



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

August 16, 2018

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

**SUBJECT: NRC INSPECTION REPORT NO. 05000302/2018002, DUKE ENERGY
FLORIDA, LLC, CRYSTAL RIVER UNIT 3, CRYSTAL RIVER, FLORIDA**

Dear Mr. Hobbs:

On July 30 – August 2, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an on-site inspection under Inspection Manual Chapter 2561, "Decommissioning Power Reactor Inspection Program," at the permanently shut down Crystal River Nuclear Plant Unit 3 (CR-3). The inspectors 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 inspectors, interviews with personnel, and a review of procedures and records. The results of the inspection were discussed with you and other members of the CR-3 staff on August 2, 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(s), 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).

T. Hobbs

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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 HP
Branch
Division of Nuclear Materials Safety

Docket No. 05000302
License No. DPR-72

Enclosure: Inspection Report 05000302/2018002
w/Attachment

cc w/encl: Distribution via ListServ

T. Hobbs

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No.	05000302/2018002
Docket No.	05000302
License No.	DPR-72
Licensee:	Duke Energy Florida, LLC (Duke Energy)
Facility:	Crystal River Unit 3 (CR-3)
Location:	15760 W. Power Line Road Crystal River, FL 34428-6708
Inspection Dates:	July 30-August 2, 2018
Inspector:	Stephen Hammann, Senior Health Physicist Decommissioning, ISFSI, and Reactor HP Branch Division of Nuclear Materials Safety, Region I Katherine Warner, 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

Inspection Report No. 05000302/2018002

EXECUTIVE SUMMARY

Duke Energy
Crystal River Nuclear Plant
NRC Inspection Report No. 05000302/2018002

An announced CR-3 decommissioning on-site inspection was performed July 30 – August 2, 2018. The inspection included a review of organization and management, design changes and modifications, corrective action program, effluent and environmental monitoring, and decommissioning status. The inspection consisted of observations by the inspectors, interviews with Duke Energy personnel, a review of procedures and records, and plant walk-downs. The NRC's program for overseeing the safe operation of a shut-down 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 February 20, 2013, Duke Energy sent a letter [Agency Documentation and Management System Accession Number ML13056A005] to the NRC certifying the permanent cessation of activities and certifying that the fuel had been permanently removed from the reactor. This met the requirements of 10 Code of Federal Regulations (CFR) 50.82(a)(1)(i) and 50.82(a)(1)(ii). CR-3 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) 36801, 37801, 40801, 71801, 84750]

The inspectors conducted document reviews, attended safety meetings, and interviewed plant personnel to verify regulatory requirements were properly implemented with respect to the site organization, staffing and qualifications, fire protection, and employee training programs. The inspectors reviewed procedures and processes to evaluate Duke Energy's ability to resolve employee safety concerns, disseminate safety information and effectively resolve identified problems. The inspectors reviewed Duke Energy's decommissioning activities to verify they were performed in a manner consistent with the Post Shutdown Decommissioning Activities Report (PSDAR).

The inspectors conducted document reviews and interviews with plant personnel to verify Duke Energy procedures and processes conform to the regulations and guidance associated with 10 CFR 50.59 and changes made by Duke Energy under 10 CFR 50.59 did not require prior NRC approval. The inspectors reviewed the qualification and training for 10 CFR 50.59 evaluators, directions for performing reviews of proposed changes, and an evaluation performed regarding the future removal of certain radiation monitors.

The inspectors reviewed documents and interviewed CR-3 personnel to verify Duke Energy management performed audits and self-assessments, and ensured issues were identified and corrected in accordance with the site's corrective action program (CAP). The inspectors reviewed a representative selection of CAP documents to determine if a sufficiently low threshold for problem identification existed, follow-up evaluations were of sufficient quality, and Duke Energy assigned timely and appropriate prioritization for issue resolution commensurate with the significance of the issue. The inspectors reviewed the site audits for the past year to verify audits were thorough and corrective actions were initiated if necessary.

The inspectors reviewed activities and documentation associated with effluent and environmental monitoring to ensure that the licensee effectively controls, monitors, and quantifies releases of radioactive materials in liquid, gaseous, and particulate forms to the environment. The inspectors performed a walk-down of groundwater monitoring wells and interviewed plant personnel. The inspectors reviewed procedures, diagrams of effluent monitoring systems, the annual radiological environmental monitoring program (REMP) report, the annual radioactive effluent report, and the Off-Site Dose Calculation Manual (ODCM).

The inspectors reviewed the project to remove racks from the spent fuel pool. The inspectors attended pre-job briefs, interviewed personnel, and observed racks being removed, decontaminated, and packaged for transport. The inspectors reviewed as low as reasonably achievable plans, radiation work permit (RWP), work order task instructions, and condition reports to verify activities were performed in accordance with plant procedures, and work orders.

b. Observations and Findings

The inspectors verified that management oversight was adequate for the SAFSTOR phase of decommissioning and that no significant changes had been made to the CR-3 SAFSTOR organization since the previous inspection. The inspectors determined that training programs were being appropriately implemented, workers are able to check their training qualifications via computerized system, and notifications are automatically emailed to workers and their supervisors when training is due. The inspectors determined safety issues are reported to management and the site has monthly safety meetings and weekly safety implementation meetings. The inspectors noted that site decommissioning activities were in accordance with the PSDAR.

