



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE RD. SUITE 210  
LISLE, IL 60532-4352

May 17, 2017

Mr. Charles Arnone  
Vice President, Operations  
Entergy Nuclear Operations, Inc.  
Palisades Nuclear Plant  
27780 Blue Star Memorial Highway  
Covert, MI 49043-9530

SUBJECT: NRC INSPECTION REPORT 07200043/2017001(DNMS) AND  
05000155/2017001(DNMS) - BIG ROCK POINT INDEPENDENT SPENT FUEL  
STORAGE INSTALLATION

Dear Mr. Arnone:

On April 25, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Big Rock Point Independent Spent Fuel Storage Installation (ISFSI). On April 25, the NRC inspector discussed the results of this inspection with Mr. T. Horan and other members of your staff. The results of this inspection are documented in the enclosed report.

The inspection consisted of reviews and evaluations related to radiation protection, surveillance and maintenance activities, environmental monitoring, quality assurance, and emergency preparedness. Specific areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures, representative records, and interviews with personnel.

Based on the results of this inspection, the inspectors did not identify any violations of NRC requirements.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

C. Arnone

2

We will gladly discuss any questions you have concerning this inspection. If you have questions, please contact Mr. Matthew Learn of my staff at (630) 829-9603.

Sincerely,

*/RA/*

Michael Kunowski, Chief  
Materials Control, ISFSI, and  
Decommissioning Branch  
Division of Nuclear Materials Safety

Docket Nos.07200043; 05000155  
License No. DPR-6

Enclosure:  
IR Nos. 07200043/2017001(DNMS);  
05000155/2017001(DNMS)

cc w/encl: Distribution via LISTSERV® for Palisades  
Big Rock Point Service List

Letter to Charles Arnone from Michael Kunowski dated May 17, 2017

SUBJECT: NRC INSPECTION REPORT 07200043/2017001(DNMS) AND  
05000155/2017001(DNMS) - BIG ROCK POINT INDEPENDENT SPENT FUEL  
STORAGE INSTALLATION

DISTRIBUTION w/encl:

Christian Jacobs  
Darrell Roberts  
Christine Lipa  
John Giessner  
Eric Duncan  
April Nguyen  
Allan Barker  
Harral Logaras  
Carol Ariano  
Linda Linn  
MCID Branch

**ADAMS Accession Number: ML17137A052**

OFFICE	RIII-DNMS		RIII-DNMS		RIII		RIII	
NAME	MLearn:ps		MKunowski					
DATE	5/17/2017		5/17/2017					

**OFFICIAL RECORD COPY**

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.: 072-00043; 050-00155

License No.: DPR-6

Report No.: 07200043/2017001(DNMS)  
05000155/2017001(DNMS)

Licensee: Entergy Nuclear Operations, Inc.

Facility: Big Rock Point Independent Spent  
Fuel Storage Installation

Location: 10269 U.S. 31 North  
Charlevoix, MI 49720

Date: April 25, 2017

Inspector: Matthew Learn, Reactor Engineer

Accompanied By: Allan Barker, NRC Region III Regional State  
Liaison Officer  
Traven Michaels, Environmental Response  
Specialist, Little Traverse Bay Band of Odawa  
Indians

Approved by: Michael Kunowski, Chief  
Materials Control, ISFSI, and  
Decommissioning Branch  
Division of Nuclear Materials Safety

Enclosure

## EXECUTIVE SUMMARY

**Entergy Nuclear Operations, Inc.  
Big Rock Point Independent Spent Fuel Storage Installation  
NRC Inspection Report 07200043/2017001(DNMS) and 05000155/2017001(DNMS)**

The inspection consisted of interviews of site personnel, onsite walkdowns, and reviews of emergency preparedness and fire protection; surveillance and maintenance activities; environmental monitoring; and quality assurance activities related to the Independent Spent Fuel Storage Installation (ISFSI).

