



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

January 30, 2017

Mr. Jack Boyle
Director, Nuclear Decommissioning
Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
Vernon, VT 05354

SUBJECT: NRC INSPECTION REPORT NO. 05000271/2016004, ENTERGY NUCLEAR OPERATIONS, INC., VERMONT YANKEE NUCLEAR POWER STATION, VERNON, VERMONT

Dear Mr. Boyle:

On December 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed its quarterly inspection under Inspection Manual Chapter 2561, "Decommissioning Power Reactor Inspection Program," at the permanently shut down Vermont Yankee Nuclear Power Station (VY). On-site inspections were performed on November 15-17, 2016. In-office reviews of information supplied by Entergy Nuclear Operations, Inc. were also performed during the inspection period. 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 inspector, 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 January 23, 2017, 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(s), 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 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).

J. Boyle

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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/

Raymond J. Powell, Chief
Decommissioning and Technical Support
Branch
Division of Nuclear Materials Safety

Docket No. 05000271
License No. DPR-28

Enclosure: Inspection Report 05000271/2016004
w/Attachment

cc w/encl: Distribution via ListServ

J. Boyle

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No.	05000271/2016004
Docket No.	05000271
License No.	DPR-28
Licensee:	Entergy Nuclear Operations, Inc. (Entergy)
Facility:	Vermont Yankee Nuclear Power Station (VY)
Location:	Vernon, VT 05354
Inspection Dates:	October 1, 2016 to December 31, 2016
Inspector:	Stephen Hammann, Senior Health Physicist Decommissioning and Technical Support Branch Division of Nuclear Materials Safety, Region I
Approved By:	Raymond Powell, Chief Decommissioning and Technical Support Branch Division of Nuclear Materials Safety, Region I

Inspection Report No. 05000271/2016004

EXECUTIVE SUMMARY

Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
NRC Inspection Report No. 05000271/2016004

An announced quarterly inspection was completed at Vermont Yankee Nuclear Power Station (VY) on December 31, 2016. On-site inspections were conducted on November 15 - 17, 2016. In-office reviews of information supplied by Entergy Nuclear Operations, Inc. (Entergy) were also performed during the inspection period. The inspection included a review of the demolition and removal of the North Warehouse and site water management. The inspection consisted of observations by the inspector, interviews with Entergy 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 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 50.82(a)(1)(i) and 50.82(a)(1)(ii). On January 20, 2015, the Nuclear Regulatory Commission 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). VY is currently in the SAFSTOR phase of decommissioning as described in IMC 2561.

2.0 SAFSTOR Performance and Status Review

a. Inspection Scope (Inspection Procedures 71801, 83801)

The inspector performed an on-site inspection on November 15-17, 2016. In-office reviews of information supplied by Entergy were also performed during the inspection period. The inspection consisted of observations by the inspector, interviews with Entergy personnel, a review of procedures and records, and plant walk-downs.

The inspector observed activities, interviewed personnel and reviewed documentation related to the demolition and removal of the North Warehouse. The inspector observed demolition activities in-progress, radiation protection (RP) coverage of those activities, and RP technicians performing radiological surveys of waste which had been loaded into intermodals. The inspector reviewed work orders, work plans, procedures, waste shipment packages, pre- and post-radiological surveys, and soil and concrete analysis to verify activities were performed in accordance with plant procedures and the regulations. The inspector also reviewed work orders and procedures for non-radiological hazardous materials removal from the project.

The inspector reviewed the current status of radioactive water management at the site. The inspector performed a walk-down of the frac storage tank, torus, and the turbine building/reactor building water stop which had been restored. The inspector reviewed the engineering change equivalency package, work orders, and work plans for the restoration of the water stop between the turbine and reactor buildings. The inspector also reviewed current water inventories, tank capacities, groundwater intrusion rates, and water shipment packages.

b. Observations and Findings

The inspector determined the pre- and post-radiological surveys of the North Warehouse were adequately performed and soil and concrete samples were taken for gamma spectrometry analysis. The inspector determined that radiological controls were in place during the demolition and removal of the warehouse, and waste shipments were completed in accordance with site procedures and the regulations. The inspector also

determined Entergy and its contracted workforce conducted the warehouse demolition and removal in a safe manner and in accordance with the work orders.

The inspector determined that process water inventories stored in the torus were decreasing and kept separate from ground water in-leakage. The inspector verified that groundwater in-leakage has decreased since the restoration of the water stop between the turbine and reactor buildings. The inspector verified that the water inventories are tracked daily and that VY is continuing disposal of groundwater intrusion inventory by shipping the water offsite. The water shipments packages are in accordance with Department of Transportation regulations and are shipped as exempt quantities. The inspector noted that VY is considering further actions to mitigate groundwater intrusion.

c. Conclusions

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

3.0 Exit Meeting Summary

On January 23, 2017, the inspector presented the inspection results, via teleconference, to Jack Boyle, Director, Nuclear Decommissioning, and other members of Entergy's staff. The inspector confirmed that proprietary information was not removed from the site.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Boyle, Decommissioning Director
H. Breite, Sr. Lead Engineer
C. Chappell, Manager – Design and Programs
C. Daniels, Senior Manager Production
D. Dodge, RP Technician (Holtec International)
S. Dorval, RP Supervisor
J. Ewell, Senior HP Specialist
A. Miller, RP Technician
M. Pletcher, Radiation Protection and Chemistry Manager
T. Silko, Licensing
D. Tkatch, Engineering

State of Vermont

A. Leshinskie, Engineer

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Condition Reports

CR-VTY-2016-423-CA2

Drawings

Sump Routing Diagram EC 52085

Procedures

EN-RP-102, Radiological Control, Rev. 4

Radiation Protection

Radiological Work Permit 20160800
Radwaste Shipping Packages 2016-NWH-27, 2016-101, and 2016-106
Survey Logbook #: 160139, 160149, 160157, 160304, 160314, 160454, 160665, 160667, 160698, 160699, 160705, 160707, 160708, 160710, and associated Gamma Spectroscopy Reports for concrete and soil samples taken

Miscellaneous

BHI Work Plan for TB/RB Seismic Gap
EC 66222 (seismic gap repair)
Map of Water Level Monitoring Locations
North Warehouse Characterization Sampling, Haley & Aldrich, Inc, April 11, 2016
Northwarehouse Demolition Presentation – Holtec International
VYNPS Radiological Historical Site Assessment

Miscellaneous (Cont'd)

VY SAFSTOR – Exhibit A-3 ISFSI Island Construction Project

Work Orders

WO 372871-01, 02, 03, 04

WO 430584-01

WO 453844-01

LIST OF ACRONYMS USED

ADAMS	Agencywide Document and Access Management System
Entergy	Entergy Nuclear Operations, Inc.
IMC	Inspection Manual Chapter
NRC	U.S. Nuclear Regulatory Commission
RP	Radiation Protection
VY	Vermont Yankee Nuclear Power Station