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

January 7, 2021

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

SUBJECT: NRC INSPECTION REPORT NO. 05000305/2020001(DNMS) – KEWAUNEE POWER STATION

Dear Mr. McMahon:

On December 17, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed onsite inspection activities for February through December 2020, at the permanently shut-down Kewaunee Power Station (KPS) 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 December 17, 2020.

During the inspection period, the NRC inspectors reviewed the following aspects of onsite activities: organization, management, and cost control at the site; safety reviews, design changes and modifications; self-assessments, audits, and corrective actions; decommissioning performance; 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 remotely, and telephonic interviews with personnel.

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

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document

Room in accordance with Title 10 of the Code of Federal Regulations (CFR) 2.390, “Public Inspections, Exemptions, Requests for Withholding.”

Sincerely,

David E. Hills Digitally signed by David E. Hills
Date: 2021.01.07 08:22:13 -06'00'

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 No. 05000305/2020001(DNMS)

cc w/encl: Distribution via LISTSERV®

Letter to Bradly McMahon from David Hills, dated January 7, 2021.

SUBJECT: NRC INSPECTION REPORT NO. 05000305/2020001(DNMS) – KEWAUNEE POWER STATION

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U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Docket No:	05000305
License No:	DPR-43
Report No:	05000305/2020001(DNMS)
Enterprise Identifier:	I-2020-001-0082
Licensee:	Dominion Energy Kewaunee, Inc., (DEK)
Facility:	Kewaunee Power Station (KPS)
Location:	Kewaunee, WI
Dates:	February 25, 2020, through December 17, 2020
Inspectors:	Rhex Edwards, Senior Health Physicist Bill Lin, Health Physicist
Approved by:	Dave E. Hills, Chief Materials Control, ISFSI, and Decommissioning Branch Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

Kewaunee Power Station
NRC Inspection Report 05000305/2020001(DNMS)

Kewaunee Power Station (KPS) operated at full power until May 7, 2013, when KPS shutdown and permanently ceased power operation. On May 14, 2013, KPS certified the permanent removal of fuel from the reactor vessel (ADAMS Accession No. ML13135A209). On May 31, 2013, the U.S. Nuclear Regulatory Commission (NRC) notified KPS that the Operating Reactor Assessment Program had ceased, and that implementation of the Decommissioning Power Reactor Inspection Program would begin on June 1, 2013 (ADAMS Accession No. ML13151A375).

Currently, KPS is a permanently shut-down and defueled power reactor facility that was maintained in a Safe Storage (SAFSTOR) condition with spent fuel stored at an Independent Spent Fuel Storage Installation (ISFSI).

Organization, Management, and Cost Controls

- The licensee adequately implemented organization, management, and cost controls in accordance with regulatory requirements, license conditions, and the Technical Specifications (TSs). (Section 1.0)

Safety Reviews, Design Changes, and Modifications

- The licensee performed adequate safety evaluations or screenings, completed design change evaluations, and properly assessed decommissioning impacts of various work activities as required by Title 10 of the Code of Federal Regulations (CFR) 50.59, “Changes, Tests, and Experiments,” and their safety review process. (Section 2.0)

Self-Assessment, Auditing, and Corrective Action

- Issues were identified by the licensee at appropriate thresholds and entered into the Corrective Action Program (CAP). Issues were screened and prioritized commensurate with the safety significance. Licensee evaluations determined the significance of issues and included appropriate remedial corrective actions. (Section 3.0)

Decommissioning Performance and Status Review

- The inspectors determined that the licensee conducted decommissioning activities in accordance with the regulations and license requirements. The inspectors verified that the licensee’s activities were in accordance with TSs, the Updated Safety Analysis Report (USAR), and the Post Shutdown Decommissioning Activities Report (PSDAR). (Section 4.0)

Occupational Radiation Exposure

- Radiation Work Permit (RWP) and As Low As Is Reasonably Achievable (ALARA) reviews provided contamination controls and dose reduction measures appropriate for the work activities. Workers adhered to the radiological controls provided in the RWPs and ALARA plans and followed the Radiation Protection (RP) staff instruction.

