



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

July 7, 2020

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

SUBJECT: NRC INSPECTION REPORT NO. 05000271/20200001, NORTHSTAR
NUCLEAR DECOMMISSIONING COMPANY, LLC, VERMONT YANKEE
NUCLEAR POWER STATION, VERNON, VERMONT

Dear Mr. Reid:

On June 25, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an on-site inspection under Inspection Manual Chapter 2561, "Decommissioning Power Reactor Inspection Program," at the permanently shutdown Vermont Yankee Nuclear Power Station (VY). On-site inspections were performed January 21-24, March 2-5, and June 22-25, 2020. 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 personnel, and a review of procedures and records. The results of the inspection were discussed with you and other members of the VY staff on June 25, 2020 and are described in the enclosed report. No findings 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, 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 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,

/RA/

Anthony Dimitriadis, Chief
Decommissioning, ISFSI, and Reactor Health
Physics Branch
Division of Nuclear Materials Safety

Docket No. 05000271

License No. DPR-28

Enclosure: Inspection Report 05000271/2020001

cc w/encl: Distribution via ListServ

NRC INSPECTION REPORT NO. 05000271/2020001, NORTHSTAR NUCLEAR DECOMMISSIONING COMPANY, LLC, VERMONT YANKEE NUCLEAR POWER STATION, VERNON, VERMONT DATED JULY 7, 2020 .

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 05000271/2020001

Docket No. 05000271

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: January 21-24, March 2-5, and June 22-25, 2020

Inspector: Stephen Hammann, Senior Health Physicist
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Nuclear Materials Safety, Region I

Katherine Warner, Senior Health Physicist
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Nuclear Materials Safety, Region I

Elizabeth Andrews, Health Physicist
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Nuclear Materials Safety, Region I

Approved By: Anthony Dimitriadis, Chief
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Nuclear Materials Safety, Region I

EXECUTIVE SUMMARY

Northstar Nuclear Decommissioning Company, LLC
Vermont Yankee Nuclear Power Station
NRC Inspection Report No. 05000271/2020001

An announced VY decommissioning inspection was completed on June 25, 2020. On-site inspections were performed January 21-24, March 2-5, and June 22-25, 2020. Additional inspection activities were conducted remotely during the inspection period as a consequence of the COVID-19 public health emergency (PHE). The inspections included a review of occupational exposure, radwaste treatment and transportation, and decommissioning performance and status. The inspection consisted of observations by the inspectors, interviews with VY personnel, a review of procedures and records, and plant walkdowns. The NRC's program for overseeing the safe operation 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 findings 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 (IPs) 83750, 86750, 71801]

The inspectors observed activities, interviewed workers, and reviewed documentation associated with occupational exposure and radioactive waste management to determine the effectiveness of site radiological programs. The inspectors conducted a site tour checking and verifying radiological postings, locked high radiation doors and gates, and general housekeeping. The inspectors reviewed 2019 dose totals to verify compliance with the regulations, reviewed radiation work permits, and As Low As Reasonably Achievable (ALARA) work plans to verify radiation work activities were pre-planned effectively to limit worker exposure. The inspectors observed radiation protection (RP) technicians performing various surveys and providing job coverage for activities on the refuel floor and turbine building. The inspectors performed a walk-down of radioactive waste storage locations and observed waste packaging operations. The inspectors also reviewed the transportation packages for selected shipments of radioactive waste. The review included records of shipment packaging, surveys, labeling, marking, placarding, vehicle checks, and emergency instructions to ensure compliance with the applicable NRC and Department of Transportation regulations.

The inspectors reviewed the status of activities related to site decommissioning to determine if activities were in accordance with licensed requirements. The inspectors observed select decommissioning activities associated with segmentation, storage, and transportation of reactor vessel internals and turbine building piping and components. The inspectors interviewed workers and reviewed work packages, plans, and procedures for the activities observed. The inspectors reviewed work plans and surveys for the removal of the New Warehouse and the preparation work for the anticipated removal of the Advanced Off Gas (AOG) building. The inspectors attended select pre-job briefs and job specific briefs to assess plant staff's ability to identify critical steps of the evolution, potential failure scenarios, and human performance tools to prevent errors. The inspectors also attended management meetings and project status meetings to ascertain the level of management involvement. The inspectors examined the decommissioning schedule to determine if the schedule was consistent with the post shutdown decommissioning activities report (PSDAR).

b. Observations and Findings

The inspectors verified that annual exposures were below regulatory limits and appropriate for the scope of work performed. The inspectors determined that RP staff effectively controlled work activities, survey records were clear and complete, and RP technicians used appropriate instruments for the surveys. The inspectors noted most instrument calibrations, and daily source checks of instruments are performed on back shift. The inspectors verified technician training and qualifications were up-to-date. The inspectors verified that ALARA plans were performed as needed and were effective in limiting worker exposure. The inspectors verified solid radioactive waste was adequately stored and monitored, that radioactive waste shipping paperwork was properly completed and VY personnel were knowledgeable of their duties and responsibilities. The inspectors determined radioactive waste shipped for disposal at land disposal facilities was properly classified, described, packaged, marked, and labeled, and was in proper condition for transportation.

