



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PA 19406-2713

October 21, 2015

Docket No. 05000302

License No. DPR-72

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. 05000302/2015009, DUKE ENERGY
FLORIDA, INC., CRYSTAL RIVER UNIT 3, CRYSTAL RIVER, FLORIDA

Dear Mr. Hobbs:

On September 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed its quarterly inspection under Inspection Manual Chapter 2561, "Decommissioning Power Reactor Inspection Program," at the permanently shut down Crystal River Nuclear Plant Unit 3 (CR-3). On-site inspections were performed on August 25-27, 2015. In-office reviews of information supplied by Duke Energy Florida, Inc. were also performed during the inspection period. The inspection 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 inspector, interviews with personnel, and a review of procedures and records. The results of the inspection were discussed with Phyllis Dixon, Decommissioning Technical Support Manager, and other members of the CR-3 staff on October 5, 2015, 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

2

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 Powell, Chief
Decommissioning and Technical Support
Branch
Division of Nuclear Materials Safety

Enclosure: Inspection Report 05000302/2015009

cc w/encl: Distribution via ListServ

T. Hobbs

2

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 Powell, Chief
Decommissioning and Technical Support
Branch
Division of Nuclear Materials Safety

Enclosure: Inspection Report 05000302/2015009

cc w/encl: Distribution via ListServ

DOCUMENT NAME: G:\WordDocs\Current\Insp Letter\LDPR-72.2015009.docx

SUNSI Review Complete: SHammann

After declaring this document AAn Official Agency Record≅ it **will** be released to the Public.

ML15294A180

To receive a copy of this document, indicate in the box: AC≅ = Copy w/o attach/encl AE≅ = Copy w/ attach/encl AN≅ = No copy

OFFICE	DNMS/RI	N	DNMS/RI		DNMS/RI			
NAME	SHammann/sth		RPowell/rp					
DATE	10/21/15		10/21/15					

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 05000302/2015009
Docket No. 05000302
License No. DPR-72
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
Inspection Dates: July 1, 2015 to September 30, 2015
Inspector: Stephen Hammann, Senior Health Physicist
Decommissioning and Technical Support Branch
Division of Nuclear Materials Safety, Region I
Approved By: Raymond Powell, Chief
Decommissioning and Technical Support Branch
Division of Nuclear Materials Safety, Region I

EXECUTIVE SUMMARY

Duke Energy
Crystal River Nuclear Plant
NRC Inspection Report No. 05000302/2015009

An announced quarterly inspection was completed at CR-3 on September 30, 2015. On-site inspections were conducted on August 25-27, 2015. In-office reviews of information supplied by Duke Energy were also performed during the inspection period. The inspection included a review of site operations, management oversight, site radiological programs, maintenance and surveillance, and decommissioning performance. The inspection consisted of observations by the inspector, 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 (ADAMS) 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). As of the end of this reporting period, Crystal River Unit 3 (CR-3) has moved from the "Post Operation Transitional Phase" of decommissioning to the SAFSTOR phase of decommissioning as described in IMC 2561.

2.0 Post Operation Transition Phase Performance and Status Review

a. Inspection Scope (Inspection Procedures (IPs) 62801, 71801, 83750, 86750)

The inspector performed an on-site inspection the week of August 25-27, 2015. In-office reviews of information supplied by Duke Energy were also performed during the inspection period. The inspection consisted of observations by the inspector, interviews with Duke Energy personnel, a review of procedures and records, and plant walk-downs.

The inspector reviewed activities and documentation associated with the occupational exposure and radioactive waste management to determine the effectiveness of site radiological programs. The inspector accompanied a CR-3 radiation protection (RP) technician during a plant walk-down which included; checking postings, general area surveys, air sample collection and analysis. The inspector also toured the instrument calibration lab and reviewed the setup of the calibrator and reviewed calibration procedures. The inspector observed work activities associated with the processing, packaging, surveying, and storage of radwaste and reviewed the work package for the most recent shipment of radwaste to verify compliance with the regulations. The inspector reviewed year-to-date dose totals, radiation work permits, and As Low As Reasonably Achievable work plans to verify radiation work activities were pre-planned effectively to limit worker exposure.

The inspector reviewed the completed work package and related procedures completed for the quarterly preventative maintenance of the fuel handling crane to verify that maintenance was being performed within the established frequencies and that the equipment was being properly maintained. The inspector also met with CR-3 maintenance supervisors and discussed staffing levels, how routine maintenance and emergent work is requested, prioritized, and scheduled, and reviewed the current maintenance workload. The inspector reviewed the backlog of maintenance work to assess the age and prioritization of the items.

