



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

October 26, 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 05000285/2022-005

Dear Mr. Via:

This letter refers to the U.S. Nuclear Regulatory Commission (NRC) decommissioning inspection conducted September 19-22, 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 debrief meeting conducted on September 22, 2022. A final exit meeting was conducted via WebEx on October 13, 2022, to inform members of your staff of the final 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 and the site's radioactive waste treatment, and effluent and environmental monitoring programs.

Based on the results of this inspection, the NRC has determined that one Severity Level IV violation of NRC requirements occurred. The violation related to the licensee's failure to implement the quality assurance program requirement that the radioactive effluent control program as described in the Quarterly Assurance Topical Report shall be implemented by procedures. Since the licensee placed the deficiency into its corrective action program, the safety significance of the issue was determined to be low, and because the violation was non-repetitive and not willful, this violation is considered a Non-Cited Violation (NCV), consistent with Section 2.3.2.a of the NRC Enforcement Policy. The current NRC Enforcement Policy is included on the NRC's Website at (<https://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>). This NCV is described in the subject inspection report.

You are not required to respond to this letter unless the description herein does not accurately reflect your corrective actions or your position. However, if you contest the violation or

significance of the NCV, 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: (1) the Regional Administrator, Region IV, and (2) the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

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 10/26/22

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 050-00285/2022-005

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ADAMS ACCESSION NUMBER: **ML22290A061**

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**U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV**

Docket No.: 050-00285

License No.: DPR-40

Report No.: 050-00285/2022-005

Licensee: Omaha Public Power District

Facility: Fort Calhoun Station

Location: 9610 Power Lane  
Blair, Nebraska

Dates: September 19-22, 2022

Inspectors: Stephanie G. Anderson, Senior Health Physicist  
Decommissioning, ISFSI, and Operating Reactor Branch  
Division of Radiological Safety and Security

Janine F. Katanic, PhD, CHP, Senior Health Physicist  
Materials Inspection Branch  
Division of Radiological Safety and Security

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 050-00285/2022-005

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 Shut Down 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)

### **Radioactive Waste Treatment, and Effluent and Environmental Monitoring**

- The NRC determined that one Severity Level IV Non-Cited Violation of 10 CFR 50.54(a)(1), occurred based on the licensee's failure to implement the quality assurance program requirement that the radioactive effluent control program as described in the Quality Assurance Topical Report shall be implemented by procedures. (Section 2.2)

## 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 of the *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.

Title 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 NRC's process and timeline for reviewing the LTP.

Since the previous NRC inspection in July 2022, the licensee and contractors have continued with active deconstruction and demolition around the site. Demolition was continuing with the turbine building pedestal, the auxiliary building, and parts of the intake structure. Reactor vessel internal segmentation continued on the upper guide structure and core barrel inside containment.

# **1 Decommissioning Performance and Status Review at Permanently Shutdown Reactors (IP 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 licensee meetings during the inspection, including the weekly Performance Challenge Meeting, project review committee meeting, and the monthly industrial safety committee meeting. The licensee's conversations were detailed, and management facilitated knowledgeable, wide-ranging discussions to evaluate the risk of ongoing and upcoming planned activities, review the project schedule and milestones, and to consider 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 or other upcoming planned activities.

The inspectors toured the facility, including containment, the containment waste structure (CWS), deconstruction areas, intake structure, and the waste processing structure (WPS). While touring containment, the inspectors observed the work activities for the reactor vessel internal segmentation. The staff was preparing the upper guide structure to continue with segmentation and performing a saw blade change out to continue work on the core barrel segmentation. The inspectors noted the staff had good communication in the field and everyone was aware of the tasks at hand. The radiation protection staff was in the area at all times, performing routine surveys of the area and performing decontamination of items and areas as appropriate.

The radiation protection staff was appropriately assessing the potential in changes to the 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.

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 demolition process. The inspectors determined that staffing levels were commensurate with the current facility activities.

### 1.3 Conclusion

The licensee was conducting decommissioning activities in accordance with license and regulatory requirements. The inspectors determined that the licensee was adequately controlling decommissioning activities and radiological work areas at the facility. Staffing levels were commensurate with the current facility activities.

## **2 Radioactive Waste Treatment, and Effluent and Environmental Monitoring (IP 84750)**

### 2.1 Inspection Scope

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

- Radioactive waste treatment systems are maintained and operated to keep offsite doses ALARA;
- Licensee effectively controls, monitors, and quantifies releases of radioactive materials in liquid, gaseous, and particulate forms to the environment;
- Radiological environmental monitoring programs are effectively implemented to ensure effluent releases are being adequately performed as required to minimize public dose; and
- Licensee implementation of the voluntary NEI/Industry Ground Water Protection Initiative.