- Decommissioning activities were executed in general alignment with planning documents and as provided in RWPs and ALARA reviews. Radiation surveys were performed adequately to identify the hazards present. Command and control of radiologically significant activities was executed in a manner that was safe and achieved the desired result. (Section 5.0)

Inspection of Remedial and Final Surveys at Permanently Shutdown Reactors

- The inspectors reviewed and compared the results of the licensee's and the NRC's independent surveys performed in support of reconfiguring three lagoons into a natural wetland. There were no remarkable radiological conditions identified in either the licensee's or the NRC's surveys. (Section 6.0)

Radioactive Waste Treatment, and Effluent and Environmental Monitoring

- The licensee controlled, monitored, and quantified releases of radioactive materials released to the environment to ensure offsite doses were within regulatory limits and ALARA. (Section 7.0)

Solid Radioactive Waste Management and Transportation of Radioactive Materials

- Radioactive materials were properly classified and secured as low-level waste. The licensee performed the appropriate survey in accordance with NRC and U.S. Department of Transportation (DOT) regulatory requirements. (Section 8.0)

Report Details

Summary of Plant Activities

During the inspection period, the licensee maintained the unit in SAFSTOR conditions.

1.0 Organization, Management, and Cost Controls at Permanently Shutdown Reactors (Inspection Procedure (IP) 36801)

1.1 Inspection Scope

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

- Procedures and processes the licensee established to resolve employee and safety concerns, and to assess the licensee's effectiveness at resolving identified problems;
- Implementation of CAP procedures;
- Implementation of a cost and personnel reduction strategy to verify that it did not adversely challenge public health and safety;
- Regulatory requirements were properly implemented with respect to the site organization, staffing, and staff qualifications;
- Future licensee plans for decommissioning organization and staffing would continue to meet regulatory requirements;
- Licensee appropriately implemented TS, Technical Requirements Manual, PSDAR, and fire protection plan requirements and commitments;
- Licensee continued implementation of regulatory requirements that remained applicable as described in NRC Bulletins, Generic Letters, and Orders;
- Licensee decommissioning activities were initiated, sequenced and performed in a manner consistent with the PSDAR; and
- Licensee cost management, schedule, and docketed decommissioning cost estimates.

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

1.2 Observations and Findings

The inspectors determined through direct licensee observation, reviews of licensee programs and procedures, sampling of corrective action documents, and interviews with licensee personnel that the appropriate regulatory requirements and commitments were followed.

During this review, the inspectors discussed the Employee Concerns Program (ECP) with the Kewaunee Decommissioning Site Director, a Dominion ECP specialist, and the Dominion Fleet ECP manager and noted what appeared to be a healthy environment for employees to raise concerns. Additional interviews were conducted to discuss the CAP as well as interviews to gain a better understanding of managing decommissioning expenses at KPS. As part of this effort, the inspectors reviewed the annual decommissioning trust fund report, the schedule in the PSDAR, and the procedure for assigning expenses to the decommissioning trust fund.

Finally, the inspectors selected a required surveillance from the Technical Requirements Manual and observed a licensee provided recording of the surveillance. The surveillance selected was Technical Verification Requirement 8.7.9.1, a monthly operational test of the fire pump for a minimum of 30 minutes. The inspectors were able to follow along in the video recording provided and confirm that the surveillance test requirements were met based on indications clearly available in the video. The test was completed on December 7, 2020, and the video and completed test procedure were reviewed remotely by the inspector on December 8, 2020.

No findings were identified.

1.3 Conclusions

The licensee adequately implemented organization, management, and cost controls in accordance with regulatory requirements, license conditions, and the TSs.

2.0 Safety Reviews, Design Changes, and Modifications at Permanently Shutdown Reactors (IP 37801)

2.1 Inspection Scope

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

- The effectiveness of licensee's safety review committee;
- Control and implementation of design changes and modifications to assess that the procedures provided adequate guidance for implementation, review, and approval;
- Implementation of a sampling of design change modifications to verify that procedures and controls were followed; and confirm that the applicable changes were effectively implemented in the field and in plant procedures, drawings, and training programs if applicable;
- Verification that changes made under 10 CFR 50.59 did not require prior NRC approval;
- Verification that preventive maintenance, corrective maintenance, and work activities were implemented in accordance with the licensee's processes and procedures and did not involve a change requiring prior NRC approval.

