



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

August 1, 2022

Mr. Bradley J. McMahon
Site Director
Dominion Energy Kewaunee
Kewaunee Power Station
N490 Highway 42
Kewaunee, WI 54216

SUBJECT: NRC INSPECTION REPORT NOS. 05000305/2022001(DNMS)– KEWAUNEE
POWER STATION

Dear Mr. McMahon:

On July 5, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed onsite inspection activities for May 30 through July 5, 2022, at the permanently shutdown Kewaunee Power Station in Kewaunee, Wisconsin. The purpose of the inspection was to determine whether decommissioning activities were conducted safely and in accordance with NRC requirements. The enclosed report presents the results of this inspection, which were discussed with Mr. B. McMahon and other members of your staff on July 5, 2022.

During the inspection period, the NRC inspectors reviewed the following aspects of onsite activities: fire protection; occupational radiation exposure; radiological surveys; radioactive waste treatment, effluent, and environmental monitoring; and waste management and transportation. The inspection consisted of an examination of activities at the site as they relate to safety and compliance with the Commission's rules and regulations. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, reviewing work activities onsite and remotely, and interviews with personnel.

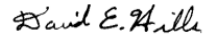
Based on the results of this inspection, the NRC did not identify any violations.

B. McMahon

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Sincerely,



Signed by Hills, David
on 08/01/22

David E. Hills, Chief
Materials Control, ISFSI, and
Decommissioning Branch
Division of Nuclear Materials Safety

Docket No: 50-305
License No: DPR-43

Enclosure:
IR Nos. 05000305/2022001(DNMS)

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B. McMahon

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Letter to B. McMahon from D. Hills dated August 1, 2022.

SUBJECT: NRC INSPECTION REPORT NOS. 05000305/2022001(DNMS)– KEWAUNEE
POWER STATION

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U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Docket No: 50-305

License No: DPR-43

Report No: 05000305/2022001(DNMS)

Enterprise Identifier: I-2022-001-0074

Licensee: Dominion Energy Kewaunee, Inc.

Facility: Kewaunee Power Station (KPS)

Location: Kewaunee, WI

Dates: May 30 to July 5, 2022

Inspectors: Bill Lin, Health Physicist

Approved by: David E. Hills, Chief
Materials Control, ISFSI, and
Decommissioning Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Kewaunee Power Station NRC Inspection Report Nos. 05000305/2022001(DNMS)

The Kewaunee Power Station (KPS) is a permanently shutdown and defueled power reactor maintained in a Safe Storage (SAFSTOR) condition. This periodic safety inspection reviewed licensed activities associated with fire protection; occupational radiation exposure; radiological surveys; radioactive waste treatment, effluent, and environmental monitoring; and waste management and transportation.

Fire Protection Program

- An effective decommissioning Fire Protection Program was maintained and implemented that reasonably prevented fires; provided the capability to rapidly detect, control, and extinguish fires that could result in radiological hazards; and ensured the risk of fire-induced hazards to the public, environment, and plant personnel were minimized.

Occupational Radiation Exposure

- Adequate protection of worker health and safety from exposure to radiation and radioactive material was provided. Radiation surveys were performed adequately to identify the hazards present.

Radioactive Waste Treatment, and Effluent and Environmental Monitoring

- Changes to the environmental monitoring program were consistent with regulatory requirements.

Solid Radioactive Waste Management and Transportation of Radioactive Materials

- The licensee effectively processed, handled, stored, and transported radioactive material.

REPORT DETAILS

Summary of Plant Activities

During this inspection period, the licensee maintained the unit in SAFSTOR conditions. No major decommissioning activities occurred during the inspection period.

1.0 Fire Protection Program at Permanently Shutdown Reactors (IP 64704)

1.1 Inspection Scope

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

- Fire protection detection and suppression systems were effectively maintained, surveillances were performed, and systems were capable of performing their intended function;
- Fire barriers were effectively maintained;
- Firefighting equipment was properly inventoried, inspected, tested, and maintained;
- Administrative controls were in place to minimize the occurrence of a fire; and
- Staffing and training requirements were consistent with the Fire Protection Program and Emergency Plan.

The inspectors verified that when issues were identified, licensee personnel appropriately documented the issue in the CAP.