The inspectors determined that 10 CFR 50.59 screenings and evaluations are being performed and that Duke Energy has trained and qualified individuals to perform the evaluations. The inspectors determined that changes under 10 CFR 50.59 did not require prior NRC approval and safety reviews were performed for design changes and modifications in accordance with applicable regulatory requirements, license conditions and the Decommissioning Safety Analysis Report.

The inspectors determined that issues were being identified and entered into the CAP in a timely manner and the issues were effectively screened, prioritized and evaluated commensurate with their safety significance. The inspectors verified audits were being performed by qualified individuals independent of the organization being audited and that management reviewed the audits and associated corrective actions.

The inspectors verified that effluent releases to the environment were being properly controlled, monitored, and quantified as required by NRC regulations. The inspectors verified that the annual radiological effluent and the annual REMP reports demonstrated that calculated doses were below regulatory dose criteria of 10 CFR 50, Appendix I. The inspectors verified effluent monitors and area radiation monitors were checked, calibrated, and maintained as specified in the ODCM.

The inspectors determined the SFP rack removal activities were performed safely and in accordance with plant procedures and work orders. Inspectors also determined the use of ALARA plans and RWP were effective in minimizing worker exposure.

3.0 Exit Meeting Summary

On, August 2, 2018, the inspectors presented the inspection results to Terry Hobbs, Decommissioning General Manager, and other members of Duke Energy's staff. The inspectors confirmed that proprietary information was not removed from the site.

PARTIAL LIST OF PERSONS CONTACTED

B. Akins, Manager - Radiation Protection and Chemistry
P. Dixon, Manager - Technical Support
T. Hobbs, Decommissioning General Manager
J. Lane, Engineering
C. Miller, Engineering
P. Rose, Licensing
K. Shelton, RP Supervisor
M. Van Sicklen, Licensing
P. White, RP Technician

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Audits and Reports

02161837, Self-Assessment Report RP Focus Areas: 1) RAM Storage & Control, 2) Postings and Signs, October 31, 2017
2018-CR3-EMP-PR-01, Nuclear Oversight – Performance Review Crystal River 3 Emergency Preparedness, June 14, 2018
2182488-11, 2017 Radiation Protection Program Annual Review, February 8, 2018
Crystal River Unit 3 - 2017 Annual Radiological Environmental Operating Report
Crystal River Unit 3 - 2017 Annual Radioactive Effluent Release Report

Condition Reports

02174936, 02170879, 02193419, 02215085

Miscellaneous

10 CFR 50.59 Evaluation 02212624
10 CFR 50.59 Screenings – 2164982, 2175258, 2212624
ALARA Work Plan, 18-002
Basic Cause Evaluations, 2156669, 2183075, 2160875
CR3 Safety Committee Meeting Minutes – May 14, 2018
Fire Hazards Analysis, Rev. 16
Fire Protection Plan, Rev. 35
Offsite Dose Calculation Manual, Rev. 37
RWP 2225
Work Order Task Instructions 20243176-05

Procedures

AD-NO-ALL-01, Audit System Design, Rev. 1
 AD-NO-ALL-0305, Integrated Scheduling of Audits and Assessments, Rev. 4
 AD-NO-ALL-1001, Conduct of Audit, Rev. 5
 AI-301, Plant Nuclear Safety Committee Charter, Rev. 22
 AI-1000, Housekeeping/Material Condition Program, Rev. 48
 AI-1806, CR-3 Safety Committee, Rev 25
 AI-2205, Administration of CR-3 Fire Brigade Organization and Duties of the Fire Brigade, Rev 28
 AI-4002, Site Specific Actions and Oversight Expectations, Rev. 11
 CAP-0200, Conduct of Performance Improvement, Rev. 5
 CP-161, Radiological Environmental Monitoring Program, Rev. 10
 CP-9000, Radiological Groundwater Protection, Rev. 1
 CP-9300, Fire Protection – Minimum Requirements, Compensatory Measures, and Surveillance Requirements, Rev. 6
 NOS-1000, CR-3 Nuclear Oversight – Conduct of Operation, Rev. 1
 REG-0010, 10 CFR 50.59 and Selected Regulatory Reviews, Rev. 6
 SAF-2172, Industrial Safety, Rev. 2
 TAP-408, Development and Conduct of Job Performance Measures, Rev. 11
 TRN-1000, Performance Based Training, Rev. 4

LIST OF ACRONYMS USED

ALARA	As Low As Reasonably Achievable
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR-3	Crystal River Unit 3
Duke Energy	Duke Energy Florida, Inc.
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NRC	U.S. Nuclear Regulatory Commission
ODCM	Off-Site Dose Calculation Manual
PSDAR	Post Shutdown Activities Report
REMP	Radiological Environmental Monitoring Program
RWP	Radiation Work Permit