



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352
October 31, 2014

Mr. Anthony Vitale
Vice-President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9539

**SUBJECT: BIG ROCK POINT INDEPENDENT SPENT FUEL STORAGE INSTALLATION –
NRC INSPECTION REPORTS 07200043/2014001(DNMS) AND
05000155/2014007(DNMS)**

Dear Mr. Vitale:

On October 8, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed inspection activities at the Big Rock Point Independent Spent Fuel Storage Installation (ISFSI). The purpose of the inspection was to evaluate whether the facility was operating in accordance with the NRC approved License Conditions and to evaluate the performance of the biennial emergency exercise. At the conclusion of the inspection, the results were discussed with Mr. B. VanWagner and other members of your staff during an exit meeting on October 8, 2014.

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* (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's Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC's website at <http://www.nrc.gov/reading-rm/adams.html>.

A. Vitale

- 2 -

We will gladly discuss any questions you have concerning this inspection. If you have questions, please contact Mr. Rhex Edwards of my staff at (630) 829-9722.

Sincerely,



Robert J. Orlikowski, Chief
Materials Control, ISFSI, and
Decommissioning Branch
Division of Nuclear Materials Safety

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

Enclosure:
IR Nos. 07200043/2014001(DNMS);
05000155/2014007(DNMS)

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

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos.: 072-00043; 050-00155

License No.: DPR-6

Report Nos.: 07200043/2014001(DNMS)
05000155/2014007(DNMS)

Licensee: Entergy Nuclear Operations, Inc.

Facility: Big Rock Point Independent Spent
Fuel Storage Installation

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

Dates: October 7-8, 2014

Inspectors: Rhex Edwards, Reactor Inspector

Approved by: Robert J. Orlikowski, 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 07200043/2014001(DNMS) and 05000155/2014007

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 adequately demonstrated the effectiveness of its Emergency Plan and the ability to implement the plan in response to an emergency. Additionally, the site demonstrated the ability to conduct an emergency exercise and assess their performance during a formal critique.
- Fire protection requirements were met regarding the conduct of drills and controlling combustibles in and around the ISFSI. (Section 1.1).

Surveillance and Maintenance

- The licensee implemented its surveillance and maintenance program in accordance with applicable regulations, the License, and Technical Specifications (TS).
- The Inspection Follow-up Items (IFIs) discussed in IFI 07200043/2012001-01 and IFI 05000155/2012007-01, "Adequacy of Five-year Cask Inspection Evaluation," was closed to planned corrective actions. (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) Parts 20, 50, and 72 regulations, the License, and TS. (Section 1.3).

Quality Assurance

- The licensee implemented its Corrective Action Program (CAP) in accordance with the applicable regulations and site 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 (IP 60858)

1.1 Emergency Preparedness and Fire Protection

a. Inspection Scope

The inspector observed and evaluated the conduct of the ISFSI biennial emergency preparedness exercise. The inspector reviewed the Big Rock Point ISFSI Emergency Plan, implementing procedures, and the exercise scenario with the exercise objectives and expected sequence of events. The inspector reviewed the proposed exercise scenario to understand its scope and evaluate its adequacy to ensure the licensee could demonstrate their emergency response capabilities. The inspector observed the pre-exercise briefing, the exercise, and the licensee's formal post-exercise self-assessment. Through document reviews and walkdowns, the inspectors also assessed the licensee's fire protection program for its effectiveness to support safe storage of spent nuclear fuel.

b. Observations and Findings

Section 5.8 of the Big Rock Point ISFSI Emergency Plan requires the licensee to perform a biennial exercise to demonstrate emergency response capabilities and effectiveness of the licensee's Emergency Plan. The scenario for the October 8, 2014, exercise involved handling a simulated damaged storage cask. Following an initiating event, the cask was simulated as dropped creating the potential for a damaged confinement boundary. Local officials, including local law enforcement, participated in the real time response to the exercise. The licensee implemented appropriate, timely, and necessary actions to address the simulated event. The licensee correctly classified the event, made timely notifications, augmented personnel as needed, conducted adequate radiological monitoring, and ensured the safety of personnel. Exercise participants maintained control throughout the scenario, starting with a prompt recognition of the initiating event and through recovery discussions. Throughout the exercise, the licensee's staff communicated well with all involved parties and demonstrated knowledge of the Emergency Plan. During the post-exercise critique, the licensee adequately evaluated its emergency response and management capability.

