



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

September 3, 2015

Docket No. 05000245

License No. DPR-21

David A. Heacock
President and Chief Nuclear Officer
Dominion Resources
5000 Dominion Blvd.
Glen Allen, VA 23060-6711

SUBJECT: DOMINION NUCLEAR CONNECTICUT, INC., MILLSTONE POWER STATION
UNIT 1 - NRC INSPECTION REPORT NO. 05000245/2015011

Dear Mr. Heacock:

On August 11 - 13, 2015, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Millstone Power Station Unit 1 (MS-1). In-office reviews of information supplied by Dominion Nuclear Connecticut, Inc. (Dominion) were conducted between August 14 - 20, 2015. 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 personnel, and a review of procedures and records. The results of the inspection were discussed with Dominion management and staff at the conclusion of the onsite inspection activities on August 13, 2015 and in a telephone exit meeting with Thomas Cleary, Acting Licensing Manager, on September 2, 2015. The inspection results are described in the enclosed report. No findings of safety significance were identified.

Current NRC regulations and guidance are included on the NRC's website at www.nrc.gov; select **Nuclear Materials; Med, Ind, & Academic Uses**; 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. Heacock

2

No reply to this letter is required. Please contact Mark Roberts at (610-337-5094) if you have any questions regarding this matter.

Sincerely,

/RA/

Marc S. Ferdas, Chief
Decommissioning and Technical
Support Branch
Division of Nuclear Materials Safety

Enclosure: Inspection Report No. 05000245/2015011

cc: w/encl: Distribution via ListServ

D. Heacock

2

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 05000245/2015011

Docket No. 05000245

License No. DPR-21

Licensee: Dominion Nuclear Connecticut, Inc. (Dominion)

Facility: Millstone Power Station, Unit 1 (MS-1)

Location: Rope Ferry Road
Waterford, CT 06385

Inspection Dates: August 11 - 13, 2015 (on-site)
August 14 - 20, 2015 (in-office)
September 2, 2015 (exit meeting)

Inspectors: Mark C. Roberts, Senior Health Physicist
Decommissioning and Technical
Support Branch
Division of Nuclear Materials Safety

Ted H. Carter, Senior Project Manager
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery,
and Waste Management Programs
Office of Nuclear Material Safety and Safeguards (NMSS)

Approved By: Marc S. Ferdas, Chief
Decommissioning and Technical
Support Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Dominion Nuclear Connecticut, Inc.
Millstone Power Station Unit 1
NRC Inspection Report No. 05000245/2015011

An announced safety inspection was conducted on August 11 - 13, 2015 at MS-1. The inspectors also conducted in-office reviews of information supplied by Dominion between August 14 - 20, 2015. The inspectors reviewed MS-1's activities related to the safe storage of radioactive material, including site operations, engineering, maintenance, plant support activities, management oversight, and corrective action program (CAP) implementation. The inspection consisted of observations by the inspectors, interviews with Dominion personnel, a review of procedures and records, and plant walk-downs. There are currently no ongoing decommissioning activities being conducted at MS-1. The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in Inspection Manual Chapter (IMC) 2561, "Decommissioning Power Reactor Inspection Program." Based on the results of this inspection, no findings of safety significance were identified.

REPORT DETAILS

1.0 Background

MS-1 is located in the town of Waterford, Connecticut. MS-1 was a single cycle, boiling water reactor with a thermal output of 2011 megawatts and a net electrical output of 652 megawatts. The plant went into commercial operation on December 28, 1970, and permanently ceased operations on July 17, 1998. Subsequently, the fuel was permanently removed from the reactor vessel and is currently stored in the spent fuel pool (SFP). MS-1 is in SAFSTOR and Dominion plans to actively decommission MS-1 in parallel with the decommissioning of the operational units after they have been permanently shut down. Operations and radiation protection/chemistry personnel from Millstone Unit-2 (MS-2) provide routine support functions to MS-1.

2.0 Safe Storage (SAFSTOR) Performance and Status Review

- a. Inspection Scope (Inspection Procedures (IPs) 36801, 37801, 40801, 60801, 62801, 64704, 71801, 83750, 84750, 86750)

An announced safety inspection was conducted on August 11 – 13, 2015. In addition, the inspectors conducted in-office reviews from August 14 - 20, 2015, of information supplied by Dominion. The inspection consisted of observations by the inspectors, interviews with Dominion personnel, a review of procedures and records, and plant walk-downs. The NRC's program for overseeing the safe operation of a shut-down nuclear power reactor is described in IMC 2561.

The inspectors reviewed the SAFSTOR program as outlined in the Defueled Safety Analysis Report (DSAR), Technical Specifications (TS), and Technical Requirements Manual (TRM) and assessed the adequacy of management oversight of SAFSTOR responsibilities for the MS-1 facility. Specifically, the inspectors reviewed the decommissioning management and staff organization and Dominion's implementation of SAFSTOR activities related to safe storage of radioactive material. The inspectors discussed any design changes or modifications since the previous inspection and reviewed the material condition of MS-1 during plant tours of the reactor building, the fuel handling floor, and balance of plant.

The inspectors reviewed MS-1's program for the safe wet storage of spent fuel. The inspectors performed walk-downs of the SFP and associated support systems to assess material condition, configuration control, and system operation.

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), and decommissioning organization and staffing. The inspectors reviewed radiological survey reports, radioactive liquid effluent release permits, the annual REMP report, the annual effluent release report, which included a summary of the radioactive waste management and transportation programs, and work orders for maintenance on radiation monitoring system components.

