



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION I
475 ALLENDALE ROAD, SUITE 102
KING OF PRUSSIA, PA 19406-1415

September 19, 2023

Daniel G. Stoddard
Senior Vice President and Chief
Nuclear Officer Dominion Energy, Inc.
Innsbrook Technical Center 5000 Dominion Blvd.
Glenn Allen, VA 23060-6711

SUBJECT: MILLSTONE POWER STATION, UNIT 1 – SAFSTOR INSPECTION
REPORT 05000245/2023001

Dear Daniel Stoddard:

On August 24, 2023, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection under Inspection Manual Chapter 2561, "Decommissioning Power Reactor Inspection Program," at the permanently shutdown Millstone Power Station, Unit 1 (MS-1). The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and the conditions of your license. The inspection consisted of observations by the inspectors, interviews with site personnel, a review of procedures and records, and plant walk-downs. The results of the inspection were discussed with Guy Blackburn, Plant Manager, and other members of your staff on August 24, 2023, and are described in the enclosed report.

Within the scope of this inspection, no violations of more than minor safety significance were identified.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the NRC Agencywide Document 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 any, should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Current NRC regulations and guidance are included on the NRC's website at www.nrc.gov; select **Radioactive Waste; Decommissioning of Nuclear Facilities**; then **Regulations, Guidance and Communications**. The current Enforcement Policy is included on the NRC's website at www.nrc.gov; select **About NRC, Organizations & Functions; Office of Enforcement; Enforcement documents**; then **Enforcement Policy** (Under 'Related Information'). You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 8:00 a.m. to 5:30 p.m. EST, Monday through Friday (except Federal holidays).

D. Stoddard

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No reply to this letter is required. Please contact Orysia Masnyk Bailey of my staff at 864-427-1032 if you have any questions regarding this matter.

Sincerely,

Anthony Dimitriadis, Chief
Decommissioning, ISFSI, and Reactor Health
Physics Branch
Division of Radiological Safety and Security

Docket No: 05000245

License No: DPR-21

Enclosure: Inspection Report No. 05000245/2023001
w/ Attachment

cc w/encl: Distribution via ListServ

SUBJECT: MILLSTONE POWER STATION, UNIT 1 – SAFSTOR INSPECTION
REPORT 05000245/2023001 DATED SEPTEMBER 19, 2023

SUNSI Review Complete: OMasnykBailey

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OFFICE	DRSS/RI	N	DRSS/RI	N	DRSS/RI	
NAME	OMasnyk-Bailey/omb		NEckhoff/ne		ADimitriadis/ad	
DATE	09/15/2023		09/15/2023		09/19/2023	

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection Report No. 05000245/2023001

Docket No.: 050-00245

License No.: DPR-21

Inspection No.: 05000245/2023001

Licensee: Dominion Energy, Inc.

Facility: Millstone Power Station, Unit 1

Location: Waterford, Connecticut

Inspection Dates: August 22-24, 2023

Inspectors: Orysia Masnyk Bailey, Health Physicist
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Radiological Safety and Security

Nicholas Eckhoff, Health Physicist
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Radiological Safety and Security

Approved By: Anthony Dimitriadis, Chief
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Radiological Safety and Security

Enclosure

EXECUTIVE SUMMARY

Dominion Energy, Inc.
Millstone Power Station, Unit 1
NRC Inspection Report No. 5000245/2023001

A routine, announced SAFSTOR safety inspection was completed on August 24, 2023, at the permanently shut down Millstone Power Station, Unit 1 (MS-1). The inspection included a review of activities related to the safe storage of radioactive material, including site operations, engineering, maintenance, plant support activities, management oversight, site radiological programs, and corrective action program (CAP) implementation. The inspection consisted of observations by the inspectors, interviews with site personnel, a review of procedures and records, and plant walk-downs. At the time of the inspection, no ongoing decommissioning activities were being conducted at MS-1. The U.S. Nuclear Regulatory Commission's (NRC's) program for overseeing the safe storage (SAFSTOR) of a shutdown nuclear power reactor is described in Inspection Manual Chapter (IMC) 2561, "Decommissioning Power Reactor Inspection Program."

Based on the results of this inspection, no violations of more than minor safety significance were identified.