### **Emergency Preparedness and Fire Protection**

- The licensee established and maintains its emergency plan in accordance with applicable regulations, the License, and Technical Specifications (TSs).
- Fire protection requirements were met regarding the conduct of drills and controlling combustibles in and around the Independent Spent Fuel Storage Installation (ISFSI). (Section 1.1)

### **Surveillance and Maintenance**

- The licensee implemented its surveillance and maintenance program in accordance with applicable regulations, the License, and TSs. (Section 1.2)

### **Environmental Monitoring**

- The licensee established and maintained its environmental monitoring program in accordance with applicable Title 10 of the *Code of Federal Regulations* (CFR) Part 20, 50, and 72 regulations, the License, and TSs. (Section 1.3)

### **Quality Assurance**

- The licensee implemented its Corrective Action Program (CAP) in accordance with the applicable regulations and site Quality Assurance (QA) requirements. Through the CAP, issues were effectively identified and corrected by the licensee. (Section 1.4)

## Report Details

### **1.0 Away from Reactor Independent Spent Fuel Storage Installation (Inspection Procedure 60858)**

#### **1.1 Emergency Preparedness and Fire Protection**

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

The inspector reviewed the Big Rock Point ISFSI Emergency Plan, implementing procedures, and the previous emergency exercises and drills. The inspector also assessed the licensee's fire protection program for its effectiveness to support safe storage of spent nuclear fuel.

##### **b. Observations and Findings**

The inspector determined that the licensee's Emergency Plan implementing procedures were adequate to meet requirements for classification, notification, and augmentation. The inspector also noted that changes made to the Emergency Plan did not reduce its effectiveness and that screenings and evaluations contained the appropriate level of detail and sufficient basis to support the change. However, this review was not a formal safety evaluation and did not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

The Emergency Plan requires the licensee to perform a biennial exercise to demonstrate emergency response capabilities and effectiveness of the Emergency Plan. The scenario for the October 24, 2016, exercise involved a simulated damaged ISFSI cask event. The inspector reviewed "Big Rock Point Emergency Exercise Report," dated November 9, 2016, which discussed the exercise and assessed the licensee's performance. The inspector also reviewed quarterly drill records.

The licensee's fire protection program was assessed through reviews of periodic fire drill records and applicable fire protection program documents. The drill scenarios were reviewed to determine whether they were realistic and met drill objectives. The inspector did not identify any un-analyzed combustibles stored or located within the ISFSI.

No findings of significance were identified.

##### **c. Conclusion**

The licensee established and maintains its emergency plan in accordance with applicable regulations, the License, and TS. Fire protection requirements were met regarding the conduct of drills and controlling combustibles in and around the ISFSI.

#### **1.2 Surveillance and Maintenance**

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

The inspector reviewed the licensee's surveillance and maintenance program associated with dry fuel storage to verify compliance with the applicable regulations, the License, and TSs. The inspector walked down the ISFSI pad, observed daily surveillance activities, interviewed personnel, and reviewed select documents. The inspector

reviewed several records of daily temperature checks and radiological surveys performed since the last NRC inspection.

b. Observations and Findings

The inspector conducted a walk down of the ISFSI pad and observed qualified licensee staff perform daily surveillances of the casks, including temperature monitoring and inlet and outlet vent screen checks to ensure they were free of significant blockage or damage. The inspector also evaluated the general condition of the pad, lift unit, horizontal transfer system, and the J-skid (cask upender). The inspector noted that temperature logs indicated that the casks operated as designed with no abnormalities. The inspector found that the licensee performed and documented the surveillance activities as required by TS and site procedures. In addition, the inspector performed independent radiation surveys of the casks, and general ISFSI area, with an NRC dose rate meter. The results were bounded by the radiological postings and consistent with the licensee's radiological surveys.

No findings of significance were identified.

c. Conclusion

The licensee implemented its surveillance and maintenance program in accordance with applicable regulations, the License, and TSs.

**1.3 Environmental Monitoring**

a. Inspection Scope

The inspector reviewed the licensee's annual Radioactive Effluent Release Reports for 2014, 2015, and 2016, which were prepared in accordance with the regulatory requirements stated in 10 CFR 50, Appendix I and TS 6.6.2. The inspector also reviewed quarterly radiological survey results performed by the licensee in 2014, 2015, and 2016. This review evaluated whether the licensee complied with the offsite dose requirements prescribed by 10 CFR 72.104.

b. Observations and Findings

The licensee no longer performs any liquid or gaseous effluent releases. As such, the licensee only performs environmental radiological monitoring as required for the ISFSI. The survey results indicated that the licensee was well under the limits of 10 CFR 72.104. These results were verified by the inspector performing independent radiation surveys of the ISFSI.