The licensee's fire protection program was assessed through reviews of periodic fire drill records and applicable fire protection program documents. The scenarios were reviewed to determine whether they were realistic and met drill objectives. During the conduct of the drills, the inspectors noted that the City of Charlevoix and Charlevoix Township participated in the drills reviewed. The inspectors did not identify any un-analyzed combustibles stored or located within the ISFSI.

No findings of significance were identified.

c. Conclusion

The licensee adequately demonstrated the effectiveness of its Emergency Plan and its ability to implement the plan in response to an emergency. Additionally, the site

demonstrated the ability to conduct an emergency exercise and assess their performance during a formal critique. 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 inspectors reviewed the licensee's surveillance and maintenance program associated with dry fuel storage to verify compliance with the applicable regulations, the License, and TS. The inspectors walked down the ISFSI pad, observed daily surveillance activities, interviewed personnel, and reviewed select documents. The inspectors reviewed several records of daily temperature checks and radiological surveys performed since the last NRC inspection.

b. Observations and Findings

The inspectors 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 inspectors also evaluated the general condition of the pad, lift unit, horizontal transfer system, and the J- skid. The inspectors noted that temperature logs indicated that the casks operated as designed with no abnormalities. The inspectors found that the licensee performed and documented the surveillance activities as required by TS and site procedures. In addition, the inspectors performed independent radiation surveys of the casks, and general ISFSI area, with a Canberra UltraRadic dose rate meter. The results were bounded by the radiological postings and consistent with the licensee's radiological surveys.

The inspectors reviewed the licensee's planned corrective action to address the conditions documented for storage cask number 7 as Inspection Follow-up Items (IFI) 07200043/2012001-01 and 05000155/2012007-01, "Adequacy of Five-year Cask Inspection Evaluation," in NRC Inspection Report Nos. 07200043/2012001 and 05000155/2012007. The licensee performed this inspection in 2012 as required by T365-35, "Dry Fuel Storage Cask Inspections," Revision 7. As stated in the inspection report listed above, the licensee performed an evaluation of the deposits and streaking and documented the results in CAMCA-12-023, "Evaluation of Big Rock Point FuelSolutions™ W150 Cask 5-Year Inspection Results," dated November 8, 2012. The licensee concluded that the conditions identified did not adversely affect the ability of the cask system to perform its intended safety functions. The inspectors challenged the adequacy of the evaluation and, as a result, the site generated Condition Report (CR) PLP-2014-04869. Additionally, a work task (WT-WTPLP-2014-00049) was created to sample the mineral deposits. At the time of this inspection, the work to sample the deposits was not yet scheduled.

Given that the streaking appears to remain unchanged; there was no apparent adverse effect on thermal performance; and the licensee's planned corrective actions per their CAP, the IFI was closed. The sample results, once available, will be subject to NRC inspection and follow-up if necessary. (CLOSED IFI07200043/2012001-01 and IFI05000155/2012007-01; Adequacy of Five-year Cask Inspection Evaluation).

No findings of significance were identified.

c. Conclusion

The licensee implemented its surveillance and maintenance program in accordance with applicable regulations, the License, and TS. The IFI07200043/2012001-01 and IFI05000155/2012007-01, "Adequacy of Five-year Cask Inspection Evaluation," was closed to planned corrective actions.

1.3 Environmental Monitoring

a. Inspection Scope

The inspector reviewed the licensee's annual Radioactive Effluent Release Reports for 2012 and 2013, which was 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 2013 and 2014. This review evaluated whether the licensee complied with the off-site 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 Parts 20, 50, and 72 regulations, the License, and TS.

1.4 Quality Assurance

a. Inspection Scope

The inspectors verified through document reviews and conduct of interviews whether changes were appropriately controlled and done in accordance with QA requirements. Corrective action reports from 2013 and 2014 were reviewed to determine whether the licensee effectively identified, resolved, and prevented problems. Additionally, the inspectors 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 CRs written during 2013 and 2014 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 CAP.

c. Conclusion

The licensee implemented its CAP in accordance with the applicable regulations and site QA requirements. Through the CAP, issues were effectively identified and corrected by the licensee.