REPORT DETAILS

1.0 Background

MS-1 went into commercial operation on December 28, 1970, and permanently ceased operation on July 17, 1998. Subsequently, the fuel was permanently removed from the reactor vessel and is currently stored in the spent fuel pool. MS-1 is in safe storage (SAFSTOR), and Dominion Energy, Inc. (Dominion) plans to actively decommission MS-1 in the future, possibly in parallel with the decommissioning of the operational units after they have been permanently shut down. Operations and radiation protection and chemistry personnel from Millstone Power Station Unit 2 (MS-2) provide routine support functions to MS-1.

The NRC's program for overseeing the safe storage of a shutdown nuclear power reactor is described in IMC 2561.

2.0 SAFSTOR Performance and Status Review

- a. Inspection Scope (Inspection Procedures 37801, 40801, 60801, 64704, 71801, 83750, 84750, 86750)

A routine announced safety inspection was conducted August 22-24, 2023, at Unit 1. The inspection consisted of observations by the inspectors, interviews with site personnel, a review of procedures and records, and plant walk-downs. The inspectors reviewed the SAFSTOR program as outlined in the defueled safety analysis report and technical specifications and assessed the adequacy of management oversight of SAFSTOR responsibilities for the MS-1 facility.

Specifically, the inspectors reviewed documentation of the decommissioning management and staff organization and Dominion's implementation of SAFSTOR activities related to safe storage of radioactive material. The inspectors also conducted walk-downs to assess the material condition of the MS-1 facility including the reactor building, fuel handling floor, and turbine building and discussed any design changes or modifications since the previous inspection, conducted in 2022.

The inspectors reviewed MS-1's program for the safe wet storage of spent fuel. The inspectors performed a walk-down of the spent fuel pool and associated support systems to assess material condition, configuration control, and system operation. Additionally, the inspectors reviewed the associated water chemistry analytical data and examined the controls and indications relevant to MS-1 that are available to operators in the MS-2 control room.

The inspectors reviewed activities, components, and documentation associated with the following SAFSTOR programs: occupational exposure, fire protection, radioactive effluent control, site radiological environmental monitoring program (REMP), maintenance, surveillance, decommissioning organization, and staffing. The inspectors reviewed records of radiological surveys, the annual REMP report, the annual effluent release report, and MS-1 firefighting strategies and procedures.

The inspectors reviewed Dominion fleet audit reports and CAP documents associated with MS-1 to determine if issues had been appropriately identified, assessed, and reviewed, and that corrective actions had been appropriately implemented.

b. Observations and Findings

The inspectors verified that the SAFSTOR program was effectively implemented. The inspectors verified that the maintenance and surveillance program for systems and components had been conducted in accordance with the technical specification requirements and established procedures. The inspectors also confirmed that no dismantlement or decommissioning activities were performed since the previous inspection. The inspectors determined that MS-1 was safely storing spent fuel in wet storage.

The inspectors noted that there were no temporary or permanent modifications to the site since the last SAFSTOR inspection performed in calendar year 2022. The inspectors reviewed information relevant to the status of the decommissioning trust fund and its expenditures, as provided by Dominion during the inspection period, with no concerns identified.

As previously indicated, MS-2 operations staff support maintenance activities at MS-1. The inspectors reviewed MS-1's firefighting strategies and noted that the fire brigade staffed from MS-2 and MS-3's operations would respond in the event of a fire at MS-1. Fire drills were routinely performed at MS-1 and staff had completed familiarization activities in MS-1 during training. The inspectors noted that MS-2 health physics supported maintenance work at MS-1 by performing surveys, providing radiation protection coverage for any emerging work, and providing radiation protection briefings as necessary.

The annual radiological effluent and the annual REMP reports demonstrated that all calculated doses were below regulatory dose criteria outlined in 10 CFR 50, Appendix I, "Numerical Guides for Design Objectives and Limiting Conditions for Operation to Meet the Criterion 'As Low as is Reasonably Achievable' for Radioactive Material in Light- Water-Cooled Nuclear Power Reactor Effluents." The inspectors noted that MS-1 had one shipment of Class A dry active waste for offsite disposal (Energy Solutions) since the last inspection. Additionally, the inspectors discussed shipping requirements and processes with site staff to gain an understanding of the site's experience and expertise on shipping radwaste.

