



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

December 14, 2017

Docket No. 07200059

License No. DPR-28

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

SUBJECT: NRC INSPECTION REPORT NO. 07200059/2017002, ENTERGY NUCLEAR OPERATIONS, INC., VERMONT YANKEE NUCLEAR POWER STATION, VERNON, VERMONT

Dear Mr. Boyle:

On December 1, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection of the permanently shut down Vermont Yankee Nuclear Power Station (VY) Independent Spent Fuel Storage Installation (ISFSI) activities. The on-site inspection was performed November 27 through December 1, 2017. The purpose of the inspection was to determine whether ISFSI activities were conducted safely and in accordance with NRC requirements. The inspection consisted of observations by the inspectors, interviews with personnel, and a review of procedures and records. The results of this inspection were discussed with Corey Daniels and other members of your staff on November 30, 2017, and are described in the enclosed report. No findings of safety significance were identified.

In accordance with 10 Code of Federal Regulations (CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter and 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 Web site 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 Web site at [www.nrc.gov](http://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](http://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 John Nicholson at 610-337-5236 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: 07200059

License No: DPR-28

Enclosure: Inspection Report 07200059/2017002  
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

J. Boyle

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DOCUMENT NAME: G:\WordDocs\D&TS\_ISFSI\_IRs\Memo ISFSI VY 2017002.docx

**SUNSI Review Complete:** JNicholson

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 072-00059

License No: DPR-28

Report No: 07200059/2017002

Licensee: Entergy Nuclear Operations, Inc. (Entergy)

Facility: Vermont Yankee Nuclear Power Station (VY)

Location: Vernon, VT 05354

Dates: November 27 – December 1, 2017

Exit Date: November 30, 2017

Inspectors: Orysia Masnyk-Bailey, Health Physicist  
Decommissioning, ISFSI, and Reactor HP Branch  
Division of Nuclear Materials Safety, Region I

John Nicholson, Senior Health Physicist  
Decommissioning, ISFSI, and Reactor HP Branch  
Division of Nuclear Materials Safety, Region 1

Approved by: Raymond Powell, Chief  
Decommissioning, ISFSI, and Reactor HP Branch  
Division of Nuclear Materials Safety, Region I

Enclosure

## **EXECUTIVE SUMMARY**

Entergy Nuclear Operations, Inc.  
Vermont Yankee Nuclear Power Station  
NRC Inspection Report No. 07200059/2017002

This report covered an on-site inspection by the Nuclear Regulatory Commission (NRC) regional based inspectors of activities related to Vermont Yankee Nuclear Power Station (VY) dry cask storage of spent fuel during the inspection period from November 27 to December 1, 2017. The inspection included a review and observation of the Independent Spent Fuel Storage Installation (ISFSI) dry cask loading activities. The inspection consisted of observations by the inspectors, interviews with Entergy personnel, and a review of procedures and records. 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 Dry Storage of Spent Reactor Fuel at Independent Spent Fuel Storage Installations and for 10 CFR Part 71 Transportation Packaging."

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

## **REPORT DETAILS**

### **1.0 Independent Spent Fuel Storage Installation**

#### **1.0 Operation of an ISFSI at Operating Plants (IP 60855)**

##### **a. Inspection Scope**

On November 27 through December 1, 2017, the inspectors observed and evaluated VY's loading of Multi-Purpose Canister (MPC) No. 32 associated with their ISFSI dry cask campaign. The inspectors verified compliance with the Certificate of Compliance, Technical Specifications (TS), and station procedures.

The inspectors observed fuel assemblies being loaded into the MPC. The inspectors also observed MPC processing operations including: installation of the automated welding system, welding, non-destructive weld examinations, pressure test, forced helium dehydration, attaching the mating device to the HI-STORM to prepare for stack-up and transfer, and collection and analysis of MPC annulus water. The inspectors also observed the performance of the daily check of the overhead crane and attended pre-job briefings. The inspectors observed plant personnel performing fuel loading verification to ensure that loading was in accordance with VY's loading plan. During performance of these activities, the inspectors verified that procedure use, communication, and coordination of ISFSI activities met established VY standards and requirements.

The inspectors observed radiation protection technicians as they performed surveys and provided job coverage for the cask loading workers. The inspectors reviewed survey data maps and radiological records to confirm that radiation survey levels measured were within limits specified by the TS and consistent with values specified in the Final Safety Analysis Report.

The inspectors reviewed selected corrective action reports and the associated follow-up actions to ensure that issues were entered into the corrective action program, prioritized, and evaluated commensurate with their safety significance.

##### **b. Findings**

No findings of significance were identified.

