



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PA 19406-2713

February 8, 2022

Mr. Billy Reid, Jr.
Vice President
Vermont Yankee Nuclear Power Station
320 Governor Hunt Road
Vernon, VT 05354

SUBJECT: NORTHSTAR NUCLEAR DECOMMISSIONING COMPANY, LLC, VERMONT
YANKEE NUCLEAR POWER STATION - NRC INSPECTION REPORT NOS.
05000271/2021002 AND 07200059/2021001

Dear Mr. Reid:

On December 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection under Inspection Manual Chapter 2561, "Decommissioning Power Reactor Inspection Program," and IMC 2690, "Inspection Program for Storage of Spent Reactor Fuel and Reactor Related Greater-Than-Class C Waste at Independent Spent Fuel Storage Installations and for 10 CFR Part 71 Transportation Packagings" at the permanently shutdown Vermont Yankee Nuclear Power Station (VY). On-site inspections were performed August 9-12 and October 12-14, 2021. Additional inspection activities (in office reviews) were conducted remotely as a consequence of the COVID-19 public health emergency (PHE) during the inspection period. The inspectors 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 walkdowns. The results of the inspection were discussed with you and other members of the VY staff on January 12, 2022 and are described in the enclosed report.

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

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if any, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document 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

B. Reid

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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).

No reply to this letter is required. Please contact Steve Hammann at 610-337-5399 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 Nos. 05000271 and 07200059
License No. DPR-28

Enclosure: Inspection Report 05000271/2021002 and 07200059/2021001

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NORTHSTAR NUCLEAR DECOMMISSIONING COMPANY, LLC, VERMONT YANKEE
 NUCLEAR POWER STATION - NRC INSPECTION REPORT NOS. 05000271/2021002 and
 07200059/2021001, DATED FEBRUARY 8, 2022.

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DATE	01/26/2022		02/08/2022					

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection Report Nos.	05000271/2021002 and 07200059/2021001
Docket Nos.	05000271 and 07200059
License No.	DPR-28
Licensee:	Northstar Nuclear Decommissioning Company, LLC (Northstar NDC)
Facility:	Vermont Yankee Nuclear Power Station (VY)
Location:	Vernon, VT 05354
Inspection Dates:	August 1, to December 31, 2021
Inspectors:	<p>Stephen Hammann, Senior Health Physicist Decommissioning, ISFSI, and Reactor Health Physics Branch Division of Radiological Safety and Security</p> <p>Jack Parrot, Senior Project Manager Reactor Decommissioning Branch Division of Decommissioning, Uranium Recover, and Waste Programs, Office of Nuclear Material Safety and Safeguards</p>
Approved By:	<p>Anthony Dimitriadis, Chief Decommissioning, ISFSI, and Reactor Health Physics Branch Division of Radiological Safety and Security</p>

Enclosure

EXECUTIVE SUMMARY

Northstar Nuclear Decommissioning Company, LLC
Vermont Yankee Nuclear Power Station
NRC Inspection Report Nos. 05000271/2021002 and 07200059/2021001

A routine announced decommissioning inspection was completed at the permanently shutdown Vermont Yankee Nuclear Power Station on December 31, 2021. On-site inspections were performed August 9-12, and October 12-14, 2021. Additional inspection activities were conducted remotely (in office reviews) during the inspection period as a consequence of the COVID-19 public health emergency (PHE). The inspections included a review of the independent spent fuel storage installation (ISFSI), plant modifications, corrective action program, fire protection, decommissioning performance and status, radiological safety, and radwaste transportation. The inspection consisted of observations by the inspectors, interviews with site personnel, a review of procedures and records, and plant walkdowns. The NRC's program for overseeing the safe decommissioning of a shutdown nuclear power reactor is described in Inspection Manual Chapter (IMC) 2561, "Decommissioning Power Reactor Inspection Program." The NRC's program for overseeing the safe operation of dry storage of spent fuel at an ISFSI is described in Inspection Manual Chapter 2690, "Inspection Program for Storage of Spent Reactor Fuel and Reactor Related Greater-Than- Class Waste at Independent Spent Fuel Storage Installations and for 10 CFR Part 71 Transportation Packagings."

