



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BLVD., Suite 100
KING OF PRUSSIA, PA 19406-2713

December 7, 2017

Docket No. 07201035

License No. DPR-72

Mr. Terry Hobbs
Decommissioning General Manager
Duke Energy Florida, Inc.
Crystal River Unit 3
15760 W. Power Line Road
Crystal River, FL 34428-6708

SUBJECT: NRC INSPECTION REPORT NO. 07201035/2017002, DUKE ENERGY
FLORIDA, INC., CRYSTAL RIVER UNIT 3, CRYSTAL RIVER, FLORIDA

Dear Mr. Hobbs:

On November 30, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection of the permanently shut down Crystal River Nuclear Plant Unit 3 (CR-3) Independent Spent Fuel Storage Installation (ISFSI) activities. The on-site inspection was performed on November 27-30, 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 you 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.

T. Hobbs

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No reply to this letter is required. Please contact Katherine Warner at 610-337-5389 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: 07201035

License No: DPR-72

Enclosure: Inspection Report 07201035/2017002

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No reply to this letter is required. Please contact Katherine Warner at 610-337-5389 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

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SUNSI Review Complete: KWarner

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 072-01035

License No: DPR-72

Report No: 07201035/2017002

Licensee: Duke Energy Florida, Inc. (Duke Energy)

Facility: Crystal River Unit 3 (CR-3)

Location: 15760 W. Power Line Road
Crystal River, FL 34428-6708

Dates: November 27 – 30, 2017

Exit Date: November 30, 2017

Inspectors: Stephen Hammann, Senior Health Physicist
Decommissioning, ISFSI, and Reactor Health Physics
Branch
Division of Nuclear Materials Safety, Region I

Katherine Warner, Health Physicist
Decommissioning, ISFSI, and Reactor Health Physics
Branch
Division of Nuclear Materials Safety, Region 1

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

Enclosure

EXECUTIVE SUMMARY

Duke Energy
Crystal River Nuclear Plant
NRC Inspection Report No. 07201035/2017002

This report covered an on-site inspection of activities related to Crystal River Nuclear Plant Unit 3 (CR-3) dry cask storage of spent fuel during the inspection period from November 27 – 30, 2017. The inspection included a review and observation of the Independent Spent Fuel Storage Installation (ISFSI) operational loading activities. The inspection consisted of observations by the inspectors, interviews with Duke Energy 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 as described in Inspection Manual Chapter 2690, "Inspection Program for Dry Storage of Spent Reactor Fuel at Independent Spent Fuel Storage Installations". Although inspections are usually performed every two to three years, due to the length of CR-3's campaign, an additional inspection of this campaign was determined to be appropriate by NRC management.

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

REPORT DETAILS

Operation of an ISFSI at Operating Plants (IP 60855)

a. Inspection Scope

On November 27 – 30, the inspectors observed and evaluated selected steps of the loading of Crystal River Unit 3's (CR-3's) sequence 32 and 33 Dry Shielded Canisters (DSCs). The inspectors verified compliance with the Certificate of Compliance (CoC), Technical Specifications (TS), regulations, and station procedures.

The inspectors observed the downending of the thirty-second sequenced canister as well as transportation to the pad, and alignment and insertion into the Horizontal Storage Module (HSM). The inspectors also observed DSC processing operations including installation of the automated welding system and buffing of an inner top cover. The inspectors observed the inspection of the interior of the transfer cask (TC), the upending and lift of the TC to the decon pit, and the insertion of the thirty-third sequenced DSC into the TC. During performance of these activities, the inspectors verified that procedure use, communication, and coordination of Independent Spent Fuel Storage Installation (ISFSI) activities met established CR-3 standards and requirements.

The inspectors observed fuel assemblies being loaded into the thirty-third sequenced DSC and reviewed the fuel selection of the thirty-third sequenced DSC to verify that the licensee was loading fuel in accordance with the CoC, TS, and procedures.

The inspectors verified that transient combustibles were not being stored on the ISFSI pad or the vicinity of the HSMs. The inspectors also confirmed that transient combustible materials entry onto the ISFSI pad were controlled in accordance with procedures. The inspectors observed radiation protection technicians as they performed surveys and provided job coverage for the cask loading workers to verify that the technicians were performing in accordance with site procedures.

The inspectors reviewed corrective action reports and the associated follow-up actions that were generated since the last inspection 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.

Meetings, including exit

.1 Exit Meeting

On November 30, 2017, the inspectors presented the inspection results to Mr. Terry Hobbs, Decommissioning Plant Manager, and other members of the Duke Energy staff who acknowledged the inspection results. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

SUPPLEMENTARY INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Michael Culver	SNM Custodian
*Phyllis Dixon	Duke Manager of Technical Support SAFSTOR
*Alan Fata	Duke ISFSI Project Director
*Terry Hobbs	Decommissioning Plant Manager
*Robert Marckese	ISFSI Engineering Manager
*Phil Rose	Crystal River Licensing
*Mark Vansicklen	Crystal River Licensing
Paul Worthington	Engineering Supervisor
Kenneth Young	TN RP Lead

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

ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Procedures

HTPT-DSC-AREVA, High Temperature Liquid Penetrant (PT) Examination Using the Color Contrast Solvent-Removable Method, AREVA TN-05

ISFS-210, ISFSI Fuel Selection, Revision 4

PTIP 11182-5.10.6, DSC Fuel Loading, Revision 7

PTIP 11182-5.10.7, DSC Processing, Revision 5

PTIP 11182-5.10.8, DSC Insertion into HSM, Revision 5

PTIP 31181-5.21.1, Rigging, Lifting, and Load Handling at CR3, Revision 1

Action Request

02083369

02160875

02165293

02166613

02166660

Miscellaneous

Completed Fuel Selection Package for DCS Serial No: CR3-32PTH1-L-2C-W-31

Corrective Action Report 2017-407

CR3 ISFSI Pool to Pad Dose Projected – versus- Actual

LIST OF ACRONYMS USED

CoC	Certificate of Compliance
CR-3	Crystal River Unit 3
DSC	Dry Shielded Canister
HSM	Horizontal Storage Module
ISFSI	Independent Spent Fuel Storage Installation
NRC	U.S. Nuclear Regulatory Commission
TC	Transfer Cask
TS	Technical Specifications