Findings or issues identified from audits, plant equipment operator rounds, and staff observations had been entered into the CAP. Site staff effectively addressed identified issues, implemented corrective actions, and tracked them to closure. Condition reports and corrective actions appeared to be prioritized and evaluated commensurate with their safety significance.

c. Conclusions

No violations of more than minor safety significance were identified.

3.0 Exit Meeting Summary

On August 24, 2023, the inspectors presented the inspection results to Guy Blackburn, Plant Manager, and other members of the Millstone Power Station staff who acknowledged the inspection results. No proprietary information was retained by the inspectors or documented in this report.

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Millstone Power Station Personnel

G. Blackburn, Plant Manager
L. Armstrong, Director, Safety & Licensing
G. Baker, Unit 2 OPS Shift Manager
D. Beachy, Supervisor Licensing
C. Dix, Radiation Material Control Supervisor
D. Edwards, Assistant Plant Manager
T. Gardner, Unit 1 Equipment Operator
B. McCollum, Engineering Technical Specialist III
D. Rowe, Manager, Emergency Preparedness & Licensing
J. Rowland, Licensing Lead, Engineering Technical Specialist II
M. Sweet, Superintendent, Health Physics Operations
C. Wooten, Manager, Radiological Protection & Chemistry
M. Wynn, Superintendent, Health Physics Technical Services
J. Zummo, Supervisor, Exposure Control & Instrumentation

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Condition Reports

1217145	1221108	1233124
1218399	1228090	1233125
1221105	1228122	

Miscellaneous

2023 SFP Chemistry Samples and Analysis
2023 Unit 1 Radiological Surveys
2023 Annual Radioactive Effluent Release Report
2023 Annual Radiological Environmental Operating Report
2023 Waste Shipment Records
DOM-QA-1, Nuclear Facility Quality Assurance Program Description, Rev. 35
MPG-22-01092, Rev. 3, Upgrades on Unit 1 & 2 Turbine Bldg. Cranes (M1TBC-1 & M2H11)
Millstone Power Station Unit 1 Decommissioning Funding Status Report, March 2023
Millstone Power Station Unit 1 Defueled Safety Analysis Report, Rev. 18
Millstone Power Station Unit 1 Defueled Technical Requirements Manual Millstone
Power Station Unit 1 Defueled Technical Specifications
5 Year -B4C Blackness Testing
Millstone Unit 1, Fire Hazards Analysis, Rev. 6
MP-PROC-OPS-SF9-001 Technical Procedure Approval, Unit 1 Fire Extinguisher Inspection
OP 312K, Sample Tank Radioactive Liquid Discharge Surveillance, Dated 12/1/17
SP 608AA, Backup Diesel Generator Loaded Run Surveillance, dated 3/28/2012
SP 682.2, Oil Separator Pit Inspection Surveillance, dated 6/1/2016
SP 2669B, Unit 1 Cold and Dark Area Inspections, dated 4/26/2012
SP1054A Spent Fuel Rack Surveillance Program Boron Carbide Plate

Topical Report DOM-QA-1, Dominion Energy Nuclear Facility Quarterly Assurance Description, R 35
SP 2669B, Unit 1 Operator Logs and Inspections

Procedures

CM-AA-FPA-101, Control of Combustible and Flammable Materials, Rev. 16
CM-AA-FPA-102, Fire Protection and Fire Safe Shutdown Review and Preparation Process and Design Change Process, Rev. 11
CM-AA-FPA-100, Fire Protection/Appendix R (Fire Safe Shutdown) Program, Rev. 20
ETE-MP-2021-1035, Fire Protection Program Manual
MP-22-REC-BAP01, Radiological Effluent Monitoring and Offsite Dose Calculation Manual, Rev. 32
SP 419 Spent Fuel Pool Island Instrumentation Calibration, Rev.1

Work Orders

53102445515
53203335978
53102937089
53203308279
53203314032
53203368837

LIST OF ACRONYMS USED

ADAMS	Agencywide Document and Management System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
Dominion	Dominion Energy, Inc.
GPO	Government Printing Office
IMC	Inspection Manual Chapter
MS-1	Millstone Power Station Unit 1
MS-2	Millstone Power Station Unit 2
NRC	U.S. Nuclear Regulatory Commission
REMP	Radiological Environmental Monitoring Program