UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

September 14, 2022

Troy Via, Chief Operations Officer
and Vice President Utility Operations
Omaha Public Power District
Fort Calhoun Station
Mail Stop FC-2-4
9610 Power Lane
Blair, NE 68008

SUBJECT: FORT CALHOUN STATION – NRC INSPECTION REPORT 050-00285/2022-004

Dear Mr. Via:

This letter refers to the U.S. Nuclear Regulatory Commission (NRC) decommissioning inspection conducted July 12-14, 2022, at the Fort Calhoun Station near Blair, Nebraska. The NRC inspectors discussed the results of the decommissioning inspection with members of your staff during a site exit meeting on July 14, 2022. A final exit meeting was conducted via WebEx on August 25, 2022, to inform members of your staff of an update to the inspection results. The inspection results are documented in the enclosure to this letter.

The NRC inspection examined activities conducted under your license as they relate to public health and safety, the common defense and security, and compliance with the Commission's rules and regulations, and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observation of activities, and interviews with personnel. Specifically, the inspectors reviewed decommissioning performance, the sites fire protection program, and the sites safety conscious work environment. No violations were noted, and no response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Website at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response, if you choose to provide one, should not include any personal privacy or proprietary information so that it can be made available to the public without redaction.

If you have any questions regarding this inspection report, please contact Stephanie Anderson at 817-200-1213, or the undersigned at 817-200-1249.

Sincerely,

Signed by Warnick, Gregory
on 09/14/22

Gregory G. Warnick, Chief
Decommissioning, ISFSI, and Operating
Reactor Branch
Division of Radiological Safety and Security

Docket No. 050-00285
License No. DPR-40

Enclosure:
Inspection Report 050-00285/2022-004

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OFFICE	DRSS/DIOR	DRSS/DIOR	DORS/PBC	C:DIOR
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DATE	8/16/2022	8/16/2022	8/9/2022	9/14/2022

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	050-00285
License No.:	DPR-40
Report No.:	050-00285/2022-004
Licensee:	Omaha Public Power District
Facility:	Fort Calhoun Station
Location:	9610 Power Lane Blair, Nebraska
Dates:	July 12-14, 2022
Inspectors:	Stephanie G. Anderson, Senior Health Physicist Decommissioning, ISFSI, and Operating Reactor Branch Division of Radiological Safety and Security Linda M. Gersey, Health Physicist Decommissioning, ISFSI, and Operating Reactor Branch Division of Radiological Safety and Security Harry A. Freeman, Senior Project Engineer Project Branch C Division of Operating Reactor Safety
Approved By:	Gregory G. Warnick, Chief Decommissioning, ISFSI, and Operating Reactor Branch Division of Radiological Safety and Security

Enclosure

EXECUTIVE SUMMARY

Fort Calhoun Station
NRC Inspection Report 050-00285/2022-004

This U.S. Nuclear Regulatory Commission (NRC) inspection was a routine, announced inspection of decommissioning activities being conducted at the Fort Calhoun Station. In summary, the inspectors concluded that the licensee was conducting activities in accordance with site procedures, license requirements, and applicable NRC regulations.

Decommissioning Performance and Status Review at Permanently Shutdown Reactors

- The licensee was conducting decommissioning activities in accordance with license and regulatory requirements. The radiation safety staff was adequately assessing the changing radiological conditions in containment. Staffing levels were commensurate with the current facility activities. (Section 1.2)

Fire Protection Program at Permanently Shutdown Reactors

- The licensee was effectively implementing the fire protection program in compliance with regulatory requirements. The inspectors conducted walkdowns of plant areas and observed control of combustible materials, housekeeping, and ignition sources. (Section 2.2)

Problem Identification and Resolution at Permanently Shutdown Reactors

- The inspectors reviewed the station's programs to establish and maintain a safety conscious work environment and interviewed station personnel to evaluate the effectiveness of these programs. The results of the interviews and program reviews indicated that the licensee had established and maintained an adequate safety conscious work environment where front-line employees felt free to raise safety concerns without fear of retaliation. While anecdotal evidence provided by a few supervisory personnel during the interviews indicate that there may be underlying factors that could produce a reluctance to raise safety concerns or prohibit the free flow of information at their level, the inspectors found that the number of workers potentially impacted was low and that these factors were associated with issues not within NRC regulatory jurisdiction. While these factors could negatively impact the safety conscious work environment, the NRC did not identify any indications that issues within NRC regulatory jurisdiction, such as nuclear, radiological, or security concerns, were being suppressed. (Section 3.2)

Report Details

Summary of Plant Status

On June 24, 2016, Omaha Public Power District, the licensee, formally notified the NRC of its intent to permanently cease operations at Fort Calhoun Station (FCS) (Agencywide Documents Access and Management System [ADAMS] Accession No. ML16176A213). The licensee permanently ceased power operations on October 14, 2016, and certified pursuant to Title 10 *Code of Federal Regulations* (10 CFR) 50.82(a)(1)(ii) that as of November 13, 2016, all fuel had been permanently removed from the FCS reactor vessel and placed into the spent fuel pool (ML16319A254).

