UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

June 20, 2006

R. T. Ridenoure
Vice President
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 550
Fort Calhoun, NE 68023-0550

SUBJECT: FORT CALHOUN STATION - NRC RADIATION SAFETY TEAM INSPECTION REPORT 05000285/2006014

Dear Ridenoure:

On May 12, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Fort Calhoun Station facility. The enclosed inspection report documents the inspection results, which were discussed on May 12, 2006, with Mr. D. Bannister and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The team reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, the team evaluated the inspection areas within the Radiation Protection Strategic Performance Area that are scheduled for review every two years. These areas are:

- Radiation Monitoring Instrumentation
- Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems
- Radioactive Material Processing and Transportation
- Radiological Environmental Monitoring Program and Radioactive Material Control Program

This inspection report documents one NRC-identified and one self-revealing, non-cited violation of very low safety significance (Green). However, because of their very low safety significance and because the findings were entered into your corrective action program, the NRC is treating these findings as noncited violations consistent with Section V1.A of the NRC Enforcement Policy. If you contest these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington DC 20555-001; and the NRC Resident Inspector at the Fort Calhoun Station facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made available electronically for public inspection

in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Michael P. Shannon, Chief
Plant Support Branch
Division of Reactor Safety

Docket: 50-285
License: DPR-40

Enclosure: NRC Inspection Report 05000285/2006014
w/attachment: Supplemental Information

cc w/encl:
Joe I. McManis, Manager - Licensing
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 550
Fort Calhoun, NE 68023-0550

David J. Bannister
Manager - Fort Calhoun Station
Omaha Public Power District
Fort Calhoun Station FC-1-1 Plant
P.O. Box 550
Fort Calhoun, NE 68023-0550

James R. Curtiss
Winston & Strawn
1700 K Street NW
Washington, DC 20006-3817

Chairman
Washington County Board of Supervisors
P.O. Box 466
Blair, NE 68008

Julia Schmitt, Manager
Radiation Control Program
Nebraska Health & Human Services
Dept. of Regulation & Licensing
Division of Public Health Assurance
301 Centennial Mall, South
P.O. Box 95007
Lincoln, NE 68509-5007

Daniel K. McGhee
Bureau of Radiological Health
Iowa Department of Public Health
Lucas State Office Building, 5th Floor
321 East 12th Street
Des Moines, IA 50319

Electronic distribution by RIV:
Regional Administrator **(BSM1)**
DRP Director **(ATH)**
DRS Director **(DDC)**
DRS Deputy Director **(RJC1)**
Senior Resident Inspector **(JDH1)**
Resident Inspector **(LMW1)**
Branch Chief, DRP/E **(DNG)**
Senior Project Engineer, DRP/E **(VGG)**
Team Leader, DRP/TSS **(RLN1)**
RITS Coordinator **(KEG)**
DRS STA **(DAP)**
S. O'Connor, OEDO RIV Coordinator **(SCO)**
ROPreports
FCS Site Secretary **(BMM)**

SUNSI Review Completed: LCC ADAMS: ■ Yes ☐ No Initials: MPS
■ Publicly Available ☐ Non-Publicly Available ☐ Sensitive ■ Non-Sensitive

DOCUMENT: R:_Reactors_FCS\2006\FC200614 RP Team-lcc.wpd

RIV:PSB\SHP	PSB\HP	PSB\HP	PSB\SHP	DRP\E	C:PSB
LCCarson:nlh	BDBaca	DLStearns	LTLRicketson	DNGraves	MPShannon
/RA/	**/RA/**	**/RA/**	**/RA/**	**/RA/**	**/RA/**
06/09/06	06/13/06	06/09/06	06/12/06	06/20/06	06/20/06

