



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

April 19, 2018

Corey Daniels
Director, Nuclear Decommissioning
Vermont Yankee Nuclear Power Station
320 Governor Hunt Road
Vernon, VT 05354

SUBJECT: NRC INSPECTION REPORT NO. 05000271/2018001, ENTERGY NUCLEAR OPERATIONS, INC., VERMONT YANKEE NUCLEAR POWER STATION, VERNON, VERMONT

Dear Mr. Daniels:

On March 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed its quarterly 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 on March 12-15, 2018. 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 April 16, 2018, 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 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).

C. Daniels

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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, ISFSI, and Reactor Health
Physics Branch
Division of Nuclear Materials Safety

Docket No. 05000271

License No. DPR-28

Enclosure: Inspection Report 05000271/2018001
w/Attachment

cc w/encl: Distribution via ListServ

C. Daniels

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 05000271/2018001
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: January 1, 2018 to March 31, 2018
Inspector: Stephen Hammann, Senior Health Physicist
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Nuclear Materials Safety, Region I
Approved By: Raymond Powell, Chief
Decommissioning, ISFSI, and Reactor Health Physics Branch
Division of Nuclear Materials Safety, Region I

EXECUTIVE SUMMARY

Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
NRC Inspection Report No. 05000271/2018001

An announced quarterly inspection was completed at Vermont Yankee Nuclear Power Station (VY) on March 31, 2018. On-site inspections were conducted on March 12-15, 2018. 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 spent fuel pool (SFP) safety, maintenance and surveillance, and decommissioning status. 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 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). 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 (IPs) 60801, 62801, 71801]

The inspector performed an on-site inspection on March 12-15, 2018. 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 reviewed Entergy's programs for the safe wet storage of spent fuel. The inspector performed a walk-down of the SFP and associated support systems to assess material condition, configuration control, and system operation. The inspector toured the control room and interviewed certified fuel handlers (CFH) to verify SFP system instrumentation, alarms and leakage detection monitoring is adequate to assure the safe storage of spent fuel. The inspector interviewed employees and reviewed SFP chemistry sample analysis that Entergy had performed in the past year in order to verify SFP chemistry parameters were within the limits of Entergy's license commitments. The inspector also reviewed data from the spent fuel pumps to verify that the system was operating within the expected parameters with no negative trends.

The inspector accompanied plant personnel on a walk-down of key safety systems, structures and components (SSCs) important to the defueled condition of the plant. During the walk-down, the inspector evaluated housekeeping and the material condition of the SSCs and assessed area radiological conditions and radiological access controls, including posting and labeling. The inspector also met with VY management and discussed staffing levels, how routine maintenance and emergent work is requested, prioritized, and scheduled, and the current maintenance workload. The inspector reviewed the backlog of maintenance work to assess the age and prioritization of the items. The inspector reviewed the maintenance rule program and procedures, as well as the performance criteria and monitoring procedures of systems and components.

The inspector reviewed the status of activities related to the site decommissioning to verify activities are in accordance with licensed requirements. The inspector reviewed the decommissioning schedule to verify the schedule is consistent with post shutdown decommissioning activities report (PSDAR).

b. Observations and Findings

The inspector determined that Entergy was safely storing spent fuel in wet storage. The inspector verified SFP chemistry and cleanliness controls were being adequately implemented. The inspector verified surveillance requirements for water level and temperature of the SFP were adequate and procedures provided guidance to restore SFP water level if required. The inspector also verified the CFH rounds were adequate to satisfy the associated technical specification requirements for the SFP.

The inspector verified that all systems that supported spent fuel safety continued to be appropriately scoped in to the maintenance rule and that the performance criteria established were acceptable. The inspector 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 inspector noted during the plant walk-down that housekeeping and plant material condition standards were being maintained. The inspector determined that the maintenance backlog is reviewed by site management on a regular basis.

The inspector noted the main decommissioning activity is the dry cask loading campaign which is scheduled to be completed in 2018. The inspector verified the schedule is consistent with the April 12, 2017 notification by Entergy changing the schedule in the PSDAR.

c. Conclusions

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

3.0 Exit Meeting Summary

On April 16, 2018, the inspector presented the inspection results, via teleconference, to Corey Daniels, Director, Nuclear Decommissioning, and other members of Entergy's staff. The inspector confirmed that proprietary information was not removed from the site.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

H. Breite, Sr. Lead Engineer
C. Chappell, Manager - Design and Programs
C. Daniels, Director, Nuclear Decommissioning
D. Giard, Specialist, CAA
P. Jerz, Senior Manager, Production
W. Lynch, Engineering
M. Pletcher, Radiation Protection and Chemistry Manager
T. Silko, Licensing

State of Vermont

A. Leshinskie, Engineer

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Condition Reports

CR-VTY-2018-00285, 00289, 00378, 00379

Procedures and Programs

AP 0548, Controlled Area Exposure Monitoring, Rev 8
CHOP-SFPC-4649-01, Standby Fuel Pool Cooling Heat Exchanger Sampling, Rev. 4
MTAP 10084, Work Management Process, Rev. 6
OP4530, Dose Rate Radiation Surveys, Rev. 29
V-EN-DC-203, Maintenance Rule Program, Rev. 3
V-EN-DC-204, Maintenance Rule Scope and Basis, Rev. 4
V-EN-DC-205, Maintenance Rule Monitoring, Rev. 6
V-EN-DC-206, Maintenance Rule (a)(1) Process, Rev. 4
V-EN-DC-207, Maintenance Rule Periodic Assessment, Rev. 4
V-EN-DC-324-DP, Decommissioning Plant Preventive Maintenance Program, Rev. 3

Miscellaneous

10CFR50.65 (a)(3) Maintenance Rule Periodic Assessment, 3/8/2017
ALARA Plan 2017-001 Independent Spent Fuel Storage Installation (ISFSI) Loading,
Processing and Transport to Dry Fuel Storage
Entergy letter to NRC, Notification of Schedule Change, April 12, 2017
P-19-2A Vibration Trending, 4/2/18
P-19-2B Vibration Trending, 4/2/18
SFPC Pump Discharge Pressure, 4/2/18
Spent Fuel Pool Water Analysis, Jan 2017 through March 21, 2018
SW Pump Running Hours Since Each Pumps Last Replacement, 4/1/18
Vermont Yankee SAFSTOR SFP Health Report, Updated 03/12/18

Work Orders

WO-VTY-52757358, 52772521, 00493616

LIST OF ACRONYMS USED

ADAMS	Agencywide Document and Access Management System
CFH	Certified Fuel Handler
CFR	Code of Federal Regulations
Entergy	Entergy Nuclear Operations, Inc.
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NRC	U.S. Nuclear Regulatory Commission
PSDAR	Post Shutdown Decommissioning Activities Report
SFP	Spent Fuel Pool
SSCs	Systems, Structures and Components
VY	Vermont Yankee Nuclear Power Station