The inspector observed CR-3 and Areva, Inc. personnel performing visual inspections of spent fuel assemblies in order to assess the material condition of the spent fuel assemblies. The visual inspections are in preparation for the CR-3 campaign to move all fuel assemblies from the spent fuel pool and into dry cask storage. The inspector reviewed the equipment setup, RP coverage of the project, and evaluated CR-3's adherence to procedures.

b. Observations and Findings

The inspector attended pre-job briefings and determined that briefings were thorough and identified the significant potential hazards for the activities to be performed. The inspector determined that survey records were clear and complete and RP staff effectively controlled work activities. The inspector noted most routine surveys, instrument calibrations and daily source checks of instruments are performed on back shift. The inspector also noted that most radwaste has been shipped off-site and several large legacy radwaste items are scheduled to be shipped within the next year.

The inspector verified that the maintenance and surveillance program for systems and components had been conducted in accordance with the technical specifications requirements and established procedures. The inspector determined that approximately 20% of maintenance work is preventative maintenance and the rest is emergent work. The inspector also determined that approximately 90% of the maintenance workload is non-complex and does not require a work order.

The inspector noted that the visual inspection of fuel assemblies was being performed using multiple cameras and that all four sides, top, and bottom are viewed and that all visuals are recorded. The inspector verified that a second independent individual views the monitors to verify results and all deformations of fuel assemblies are noted. The inspector noted that CR-3 plans to further test the fuel assemblies with deformations to ensure they will be able to be loaded into dry casks.

c. Conclusions

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

3.0 Exit Meeting Summary

On October 5, 2015, the inspector presented the inspection results, via teleconference, to Phyllis Dixon, Decommissioning Technical Support 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

Licensee

K. Ankrum, Finance
B. Akins, Radiation Protection and Chemistry Manager
J. Campbell, RP Tech
P. Dixon, Decommissioning Technical Support Manager
J. Gaines, Sr. HR Consultant
K. Hirsch, Lead Scientist
T. Hobbs, Decommissioning General Manager
R. Macko, Sr. Scientist
P. Rose, Licensing
I. Wilson, General Manager Decommissioning (Acting)
K. Shelton, RP Supervisor
J. Stoney, Radwaste Tech
D. Sumners, RP Tech
M. Van Sicklen, Licensing
H. Wojtasinski, Maintenance Supervisor

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Audits and Reports

2014-CR3-QA-01 Audit Report
2014-CR3-REW-01 Audit Report
2015-CR3-QA-01 Audit Report
RP Self Assessment 734454-11, Respiratory Protection, Rad Material Storage, Rad Posting & Labeling, April 2015

Procedures

AD-RP-ALL-4000, Sentinel Rad Access Management, Rev. 0
AD-RP-ALL-4002, TLD Issue and Management for Active Workers, Rev. 2
AD-RP-ALL-4005, Dose Management, Rev. 0
AD-RP-ALL-4007, Exposure File Management, Rev. 1
AD-RP-ALL-4010, Internal Dose Assessment, Rev. 0
AD-RP-ALL-9000, ALARA Program, Rev. 2
AD-RP-ALL-9001, ALARA Planning, Rev. 0
AI-1602, ALARA Committee, Rev. 12
Areva, FS-156, Fuel Assembly Visual Examination using the Mobile Video Rig, Revision 005
DOS-4011, In Vitro Bioassay, Rev. 0
FP-204, Auxiliary Building Fuel Handling Operations, Rev. 4
FP-601C, Operation of Spent Fuel Pool Handling Bridge FHCR-3, Rev. 50
FP-601G, Operation of Spent Fuel Pool Handling Monorail FHCR-3A, Rev. 4
HPP-202A, Radiological Surveys and Inspections, Rev. 43

HPS-NGGC-0001, Radioactive Material Receipt and Shipping Procedure, Rev. 32
HPS-NGGC-0002, Vendor Cask Utilization Procedure Rev. 21
PT-531, Spent Fuel Pool Handling Bridge Interlock Test (FHCR-3), Rev. 12
PT-671, Spent Fuel Pool Handling Bridge (FHCR-3) Load Test, Rev. 10
PT0672, Spent Fuel Handling Monorail Interlock and Load Test (FHCR-3A), Rev. 2
SNM-100, Special Nuclear Materials Handling and Accountability Manual, Rev. 50
WP-105, Radioactive Material Shipping Forms, Rev. 5

Completed Surveillance Procedures and Surveys

Survey CR-3-M-20150303-5
Survey CR-3-M-20150309-5
Survey CR-3-M-20150316-5
Survey CR-3-M-20150316-10
Survey CR-3-M-20150413-3

Miscellaneous

ALARA Work Plan, 15-001, Spent Fuel Sipping & Inspection, Rev. 2
Crystal River Plant, Fleet All Priorities Maintenance Backlog KPI
Daily RP Dose Reports, 1/1/2015 – 8/12/2015
RP Survey Instructions to Support Ready Warehouse Demolition
RWP-1060, CR-3 Fuel Sipping Activities, Rev. 2
Vacuum Sipping Work Order Instructions

Work Orders

WO 13532299 01

LIST OF ACRONYMS USED

ADAMS	Agency Documentation and Management System
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
RP	Radiation Protection