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

2.2 Observations and Findings

The inspectors reviewed the licensee's Safety Review Committee Meeting Minutes from the November 10, 2020, meeting and noted that the meeting included participation from a diverse number of workgroups including Security, Technical Support, Operations and Maintenance, Safety, and RP. Through interviews and a review of the licensee's submittal dated May 11, 2020 (ML20157A186), of the summary of facility changes, tests, and experiments performed in the preceding 24 months, the inspectors did not identify any changes requiring prior NRC approval. The inspectors confirmed that there were no changes to the fire protection program since the NRC's last review.

Regarding maintenance, the inspectors reviewed the compensatory measures that were put in place during a planned maintenance outage for a transformer that normally powers the installed Auxiliary Building ventilation and effluent monitors. The inspectors confirmed that these measures were consistent with the Offsite Dose Calculation Manual (ODCM) when normally installed effluent monitoring instruments are unavailable. Among other actions, portable continuous air samplers were used during the transformer outage to monitor for potential releases. The calibration records for the air samplers were reviewed as were the sample particulate analytical results. No abnormal results were noted. The inspectors determined that when issues were identified, the issues were documented by the licensee in the CAP at an appropriate threshold.

No findings were identified.

2.3 Conclusions

The licensee performed adequate safety evaluations or screenings, completed design change evaluations, and properly assessed decommissioning impacts of various work activities as required by 10 CFR 50.59 and their safety review process.

3.0 Self-Assessments, Auditing, and Corrective Action at Permanently Shutdown Reactors (IP 40801)

3.1 Inspection Scope

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

- Administrative procedures prescribed actions for the identification, evaluation, and resolution of problems;

- License procedures prescribed thresholds for the performance of self-assessments, audits, and surveillances;

- Licensee management reviewed self-assessments, audits, and corrective actions to remain knowledgeable of plant performance;

- Self-assessments were conducted with technically qualified personnel and sufficient independence from the licensee;

- Issues or problems were identified and corrected in accordance with the licensee's CAP;

- Quality assurance personnel audited changes in the status of decommissioning and licensee organization; and

- Licensee management observed maintenance and surveillance activities, operations evolutions, and training.

The inspectors reviewed CAP documents to determine if a sufficiently low threshold for problem identification existed; the quality of follow-up evaluations, including extent-of-condition; and if the licensee assigned timely and appropriate prioritization for issue resolution commensurate with the significance of the issue.

3.2 Observations and Findings

The inspectors determined that issues were identified by the licensee at an appropriate threshold within various functional areas of the site and entered into the CAP. Issues were effectively screened, prioritized, and evaluated commensurate with safety significance. The scope and depth of evaluations were adequate in that the evaluations reviewed addressed the significance of issues and assigned an appropriate course of remedial action. On December 7, 2020, the inspectors interviewed the CAP manager to gain insights on how the program was managed, and discuss any trends identified by the program.

The inspectors verified that self-assessments conducted during the inspection period were performed with technically qualified personnel; and when appropriate, utilized personnel independent of the audited organization. Finally, the inspectors verified that quality assurance personnel continued to audit changes implemented at the plant.

No findings were identified.

3.3 Conclusions

Issues were identified by the licensee at appropriate thresholds and entered into the CAP. Issues were screened and prioritized commensurate with safety significance. Licensee evaluations determined the significance of issues and included appropriate remedial corrective actions.

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

4.1 Inspection Scope

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

- Status of ongoing decommissioning activities and planning for future activities;

- Licensee activities were in accordance with license conditions and docketed commitments, as well as, within the bounds of the docketed post shutdown activity report;

- Operability and functionality of systems necessary for safe decommissioning were assessed through plant walkdowns, including radioactive effluent monitoring and RP monitors and alarms;

- Operator logs and data taking for normal facility operations, surveillances, and maintenance;

- Appropriate plant staffing was maintained, and appropriate management oversight of licensee and supplemental activities was performed;

- Pre-job briefs were conducted for facility operations, including maintenance, surveillance, operations, and decommissioning activities;

- In-plant field conditions and decommissioning abandonment activities were adequate; and

- Reviewed updated fire plan and procedures to ensure the current status of the facility was reflected.