OFFICIAL RECORD COPY T=Telephone E=E-mail F=Fax

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Dockets:	50-285
Licenses:	DPR-40
Report:	05000285/20060014
Licensee:	Omaha Public Power District
Facility:	Fort Calhoun Station
Location:	Fort Calhoun Station FC-2-4 Adm. P.O. Box 399, Hwy. 75 - North of Fort Calhoun Fort Calhoun, Nebraska
Dates:	May 8-12, 2006
Inspectors:	Louis C. Carson II, Senior Health Physicist, Plant Support Branch Larry Ricketson, P.E., Senior Health Physicist, Plant Support Branch Bernadette Baca, Health Physicist, Plant Support Branch Donald Stearns, Health Physicist, Plant Support Branch
Approved By:	Michael P. Shannon, Chief Plant Support Branch Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000285/2006014; 05/08/2006 - 05/12/2006; Fort Calhoun Station; Radioactive Material Processing and Transportation and Radiological Environmental Monitoring Program and Radioactive Material Control Program

The report covered a one-week period of inspection on site by a team of four region-based health physics inspectors. Based upon the results of the inspection, the team found one NRC-identified violation and reviewed one self-revealing violation of very low safety significance (Green). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process," (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Public Radiation Safety

- Green. The team identified a non-cited violation (NCV) of 49 CFR 172.704(a) because the licensee failed to provide required training to hazardous material employees involved in the shipment of radioactive material. Specifically, the licensee did not provide function-specific training of applicable sections of the shipping regulations to machinists involved in the reassembly the shipping casks. Corrective actions were still being evaluated; however, the licensee plans to provide hazardous material training to these employees.

  The finding is greater than minor because it is associated with the Public Radiation Safety Cornerstone attribute (Transportation Program) and process. The finding affects the cornerstone objective which is to ensure adequate protection of public health and safety from exposure to radioactive materials in the public domain because it involved the potential to impact the licensee's ability to safely package and transport radioactive material on public roadways. When processed through the Public Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it: (1) was associated with radioactive material control, (2) involved the licensee's program for radioactive material packaging and transportation, (3) did not cause radiation limits to be exceeded, (4) did not result in a breach of package during transit, (5) did not involve a certificate of compliance issue, (6) did not involve a low level burial ground nonconformance, and (7) did not involve a failure to make notifications or to provide emergency information. In addition, this finding had cross-cutting aspects associated with human performance in that the organization failed to implement regulatory requirements for training hazardous material employees (Section 2PS2).

- Green. The team reviewed a self-revealing, non-cited violation of 10 CFR 20.1501(a) that resulted from the licensee's failure to properly survey items contaminated with radioactive material. On March 8, 2005, the licensee failed to adequately evaluate the

radiological hazards associated with releasing concrete cutters from the site protected area for unrestricted use in the public domain and assure compliance with 10 CFR 20.1301. Subsequently, the licensee calculated that they had released contaminated concrete cutters offsite into the public domain which had the potential for a member of the public to receive 1.7 millirem/year of unnecessary radiation exposure.

The finding is greater than minor because it was associated with a Public Radiation Safety Cornerstone attribute (material release), and it affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain because the failure to adequately survey items and control radioactive material decreases assurance that the public will not receive unnecessary dose. When processed through the Public Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because: (1) the finding was a radioactive material control issue, (2) it was not a transportation issue, and (3) it did not result in a dose to the public greater than 0.005 rem. This finding also had crosscutting aspects associated with human performance in that licensee's organization failed to implement regulatory requirements necessary to establish survey techniques in procedures in order to prevent the release of equipment internally contaminated with radioactive material (Section 2PS3).

REPORT DETAILS

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety [OS] and Public Radiation Safety [PS]

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

a. Inspection Scope

This area was inspected to determine the accuracy and operability of radiation monitoring instruments that are used for the protection of occupational workers and the adequacy of the program to provide self-contained breathing apparatus (SCBA) to workers. The team used the requirements in 10 CFR Part 20, and the licensee's procedures required by Technical Specifications as criteria for determining compliance. The team interviewed licensee personnel and reviewed:

- Calibration of area radiation monitors associated with transient high and very high radiation areas and post-accident monitors used for remote emergency assessment
- Calibration of portable radiation detection instrumentation, electronic alarming dosimetry, and continuous air monitors used for job coverage
- Calibration of whole-body counting equipment and radiation detection instruments utilized for personnel and material release from the radiologically controlled area
- Licensee Event Reports, self-assessments and audits
- Corrective action program reports since the last inspection
- Licensee action in cases of repetitive deficiencies or significant individual deficiencies
- Calibration expiration and source response check currency on radiation detection instruments staged for use
- The licensee's capability for refilling and transporting SCBA air bottles to and from the control room and operations support center during emergency conditions, status of SCBA staged and ready for use in the plant and associated surveillance records, and personnel qualification and training
- Qualification documentation for on site personnel designated to perform maintenance on the vendor-designated vital components, and the vital component maintenance records for SCBA units

The inspector completed 9 of the required 9 samples.

b. Findings

No findings of significance were identified.

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (71122.01)

a. Inspection Scope

This area was inspected to ensure that the gaseous and liquid effluent processing systems are maintained so that radiological releases are properly mitigated, monitored, and evaluated with respect to public exposure. The team used the requirements in 10 CFR Part 20, 10 CFR Part 50, Appendices A and I, the Offsite Dose Calculation Manual, and the licensee's procedures required by Technical Specifications as criteria for determining compliance. The team interviewed licensee personnel and reviewed:

- The most current radiological effluent release reports, changes to radiation monitor setpoint calculation methodology, anomalous sampling results, effluent radiological occurrence performance indicator incidents, self-assessments, audits, and licensee event reports
- Gaseous and liquid release system component configurations
- Routine processing, sample collection, sample analysis, and release of gaseous effluent; radioactive liquid and gaseous effluent release permits and dose projections to members of the public
- Abnormal releases
- Changes made by the licensee to the Offsite Dose Calculation Manual (ODCM), the liquid or gaseous radioactive waste system design, procedures, or operation since the last inspection
- Monthly, quarterly, and annual dose calculations
- Surveillance test results involving air cleaning systems and stack or vent flow rates
- Instrument calibrations of discharge effluent radiation monitors and flow measurement devices, effluent monitoring system modifications, effluent radiation monitor alarm setpoint values, and counting room instrumentation calibration and quality control
- Interlaboratory comparison program results
- Licensee event reports, special reports, audits, self-assessments and corrective action reports performed since the last inspection

The inspector completed 10 of the required 10 samples.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation (71122.02)

a. Inspection Scope

This area was inspected to verify that the licensee's radioactive material processing and transportation program complies with the requirements of 10 CFR Parts 20, 61, and 71 and Department of Transportation regulations contained in 49 CFR Parts 171-180. The team interviewed licensee personnel and reviewed:

- The radioactive waste system description, recent radiological effluent release reports, and the scope of the licensee's audit program
- Liquid and solid radioactive waste processing systems configurations, the status and control of any radioactive waste process equipment that is not operational or is abandoned in place, changes made to the radioactive waste processing systems since the last inspection, and current processes for transferring radioactive waste resin and sludge discharges
- Radio-chemical sample analysis results for radioactive waste streams and use of scaling factors and calculations to account for difficult-to-measure radionuclides
- Shipment packaging, surveying, labeling, marking, placarding, vehicle checking, driver instructing, and disposal manifesting
- Shipping records for non-excepted package shipments
- Licensee event reports, special reports, audits, state agency reports, self-assessments and corrective action reports performed since the last inspection

The inspector completed 6 of the required 6 samples.

b. Findings

Introduction. The team identified a Green non-cited violation of 10 CFR 71.5 and 49 CFR 172.704(a) because the licensee failed to provide required training to hazardous material employees involved in the shipment of radioactive material. The violation had very low safety significance.

Description. On May 10, 2006, while reviewing the training records for individuals involved in the preparation of radioactive material shipments, the team noted that the machinists involved in reassembly of shipping casks had not received function specific training required by 49 CFR 172.704(a). The machinists were utilized to install and torque the bolts which fasten the shipping cask lid to the body of the cask. Torque specifications for a shipping cask were identified in the vendor supplied procedures which are a condition of the Certificate of

Compliance for the cask. Preparation of the shipment includes proper reassembly of the cask and directly affects the safe transportation of hazardous materials.