1.2 Observations and Findings

On June 1, 2021, the inspectors walked down the plant and the inspectors confirmed that the detection and suppression equipment was located where required, was being properly maintained, and could perform its intended function. The inspectors also verified that the fire barriers were effectively maintained. The inspectors also verified that firefighting equipment was properly inventoried, inspected, tested, and maintained. The inspector in addition interviewed the staff and verified the staff knowledge and training requirements were consistent with the Fire Protection Program and Emergency Plan.

No findings were identified.

1.3 Conclusions

An effective decommissioning Fire Protection Program was maintained and implemented that reasonably prevented fires; provided the capability to rapidly detect, control, and extinguish fires that could result in radiological hazards; and ensured the risk of fire-induced hazards to the public, environment, and plant personnel were minimized.

2.0 Occupational Radiation Exposure at Permanently Shutdown Reactors (IP 83750)

2.1 Inspection Scope

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

- Training and qualifications of members of the Radiation Protection (RP) organization;
- Radiological hazards and worker protection in work activities;
- Radiological controls, postings, and material conditions inside the radiological control area;
- Contamination monitoring including release of radioactive materials from controlled areas;
- Accuracy and functionality of radiation monitoring instruments; and
- The characterization of the radiation type and energies were appropriate to the surveys and work practices; and staffing, posting, radiological controls, and changes met regulatory requirements.

The inspectors verified that when issues were identified, licensee personnel appropriately documented the issue in the Corrective Action Program (CAP).

2.2 Observations and Findings

Currently, there are no changes to the organization staffing and instrumentation that will impact RP. However, the inspectors discussed with the licensee the site transition once active decommission begins at Kewaunee. Specifically, the inspectors interviewed licensee management about the potential organization staffing plan, RP procedures, and instrumentation requirements that will be implemented onsite. The current Kewaunee management staff indicated to the NRC inspectors that staffing, instrumentation plans, and site RP procedure plans are being actively discussed with EnergySolutions to ensure that the site will have the necessary staffing, instrumentation, and RP procedures once active decommissioning begins. The inspectors also reviewed the organization chart of EnergySolutions staff once active decommissioning starts.

The inspectors also reviewed the licensee's training records and determined that all personnel were appropriately trained, and training activities were documented in accordance with the approved procedures. The inspectors reviewed the licensee's radiation and contamination surveys, air samples, and source inventory. The inspectors observed the licensee's vendor performing radiation surveys of various warehouses. The inspectors verified that for each type of survey the licensee performed, staff used the appropriate survey instrument to perform these surveys and that the licensee was updating its source term that was currently onsite due to source decay.

The inspectors also performed a walkdown of the plant. The inspectors observed that general housekeeping was maintained and that all signs within the plant were appropriately posted and legible. The inspectors also observed that all radioactive material was properly bagged, tagged, and controlled.

No findings were identified.

2.3 Conclusions

Adequate protection of worker health and safety from exposure to radiation and radioactive material was provided. Radiation surveys were performed adequately to identify the hazards present.

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

3.1 Inspection Scope

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

- Environmental monitoring equipment was properly located, calibrated and maintained, and environmental samples were adequately collected;
- Whether the Groundwater Protection Initiative program was implemented as intended;
- The licensee's annual radiological environmental monitoring report was submitted as required, and any anomalous results, unexpected trends, or abnormal environmental impacts were identified and entered into the CAP;
- Whether the licensee's vendor laboratory analyzed environmental samples under an approved quality control program and the inter-laboratory comparison program was adequate; and
- Changes made to the environmental program.

The inspectors verified that when issues were identified, licensee personnel appropriately documented the issue in the CAP.

3.2 Observations and Findings

The inspectors reviewed the licensee's Radiological Environmental Monitoring Program (REMP) and the associated vendor procedures to ensure that the licensee obtained and analyzed the appropriate environmental samples in accordance with the applicable regulatory requirements and REMP program. The inspectors also observed the licensee's environmental monitoring vendor obtaining water samples from the lake and grass samples from areas around the station. The licensee's vendor obtained the samples from the appropriate location in accordance with its procedures and had the applicable equipment and documentation. The inspector verified that the licensee's vendor performed the environmental sampling analysis and followed and evaluated its results in accordance with its approved quality control program. There were no changes to the environmental program.

No findings were identified.

3.3 Conclusions

The inspectors reviewed the licensee's Environmental Monitoring program and observed the licensee's vendor in obtaining the lake water and grass samples in accordance with the licensee's procedures.