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

REPORT DETAILS

1.0 Background

On January 12, 2015, VY certified the permanent removal of fuel from the reactor vessel [Agencywide Document and Access Management System (ADAMS) Accession No. ML15013A426]. This met the requirements of 10 Code of Federal Regulations (CFR) 50.82(a)(1)(i) and 50.82(a)(1)(ii). On January 20, 2015, the NRC notified VY that the Operating Reactor Assessment Program would cease on January 24, 2015, and that implementation of the Decommissioning Power Reactor Inspection Program would begin on January 25, 2015 (ADAMS Accession No. ML15020A482). On January 11, 2019 an amended license was issued transferring the license from Entergy Nuclear Operations, Inc. to Northstar NDC (ADAMS Accession No. ML18347B360). VY is in active decommissioning as described in IMC 2561.

2.0 Active Decommissioning Performance and Status Review

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

The inspectors conducted document reviews and interviews with plant personnel to determine if Northstar NDC procedures and processes were in compliance with the regulations and guidance associated with 10 CFR 50.59. The inspectors also reviewed Northstar NDC's applicability determination process that is used to determine if a 10 CFR 50.59 evaluation was required and reviewed a sampling of 10 CFR 50.59 screenings. The inspectors reviewed the qualification and training for 10 CFR 50.59 and process applicability determination evaluators and screeners.

The inspectors reviewed documents and interviewed VY personnel to determine if Northstar NDC management performed audits and self-assessments and if issues were identified and corrected in accordance with the site's corrective action program (CAP). The inspectors reviewed a representative selection of CAP documents to determine if a sufficiently low threshold for problem identification existed, if follow-up evaluations were of sufficient quality, and if Northstar NDC assigned timely and appropriate prioritization for issue resolution commensurate with the significance of the issue. The inspectors reviewed site audits for the past year to determine if audits were thorough and if corrective actions were properly initiated.

The inspectors interviewed personnel, reviewed documentation and performed plant walkdowns to determine if the licensee maintained a fire protection program (FPP) to address the potential for fires that could cause the release or spread of radioactive materials. The inspectors reviewed the fire protection plan and a sample of the implementation procedures to ensure compliance with the current plan, to ensure that they reflected the current decommissioning status of the facility, and to ensure they had been implemented, as appropriate. The inspectors walked down the fire service pumps to ensure their physical condition and that they had been effectively maintained and walked down several fire areas to determine if they were as described in the site's pre-fire plans. The inspectors reviewed surveillances and testing of fire protection equipment to determine if they were performed on a regular basis.

The inspectors performed a walkdown of the plant to evaluate housekeeping and the material condition of the site. The inspectors observed work-in-progress for reactor

vessel internal segmentation, and demolition of the administration building to determine adherence with site work plans and procedures. The inspectors interviewed staff and reviewed work packages and surveys for the demolition of the radwaste building, and toured the turbine building to review progress for the piping and component removal.

The inspectors conducted a site tour, including radiologically controlled areas, to examine and verify radiological postings, airborne and contamination controls, and locked high radiation doors and gates. The inspectors observed radiation protection (RP) technicians performing work activities, including job coverage, to determine if implementation of radiological work controls, training and skill level were sufficient for the activities being performed. The inspectors also reviewed survey logs to ensure completeness and adequacy of surveys and reviewed documentation for implementation of the decommissioning recordkeeping requirements regarding instances of spills or other unusual occurrences involving the spread of contamination to ensure regulatory compliance. The inspectors reviewed the licensee's implementation of the NRC approval for alternate offsite disposal of wastewater to U.S. Ecology Idaho to ensure the shipments were in compliance with the alternate disposal request. The inspectors observed activities for transporting radwaste and reviewed transportation packages to verify compliance with NRC and Department of Transportation (DOT) regulations.

b. Observations and Findings

The inspectors determined that 10 CFR 50.59 screenings had been performed and that Northstar NDC had trained and qualified individuals to perform the screenings and evaluations. The inspectors determined that no changes or modifications under 10 CFR 50.59 were made in the past year.

