



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

July 19, 2023

Mike Mlynarek
Site Vice President
Holtec Decommissioning
International, LLC
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

**SUBJECT: NRC INSPECTION REPORT NO. 05000255/2023002(DRSS)-HOLTEC
DECOMMISSIONING INTERNATIONAL, LLC, PALISADES NUCLEAR PLANT**

Dear Mike Mlynarek:

On June 22, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed onsite inspection activities for May through June 2023, at the permanently shut-down Palisades Nuclear Plant in Covert, Michigan. 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 you and other members of your staff on June 22, 2023.

During the inspection period, the NRC inspectors reviewed the following aspects of onsite activities: safety reviews, design changes and modifications; spent fuel pool safety; decommissioning performance; 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, and interviews with personnel.

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

M. Mlynarek

2

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* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

David E. Hills

Signed by Hills, David
on 07/19/23

David E. Hills, Chief
Decommissioning, Reactor, and ISFSI HP Branch
Division of Radiological Safety and Security

Docket No: 50-255
License No: DPR-20

Enclosure:
IR Nos. 05000255/2023002 (DRSS)

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Letter to M. Mlynarek from D. Hills dated July 19, 2023.

SUBJECT: NRC INSPECTION REPORT NO. 05000255/2023002(DRSS)-HOLTEC
DECOMMISSIONING INTERNATIONAL, LLC, PALISADES NUCLEAR PLANT

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

Docket No: 50- 0255; 72-007

License No: DPR-20

Report No: 05000255/ 2023002(DRSS)

Enterprise Identifier: I-2023-002-0070

Licensee: Holtec Decommissioning International, LLC

Facility: Palisades Nuclear Plant

Location: Covert, Michigan

Dates: May 15, 2023, to June 22, 2023

Inspectors: V. Myers, Senior Health Physicist
G. Flanders, Senior Health Physicist

Approved by: David E. Hills, Chief
Decommissioning, Reactor, and ISFSI HP Branch
Division of Radiological Safety and Security

Enclosure

EXECUTIVE SUMMARY

Palisades Nuclear Plant

NRC Inspection Report Nos. 05000255/2023002(DRSS)

The Palisades Nuclear Plant is a permanently shut-down and defueled power reactor. This periodic safety inspection reviewed licensed activities associated with safety reviews, design changes and modifications; spent fuel pool safety; decommissioning performance; radioactive waste treatment, effluent, and environmental monitoring; and waste management and transportation.

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 10 CFR 50.59 and its safety review process.

Spent Fuel Pool Maintenance, Surveillance, and Safety

- The inspectors determined that the licensee safely stored spent fuel in the Spent Fuel Pool (SFP). SFP equipment, instrumentation, alarms, leak detection, and power supplies were available and consistent with requirements.

Decommissioning Performance and Status Review

- The inspectors determined that decommissioning activities were in accordance with the regulations and license requirements. Decommissioning staffing, qualifications, and training were appropriate to the requirements and current decommissioning status. The material condition of structures, systems and components supported the safe storage of spent fuel and conduct of safe decommissioning.

Solid Radioactive Waste Management and Transportation of Radioactive Materials

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

Report Details

Summary of Plant Activities

During this inspection period, the licensee continued activities associated with Period 2 of the Post Shutdown Decommissioning Activities Report (PSDAR). No major decommissioning activities occurred during the inspection period.

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

1.1 Inspection Scope

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

- Whether the licensee's safety review process and procedures identified potential changes to Technical Specification (TS) resulting from proposed changes, tests, experiments, or modifications;
- Changes to design basis documentation were updated consistent with design changes;
- Design changes or modifications were effectively evaluated to maintain safety; and
- Maintenance and/or work activities appropriately considered whether the activity resulted in a change or modification and were assessed in accordance with 10 CFR 50.59.

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

1.2 Observations and Findings

The inspectors reviewed modifications made to the service water pump logic implemented post-shutdown due to decreased heat loading on the system. This included walk-downs of the service water system, review of the licensee's safety evaluation for the modification, and review of testing performed after the modification was completed.

No findings were identified.

1.3 Conclusions

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

2.0 Spent Fuel Pool Maintenance, Surveillance, and Safety at Permanently Shutdown Reactors (IP 60801)

2.1 Inspection Scope

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

- Requirements to prevent a reduction in SFP inventory, and maintenance and surveillance activities of SFP instrumentation, alarms, leak detection, and collection systems were adequate to assure the safe storage of spent fuel;
- SFP chemistry and cleanliness controls maintained water purity standards;
- Fuel assemblies were stored consistent with nuclear criticality safety analyses and requirements;
- SFP cooling, cleanup, and power supplies were lined up consistent with the decommissioning strategy;
- Fuel movements;
- Structures, systems, and components were appropriately scoped in and maintenance or condition problems were adequately addressed consistent with 10 CFR 50.65; and
- Risk was appropriately managed for proposed maintenance activities.

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

2.2 Observations and Findings

The inspectors performed walkdowns of the control room, SFP area, SFP cooling components, component cooling water system, and service water system. The inspectors also reviewed records associated with TS requirements related to SFP boron concentration, level control, and fuel storage requirements. A review of calibration records for area radiation monitors was performed. In addition, the inspectors assessed implementation of the maintenance rule program for systems and components related to the safe storage of spent fuel.

No findings were identified.