Analysis. The inspection team concluded the following: (1) the machinists were considered hazardous material employees because of the tasks they perform; (2) they were required to be trained even though they were working under the supervision of other trained employees; and (3) function-specific training was not provided to the employees to ensure proper performance of the reassembly of in the shipping cask.

The failure to provide required training is a performance deficiency. The finding is greater than minor because it is associated with the Public Radiation Safety Cornerstone attribute of program and process and affects the cornerstone objective in that it involved the potential to impact the licensee's ability to safely package and transport radioactive material on public roadways. The violation involved an occurrence in the licensee's radioactive material transportation program that is contrary to NRC or Department of Transportation regulations. When processed through the Public Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it: (1) was associated with radioactive material control, (2) involved the licensee's program for radioactive material packaging and transportation, (3) did not cause radiation limits to be exceeded, (4) did not result in a breach of package during transit, (5) did not involve a certificate of compliance issue, (6) did not involve a non-compliance with low-level burial ground, and (7) did not involve a failure to make notifications or to provide emergency information. This finding had cross-cutting aspects associated with Human Performance in that the organization failed to implement regulatory requirements necessary for providing these hazardous material workers required training.

Enforcement. 10 CFR 71.5 states that each licensee who transports licensed material shall comply with the applicable Department of Transportation (DOT) regulations in 49 CFR Parts 107 and 171-180. 49 CFR 171.8 defines a hazardous material employee as a person who is employed by a hazardous material employer and who in the course of employment directly affects hazardous materials transportation safety. 49 CFR 172.704(a) states that a hazardous material employee must have general awareness training and function-specific training. General Awareness training shall be provided to familiarize the worker with the requirements of Subchapter C of 49 CFR and to enable the employee to recognize and identify hazardous materials. Function-specific training shall be provided concerning requirements of Subchapter C that are specifically applicable to the functions the employee performs. For example, 49 CFR 173.24 contains general requirements for use and maintenance of packages, 49 CFR 173.475 contains requirements for filling and closing the packaging for shipment, and 49 CFR 173.413 refers to the requirements specified in 10 CFR Part 71 that states that the licensee shall comply with the terms and conditions of the package certificate. Contrary to the above, the licensee did not provide function-specific training of applicable sections of the shipping regulations to machinists involved in the reassembly of the shipping cask.

Corrective actions were still being evaluated; however, the licensee plans to provide the hazardous material workers the required training. The violation was entered into the licensee's Corrective Action Program as Condition Report 2006-02047. Because the failure to train hazardous material workers was determined to be of very low safety significance and was entered into the licensee's corrective action program, this violation is being treated as a

non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000285/2006014-01 - Failure to train hazardous material employees.

2PS3 Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control Program (71122.03)

a. Inspection Scope

This area was inspected to ensure that the Radiological Environmental Monitoring Program (REMP) verifies the impact of radioactive effluent releases to the environment and sufficiently validates the integrity of the radioactive gaseous and liquid effluent release program and that the licensee's surveys and controls are adequate to prevent the inadvertent release of licensed materials into the public domain. The team used the requirements in 10 CFR Part 20, Appendix I, of 10 CFR Part 50; the Offsite Dose Calculation Manual; and the licensee's procedures required by Technical Specifications as criteria for determining compliance. The team interviewed licensee personnel and reviewed:

- Annual environmental monitoring reports and licensee event reports
- Selected air sampling and thermoluminescence dosimeter monitoring stations
- Collection and preparation of environmental samples
- Operability, calibration, and maintenance of meteorological instruments
- Each event documented in the Annual Environmental Monitoring Report that involved a missed sample, inoperable sampler, lost thermoluminescence dosimeter, or anomalous measurement
- Significant changes made by the licensee to the Offsite Dose Calculation Manual as the result of changes to the land census or sampler station modifications since the last inspection
- Calibration and maintenance records for air samplers, composite water samplers, and environmental sample radiation measurement instrumentation, quality control program, interlaboratory comparison program results, and vendor audits
- Locations where the licensee monitors potentially contaminated material leaving the radiological controlled area (or controlled access area) and the methods used for control, survey, and release from these areas
- Type of radiation monitoring instrumentation used to monitor items released, survey and release criteria of potentially contaminated material, radiation detection sensitivities, procedural guidance, and material release records
- Licensee event reports, special reports, audits, self-assessments and corrective action reports performed since the last inspection

The inspector completed 10 of the required 10 samples.

b. Findings

Introduction. The team reviewed a self-revealing, non-cited violation of 10 CFR 1501(a) that resulted from the licensee's failure to conduct radiation surveys necessary to prevent radioactive material from being unconditionally released from the radiologically controlled area and released into the public domain. The violation was found to have very low safety significance.

Description. On March 8, 2005, Fort Calhoun unconditionally released the concrete cutters from the site to an unlicensed vendor. On October 7, 2005, Fort Calhoun Station received a call from Palo Verde Nuclear Generating Station stating that it had received hydraulic concrete cutters from Fort Calhoun Station containing radioactive material. Palo Verde found radioactivity in hydraulic fluid that measured as high as 3.0 microCuries/milliliter of cobalt-58, cobalt-60, and cesium-137. Fort Calhoun's investigation concluded that the release surveys of the concrete cutters were performed in accordance with its Procedure RP-202, "Radiation Surveys," Revision 20. Section 7.2.9.C. of the procedure stated that if any detectable radioactivity is indicated on any internal or external surface, the material or equipment shall not be unconditionally released. The licensee, subsequently, determined that Revision 20 of the procedure was inadequate for assessing internal contamination in items under this situation. The inspectors determined that the licensee's failure to adequately survey the concrete cutters occurred, in part, because: (1) when Fort Calhoun had drained the contaminated oil out of the concrete cutters, the licensee thought all the radioactive material had been removed internally, and (2) the licensee used surface contamination survey methods on the concrete cutters instead of volumetric survey methods on equipment that had internal contamination. The licensee's subsequent dose calculation demonstrated that the maximum annual dose to a potential member of the public would have been approximately 1.7 millirem/year.

Analysis. The failure to survey and control radioactive material in accordance with 10 CFR 20.1501(a) is a performance deficiency. The finding is greater than minor because it was associated with a Public Radiation Safety Cornerstone attribute (material release), and it affected the associated cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain because the failure to adequately survey items and control radioactive material decreases assurance that the public will not receive unnecessary dose. The team used the Public Radiation Safety Significance Determination Process and determined that the finding was of very low safety significance because: (1) the finding was a radioactive material control issue, (2) it was not a transportation issue, and (3) it did not result in a dose to the public greater than 0.005 rem. This finding also had crosscutting aspects associated with human performance in that the licensee's organization failed to implement regulatory requirements necessary to establish adequate survey techniques in Procedure RP-202 in order to prevent the release of equipment internally contaminated with radioactive material.

Enforcement. 10 CFR 20.1501(a), states, in part, that each licensee shall make surveys or cause to be made surveys that may be necessary to comply with the regulations in Part 20 and that are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels, concentrations or quantities of radioactive material, and the potential radiological hazards.

Pursuant to 10 CFR 20.1003, a survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation.

10 CFR 20.1301(a) requires that each licensee conduct operations so that the total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem (1 mSv) in a year.

Contrary to this requirement, on March 8, 2005, the licensee failed to evaluate the radiological hazards in accordance with 10 CFR 20.1501(a) in association with unconditionally releasing concrete cutters containing detectable radioactivity on internal or surfaces. Consequently, the licensee released the contaminated concrete cutters offsite into the public domain which resulted in the potential for a member of the public to receive 1.7 millirem/year of unnecessary radiation exposure. This example of a failure to perform an adequate radiological survey and control radioactive material was of very low safety significance and was entered into the licensee's corrective action program as Condition Report 2005-4841. Thus, this violation is being treated as a non-cited violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000285/2006014-02, Failure to survey and control radioactive material.