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

b. Observations and Findings

The inspectors confirmed that the SAFSTOR program was being effectively implemented. The inspectors verified that the maintenance and surveillance program for systems and components had been conducted in accordance with the TS and TRM requirements and established procedures. The inspectors noted that no significant water intrusion was evident and the material condition of components had not substantially changed in the reactor building and the fuel handling floor since the previous inspection. The inspectors also confirmed that no dismantlement or decommissioning activities were performed since the previous inspection. The inspectors noted that progress was being made on the project to replace the MS-1 transformer and that upgrades to exterior temperature indications for decay heat removal components were in the planning stage.

The inspectors determined that MS-1 was safely storing spent fuel in wet storage. The inspectors also reviewed MS-1's response to a brief weather-related loss of offsite power event on August 4, 2015, that caused a short duration interruption in the operation of the decay heat removal equipment for the SFP. Equipment that was intended to automatically re-start once the electric fault was cleared performed as required. The SFP cooling pump was manually restarted within procedural requirements, which returned the decay heat removal equipment to full operation. Operations personnel appropriately monitored SFP temperature and the SFP temperature rose 0.3 degrees to 95.6 degrees F, well below the TRM limit of 140 degrees F and the operating system Alarm Point of 125 degrees F. The back-up diesel generator (manual start required) was available, but was not required to be operated.

The annual radiological effluent and the annual REMP reports demonstrated that all calculated doses were below regulatory dose criteria of 10 Code of Federal Regulations (CFR) 50, Appendix I. The inspectors noted that Dominion did not have any radioactive waste that was shipped for offsite disposal since the last inspection.

Findings or issues identified from audits were entered into the CAP. Dominion effectively addressed identified issues, implemented corrective actions, and tracked them to closure. Condition Reports (CRs) appeared to be prioritized and evaluated commensurate with their safety significance.

c. Conclusions

Based on the results of this inspection, no findings of safety significance were identified.

3.0 Exit Meeting Summary

The results of the inspection were discussed with Dominion management and staff at the conclusion of the onsite inspection activities on August 13, 2015 and in a telephone exit meeting with Thomas Cleary, Acting Licensing Manager, on September 2, 2015. The inspectors confirmed that any copies of proprietary information were not removed from the site.

PARTIAL LIST OF PERSONS CONTACTEDLicensee

F. Altvater	Health Physics Technician
D. Blakeney	Director, Nuclear Safety and Licensing
B. Bowen	Radiation Protection Supervisor
T. Cleary	Supervisor, Nuclear Licensing (Acting)
J. Daugherty	Site Vice President
J. Drzewianowski	Health Physics Technician
L. Salyards	Lead Licensing Engineer
G. Sturgeon	Operations Nuclear Specialist MS-1
J. Wadsworth	Plant Equipment Operator

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Defueled Safety Analysis Report
 Millstone Power Station Unit 1 Permanently Defueled Technical Specifications (TS)
 Millstone Unit 1 Defueled Technical Requirements Manual
 2014 Radioactive Effluent Release Report and Off-Site Dose Calculation Manual (REMODCM),
 April 26, 2015
 2014 Annual Radiological Environmental Operating Report, April 26, 2015
 Audit 14-11; Maintenance, February 12, 2015
 Audit 14-06; Radiation Protection/Process Control Program/Chemistry, August, 25, 2014
 Audit 14-05: Fire Protection, 8/5/2014
 Audit 14-04, Design Controls, Engineering Programs, and Surry Refueling, 7/1/2014
 Millstone Unit 1 Maintenance and Surveillance Testing Work Order Summary (2014-2015)
 Radiation Work Permit (RWP) 1150001 – Nuclear Safety & Licensing Millstone Unit 1, Task 5,
 External Oversight
 MS-1 Radiation Surveys conducted between December 2014 and July 2015
 MS-1 Weekly Exposure Goal and Tracking Report – 2015 (current through week of 8/9/2015)
 Millstone 1 Exposure Reports, 2014 and 2015 (through August)
 Work Orders for Routine and Preventive work on Unit 1 Radiation Monitors
 Millstone -1 2014-2015 Liquid Waste Water Discharge Permits
 Design Change package for MS-1 ESST Transformer Replacement
 AOP 2508, Loss of 23 kV Off Site Power
 ONP 540 F, Loss of Normal Power
 PI-AA-200, Corrective Action
 SP-2669B – Unit 1 Operator Logs and Inspections
 SP-2669B- 001 – Unit 1 Logs – Surveillance Form
 SP-2669B- 002 – Unit 1 Rounds – Surveillance Form
 SP 852, Spent Fuel Pool Chemistry Control
 OP 312 K, Waste Water Processing System
 Condition Reports: 554970, 550802, 552787, 553801, 555669, 558959, 559361, 560072,
 566472, 568702, 568867, 568971, 569114, 569120, 569281, 569968, 569985, 570067, 570071,
 570989, 571099, 571020, 571101, 571442, 571536, 571553, 571601, 572607, 573262, 573752,
 575877, 576013, 576865, 576866, 577663, 579200, 579838, 580161, 580303, 580554, 582446

LIST OF ACRONYMS USED

CAP	Corrective Action Program
Dominion	Dominion Nuclear Connecticut, Inc.
DSAR	Defueled Safety Analysis Report
IMC	Inspection Manual Chapter
IP	Inspection Procedure
MS-1	Millstone Power Station Unit 1
NMSS	Office of Nuclear Material Safety and Safeguards
NRC	U.S. Nuclear Regulatory Commission
REMP	Radiological Environmental Monitoring Program
SAFSTOR	Safe Storage
SFP	Spent Fuel Pool
TRM	Technical Requirements Manual
TS	Technical Specification