The inspectors determined that issues had been identified and entered into the CAP in a timely manner and the issues were effectively screened, prioritized and evaluated commensurate with their safety significance. The inspectors verified audits had been performed by qualified individuals independent of the organization being audited and that management reviewed the audits and associated corrective actions.

The inspectors determined that Northstar NDC maintained the FPP within NRC requirements and the fire protection plan to minimize the potential for radiological releases in the event of a fire at the plant. The inspectors verified fire protection systems and fire water supply systems had been maintained and appropriately tested and were in a state of operational readiness. The inspectors verified staffing and training of the on-site incipient fire brigade was adequate and agreements were appropriately established with the local fire department to be the primary responder for any on-site fires.

The inspectors noted during the plant walkdown that housekeeping and plant material condition standards were being maintained. The inspectors determined that Northstar NDC's activities were performed safely and in accordance with work plans and plant procedures and that radiation protection effectively maintained radiological controls for the work-in-progress. The inspectors verified the activities and schedule were consistent with license requirements and the site Post Shutdown Decommissioning Activities Report.

The inspectors verified that the licensee's documentation of spills or other unusual occurrences involving the spread of contamination were recorded as required by NRC regulations. The inspectors verified that the licensee was in compliance with the commitment in the alternate disposal request and radwaste shipments were in accordance with NRC and DOT regulations. The inspectors determined the RP staff qualifications were up to date and surveys were thorough and performed as required.

c. Conclusions

No violations of safety significance were identified.

3.0 ISFSI

a. Inspection Scope (Inspection Procedure 60855)

The ISFSI inspection was limited to North Star's internal ISFSI audit, corrective actions, and Emergency Plan exercise.

The inspectors interviewed personnel and reviewed the Northstar NDC audit of the ISFSI program to ensure audits were being performed in accordance with the site QA program, to determine if personnel performing audits were qualified and sufficiently independent from the line organization that was being audited, and if corrective actions were initiated if necessary.

The inspectors also reviewed selected condition reports and walked down portions of the ISFSI to determine if issues were entered into the corrective action program, prioritized, and evaluated commensurate with their safety significance.

The inspectors interviewed personnel and reviewed the documentation for the most recent emergency plan exercise to ensure the exercise was performed in accordance with the frequency and scope of the training requirements specified in the emergency plan. The inspectors evaluated the adequacy of the licensee's conduct of the biennial exercise and its capability to assess performance via a formal critique process.

b. Observations and Findings

The inspectors verified the ISFSI audit was performed by qualified individuals independent of the organization and management reviewed the audit. The inspectors determined that issues in the audit were identified and entered into the CAP in a timely manner. The inspectors verified the emergency exercise was performed as required by the emergency plan and was assessed through a formal critique process.

c. Conclusions

No violations of safety significance were identified.

4.0 Exit Meeting Summary

On January 12, 2021, the inspectors presented the inspection results to Mr. Billy Reid, Vice President, and other members of Northstar NDC staff who acknowledged the inspection results. No proprietary information was retained by the inspectors or documented in this report.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

B. Reid, Vice President
D. Pearson, Vice President
C. Daniels, ISFSI Sr. Manager
N. Langub, Decommissioning Project Manager
D. Giard, ISFSI Administrator
R. Mauthe, ISFSI Technical Specialist
A. Miller, RP Supervisor
S. Naeck, ISFSI Operations Manager
M. Pletcher, Radiation Protection Manager
R. Routhier, Facility Area Manager
T. Silko, Licensing Manager
D. Toegel, Power Block Area Manager
J. Ward, Maintenance Technical Specialist