## **2.0 Exit Meeting**

On November 30, 2017, the inspectors presented the inspection results to Corey Daniels, Senior Manager Production, and other members of the Entergy staff who acknowledged the inspection results. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

C. Adcock	Holtec Level 2 Tech
W. Aho	Nuclear Assessor, NIOS
B. Aldrich	PCI Supervisor
Z. Allard	PCI Welder
B. Aldridge	PCI Welding Supervisor
R. Anthis	Holtec Cask Load Supervisor
C. Barfield	Holtec Cask Load Supervisor
B. Brink	PCI NDE/QC
*C. Chappell	Manager Design and Projects
*C. Daniels	Senior Manager Production
T. Davis	Holtec Electrical Technician
S. Dorval	RP Supervisor
B. Erickson	Holtec RP Technician
J. Geystor	Holtec Fuel Verifier
D. Holmquist	Holtec Lead RP Tech
D. Humbert	PCI Project Manager
C. Jennings	Holtec FHD Technician
A. Johnson	Holtec Cask Load Supervisor
D. Johnson	Holtec FHD Tech
M. Jurkowski	Entergy Project Oversight
*J. Laughney	Manager Quality Assurance
*A. Leshinskie	State of Vermont Decommissioning Engineer
P. McGaha	Senior Health Physicist
M. McNamara	Holtec Project Director
R. Miller	Holtec Decon Technician
G. Nalepo	Holtec Fuel Handler
*M. Pletcher	Manager Radiation Protection/Chemistry
G. Roediger	Chemistry Technician
*P. Ryan	Manager Security
*T. Silko	Lead Licensing Engineer
D. Smith	Holtec Fuel Handler
*K. Swanger	Manager Construction
*D. Ticatch	Holtec Project Manager
Y. Wellis	Entergy Oversight
S. Willett	PCI NDE/QC

\* Denotes attendance at the ISFSI exit meeting held on November 30, 2017

### ITEMS OPENED, CLOSED, AND DISCUSSED

None

### LIST OF DOCUMENTS REVIEWED

Operation of an ISFSI at Operating Plants



### Procedures

DP-0545 R.17, Fuel Pool Storage Requirements  
EGVN-10149 R.1, Closure Welding of Holtec Multi-Purpose Canisters – HI-STORM 100 at Vermont Yankee Nuclear Plant  
GQP-9.2 R.9, High Temperature Liquid Penetrant Examinations and Acceptance Standards for Welds, Base Metals, and Cladding (50\*-350\*)  
GQP-9.6, Visual Examination of Welds  
HPP-2569-200 R.20, Attachment 8:14, Annulus Flushing and Survey Pre-Operational Inspection  
MMVN-DFS-10139 R.7, MPC Pre-Operational Inspection  
MMVN-DFS-10140 R.10 MPC Loading At Vermont Yankee  
MMVN-DFS-10141 R.4, MPC Sealing of Loaded Casks 14-40 at Vermont Yankee  
MMVN-DFS-10142 R.4, MPC Transfer (Stack Up)  
MMVN-DFS-10143 R.8, HI-STORM Movement at Vermont Yankee  
OP-2200 R. 41, Operation of the Reactor and Turbine Bridge Cranes  
OP-2530 R. 5, Radiological Monitoring For Dry Fuel Storage  
PCI Welding Control Procedure 3, Weld Material Control  
PCI Welding Control Procedure 5, Weld and Base Metal Repair  
V-EN-MA 118, R.11, Foreign Material Exclusive  
UM-CNSTR-OP-HMAVT-01 R.1, Set up and Periodic Verification of Hydrogen Monitor Alarms (Bump Test)

### Condition Reports

CR-VTY-2017-01045, 2017-01058, 2017-01150, 2017-01126, 2017-01179, 2017-01182,

### Miscellaneous

Exhibit 7.4: Operations Design Change For HUG Review, November 2016 Design Changes  
QS-2017-VY-026, 08/28/2017, QAF CR-VTY-2017-435 Holtec Material Control Issues  
QS-2017-VY-027, 08/31/2017, Holtec Document Package Review Cask #14  
QS-2017-VY-028, 08/28/2017, Performance of Cask Verification for VY Cask #15 MPC-527  
WO 00483360 01, Perform Inspection Cleaning of Bottom of Spent Fuel Pool  
WO 00482180-05, MPC-DFS-40: Sealing and Drying  
WO 00482180-06, MPC-DFS-40: Stack Up and Transfer

### Licensing Documents

CoC for Spent Fuel Storage Casks, No. 1014, Amendment No. 10  
CoC No. 1014, Appendix A Technical Specifications for the HI-STORM 100 Cask System

## **LIST OF ACRONYMS USED**

ISFSI	Independent Spent Fuel Storage Installation
MPC	Multi-Purpose Canister
NRC	U.S. Nuclear Regulatory Commission
TS	Technical Specifications
VY	Vermont Yankee Nuclear Power Station