4OA2 Problem Identification and Resolution

Annual Sample Review

a. Inspection Scope

The team evaluated the effectiveness of the licensee's problem identification and resolution process with respect to the following inspection areas:

- Radiation Monitoring Instrumentation (Section 2OS3)
- Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (Section 2PS1)
- Radioactive Material Processing and Transportation (Section 2PS2)
- Radiological Environmental Monitoring Program and Radioactive Material Control Program (Section 2PS3)

b. Findings and Observations

No findings of significance were identified.

4OA4 Cross-Cutting Aspects of Findings

Sections 2PS3 and 2PS3 describes issues with a human performance cross-cutting aspect which involved licensee organizations' failure to implement regulatory requirements for training hazardous material workers and establishing adequate techniques for surveying

items contaminated with radioactive material prior to unrestricted release into the public domain.

4OA6 Management Meetings

Exit Meeting Summary

On May 12, 2006, the team presented the inspection results to Mr. D. Bannister, Plant Manager, and other members of your staff who acknowledged the findings. The team confirmed that proprietary information was not provided or examined during the inspection.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

D. Bannister, Plant Manager
M. Breuer, Senior Technician, Radioactive Waste
M. Anderson, Senior Technician, Radioactive Waste
D. Conn, Technician, Radioactive Waste
A. Costanzo, Environmental Specialist, System Chemistry
P. DeAngelis, Radiological Equipment Supervisor, Radiation Protection
S. Dixon, Health Physicist, Radiation Protection
T. Dukarski, Supervisor, System Chemistry
M. Frans, Assistant Plant Manager
S. Gebers, Corporate Health Physicist
B. Glover, Technician, Radiation Protection
D. Guinn, Licensing Engineer
R. Haug, Manager, Radiation Protection
J. Herman, Manager, Engineering Programs
T. Jamieson, Supervisor, Radioactive Waste
E. Jun, System Engineer (HVAC), System Engineering
S. Kalra, System Engineer (Meteorological Tower), System Engineering
D. Little, Health Physicist, Dosimetry, Radiation Protection
T. Maine, Supervisor, Radiation Protection Operations
J. McManis, Manager,
R. Perry, Supervisor, Instrument and Control
C. Sarnowski, Clerk, Radiation Protection

NRC personnel

J. Hanna, Senior Resident Inspector
L. Willoughby, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Opened and Closed During this Inspection

05000285/2006014-01	NCV	Failure to train hazardous material employees.
05000285/2006014-02	NCV	Failure to survey and control radioactive material.

Previous Items Closed

NONE

LIST OF DOCUMENTS REVIEWED

Section 2OS3: Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

Audits and Self-Assessments
SA-04-050 Radiation Protection Program 2004 Self Assessment Report
SA-05-013 Radiation Protection Program 2005 Self Assessment Report

Corrective Action Documents
200403663, 200403664, 200403833, 200404012, 200404328, 200502238, 200502501, 200502910, 200503598, 200504092, 200504659, 200504972, 200505028, 200600242, 200600425, 200600526, 200600648, 200601122, 200601179, 200601765

Instrument Calibration Records
Serial Numbers: 000138, 000144, 000228, 000307, 000421, 000466, 000474, 000529, 000656, 000849, 001913, 002149, 002150, 005139, 005874, 049084, 049430, 049435, 051760, 052576, 071464, 098054, 104927, 105515, 130572, 890032, 890507, 950189, 6603-077, 6603-092, 6601-101, Protean-001, Protean-003