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

4.2 Observations and Findings

Due to the public health emergency, the inspectors were unable to travel in order to complete inspection requirements associated with performing onsite tours of the facility. As a result, the inspectors intend to perform a site tour as soon as it is considered practicable. In order to complete the remaining inspection requirements, the inspectors reviewed records and logs associated with ensuring the facility was maintained in a SAFSTOR condition. The inspectors found records were adequate to demonstrate programs such as the fire protection program, the RP program, and the CAP were utilized appropriately to ensure safety and manage any potential facility degradation associated with being in SAFSTOR.

No findings were identified.

4.3 Conclusions

The inspectors determined that the licensee conducted decommissioning activities in accordance with the regulations and license requirements. The inspectors verified that the licensee's activities were in accordance with TSs, the USAR, and the PSDAR.

5.0 Occupational Radiation Exposure (IP 83750)

5.1 Inspection Scope

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

- Planning and preparation for radiation work were adequate and if licensee management supported RP planning;
- Personal dosimetry for external exposure met requirements;
- Management and administrative controls of external radiation exposure met requirements and was designed to make exposures ALARA;
- Processes or engineering controls were used to the extent practicable to limit concentrations of airborne radioactive materials;
- Survey and monitoring activities were performed as required;
- Control of radioactive materials and contamination met requirements;
- Effective implementation of the ALARA program; and
- Verify that radiation monitoring instrumentation has appropriate sensitivity for the type(s) of radiation present and that instrumentation is used at its typical sensitivity levels based on appropriate counting times and background radiation levels.

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

5.2.1 Observations and Findings

The inspectors reviewed the licensee's RP procedures and corrective action documents. The inspectors also reviewed the licensee's radiation surveys, contamination surveys, radioactive waste container logs, survey instrument calibrations, and response check. The inspectors determined based on reviewing procedures, corrective actions, and interviews with the licensee that appropriate contamination controls and ALARA practices were implemented, the required radiation and contamination surveys were performed to identify the hazards onsite, and personnel had the appropriate dosimetry.

No findings were identified.

5.3 Conclusions

RWP and ALARA reviews provided contamination controls and dose reduction measures appropriate for the work activities. Workers adhered to the radiological controls provided in the RWPs and ALARA plans and followed the RP staff instruction.

Decommissioning activities were executed in general alignment with planning documents and as provided in RWPs and ALARA reviews. Radiation surveys were performed adequately to identify the hazards present. Command and control of radiologically significant activities was executed in a manner that was safe and achieved the desired result.

6.0 Inspection of Remedial and Final Surveys at Permanently Shut-down Reactors (IP 83801)

6.1 Inspection Scope

The inspectors, with assistance from health physicists in the NRC's office of Nuclear Material Safety and Safeguards, continued assessing the licensee's abandonment and reconfiguration of three wastewater treatment lagoons into a wetland approved by the Wisconsin Department of Natural Resources. The licensee's survey plan and the inspectors independent survey were initially discussed in Inspection Reports 05000305/2019001 and 07200064/2019001 (ML20030A160).

6.2 Observations and Findings

As discussed in the reports mentioned above, the licensee developed a sampling plan to characterize the sediment in the lagoons and surrounding areas, and the NRC conducted their own independent radiological survey. During this inspection period, the licensee's and the NRC's independent results were reviewed and compared to one another. There were no remarkable radiological conditions identified in either the licensee's or the NRC's surveys.

Regarding the NRC's surveys, walk over scans of the lagoons were performed and 5 sediment samples were collected by the inspectors and sent for analysis to the U.S. Department of Energy Radiological and Environmental Sciences Laboratory (RESL) in Idaho. The inspectors did not identify any elevated readings during walkover scans and the soil samples did not indicate any elevated concentrations of radionuclides of concern. The analytical results of the soil samples collected by the inspectors is included in Attachment A. The inspectors received permission to release these results from RESL on December 29, 2020.

With respect to the licensee's surveys, the licensee proactively performed radiological surveys prior to reconfiguring the lagoons into a natural wetland to characterize the existing sediments. The inspectors note that there is not an NRC approved License Termination Plan nor is one currently required. As such, the licensee's surveys were not performed to satisfy the requirements of an established LTP.

No findings were identified.

6.3 Conclusions

The inspectors reviewed and compared the results of the licensee's and the NRC's independent surveys performed in support of reconfiguring three lagoons into a natural wetland. There were no remarkable radiological conditions identified in either the licensee's or the NRC's surveys.