2.0 Exit Meeting

The inspectors presented the inspection results to Mr. B. VanWagner and other members of your staff at the conclusion of the onsite inspection on October 7, 2014. 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

B. VanWagner, Manager, Dry Fuel Storage Plant Manager
L. Potter, Big Rock Point ISFSI Supervisor
S. LaJoice, Securitas Project 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>
---------------	-------------	----------------

IFI07200043/2012001-01 IFI05000155/2012007-01	IFI	Adequacy of Five-year Cask Inspection Evaluation
--	-----	--

Discussed

None.

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Report
DNMS	Division of Nuclear Materials Safety
IR	Inspection Report
NRC	Nuclear Regulatory Commission
TS	Technical Specification

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 inspectors 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.

- CR-PLP-2014-04855; October 7, 2014
- CR-PLP-2014-04869; October 8, 2014
- WT-WTPLP-2014-00049; February 17, 2014
- T1-12; Dry Fuel Storage Cask Daily Checks; Revision 1
- DFS-HTS-1; Horizontal Transfer System Transfer of a Loaded Canister from a Storage Cask to the Transfer Cask; Revision 6
- WO20140004; Perform T365-35 Dry Fuel Storage Cask Inspections; August 18, 2014
- WO20140003; Perform T365-37 Dry Fuel Storage (W100) Transfer Cask; August 18, 2014
- 2012 ISFSI Annual Radioactive Effluent Release Report; February 26, 2013
- 2012 Annual Radioactive Effluent Release and Waste Disposal Report, Attachment 2; April 23, 2013
- 2013 Annual Radioactive Effluent Release and Waste Disposal Report; April 30, 2014
- 2013 Radiological Environmental Operating Report; April 17, 2014
- 2013 ISFSI Annual Radioactive Effluent Release Report; February 20, 2014
- Quality Assurance Audit Report; October 24, 2013
- Offsite Dose Calculation Manual; Revision 30
- 2014 T1-12 Annual Training; October 6, 2014
- Big Rock Independent Spent Fuel Storage Installation (ISFSI) Emergency Plan; Revision 7
- 2013 Radiological and Medical Drill; November 6, 2013
- Fire Protection Summary; Revision 33
- 2012 Fire Drill and Off Site Fire Tour; December 10, 2012
- 2013 Fire Drill and On Site Fire Department Tour; December 16, 2013
- Big Rock Point Updated Final Hazards Summary Report; Revision 17
- BRP 212; 10CFR72.212 and Certificate of Compliance Evaluation Report; Revision 4
- Entergy Quality Assurance Program Manual; Revision 26
- Fourth Quarter 2012 Radiological Survey and Status Sheet; December 27, 2012
- First Quarter 2013 Radiological Survey and Status Sheet; March 27, 2013
- Third Quarter 2013 Radiological Survey and Status Sheet; September 17, 2013
- Fourth Quarter 2013 Radiological Survey and Status Sheet; December 23, 2013
- Second Quarter 2014 Radiological Survey and Status Sheet; June 26, 2014
- Third Quarter 2014 Radiological Survey and Status Sheet; September 29, 2014

A. Vitale

- 2 -

We will gladly discuss any questions you have concerning this inspection. If you have questions, please contact Mr. Rhex Edwards of my staff at (630) 829-9722.

Sincerely,

/RA/

Robert J. Orlikowski, Chief
Materials Control, ISFSI, and
Decommissioning Branch
Division of Nuclear Materials Safety

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

Enclosure:
IR Nos. 07200043/2014001(DNMS);
05000155/2014007(DNMS)

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

DISTRIBUTION w/encl:

Darrell Roberts
Patrick Loudon
Julio Lara
Pamela Longmire
Steven Orth
Carole Ariano
Paul Pelke
Carmen Olteanu
MCID Inspectors

ADAMS Accession Number: ML14304A349

DOCUMENT NAME: G:\DNMS\Work in progress\IR-BigRock_IR_8OCT2014Rev1.docx

Publicly Available Non-Publicly Available Sensitive Non-Sensitive

To receive a copy of this document, indicate in the concurrence box "C" = Copy without attach/encl "E" = Copy with attach/encl "N" = No copy

OFFICE	RIII DNMS	RIII DNMS	RIII	RIII
NAME	RAEdwards:JAW*RAE (via-e-mail)	RJOrlikowski*RJO		
DATE	10/31/14	10/31/14		

OFFICIAL RECORD COPY