### 2.2 Observations and Findings

On September 28, 2018 (ML18275A323), the licensee submitted a request to remove the technical specification requirements associated with the Offsite Dose Calculation Manual (ODCM) and the radiological environmental monitoring program (REMP) and place those requirements into the Quality Assurance Topical Report (QATR). This license amendment request was approved on December 19, 2019, with the issuance of License Amendment No. 299 (ML19297D677).

The inspectors reviewed QATR NO-FC-10, revision 16, which was effective November 1, 2021. The revision 16 changes were made in accordance with 10 CFR 50.54(a). The QATR is the highest tiered licensee document that assigns major functional responsibilities for the decommissioning activities at the site. Appendix E of



the QATR provides the criteria for the ODCM. The ODCM contains the methodology and parameters used in the calculations of offsite doses resulting from gaseous and liquid effluents and in the conduct of the licensee's environmental radiological monitoring program.

The last review of the ODCM by the NRC was revision 37, as documented in the NRC Inspection Report 050-00285/2021-003 (ML21222A026). At the time of this inspection, the current version of the ODCM was revision 38, which was reviewed by the inspectors. The revision removed the auxiliary building and radwaste building ventilation effluent release paths, since those buildings and systems had been decommissioned, deconstructed, and no longer existed at the site. The inspectors concluded that the revisions to the ODCM did not impact the adequacy of the radioactive effluent monitoring and control program.

The licensee's annual Radiological Environmental Operating Report (REOR) for calendar year 2021 was reviewed by the inspectors. The REOR provided an overview of the licensee's Radiological Environmental Monitoring Program (REMP) for calendar year 2021. The REMP is a requirement of the QATR and is used to assess the effect of plant operations on the environment. The REMP examines various exposure pathways such as ingestion, inhalation, and direct exposure. To implement the REMP, samples are collected on a specified basis for areas including air, groundwater, food crops, and milk. Ambient gamma radiation is also measured through the use of thermoluminescent dosimeters (TLDs).

In August 2022, the licensee completed a review and revision of its Environmental Land Use Survey. The Environmental Land Use Survey is used to identify receptor locations and age groups of receptors, and to determine the nearest residence, meat and milk animals, garden, and groundwater source in each of the 16 cardinal sectors within a distance of 5 miles from containment. The periodic review and revision of the Environmental Land Use Survey are performed to ensure that changes in the use of unrestricted areas are identified and that modifications to the licensee's monitoring system are made if required by the results of the survey. The current review and revision were completed within 2 years of the previous version, as required. The review was performed by examining local government documents, sending surveys to individuals, and performing interviews with individuals as appropriate. The results of the 2022 Environmental Land Use Survey did not indicate any significant changes to the receptor locations or age groups of receptors such that the requirements of the ODCM and REMP could still be satisfied.

The inspectors reviewed the licensee's Annual Radioactive Effluent Release Report (ARERR) for the period from January 1, 2021, to December 31, 2021. According to the ARERR, for the referenced time period: (1) the total airborne activity released from noble gases was 0.00 curies; (2) the total airborne activity from iodine-131 and particulates with half-lives greater than 8 days was  $3.9 \times 10^{-5}$  curies, which was an increase from the previous year and attributed to particulates from decommissioning; (3) the total airborne activity from hydrogen-3 (tritium) was  $2.6 \times 10^{-1}$  curies, which was a decrease from the previous year; and (4) the total water activity excluding hydrogen-3 (tritium), dissolved gases, and alpha radiation released in liquid effluents was  $1.3 \times 10^{-2}$  curies, which was an increase from the previous year attributed to an increase in liquid waste generated.

The ARERR also noted that for the period from January 1, 2021, to December 31, 2021: (1) dose contributions from airborne effluents at the unrestricted area boundary resulted in  $6.1 \times 10^{-3}$  millirem whole body dose; (2) dose contributions from liquid effluents at the site discharge from all sources resulted in 1.88 millirem whole body dose; and that (3) direct radiation doses attributed to gamma radiation emitted from the containment structure were not observed above local background at any TLD sample location.

Regarding the licensee's groundwater monitoring program, the ARERR data for the period from January 1, 2021, to December 31, 2021, indicated that no monitoring well samples identified hydrogen-3 (tritium) or strontium-90 above the vendor's minimum detectable activity (MDA). Additionally, there were two years of sampling data indicating that specified gamma-emitting and hard-to-detect radioisotopes did not exceed the vendor's MDA.