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

7.1 Inspection Scope

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

- Audits and appraisals performed with respect to effluent and environmental monitoring;
- Changes made to the ODCM;
- Material condition and surveillance records associated with effluent radiation monitoring systems;
- Results submitted to the NRC in the annual Radioactive Effluent Release Report;
- Air sampling station material condition and whether maintained as required in the ODCM;
- Assessments performed in accordance with the voluntary Groundwater Protection Initiative;
- Records and procedures associated with 10 CFR 50.75(g); and
- Results of the licensee's inter-laboratory comparison program.

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

7.2 Observations and Findings

The inspectors noted during a review of past Annual Radiological Effluent Release Reports, no anomalous results, unexpected trends, or abnormal releases were identified. The environmental monitoring program indicated that doses to a member of the public were within the limits of 10 CFR Part 20 and Part 72 and there were no anomalous results indicated in aquatic, vegetation, or soil samples. For the inter-laboratory comparison results reviewed, the inspectors noted the program contained the appropriate radioisotopes for current plant conditions and it was performed as required.

No findings were identified.

7.3 Conclusions

The licensee controlled, monitored, and quantified releases of radioactive materials released to the environment to ensure offsite doses were within regulatory limits and ALARA.

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

8.1 Inspection Scope

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

- The licensee provided detailed instructions and operating procedures for transfer, packaging, and transport of low-level radioactive waste;
- The material was properly classified, described, packaged, marked, and labeled for transportation;
- The licensee used updated and audited procedures when scaling factors or correlation factors are used to quantify the concentration of hard-to-detect radionuclides; and
- Shipments made by the licensee complied with NRC and DOT regulations.

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

8.2 Observations and Findings

The inspectors reviewed the licensee's radioactive material shipment paperwork, procedures, surveys, and pictures. The shipment was properly surveyed, and the shipment was properly classified. The inspector reviewed the pictures that were provided and determined that the shipment was properly secured.

No findings were identified.

8.3 Conclusions

Radioactive materials were properly classified and secured as low-level waste. The licensee performed the appropriate survey in accordance with NRC and DOT regulatory requirements.

9.0 Exit Meeting

The inspectors presented the results of the inspection to Mr. B. McMahon and other members of the KPS staff at an onsite exit meeting on December 17, 2020. The licensee acknowledged the results presented and did not identify any of the information discussed as proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION
ATTACHMENT A: ANALYTICAL RESULTS

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

B. McMahon, Kewaunee Site Director
D. Shannon, Radiation Protection and Chemistry Manager
T. Olson, Nuclear Operations and Maintenance Manager
W. Zipp, Nuclear Engineering and Technical Support Manager

INSPECTION PROCEDURES (IPs) USED

IP 36801	Organization and Management Controls at Permanently Shut-down Reactors
IP 37801	Safety Reviews, Design Changes, and Modifications at Permanently Shutdown Reactors
IP 40801	Self-Assessment, Auditing, and Corrective Action at Permanently Shut-down Reactors
IP 71801	Decommissioning Performance and Status Reviews at Permanently Shutdown Plants
IP 83750	Occupational Radiation Exposure
IP 83801	Inspection of Remedial and Final Surveys at Permanently Shut-down Reactors
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

Opened	Type	Summary
None		

Closed	Type	Summary
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.

- 2019 Annual Radiological Environmental Operating Report; 05/11/2020
- 2019 Annual Radioactive Effluent Release Report; 03/05/2020
- AMS-4 S/N 6087-38; KPS Radiac Calibration Worksheet; 03/03/2020
- Audit 19-08; KPS Training/Qualifications, M&TE, Corrective Action & Independent Review, ISFSI TS & Fire Protection; 11/15/2019
- Audit 20-02; Emergency Preparedness; 04/28/2020
- CR-1997; Resin During Containment Inspection; 01/07/2020
- CR-2027; Sand and Gravel Collecting in Station Discharge Tunnel; 03/18/2020
- CR-2066; R-18 Counts Increased 1000 cpm post maintenance; 07/14/2020