No findings of significance were identified.

c. Conclusion

The licensee established and maintained its environmental monitoring program in accordance with applicable 10 CFR Part 20, 50, and 72 regulations, the License, and TSs.

## **1.4 Quality Assurance**

### a. Inspection Scope

The inspector verified through document reviews and conduct of interviews whether changes were appropriately controlled and done in accordance with quality assurance requirements. Corrective action reports from 2015 and 2016 were reviewed to determine whether the licensee effectively identified, resolved, and prevented problems. Additionally, the inspector reviewed safety committee documents to assess the onsite safety culture and whether issues were being identified and addressed.

### b. Observations and Findings

The licensee maintains the regulatory ability to make changes, but did not make any changes to the ISFSI per 10 CFR 72.48. A review of corrective action reports written during 2015 and 2016 indicated that the licensee was effectively identifying and correcting facility issues. Safety committee meetings were conducted at regular intervals since the previous inspection and issues were being addressed through the corrective action program.

### c. Conclusion

The licensee implemented its corrective action program in accordance with the applicable regulations and site quality assurance requirements. Through the corrective action program, issues were effectively identified and corrected by the licensee.

## **2.0 Exit Meeting**

The inspector presented the inspection results to Mr. T. Horan and other members of the licensee's staff at the conclusion of the onsite inspection on April 25, 2017. The licensee acknowledged the results presented and did not identify any of the potential report input as proprietary in nature.

ATTACHMENT: SUPPLEMENTAL INFORMATION



**SUPPLEMENTAL INFORMATION**

**PARTIAL LIST OF PEOPLE CONTACTED**

T. Horan, Manager, Dry Fuel Storage Plant Manager

**INSPECTION PROCEDURE USED**

60858                      Away From Reactor ISFSI Inspection Guidance

**ITEMS OPENED, CLOSED, AND DISCUSSED**

<u>Opened</u>	<u>Type</u>	<u>Summary</u>
---------------	-------------	----------------

None

<u>Closed</u>	<u>Type</u>	<u>Summary</u>
---------------	-------------	----------------

None

Discussed

None

**LIST OF ACRONYMS USED**

ADAMS	Agencywide Documents Access and Management System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DNMS	Division of Nuclear Materials Safety
IR	Inspection Report
ISFSI	Independent Spent Fuel Storage Installation
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records System
QA	Quality Assurance
TSs	Technical Specifications

## LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

Biennial 72.48 Report for the FuelSolutions™ Storage System; dated April 9, 2015  
Certificate of Compliance 1026; Amendment 2  
Corrective Action Reports; dated October 6, 2014 – April 25, 2017  
Defueled Technical Specifications; Amendment 128  
DFS-HTS; Horizontal Transfer System  
Emergency Preparedness Drill and Exercise Reports; dated 2015-2016  
Facility Operating License DPR-06; Big Rock Point Plant; Amendment 128  
IEPIP-08; Emergency Preparedness Drills, Exercises, and Equipment Checks; Revision 9  
QA-3-7-9-14-16-18-2015-BRP-1; Quality Assurance Audit Report; October 27, 2015  
Radiation Protection Program Annual Report; February 9, 2016  
Radiological Survey; dated June 24, 2016  
T1-12; Dry Fuel Storage Cask Daily Checks; Revision 11  
T365-35; Dry Fuel Storage Cask Inspections; Revision 8  
Volume 33; Big Rock Point 72.212 and Certificate of Compliance Evaluation Report; Revision 2  
Volume 34A-01; BRP Site Organization, Responsibilities, Qualifications and Training;  
Revision 10  
Volume 35; Big Rock Point Emergency Plan; Revision 9  
WSNF-220; FuelSolution™ Storage System Final Safety Analysis Report; Revision 4  
WSNF-223; FuelSolution™ W74 Canister Storage Final Safety Analysis Report; Revision 6