The inspectors reviewed the licensee's groundwater protection and monitoring program. The Site Groundwater Protection Program, revision 7, SO-G-118, provides guidance to preclude the inadvertent releases to groundwater, prevent migration of radioactive materials to offsite groundwater, and to quantify any potential impacts of decommissioning activities. The Ground Sampling and Analysis Process Manual, revision 2, FCSD-CH-104, provides guidance regarding the collection of groundwater and well water samples to support the Site Groundwater Protection Program.

The licensee maintains onsite and offsite monitoring wells. Information regarding the monitoring wells, such as the date drilled, well location, well geometry, and well status, was maintained by the licensee in a database. Monitoring, consisting of sample collection and analysis, is performed quarterly. There were four offsite wells for the monitoring of any potential site activity impacts to residential water supplies. While conducting site tours, the inspectors observed several of the onsite monitoring wells. Some of the onsite monitoring wells were locked whereas others were not.

The inspectors reviewed the most recent Hydrologic Assessment and Conceptual Site Model Report, which was prepared by a consultant for the licensee, dated January 4, 2022. The report provided information related to 19 groundwater monitoring locations. Boring and well construction logs were provided for 15 groundwater monitoring wells. Based on the data described in the report, the FCS groundwater generally flows to the northeast and potentially discharges to the Missouri River. The inspectors observed that the report evaluated the groundwater conditions and location of structures that no longer exist at the site.

The inspectors reviewed the independent laboratory analysis for the groundwater samples that were collected by the licensee during the previous quarter. The report was prepared by an independent laboratory and dated September 9, 2022. For each groundwater monitoring well, the Ground Sampling and Analysis Process Manual, revision 2, FCSD-CH-104, specified the analytical tests to be performed and the frequency. The laboratory analysis for the groundwater monitoring well samples was reviewed and compared with the specific analytical tests required by the Ground Sampling and Analysis Process Manual, revision 2, FCSD-CH-104. The inspectors noted that the Ground Sampling and Analysis Process Manual described 18 groundwater monitoring wells and the independent laboratory analysis of identified samples from 17 groundwater monitoring wells. It was further noted that the well

identifications of the groundwater monitoring wells in the two documents did not match. This was discussed with licensee personnel, who acknowledged the discrepancy.

Based on discussions with licensee personnel and additional documents provided to the inspectors for review, it was determined that the discrepancy was due to wells that were updated based on: (1) the results of the recent Hydrologic Assessment and Conceptual Site Model Report; (2) the status of the site decommissioning footprint; and (3) because of damage that could not be repaired. Specifically, monitoring wells MW-13A and MW-13B were added to the program to replace wells MW-2A and MW-2B; MW-16 was added to the program to replace MW-4 which went dry and could not be redeveloped; MW-15 was added to the program to replace MW-7, which was inadvertently struck by heavy equipment and could not be repaired; and MW-14 was added to the program to replace MW-9, MW-10, and MW-11. As a result, at the time of the inspection the licensee had 17 onsite groundwater monitoring wells.

As a result of the inspection observations, the licensee opened Condition Report (CR)-2022-00233 to initiate a procedure change for the Ground Sampling and Analysis Process Manual, revision 2, FCSD-CH-104. The proposed document revision would verify the groundwater monitoring well identifications and revise attachment 1 of the Groundwater Sampling Plan. The Groundwater Sampling Plan lists the wells and their corresponding identification, their sampling frequencies, and the required analytical parameters. An action was also added to the CR to repair hasps and install locks on all 17 groundwater monitoring wells.

The inspectors reviewed the ambient gamma radiation monitoring program. The TLDs are exchanged quarterly. The licensee uses a total of 58 TLDs for measurement of ambient gamma radiation. Fourteen TLDs are located at indicator stations and have been located at the same stations since the time that the plant was operating. Accordingly, they are useful for historical trending and analysis. For 2021, all TLD analysis results were within the range of plant historical data for these 14 individual indicator stations. The licensee also had 16 TLDs located in an inner ring within the unrestricted area boundary out to 2.5 miles from containment, and 16 TLDs in an outer ring within 2.5 to 5 miles from containment. To provide data to support public and personnel dose determinations, 12 TLDs were located within the owner-controlled area. A control TLD was located approximately 30 miles from the site.