- CR-2088; 50.59 Screening Issue with DCU#6 of Modification DC-KW-16-02020; 08/26/2020
- CR 2094; Missed ODCM DVR for Radioactive Gaseous Effluent Monitor; 09/02/2020
- CR 2113; Radiological Effluent Monitoring Actions During TAT-TST Outage; 09/24/2020
- DOM-QA-1; Nuclear Facility Quality Assurance Program Description; Revision 28
- Fire Protection Program Plan; Revision 18
- Industrial Safety Committee Meeting Minutes; November 10, 2020
- Kewaunee Power Station Instrument Calibration; October 15, 2020
- Kewaunee Power Stations Survey Instrument Response Check; August 4, 2020
- Kewaunee Power Station Decommissioning Funding Status Report; 03/26/2020
- Kewaunee Power Station Low Level Waste Shipping Paperwork; 12/14/2020
- Kewaunee Power Station Routine Weekly Survey for the Month of October 2020
- Kewaunee Power Station Monthly Contamination Surveys; 10/20/2020
- Kewaunee Power Station 3rd Quarter 2020 RadWaste Container Inspection Log
- OP-KW-OSP-FP-002; Fire Pump Test; Revision 7
- RP-KW-005-004; Effluent Monitoring and Sampling Requirements; Revision 18
- RP-KW-009-005; Radioactive Waste Storage and Inventory; Revision 0
- RP-KW-009-024; Inspection of Low-Level Radioactive Waste Packages in Storage; Revision 0
- RP-KW-009-031; Radioactive Material Shipping; Revision 1
- RP-KW-108; Radioactive Material Control; Revision 2
- RP-KW-109; Radiological Survey Program; Revision 0
- RP-KW-220; Radiological Survey Scheduling; Revision 0
- RP-KW-232; Radioactive Material Control; Revision 3
- RP-KW-503; Radiological Decommissioning Records - 10 CFR 50.75(g) Program; Revision 1
- RP-KW-HSP-290; Radioactive Gaseous Effluent Monitoring Instrumentation, Compensatory Actions for Channels Out of Service; Revision 0
- S/N 6606-032; Auxiliary Building Monthly Radiation Survey; 10/19/2020
- S/N 6087-38; KPS Auxiliary Building Vent Stack Sample Worksheet; 9/22/2020
- SA-KW-FPP-02; Completed Attachment A, Critical Building Fire Prevention Tour Sheet; 08/17/2020
- SA-KW-FPP-012; Fire Prevention Tour; Revision 2
- SAR 381; 2017 Groundwater Protection Program Self-Assessment; 12/20/2017
- Sample Plan# 2020-001; Heating Boiler Fuel Oil Tank Material Release Sample Plan; 05/21/2020
- Survey No. 2020/4; CTMT 592'; 01/07/2020
- Survey No. 2020/17; CTMT 592'; 06/01/2020
- TSD No. 19-084; Kewaunee Power Station Lagoon Closure Report; Revision 0
- WO RE306694; RMS Channel R-18 Waste Discharge Liquid Radiation Monitor Calibration; 02/27/2019

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
DEK	Dominion Energy Kewaunee
DNMS	Division of Nuclear Materials Safety
DOT	U.S. Department of Transportation
ECP	Employee Concerns Program
IP	Inspection Procedure
IR	Inspection Report
ISFSI	Independent Spent Fuel Storage Installation
KPS	Kewaunee Power Station
NRC	U.S. Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PSDAR	Post Shutdown Activities Report
RESL	Radiological and Environmental Sciences Laboratory
RP	Radiation Protection
RWP	Radiation Work Permit
SAFSTOR	Safe Storage
TS	Technical Specification
USAR	Updated Safety Analysis Report

U. S. Department of Energy – Idaho Operations Office
RADIOLOGICAL AND ENVIRONMENTAL SCIENCES LABORATORY
2251 North Boulevard, MS 2112 | Idaho Falls, ID 83415

CONFIRMATORY MEASUREMENT REPORT

FOR

U.S. NUCLEAR REGULATORY COMMISSION

11545 Rockville Pike, MS T-5 A10

Rockville, Maryland 20852

The results listed in this report are only applicable to the aliquot(s) taken from the sample(s) as received.

The sample information is logged into the sample analysis database as received. RESL is not responsible for the validity of the data provided by the customer.

The sample(s) are analyzed in the same condition as received. RESL assumes no responsibility for the sampling, handling, preservation, or transportation of samples provided for analyses.

All analytical radiochemistry was performed at RESL facilities by qualified personnel using current validated technical procedures that are directly applicable to the specific analyses.

