommendations of NRC Generic Letter 81-38, IE Circular 80-18, Regulatory Guide 1.143, and NUREG-0800.

The NRC inspector determined that the licensee had not constructed an onsite LLRW facility. The licensee had completed a design review for a LLRW storage and processing facility, but had not finalized the design or established a firm date for construction.

No violations or deviations were identified.

10. Exit Interview

The NRC inspector met with the NRC resident inspectors and licensee representatives denoted in paragraph 1 at the conclusion of the inspection on January 15, 1988. The NRC inspector summarized the scope and findings of the inspection.

ATTACHMENT

PROCEDURES REVIEWED

- VII-11-1, Process Control Procedures, Revision 3, dated January 15, 1987
- RW-1, Radioactive Materials Shipment Procedures, Revision 4, dated April 14, 1987
- RW-4, Determination of Dry Active Waste Average Radionuclide Composition and Energy, Revision 2, dated May 30, 1987
- RW-5, Outside Storage and Movement of Radioactive Waste, Revision 2, dated January 15, 1987
- RW-7, In-Plant Collection and Disposal of Radioactive Material, Revision 2, dated March 12, 1987
- RW-8, Verification of Liquid Free Solidified Waste, Spent Resin Waste, and Dry Compactable or Noncompactable Waste, Revision 4, dated May 4, 1987
- RW-12, Spent Resin Disposal, Revision 4, dated April 14, 1987
- RW-13, Loading the NUS 9080 Cask, Revision 0, dated February 4, 1987
- RW-16, Operation/Maintenance of Durater Demineralizer System, Revision 0, dated May 2, 1987
- RW-17, Maintenance/LN Support for Radwaste Solidification, Revision 1, dated August 6, 1987

LN Procedures

- SS-001, Process Control Program for LN Technologies Radwaste Solidification System, Revision K, dated April 16, 1987
- SS-020, Operating Procedure for LN Radwaste Solidification System No. 8800, Revision C, dated July 7, 1987



**INSPECTOR'S REPORT**  
 Office of Inspection and Enforcement

BAER, RONALD E.  
 REVIEWER: B. MORRIS

INSPECTORS: R. BAER

LICENSEE/VENDOR	TRANSACTION TYPE	DOCKET NO. (8 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)	REPORT			NEXT INSP. DATE	
			NO.	SEQ.	MO.	YR.	
CRANFORD POWER DISTRICT	X I - INSERT M - MODIFY D - DELETE R - REPLACE	05000285	9904	A			

PERIOD OF INVESTIGATION/INSPECTION						INSPECTION PERFORMED BY						ORGANIZATION CODE OF REGION/HQ CONDUCTING ACTIVITY (See IEMC 2530 - Manpower Reporting - Hqs. (by Manpower Reporting) for code)		
FROM		TO				X - REGIONAL OFFICE STAFF		OTHER				REGION	DIVISION	BRANCH
MO.	DAY	YR.	MO.	DAY	YR.	1 - RESIDENT INSPECTOR								
01	11	80	01	15	85	2 - PERFORMANCE APPRAISAL TEAM				4	3	5		

REGIONAL ACTION (Check one box only)		TYPE OF ACTIVITY CONDUCTED (Check one box only)													
1 - NRC FORM 581	X 2 - REGIONAL OFFICE LETTER	X 02 - SAFETY	03 - INCIDENT	04 - ENFORCEMENT	05 - MGMT. AUDIT	06 - MGMT. VISIT	07 - SPECIAL	08 - VENDOR	09 - MAT. ACCT.	10 - PLAN. SH.	11 - INVENT. VER.	12 - SHIPMENT/EXPORT	13 - IMPROV.	14 - INQUIRY	15 - INVESTIGATION

INSPECTION INVESTIGATION FINDINGS (Check one box only)				TOTAL NUMBER OF VIOLATIONS AND DEVIATIONS				ENFORCEMENT CONFERENCE HELD				REPORT CONTAIN 2790 INFORMATION				LETTER OR REPORT TRANSMITTAL DATE					
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	MO.	DAY	YR.	MO.	DAY	YR.
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MODULE INFORMATION										MODULE INFORMATION													
REC. ORG.	MODULE NUMBER INSP.			PRIORITY	DIRECT INSP. C. TRN EFFORT IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED	TO DATE	STATUS	MODULE REG. FOLLOWUP			REC. ORG.	MODULE NUMBER INSP.			PRIORITY	DIRECT INSP. C. TRN EFFORT IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED	TO DATE	STATUS	MODULE REG. FOLLOWUP		
TYPE	NUMBER	PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL			PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL	TYPE	NUMBER	PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL			PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL
B	530	706			A	991	50					B	533	723			A	992	50				
					B																		
					C																		
					D																		
B	533	522			A	994	50					B	534	522			A	00A	100	C			
					B																		
					C																		
					D																		
B	533	722			A	993	50					B	534	722			A	00A	100	C			
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B	533	522			A	992	50					B	536	721			A	00.6	100	C			
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					D																		

CIRCLE SEQUENCE IF VIOLATION OR DEVIATION