Work Orders: 175501-01, 190930-01, 201281-01, 203556-01, 203560-01, 222681-01

Procedures
IC-CP-01-6500 Calibration of Eberline Model IM-1A, RM-065, Revision 3

IC-CP-02-0100 Calibration of Ludlum Model 177, Revision 2

IC-CP-02-0101 Calibration of RM-14 Frisker, Revision 1

IC-CP-02-0104 Calibration of Ludlum Model 3 Frisker, Revision 1

IC-CP-02-0224 Calibration of Ludlum Model 19 Micro R Meter, Revision 1

IC-CP-02-0226 Calibration of Eberline RO-20 Survey Meter, Revision 2

IC-CP-02-0229 Calibration of MGP Telepole, Revision 1

IC-CP-02-0610 Calibration of Eberline AMS-4 Air Monitoring System, Revision 4

IC-CP-07-0003 Calibration of the NNC Gamma-60 Portal Monitor, Revision 1

IC-CP-07-0005 Calibration of Eberline PCM-1B, Revision 3

IC-CP-07-0006 Calibration of NE Technology Small Articles Monitor SAM-11, Revision 2

IC-CP-07-0008 Calibration of Eberline PM-7 Portal Monitor, Revision 2

IC-CP-07-0009	Calibration of Eberline PCM-2, Revision 3
IC-CP-07-0402	Calibration of the Protean WPC-9550 Counting System, Revision 1
IC-ST-RM-0005	Calibration of Containment Above Transfer Canal Area Radiation Monitor RM-073, Revision 8
IC-ST-RM-0016	Calibration of Cask Decon Corridor Area Radiation Monitor RM-085, Revision 6
IC-ST-RM-0020	Calibration of Control Room (Mechanical Equipment Room) Area Radiation Monitor RM-089, Revision 6
IC-ST-RM-0022	Calibration of Radwaste Building Decon and Comp Area Radiation Monitor RM-096, Revision 6
IC-ST-RM-0049	Calibration of Containment Operating Level North High Range Radiation Monitor RM-091B, Revision 6
RP-202	Radiological Surveys, Revision 20
RP-401	Issue, Control and Accountability of Radiation Protection Instrumentation, Revision 11
RP-402	Calibration and Test Requirements for Radiation Protection Equipment, Revision 10
RP-403	Instrument Response Testing, Revision 17
RP-404	Quality Assurance of Counting Systems and Portable Counters, Revision 8
RP-AD-500	Respiratory Protection Program, Revision 14
RP-AD-502	Use of Respiratory Protection Equipment, Revision 14
RP-CP-02-0501	Calibration Verification of the Siemens Electronic Dosimeter, Revision 0

Miscellaneous
Whole-Body Count Results for Selected Personnel

Section 2PS1: Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

Audits and Self-Assessments
SARC Audit Report No. 56/63, Radiological Effluent Technical Specifications, Radiological Environmental Monitoring Program, Process Control Program, & Radioactive Material Packaging and Shipping

Procedures

CH-AD-0010	Compositing Guidelines, Revision 10
CH-AD-0021	Containment Release Permit and Summary, Revision 20
CH-AD-0022	Waste Liquid Release Permit and Summary, Revision 19
CH-AD-0026	Auxiliary Building Exhaust Stack Release Summary, Revision 8
CH-ODCM-0001	Off-site Dose Calculation Manual, Revision 16
CH-SMP-RE-0003	Monitor Tanks (WD-22A and WD-22B) Sampling, Revision 1
CH-SMP-RE-0004	Containment Atmosphere Sampling Radioactive Gas, Particulate, and Iodine Using Either RM-050/051 or RM-052, Revision 12
CH-SMP-RE-0013	Auxiliary Building Exhaust Stack Sampling, Revision 16
CH-SMP-SE-0014	Steam Generator Blowdown (Chemistry Cold Lab) Sampling, Revision 7
CH-SMP-RE-0018	Laboratory and Radioactive Waste Processing Building Exhaust Stack Sampling, Revision 19
TDB-IV.7	Technical Data Book - Process Monitor Setpoints, Revision 202

Release Permits

Auxiliary Building Exhaust Stack 2006019
Containment 2006035
Radioactive Waste Processing Building 2006019
Waste Liquid Tank 2006048 (“B” Monitor Tank)