The inspectors reviewed the licensee's effluent monitoring program. The QATR establishes the licensee's radioactive effluent control program. Section E.2 of the QATR, Radioactive Effluent Control Program, states in part, that a program shall be provided conforming to 10 CFR 50.36(a) for the control of radioactive effluents and for maintaining doses to individuals in unrestricted areas from radioactive effluents to be as low as is reasonably achievable (ALARA). Under the QATR, section E.2.1.2, the radioactive effluent control program shall be implemented by procedures.

The inspectors observed Chemistry personnel perform weekly surveillance of the effluent air monitor sample collection at the WPS and the CWS. The WPS and CWS are tensioned fabric structures with specialized industrial ventilation systems for effluent control. The CWS is an equipment access area and is used to support the segmentation and removal of systems from containment. The WPS is used to receive trucks containing waste debris from the site, in order to segregate and reduce the size of the waste for loading into rail cars. The specialized industrial ventilation systems in place at each

facility are dust collectors with cartridge-style filters. During normal operation, dust-laden air from the WPS or CWS enters the collection system, passes through the cartridge-style filters, and is directed to the exhaust stacks. The WPS and CWS ventilation systems each have four exhaust stacks. Each of the exhaust stacks were equipped with an open face air sampler head (filter holder) with filters for the purpose of particulate sampling of the air effluent. The air sampler heads are attached to a quick disconnect coupling, which was attached to a short length of metal pipe. The short length of metal pipe had an approximate 90-degree bend and afforded the rigidity for the air sampler head to be placed at a certain height within the exhaust stack, and for the open face of the sampler head to be perpendicular with the exhaust flow. The metal pipe was attached to an approximately 50-foot length of tygon hose using a metal worm gear hose clamp. The tygon hose then followed down the length of the scaffolding where it was attached to a low-volume air sampler with a vacuum pump and air flow regulator. The air sampler was located in a ventilated aluminum metal housing to protect it from the weather.

Periodically, the ventilation system filters are backflushed to remove and direct heavier particles to fall into a hopper. The base of the hopper is fitted with pre-staged drums for the collection of the particles.

The surveillance observed by the inspectors consisted of a member of the Chemistry staff opening the aluminum metal housing, noting the air flow, turning the air sampler off, and then ascending up scaffolding to collect the air sampler head (filter holder). This was performed for the four effluent air samplers at the CWS and for the four effluent air samplers at the WPS. At the WPS, the air samplers were calibrated to operate at a flow rate of 2.0 cubic feet per minute (CFM) with a range of 1.8 - 2.2 CFM. Three of the air samplers were observed by the inspectors to be running at: 2.0 CFM, 1.9 CFM, and 1.9 CFM, and one air sampler, which was identified as #2, was observed to be operating at 1.3 CFM. The inspectors inquired as to the reason for the lower flow rate for #2 as compared to the other units, and were informed that it had been operating at that lower flow rate level for about a month.

The licensee's practice was to completely remove the air sampler head using the quick disconnect coupling, and to replace the air sampler head with one that had been pre-loaded with a fresh filter. The inspectors observed the licensee staff with four replacement sampler heads with fresh filters in a tote bag for ease of carrying up the scaffolding to the exhaust stack outlet. Each air sampler head was numbered to correspond with the number of the air sampler system pump apparatus. As each used air sampler head was removed, it was replaced with the coordinating numbered air sampler head with the pre-loaded fresh filter. The removed (used) air sampler head was placed directly into the tote bag with the other sampler heads. The open face of the removed air sampler head was not covered to protect the filter. The inspectors questioned this practice because placing the used open face sampler heads directly into the tote bag did not prevent cross contamination with the other sampler heads in the bag, and it could have resulted in the loss of particulate matter from the filter.

At the WPS, as licensee staff removed the used air sampler head #2 from the quick disconnect coupling, the inspectors observed that the distal end of the tygon hose was torn. The tear was close to where the tygon hose was attached to the short length of metal pipe with a metal hose clamp. The inspectors also observed that the tygon tubing for sampler head #2 was significantly discolored. The tygon tubing is normally clear

whereas the tubing for #2 was visibly brown and somewhat opaque. The inspectors also noted that the tygon tubing was visibly degraded in several areas, and was sticky (tacky) to the touch. The tygon tubing was also observed to be significantly crimped (kinked) along the handrail of the scaffolding, causing undue stress and air flow restriction. The condition of the tygon tube with the tear, degraded condition, and kinking was indicative of a condition that had existed for a length of time, and not a new or recent occurrence.