Any additions to, deviations, or exclusions from the procedure or process are noted as such in the report.

Each analytical result is accompanied by its total propagated uncertainty expressed at one standard deviation.

All results that do not pass through zero when their standard deviation is multiplied by two and then added and subtracted to the result are considered statistically positive at the 95% confidence interval.

This report is authorized by the RESL Senior Technical Manager for Chemistry (STM-C). Information regarding the technical aspects of this report may be obtained from Mr. David S. Sill, STM-C at: sillds@id.doe.gov or 208-526-8031.

RESL Radiological & Environmental Sciences Laboratory

Approved By: David S. Sill

David S. Sill, STM-C
DOE-ID, RESL

Department of Energy
Radiological & Environmental Sciences Laboratory
NUCLEAR REGULATORY COMMISSION

Date: 8/8/2019

Sample ID: KW-19-1-01	**Matrix: Soil**	**Site Name: Kewaunee**	**Contact: Bill Lin**
		Nuclide	**Results**
		Am-241/Pu-238	3 +/- 2 E-3 pCi/g
		Co-60	-1 +/- 3 E-3 pCi/g
		Cs-137	-4 +/- 4 E-3 pCi/g
		Pu-239	2.8 +/- 0.7 E-2 pCi/g
		U-234	1.05 +/- 0.16 E-1 pCi/g
		U-238	1.5 +/- 0.2 E-1 pCi/g
Sample ID: KW-19-2-02	**Matrix: Soil**	**Site Name: Kewaunee**	**Contact: Bill Lin**
		Nuclide	**Results**
		Am-241/Pu-238	3 +/- 2 E-3 pCi/g
		Co-60	-2 +/- 4 E-3 pCi/g
		Cs-137	3.7 +/- 0.5 E-2 pCi/g
		Pu-239	1.3 +/- 0.4 E-2 pCi/g
		U-234	6.7 +/- 0.7 E-2 pCi/g
		U-238	9.1 +/- 0.9 E-2 pCi/g
Sample ID: KW-19-2-03	**Matrix: Soil**	**Site Name: Kewaunee**	**Contact: Bill Lin**
		Nuclide	**Results**
		Am-241/Pu-238	1.4 +/- 1.0 E-3 pCi/g
		Co-60	6 +/- 3 E-3 pCi/g
		Cs-137	5.0 +/- 0.6 E-2 pCi/g
		Pu-239	1.3 +/- 0.4 E-2 pCi/g

Samples Approved by: Daniel S. [illegible]

ACTIVITIES ARE AS OF: 08/06/2019 UNCERTAINTIES ARE ONE SIGMA

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Department of Energy
Radiological & Environmental Sciences Laboratory
NUCLEAR REGULATORY COMMISSION

Date: 8/8/2019

Sample ID: KW-19-2-03		U-234	6.9 +/- 0.7 E-2 pCi/g
		U-238	1.01 +/- 0.10 E-1 pCi/g
Sample ID: KW-19-3-04	**Matrix: Soil**	**Site Name: Kewaunee**	**Contact: Bill Lin**
		Nuclide	**Results**
		Am-241/Pu-238	4 +/- 3 E-3 pCi/g
		Co-60	8 +/- 3 E-3 pCi/g
		Cs-137	2.4 +/- 0.4 E-2 pCi/g
		Pu-239	3 +/- 2 E-3 pCi/g
		U-234	1.12 +/- 0.11 E-1 pCi/g
		U-238	1.24 +/- 0.12 E-1 pCi/g
Sample ID: KW-19-4-05	**Matrix: Soil**	**Site Name: Kewaunee**	**Contact: Bill Lin**
		Nuclide	**Results**
		Am-241/Pu-238	1.4 +/- 1.0 E-3 pCi/g
		Co-60	1.4 +/- 0.3 E-2 pCi/g
		Cs-137	3.8 +/- 1.2 E-2 pCi/g
		Pu-239	4 +/- 3 E-3 pCi/g
		U-234	5.6 +/- 0.6 E-2 pCi/g
		U-238	7.8 +/- 0.8 E-2 pCi/g

Samples Approved by: David S. [illegible]

ACTIVITIES ARE AS OF: 08/06/2019 UNCERTAINTIES ARE ONE SIGMA

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