2.3 Conclusions

The inspectors determined that the licensee safely stored spent fuel in the SFP. SFP equipment, instrumentation, alarms, leak detection, and power supplies were available and consistent with requirements.

3.0 Decommissioning Performance and Status Review (IP 71801)

3.1 Inspection Scope

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

- Whether maintenance was conducted at an appropriate frequency;
- Updates to the Defueled Safety Analysis Report (DSAR) were made consistent with 10 CFR 50.71
- Commitments and requirements in the TSs, PSDAR, ODCM, or Emergency Plan were effective and being met; and
- Appropriate administrative and/or engineering controls were identified and implemented in work plans.

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

3.2 Observations and Findings

The inspectors attended numerous daily status briefings and received periodic updates from site management on current activities being performed. The inspectors assessed maintenance frequencies related to systems and programs for the SFP and solid radioactive waste management and transportation programs and verified that regulatory requirements had been met. Changes to these areas were verified to be updated accordingly in the DSAR. In addition, the training, and qualifications for personnel responsible for shipping radioactive material was reviewed.

No findings were identified.

3.3 Conclusions

The inspectors determined that decommissioning activities were in accordance with the regulations and license requirements. Decommissioning staffing, qualifications, and training were appropriate to the requirements and current decommissioning status. The material condition of structures, systems and components supported the safe storage of spent fuel and conduct of safe decommissioning.

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 were appropriately controlled, labelled, posted and secured against unauthorized removal;
- Containers of radioactive material were inventoried, and their material condition was monitored;
- Implementation of the 10 CFR Part 37 security plan;

- Sealed sources are accounted for and were appropriately leak tested;
- Waste processing systems were configured and operated consistent with the DSAR, ODCM, and Process Control Program;
- 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;
- Changes in organization, personnel, facilities, equipment, programs, and procedures affecting waste management and transportation of radioactive materials;
- 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

The inspectors walked down radioactive material storage areas on May 16-17, 2023. 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 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 Mike Mlynarek and other members of the Palisades Nuclear Plant staff at an exit meeting on June 22, 2023. 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

M. Mlynarek, Site Vice President
N. DeMaster, Decommissioning Director
M. Schultheis, Licensing Manager
M. Bailey, Operations Director
G. Wright, Radiation Protection Manager
J. Miksa, Senior Staff Licensing Engineer

INSPECTION PROCEDURES (IPs) USED

IP 37801 Safety Reviews, Design Changes, and Modifications at Permanently Shutdown Reactors
IP 60801 Spent Fuel Pool Safety at Permanently Shutdown Reactors
IP 71801 Decommissioning Performance and Status Reviews at Permanently Shutdown Plants
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>
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None

<u>Closed</u>	<u>Type</u>	<u>Summary</u>
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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.

- PWR Standard Fuel Movement Form, 2023-001 Zirc Fire Configuration; 01/20/2023
- EN-RE-220; Control of Non-Fuel Materials; Rev 006
- Non-Fuel Materials Tracking Spreadsheet
- Non-Fuel Materials Inventory Data Sheet; Various Dates
- NET-28086-000-01; Criticality Safety Analysis for the Palisades Spent Fuel Pool with Region 2 Empty Cells Credit; Revision 0
- 2022-RM-008; Radioactive Material Shipment; 11/29/2022
- 2022-RM-039; Radioactive Material Shipment; 06/23/2022
- 2023-RW-001; Radioactive Waste Shipment; 01/31/2023

- WO50084608; Semi-Annual Sealed Source Leak Test; 01/09/2023
- WO500085960; Radioactive Material Packaging Inspection; 03/22/2023
- WO50084263; DWC-11D Boron Sample from Spent Fuel Pool; November 2022
- EN-RW-102; Radioactive Shipping Procedure; Revision 19
- EN-RW-104; Scaling Factors; Revision 14
- EN-RP-121; Radioactive Material Control; Revision 18
- Palisades Maintenance Rule Performance Indicators; 07/09/2022
- CDECP-PLP-0004; Modify Pump Start Logic for Standby Service Water Pumps; 01/23/2023
- MOD-SWP-LOGIC; Modify and Test Service Water Pump Standby Pump Auto Start Logic; 02/07/2023
- EM-04-29; Guidelines For Preparing Fuel Movement Plans; Revision 24
- 2023-001 Zirc Fire Configuration; Standard Fuel Movement Forms; 01/20/2023
- WO8880000; DWO-3 Operator's Daily/Weekly Items Permanently Defueled; 03/16/2023
- SOP-27; Fuel Pool System; Revision 76
- AOP-26; Loss of Spent Fuel Pool Cooling; Revision 5
- WO50084460; RI-86B-9 Calibration; 08/23/2022
- WO52960091; RI86A-13 Calibration; 08/17/2022
- WO52977992; P-51A Pump Bearing Oil Change; 03/06/2023
- IR PAL-01199; Special Nuclear Material Forms Not Timely Updated; 06/19/2023
- IR PAL-01200; Surveillance Capsule A-60 Extension Rod Assy Remains At Site; 06/14/2023
- IR PAL-01201; Fragment of Surveillance Capsule A-60 Wedge Assembly In SFP; 06/19/2023

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DSAR	Defueled Safety Analysis Report
DRSS	Division of Radiological Safety and Security
IP	Inspection Procedure
IR	Inspection Report
NRC	U.S. Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PSDAR	Post Shutdown Activities Report
SFP	Spent Fuel Pool
TS	Technical Specification