Due to the deficiencies observed, the inspectors inquired regarding the procedure to perform these surveillance activities and were informed that there was no procedure, and that it was a skills-based activity that did not require a formal training program. Instead, the skills necessary to perform the surveillance activity were intended to be learned as part of on-the-job training and observation of routine radiation protection activities.

Title 10 CFR 50.54(a)(1), "Conditions of licenses," requires, in part, each nuclear power plant or fuel reprocessing plant licensee subject to the quality assurance criteria in appendix B of 10 CFR Part 50 shall implement, under 10 CFR 50.34(b)(6)(ii) or 10 CFR 52.79, the quality assurance program described or referenced in the safety analysis report, including changes to that report. The QATR satisfies the requirement of 10 CFR Part 50, appendix B, and establishes the licensee's radioactive effluent control program. Section E.2.1.2, of the QATR requires that the radioactive effluent control program shall be implemented by procedures.

Contrary to the above, on September 21, 2022, the licensee failed to implement the quality assurance program requirement that the radioactive effluent control program as described in the QATR shall be implemented by procedures. Specifically, the licensee failed to develop, implement, and maintain a procedure for performing the weekly surveillance of the effluent air monitor sample collections at the WPS and the CWS. As a result: (1) the handling of filters during sampler head exchange did not prevent cross contamination or prevent loss of particulate material from the filters; (2) equipment, including the air sampler pump, was not inspected to ensure that it was operable, reliable, and functioning as required; (3) criteria were not established to identify out-of-range or out-of-tolerance flow rate conditions as compared to the calibrated flow rate; (4) equipment, including the 50-foot tygon hose, were not inspected for condition, degradation, obvious signs of damage including tears, undue stress, or indications of air flow restriction including crimping and kinking; and (5) a positive method was not established to assure that the sampler head was positioned at the appropriate location within the area of the exhaust duct.

This violation was evaluated to be a Severity Level IV violation using Section 6.3.d.3 of the NRC Enforcement Policy, dated January 14, 2022, regarding the failure to implement procedures, where the failure has a low safety significance.

Upon NRC identification of the deficiency, the licensee entered the issue into its corrective action program as Condition Report # CR-2022-0229. The licensee took the following immediate actions: (1) inspected all effluent sampling tubing, and no additional tubing was found degraded; (2) discussed air sampling practices with the department on September 22, 2022; (3) created a job aid/process for performing effluent monitoring sampling; and (4) removed the pump from service, tested, and restored the flow rate.

Since the licensee placed the deficiency into its corrective action program, the safety significance of the issue was determined to be low, and because the violation was not willful or repetitive, this violation was considered a non-cited violation (NCV), consistent with Section 2.3.2.a of the NRC Enforcement Policy. (NCV 05000285/2022-005-001)

### 2.3 Conclusion

The NRC determined that one Severity Level IV NCV of 10 CFR 50.54(a)(1), occurred based on the licensee's failure to implement the quality assurance program requirement that the radioactive effluent control program as described in the QATR shall be implemented by procedures.

### **3 Exit Meeting Summary**

On October 13, 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  
D. Whisler, Manager Radiation Protection & Chemistry  
M. Marellus, Senior Technical Support Specialist  
J. Hoffman, Senior Technical Support Specialist  
R. Miller, Supervisor Radiation Protection

**INSPECTION PROCEDURES (IPs) USED**

IP 71801      Decommissioning Performance and Status Review at Permanently Shutdown Reactors  
  
IP 84750      Radioactive Waste Treatment, and Effluent and Environmental Monitoring

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

Opened/Closed

05000285/2022-005-001      NCV      Failure to implement the quality assurance program requirement that the radioactive effluent control program as described in the QATR shall be implemented by procedures. (10 CFR 50.54(a)(1))

Discussed

None

## LIST OF ACRONYMS

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
ADAMS	Agencywide Documents Access and Management System
ARERR	Annual Radioactive Effluent Release Report
ALARA	As low as is reasonably achievable
CFM	cubic feet per minute
CWS	Containment Waste Structure
CR	Condition Report
FCS	Fort Calhoun Station
IP	Inspection Procedure
ISFSI	Independent Spent Fuel Storage Installation
LTP	License Termination Plan
MDA	minimum detectable activity
NCV	Non-Cited Violation
NRC	U.S. Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PSDAR	Post-Shutdown Decommissioning Activities Report
QATR	Quality Assurance Topical Report
REMP	Radiological Environmental Monitoring Program
REOR	Radiological Environmental Operating Report
TLD	thermoluminescent dosimeter
WPS	Waste Processing Structure