The licensee submitted its Post-Shutdown Decommissioning Activities Report (PSDAR) to the NRC on March 20, 2017 (ML17089A759). The PSDAR described the licensee's proposed decommissioning activities and schedule. At that time, the licensee selected the SAFSTOR decommissioning option. SAFSTOR is a method of decommissioning in which a nuclear facility is placed and maintained in a condition that allows the facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use.

In April 2019, the licensee changed its decommissioning approach from SAFSTOR to DECON. DECON is a method of decommissioning in which structures, systems, and components that contain radioactive contamination are removed from the site and safely disposed at a commercially operated low-level waste disposal facility or decontaminated to a level that permits the site to be released for unrestricted use shortly after it ceases operation. By letter dated December 16, 2019, FCS submitted an updated PSDAR to reflect the change from SAFSTOR to DECON (ML19351E355).

On May 13, 2020, FCS removed the last canister of fuel and all special nuclear material from the spent fuel pool (ML20139A138). Accordingly, FCS entered the Independent Spent Fuel Storage Installation (ISFSI)-only Technical Specifications and Emergency Plan on May 18, 2020, and ISFSI-only Security Plan on June 24, 2020.

Regulation 10 CFR 50.82(a)(9) specifies that an application for license termination must be accompanied or preceded by a license termination plan (LTP). On August 3, 2021, FCS submitted its LTP to the NRC (ML21271A178). The NRC accepted the LTP for a detailed technical review on February 10, 2022 (ML22038A675). On July 13, 2022, the NRC held a public meeting at Blair Public Library & Technology Center and discussed the approval and implementation of the LTP.

Since the previous inspection in May 2022, all personnel have been relocated inside the training center. Demolition was completed for the rad waste building, east auxiliary building up to the turbine building buffer zone, spent fuel pool and adjacent areas in the east auxiliary building, and the turbine building down to the basement. Reactor vessel internal work included downsizing the upper guide structure and upper core barrel thermal shield, with one 8-120 container and four 3-60 containers of this material shipped off site. In addition, final status surveys were completed for three open land units.

1 Decommissioning Performance and Status Review at Permanently Shutdown Reactors (71801)

1.1 Inspection Scope

The inspectors conducted interviews, attended licensee meetings, reviewed procedures, and conducted site tours to:

- Evaluate the status of decommissioning and verify whether the licensee is conducting decommissioning and maintenance activities in accordance with regulatory and license requirements;

- Maintain awareness of work activities to assess licensee control and conduct of decommissioning; and

- Evaluate the licensee's decommissioning staffing, including that of the contracted workforce, to ensure that license requirements are met, as applicable to the current decommissioning status.

1.2 Observations and Findings

The PSDAR, Section 2.0, provides a general description of the planned decommissioning activities. The PSDAR states that decommissioning activities will be performed in accordance with written, reviewed, and approved site procedures. The inspectors reviewed selected decommissioning activities in progress, interviewed staff responsible for the work, and reviewed selected procedures and other related documents to ensure that decommissioning activities were being conducted as described in the PSDAR.

The inspectors attended several routine meetings during the inspection, including the weekly senior leadership Performance Challenge Meeting, Plan of the Day meeting, start of shift radiation safety staff meeting, and a pre-job contractor meeting. The licensee’s conversations were detailed, and management facilitated knowledgeable, wide ranging discussions to evaluate risk, schedule, and resource needs, with a focus on safety. Staff attending the meetings were encouraged to voice any concerns and ask for clarification regarding the day’s work.

The inspectors toured the facility, including containment, the containment waste structure, deconstruction areas, intake structure, and the waste processing structure. While touring containment, the inspectors observed and had conversations with radiation safety staff who were performing routine surveys and air monitoring checks. The radiation safety staff was appropriately assessing the changing radiation areas due to the constant fluctuation of work activities in containment. The inspectors did not identify any radiation area that was not already identified and posted by the licensee. General observations by the inspectors identified good housekeeping practices in all areas.

During the inspection, a contractor working in the waste processing structure inadvertently contacted the ventilation ductwork with a piece of heavy equipment during routine concrete crushing activities. Work was stopped to assess the extent of the damage and it was determined that the damage was minor and easily fixed. The

inspectors observed workers repairing the ductwork and noted that safety procedures were appropriately utilized.