Results of Radiochemistry Cross Check Program

First Quarter 2004 through Fourth Quarter 2005

In-Place Filter Testing Surveillances

SE-ST-VA-0004	Freon Test of Safety Injection Pump Room Charcoal Filter Adsorbers VA-26A/26B (WO# 00173028 - 4/04; WO# 00198394 - 8/05)
SE-ST-VA-0005	Safety Injection Pump Room Charcoal Filter VA-26A/26B (WO# - 00152802 - 1/04; 9/05)
SE-ST-VA-0006	VA-64A Control Room HEPA and Charcoal Filter Test (WO# 00134626 - 6/03; WO# 184370 - 1/05)
SE-ST-VA-0007	VA-64B Control Room HEPA and Charcoal Filter Test (WO# 00136263 - 5/03; WO# 00182142 - 11/04)

SE-ST-VA-0008 Control Room Charcoal Filter VA-64A Replacement or Methyl Iodine Removal Efficiency Test (WO# 00134629 - 6/03; WO# 00184272 - 1/05)

SE-ST-VA-0015 Control Room Charcoal Filter VA-64B Replacement or Methyl Iodine Removal Efficiency Test (5/03; 11/04)

SE-ST-VA-0009 Freon Test of Spent Fuel Pool Area Charcoal Filter VA-66 (WO# 00184273 - 1/05; WO# 00198358 - 2/05; WO# 00216695 - 8/05)

SE-ST-VA-0010 Spent Fuel Storage Pool Area Charcoal Filter VA-66 Elemental Charcoal (WO# 00184568 - 2/05)

Miscellaneous
Technical Specification 2.9 and ODCM Required Grab Sampling Log
HEPA/Charcoal Filter Operation (OP-ST-SHIFT-0001)
2004 and 2005 Annual Radiological Effluent Release Report

Section 2PS2: Radioactive Material Processing and Transportation

Condition Reports
200600849 200504841 200500640 200404382 200404337 200404322 200404141

Procedures
RW-200 Process Control Program, Revision 6
RW-218 10CFR61 Classification, Revision 13
RW-221 10CFR61 Sampling, Revision 6
RW-300 Shipping Radwaste and Radioactive Materials, Revision 12
RW-306 Receipt of Radioactive Material, Revision 4

Audits and Assessments
SARC Audit Report 56/63

Shipment Packages (Shipment #)
FCS RW 04-22
FCS RW 05-19
FCS RW 05-39
FCS RW 06-10
FCS RW 06-15

Miscellaneous
Training Lesson Plans
M1501 Radioactive Material Shipment Inspector, Revision 2

Section 2PS3: Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control Program

Audits, Surveillances, and Calibrations

SA-04-050	Radiation Protection Program Audit
05-QUA-046	Chemistry Control & Radiation Protection Audit Report 49/58, January 22, 2005

Condition Reports

2003-4659, 2002-5494, 2004-1418, 2004-1420, 2005-2179, 2005-4657, 2005-4841, 2005-5761, 2006-2041, 2006-2047, 2006-2049

Procedures

CH-AD-0006	National Pollution Discharge Elimination System (NPDES) Chemical Release and Storm Water Outfall Controls, Revision 4
CH-AD-0049	Annual Meteorological Data, Revision 4
CH-AD-0050	Annual Radioactive Effluent Release Report, Revision 6
CH-AD-0054	Annual Radiological Environmental Operating Report, Revision 0
CH-SMP-RV-0001	Environmental Well Water Sample Collection, Revision 3
CH-SMP-RV-0002	Environmental Soil Sample Collection, Revision 1
CH-SMP-RV-0004	Environmental Sewage Lagoon Sludge/Wastewater Sample Collection, Revision 5
RP-202	Radiological Surveys, Revision 25
RP-206	Radioactive Material Handling, Revision 14

Miscellaneous

2004 and 2005 Fort Calhoun Radiological Environmental Operating Report - Technical Specification 5.9.4.b