4.0 Solid Radioactive Waste Management and Transportation of Radioactive Materials (IP 86750)

4.1 Inspection Scope

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

- Radioactive waste storage areas are appropriately controlled, labeled, posted and secured against unauthorized removal;
- Sealed sources are accounted for and are appropriately leak tested;
- Shippers of radioactive material were adequately trained and met TS, 10 CFR 71.5 and Department of Transportation (DOT) 49 CFR Part 172, Subpart H, requirements;
- Shipments of radioactive material were appropriately surveyed as well as marked, labeled, and placarded consistent with the shipping documentation; and
- Shipments were appropriately characterized, classified, and prepared in accordance with procedures.

The inspectors verified that when issues were identified, licensee personnel appropriately documented the issue in the CAP.

4.2 Observations and Findings

During a plant walkdown on May 31, 2022, the inspectors verified radioactive waste was appropriately controlled, labeled, posted, and secured against unauthorized removal. The inspectors also reviewed the licensee's sealed source inventories and the appropriate leak tests. The licensee performed the inventories and leak tests in accordance with the approved procedures. The inspectors also walked down the plant and randomly selected a sealed source and its location to ensure that the inventory was accurate. All sources selected were accounted for.

The inspectors reviewed the licensee's radioactive material shipping papers. The inspectors interviewed the licensee personnel and reviewed the licensee process for generating radioactive material documents. The shipments that the inspectors reviewed were all appropriately surveyed and characterized, classified, and prepared in accordance with NRC and DOT regulatory requirements and licensee's approved procedures. The inspectors also reviewed the licensee's training documentation to ensure that all licensee personnel performing radioactive material shipping activities had the appropriate training.

No findings were identified.

4.3 Conclusions

The licensee effectively processed, handled, stored, and transported radioactive material.

5.0 Exit Meeting

The inspectors presented the results of the inspection to Mr. B. McMahon and other members of the KPS staff at an exit meeting on July 5, 2022. The licensee acknowledged the results presented and did not identify any of the information discussed as proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

B. McMahon, Site Director
D. Shannon, Radiation and Chemistry Manager
W. Zipp, Nuclear Engineering and Technical Support Manager

INSPECTION PROCEDURES (IPs) USED

IP 64704 Fire Protection Program at Permanently Shutdown Reactors
IP 83750 Occupational Radiation Exposure
IP 84750 Radioactive Waste Treatment, and Effluent and Environmental Monitoring
IP 86750 Solid Radioactive Waste Management and Transportation of Radioactive Materials

ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Opened</u>	<u>Type</u>	<u>Summary</u>
None		

<u>Closed</u>	<u>Type</u>	<u>Summary</u>
None		

PARTIAL LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

- Kewaunee Power Stations routine radiation surveys; January-May 2022
- Kewaunee Power Station routine contamination survey; January-May, 2022
- Kewaunee Power Station routine air sample; January-May, 2022
- RSCS radiation surveys of Kewaunee Warehouse; June 1, 2022
- Kewaunee Power Station; OP-KW-OSP-FP-002-Operating Surveillance Procedure for Fire Pump Test; Rev 8
- Kewaunee Power Station; RP-KW-503-Radiological Decommissioning Records; Revision 1
- Kewaunee Power Station; Radiation Survey Instrumentation Calibration Records; January-May, 2022
- Fire Protection Program Analysis; Revision 15
- Kewaunee Power Station ISFSI Fire Hazards Analysis; Revision 4
- Fire Protection Services Agreement; 08/08/2019
- 2021 and 2022 Radiological Material Shipping Papers

- Kewaunee Power Station Sealed Source Inventory
- Kewaunee Personnel DOT Training Records
- Environmental Incorporated; Sampling Procedures Manual; Revision 13, 10-27-09
- Kewaunee Environmental Monitoring Lake Water Sample Locations
- Kewaunee Environmental Monitoring Grass Sample Locations

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
ALARA	As Low As Is Reasonably Achievable
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DNMS	Division of Nuclear Materials Safety
DOT	U.S. Department of Transportation
IP	Inspection Procedure
KPS	Kewaunee Power Station
NRC	U.S. Nuclear Regulatory Commission
REMP	Radiological Environmental Monitoring Program
RP	Radiation Protection
SAFSTOR	Safe Storage