Orano USA

J. Byers, Orano Decommissioning Services VY Project Manager

State of Vermont

T. Leshinskie, Nuclear Engineer

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Condition Reports

CR- 2021 - 0114, 0120, 0121, 0128, 0130, 0132, 0133, 0137, 0143, 0144, 0156, 0160, 0161, 0165, 0173, 0183, 0190, 206, 207; TN NCR-2021-123, 126A

Procedures and Programs

NSVY-AP-10086, Rev. 1, PISA Decommissioning Organization, Management, and Controls
NSVY-CY-7605, Rev. 0, Groundwater Monitoring Plan
NSVY-FP-0042, Rev. 0, Plant Fire Prevention and Fire Protection
NSVY-FP-127, Rev. 0, Control of Hot Work and Ignition Sources
NSVY-FP-161, Rev. 2, Control of Combustibles
NSVY-FP-4103, Rev. 5, Fire Protection Systems and Equipment Surveillance
NSVY-FP-10184, Rev.1, PISA Fire Protection Program
NSVY-RP-113, Rev. 0, Response to Contaminated Spills/Leaks
NSVY-RP-121-01, Rev. 0, Attachment 9.3, Receipt of Radioactive Material, 8-23-21
VY-A-21-01, Vermont Yankees ISFSI Operations Audit
VY-A-21-02, Radiological Protection Programs Audit
VY-AD-5, Rev. 2, ISFSI Work Control
VY-AD-9, Rev. 2, Process Applicability Determination Process and Regulatory Reviews

Procedures and Programs (Cont'd)

VY-AD-7, Rev. 3, Corrective Action Program
VY-QA-2, Rev. 1, ISFSI Quality Assessments
VY-EF-1, Rev. 2, ISFSI Design Control Program
VY-EF-2, Rev. 0, ISFSI Drawing Control
VY-EF-3, Rev. 1, Special Nuclear Material and Greater Than Class C Waste – Control
Accountability and Reporting Program
VY-FP-2, Rev. 1, ISFSI Fire Hazards Analysis

Miscellaneous

Approach to Work Document, Former Administration Building Demolition
Attachment A, Process Applicability Determination, Administration Building Removal
Certificate of Disposal- Manifest # USE-47992-01, 47992-02, 47992-04
Fire Brigade Pre-Fire Plans, Rev. 14
QS-2020-VY-002, Independent Assessment of the Packaging and Shipment of a Type 'B'
Package
Survey Logbook 21-0690, 0712, 0720, 0810, 0820, 0853, 0898, 0939, 0952, 0998, 1048, 1239,
1278, 1314, 1359, 1386, 1395
Technical Data Summary Report, Baseline Radiological Surface Scan Survey of Lands, Wood
Environment & Infrastructure Solutions, Inc.
Vermont Yankee Nuclear Power Station, 10 CFR 72.212 Report
Vermont Yankee Nuclear Power Station, Fire Hazards analysis, Rev. 21
VTY CRG Summary Agenda Report, Meeting Date 08/10/2021
VY-IM-21-001, Receipt Inspection/Acceptance of Quality Related Services for 2020
VY-IM-21-025, Annual SCWE Survey, August 25, 2021
VY-RPT-08-0017, Rev. 3, Hazard Evaluation for the Interim Spent Fuel Storage Installation
(ISFSI) and Haul Path

Work Packages and Plans

NSVY Task Release Work Package, DEM-TRWP-108, Rev. 1, Administration Building
Demolition
NSVY Task Release Work Package, STK-TRWP-112, Stack Demolition

LIST OF ACRONYMS USED

ADAMS	Agencywide Document and Access Management System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DOT	Department of Transportation
FPP	Fire Protection Program
IMC	Inspection Manual Chapter
ISFSI	Independent Spent Fuel Storage Installation
Northstar NDC	Northstar Nuclear Decommissioning Company, LLC
NRC	U.S. Nuclear Regulatory Commission
PHE	Public Health Emergency
RP	Radiation Protection
TS	Technical Specification
VY	Vermont Yankee Nuclear Power Station