The inspectors determined that pre-job briefings were thorough and identified the significant potential hazards and management maintained a sufficient level of involvement. The inspectors noted the main decommissioning activities during this inspection period included removal of reactor vessel internals, removal of turbine building piping and components, New Warehouse demolition, and preparation for the AOG building demolition. The inspectors determined the activities were performed safely and in accordance with work plans and plant procedures. The inspectors verified the activities and schedule were consistent with license requirements and the site PSDAR.

c. Conclusions

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

3.0 Exit Meeting Summary

On June 25, 2020, the inspectors presented the inspection results to Mr. Billy Reid, Vice President, and other members of Northstar NDC staff who acknowledged the inspection results. The inspectors verified that no proprietary information was retained 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
A. Ball, Power Block Superintendent
S. Dorval, Radiation Protection Program Coordinator
R. Haight, T&D Project Manager
B. Meyer, Radiation Protection Supervisor
M. Pletcher, Radiation Protection Manager
F. Provencal, Power Block Superintendent
R. Routhier, Facility Area Manager
T. Silko, Licensing Manager
D. Toegel, Power Block Area Manager

Orano USA

J. Byers, Orano Decommissioning Services VY Project Manager
R. Evans, Orano Decommissioning Services VY Operations Manager

State of Vermont

T. Leshinskie, Nuclear Engineer

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Condition Reports

CR- 2020 – 002, 0016, 0021, 0027, 0031, 0032, 0074, 0079, 107, 108, 117, 118, 119, 130
2020-022 (Orano)

Procedures and Programs

QS-2019-VY-005, Receipt, Packaging and Preparing for Shipment A Type “B” Waste Package

Miscellaneous

2019 Vermont Yankee Employee Concerns Year-End Report
2019 Vermont Yankee Individual Monitoring Results
ALARA Plan, Rev. 7, Vermont Yankee Reactor Vessel/Reactor Vessel Internal Segmentation Project (Orano)
Certificate of Compliance 71-9302
Draft RSCS Technical Support Document No. 20-050, Analysis in Preparation for the Open Air Demolition of Vermont Yankee’s Advanced Off-Gas Building
Memo, Safety Conscious Work Environment, Jan 22, 2020
Nuclear Safety Culture Monitoring Meeting Minutes, April 1, 2019 and October 23, 2019
Radwaste Shipment NSVY-2020-2, 2020-17, 2020-63
Survey Logbook 2020-207, 283, 285, 305, 322, 323, 390, 391, 394, 429, 448, 449, 450, 497, 599, 600

Survey Plan for The Unconditional Release of Portions of The AOG Building

Work Packages and Plans

AOG-CWP-041, Rev. 2, Remove Piping and Components from the AOG
Job Hazard Analysis, Remove Piping and Components from the AOG
NSVY DP Job Hazard Analysis, New Warehouse Demo Prep
NSVY-TRWP-ORANO-005, Rev. 0, Steam Separator (SA) Cyclones Segmentation and Packaging
NSVY-TRWP-ORANO-006, Rev. 0, Steam Separator (SA) Standpipes and Dome Segmentation and Packaging
NSVY-TRWP-ORANO-007, Rev. 1, Feedwater Sparger (FS) and Core Spray (CS) Piping Removal and Staging
NSVY-TRWP-ORANO-008A, Rev. 0, Upper Core Grid (UG) Segmentation and Packaging
NSVY-TRWP-ORANO-008B, Rev. 0, Fuel Support Castings (FC) Removal and Staging
NSVY-TRWP-ORANO-0030, Rev. 0, RWC-A Transfer Operations
WHS-CWP-055, Rev. 0, New Warehouse Demo Prep
WHS-TRWP-061, Rev 0, New Warehouse Demolition

LIST OF ACRONYMS USED

ADAMS	Agencywide Document and Access Management System
ALARA	As Low As Reasonably Achievable
AOG	Advanced Off Gas
CFR	Code of Federal Regulations
IMC	Inspection Manual Chapter
IP	Inspection Procedure
Northstar NDC	Northstar Nuclear Decommissioning Company, LLC
NRC	U.S. Nuclear Regulatory Commission
PHE	Public Health Emergency
PSDAR	Post Shutdown Decommissioning Activities Report
RP	Radiation Protection
VY	Vermont Yankee Nuclear Power Station