The inspectors verified that the licensee was maintaining records of information important to the safe and effective decommissioning of the facility in accordance with 10 CFR 50.75(g). The licensee confirmed that the records would be updated if a spill or unusual occurrence occurred that is pertinent to decommissioning. The inspectors reviewed a small sample of the hard-copy records and verified they were included in the LTP.

The inspectors evaluated staff levels for the licensee and onsite contractors. Staffing levels are expected to change as the licensee progresses through the deconstruction and decommissioning process. The licensee was in the process of cross-training all licensee and contract radiation safety staff to ensure appropriate coverage for on-going decommissioning and final status survey work. The inspectors determined that staffing levels for were commensurate with the current facility activities.

1.3 Conclusion

The licensee was conducting decommissioning activities in accordance with license and regulatory requirements. The radiation safety staff was adequately assessing the changing radiological conditions in containment. Staffing levels were commensurate with the current facility activities.

2 Fire Protection Program at Permanently Shutdown Reactors (64704)

2.1 Inspection Scope

The inspectors reviewed documents and interviewed plant personnel to assess the licensee's performance in the following areas:

- Assess whether the licensee has an effective decommissioning fire protection program that is maintained and implemented to address the potential for fires that could result in the release or spread of radioactive materials;
- Verify in the absence of spent fuel in the spent fuel storage pool the decommissioning fire protection program ensures adequate protection from the fire-induced release of radioactive material from contaminated plant areas and combustible waste products; and
- Performed plant tours to assess field conditions and the storage of combustible materials.

2.2 Observations and Findings

Title 10 CFR 50.48(f) states, in part, that the licensee shall maintain a fire protection program to address the potential for fires that could cause the release or spread of radioactive materials or result in a radiological hazard. The inspectors reviewed the licensee's fire protection program for compliance with regulatory and license requirements. The inspectors reviewed the fire protection program as defined by procedure CC-FC-211, "Fire Protection Program," Revision 11.

Regulatory Guide 1.191, “Fire Protection Program for Nuclear Power Plants During Decommissioning and Permanent Shutdown,” describes the methods acceptable to the NRC for complying with the NRC’s regulations for fire protection programs for licensees in decommissioning. This regulatory guide is referenced in the licensee’s implementing procedures, and the inspectors compared the licensee’s fire protection program to the guidance provided in the regulatory guide.

The licensee’s fire protection program records included a fire hazards analysis. This document provided an analysis of the various plant areas and the fire protection requirements for those areas. The licensee also developed a detailed decommissioning fire plan document, as detailed by procedure FCSD-FP-100, “Decommissioning Fire Plan,” Revision 8, that described onsite fire response staffing, onsite fire response organization responsibilities, pre-fire plans for the ISFSI Operating Facility and ISFSI Area, and fire report preparation after reportable fires.

According to 10 CFR 50.48(f), the objectives of the fire protection program are to: (1) reasonably prevent fires that could result in a radiological hazard from occurring; (2) rapidly detect, control, and extinguish those fires that do occur; and (3) ensure that the risk of fire-induced radiological hazards to the public, environment and plant personnel is minimized. The inspectors compared the licensee’s fire protection program against the objectives provided in the regulations.

To prevent fires from occurring, the licensee established and implemented administrative procedures for fire prevention for hot work, control of temporary heat sources, control of transient combustible material, and impairments and compensatory measures. The inspectors conducted site tours to confirm that the procedure controls were being implemented. In particular, the inspectors toured the fire areas in the containment building. The inspectors concluded that the licensee was effectively controlling combustible materials around ignition sources and impairments in these areas, in accordance with procedure requirements.

The inspectors also reviewed the fire brigade staffing requirements, training records, and the memorandums of understanding with the offsite fire brigades. All staff training requirements were completed satisfactorily.

2.3 Conclusion

The licensee was effectively implementing the fire protection program in compliance with regulatory requirements. The inspectors conducted walkdowns of plant areas and observed control of combustible materials, housekeeping, and ignition sources.

3 Problem Identification and Resolution at Permanently Shutdown Reactors (40801)

3.1 Inspection Scope

The inspectors assessed the effectiveness of the station’s programs to establish and maintain a safety conscious work environment. The inspectors interviewed 21 employees from among Omaha Public Power District; Manifort Brothers, Incorporated; and Ferma Corporation. Craft represented during these interviews included boilermakers, deconners, engineers, equipment operators, laborers, health physics and radiation protection. The purposes of these interviews were to (1) evaluate the

willingness of staff to raise safety issues without fear of retaliation, and (2) identify any underlying factors that could produce a reluctance to raise safety concerns or prohibit the free flow of information.

3.2 Observations and Findings

Regarding the front-line workers of the organizations described above, the inspectors found that all interviewees indicated that they were willing to raise and pursue resolution of safety issues and did not fear retaliation. They indicated that safety was appropriately emphasized and did not take a back seat to schedule pressures. Employees indicated that they had a variety of ways they could raise safety concerns and generally involved informing their supervisor, their program manager, or their safety officer. While most contractor employees were not familiar with, nor did they have access to submit concerns directly into the licensee's corrective action program, some were aware that they could submit a hand-written concern if needed. Most indicated that their concerns were promptly addressed – typically by their foreman. The inspectors did not identify any underlying factors that would tend to produce a reluctance to raise nuclear and/or industrial safety concerns or prohibit the free flow of information from among the front-line workers.

However, the inspectors noted that the safety conscious work environment as described by some individuals in supervisory positions of the contractor organizations had a different perspective than those of the front-line workers. While all the front-line workers felt free to raise safety concerns, the resolution of those concerns was generally the responsibility of those in their supervisory chain-of-command. If these concerns were within the contract organization's span of control, no issues were identified; however, if these concerns were outside of the contract organization's ability to directly resolve, they would have to be forwarded either to the primary contractor, or to OPPD for resolution. Anecdotal evidence was provided associated with industrial safety or other issues not within NRC jurisdiction where these types of concerns were not satisfactorily resolved or perceived to involve increased outside scrutiny placed on the contractors' organizations after the concerns were provided. Some individuals felt they had limited options for addressing their concerns. While they were aware of the licensee's employee concerns program, they did not view this as a viable alternative for raising safety concerns either because of past experience with using the program or a belief that OPPD would just forward on the concerns to the primary contractor to whom the concerns were originally provided. They were aware that they could raise concerns during daily safety meetings or by submitting observation forms, but some indicated that they generally did not for the reasons mentioned above.

3.3 Conclusion

The NRC's policy statement on "Freedom of Employees in the Nuclear Industry to Raise Safety Concerns Without Fear of Retaliation," (May 14, 1996) set forth the NRC's expectation that licensees and other employers subject to NRC authority will establish and maintain a safety conscious work environment in which employees feel free to raise safety concerns relating to NRC-regulated activities, both to their own management and the NRC without fear of retaliation. The responsibility for maintaining such an environment rests with each NRC licensee, as well as with contractors, subcontractors and employees in the nuclear industry. This policy statement is applicable to NRC regulated activities of all NRC licensees and their contractors and subcontractors.

The results of the interviews and program reviews indicated that the licensee had established and maintained an adequate safety conscious work environment where front-line employees felt free to raise safety concerns without fear of retaliation. While anecdotal evidence provided by a few supervisory personnel during the interviews indicate that there may be underlying factors that could produce a reluctance to raise safety concerns or prohibit the free flow of information at their level, the inspectors found that the number of workers potentially impacted was low and that these factors were associated with issues not within NRC regulatory jurisdiction. While these factors could negatively impact the safety conscious work environment, the NRC did not identify any indications that issues within NRC regulatory jurisdiction, such as nuclear, radiological, or security concerns, were being suppressed.

4 Exit Meeting Summary

On August 25, 2022, the inspectors presented the final inspection results to the licensee's staff. All proprietary information was returned to licensee representatives.

SUPPLEMENTAL INSPECTION INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

A. Barker, Regulatory Assurance & Emergency Planning Manager
T. Maine, Plant Manager, Decommissioning
J. Nowak, Project Manager, Decommissioning
T. Uehling, Senior Director, FCS Decommissioning
K. Daughenbaugh, ISFSI Shift Supervisor
J. McBride, Lead Nuclear Oversight
R. Miller, Supervisor Radiation Protection
K. Pirnie, Equipment Operator

INSPECTION PROCEDURES (IPs) USED

IP 71801	Decommissioning Performance and Status Review at Permanently Shutdown Reactors
IP 64704	Fire Protection Program at Permanently Shutdown Reactors
IP 40801	Problem Identification and Resolution at Permanently Shutdown Reactors

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Open

None

Closed

None

Discussed

None

Attachment

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CFR	*Code of Federal Regulations*
ES	Energy Solutions
FCS	Fort Calhoun Station
IP	Inspection Procedure
ISFSI	Independent Spent Fuel Storage Installation
LTP	License Termination Plan
NRC	U.S. Nuclear Regulatory Commission
PSDAR	Post-Shutdown Decommissioning Activities Report