



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

April 13, 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. 05000302/2015007, DUKE ENERGY
FLORIDA, INC., CRYSTAL RIVER UNIT 3, CRYSTAL RIVER, FLORIDA

Dear Mr. Hobbs:

On March 31, 2015 the U.S. Nuclear Regulatory Commission (NRC) completed a quarterly inspection of activities at Crystal River Nuclear Plant Unit 3 (CR-3). On-site inspections were performed on March 23 - 26, 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 inspectors, interviews with personnel, and a review of procedures and records. The results of the inspection were discussed with you, other members of the CR-3 staff on April 6, 2015, 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, 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 **Nuclear Materials; Med, Ind, & Academic Uses**; 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/

Marc S. Ferdas, Chief
Decommissioning and Technical Support
Branch
Division of Nuclear Materials Safety

Enclosure: Inspection Report 05000302/2015007

cc w/encl: State of Florida
Distribution via ListServ

T. Hobbs

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 05000302/2015007
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: January 1, 2015 to March 31, 2015
Inspectors: Stephen Hammann, Senior Health Physicist
Decommissioning and Technical Support Branch
Division of Nuclear Material Safety, Region I
Mark Roberts, Senior Health Physicist
Decommissioning and Technical Support Branch
Division of Nuclear Material Safety, Region I
Elise Burket, EP Inspector
Plant Support Branch 1
Division of Reactor Safety, Region I
Approved By: Marc Ferdas, Chief
Decommissioning and Technical Support Branch
Division of Nuclear Material Safety, Region I

EXECUTIVE SUMMARY

Duke Energy
Crystal River Nuclear Plant
NRC Inspection Report No. 05000302/2015007

An announced quarterly inspection was completed at CR-3 on March 31, 2015. On-site inspections were conducted the week of March 23 - 26, 2014. 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, plant support activities, and emergency preparedness.

The inspection consisted of observations by the inspectors, interviews with Duke Energy personnel, a review of procedures and records, and plant walk-downs. The U.S. Nuclear Regulatory Commission's (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 (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 CFR 50.82(a)(1)(i) and 50.82(a)(1)(ii). CR-3 is currently in the "Post Operation Transitional Phase" of decommissioning as described in IMC 2561.

2.0 Post Operation Transition Phase Performance and Status Review

a. Inspection Scope (Inspection Procedures (IPs) 36801, 40801, 60801, 71801, 84750)

The inspectors performed an on-site inspection the week of March 23 - 26, 2015. In-office reviews of information supplied by Duke Energy were also performed during the inspection period. The inspection consisted of observations by the inspectors, interviews with Duke Energy personnel, a review of procedures and records, and plant walk-downs.

The inspectors reviewed quality assurance (QA) audit documents (plans, checklists, vulnerability reviews, and reports); self-assessment reports; and corrective action reports to determine if issues were being appropriately identified, assessed, and reviewed; and that corrective actions were being appropriately implemented.

The inspectors reviewed CR-3's programs for the safe wet storage of spent fuel. The inspectors performed a walk-down of the spent fuel pool (SFP) and associated support systems to assess material condition, configuration control, and system operation.

The inspectors reviewed CR-3's program for radiological surveys for material removed from the site. Included in this review were the preliminary plans for demolition and radiological surveys of the Ready Warehouse facility. The inspectors also reviewed the initial soil characterization of the proposed location of CR-3's Independent Spent Fuel Storage Installation (ISFSI).

b. Observations and Findings

The inspectors determined that scheduled QA audits and self-assessments were conducted timely, and findings or issues identified by these reviews were entered as Condition Reports (CRs) into the station's Corrective Action Program (CAP). The inspectors noted that audit plans were developed using standardized checklists and supplemental questions were developed from vulnerability reviews that utilized industry operating experience, CR corrective actions, and other decommissioning power reactor site benchmarking data. Based on the review of CRs, the inspectors noted that required corrective actions were being appropriately and timely implemented.

The inspectors verified that the programs for the safe wet storage of spent fuel were being performed within the established frequencies and that the equipment was being properly maintained. The inspectors conducted a walk-down and reviewed Control Room data that indicated that the SFP cooling system (chillers) was maintaining the SFP temperature at a steady state. The inspectors noted that the Control Room operators closely monitor the indications for SFP water level and temperature.

The inspectors discussed the preliminary plans and initial radiological survey data for the Ready Warehouse demolition project. The Ready Warehouse was used to store new material and equipment. The drains and piping associated with laundry and shower systems located in this building are scheduled to be removed and disposed of as radioactive waste. As part of the planning for demolition of the building, the inspectors confirmed that site Radiation Protection (RP) staff had conducted a walk-through search of the building to identify and remove any radiological fixtures (e.g. smoke detectors) and items with radioactive material markings. They also performed radiation and contamination measurements.

The inspectors also walked down the outside area designated for the location of the ISFSI. The inspectors noted that a preliminary radiological survey of the area identified an area of approximately 1,000 feet square with low-level, but detectable, surface soil contamination. The soil was excavated by CR-3 and was being stored for subsequent disposal. Additional, radiological measurements and sampling are scheduled to be performed by CR-3 prior to construction activities associated with the ISFSI.

c. Conclusions

Based on the results of this inspection, no findings of safety significance were identified. No major decommissioning activities have taken place at CR-3.

3.0 Decommissioning Emergency Preparedness Program Evaluation

a. Inspection Scope (IP 82501)

The inspectors reviewed an on-shift Operations staffing change made at CR-3 to determine whether the change affected the overall state of Emergency Preparedness (EP) at the site and whether implementing the change had negatively impacted the EP program in continuing to meet license commitments and the NRC requirements. The evaluation focused on determining if the proposed minimum Operations staffing change would adversely affect the ability of shift personnel to fill the required Emergency Coordinator role or perform any other initial emergency response actions. The inspectors reviewed the 10 CFR 50.54(q) screen and evaluation associated with the change to determine whether it had resulted in a reduction in effectiveness of the CR-3 emergency plan. Additionally, the inspectors reviewed a time motion study analysis to independently verify the conclusions in the 10 CFR 50.54(q) screen and evaluation.

b. Observations and Findings

The inspectors noted that the change made to the minimum on-shift Operations staffing levels did not reduce the effectiveness of the emergency plan and that the screen and evaluation contained the appropriate level of detail and sufficient basis to support the change. However, this review is not a formal safety evaluation and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

c. Conclusions

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

3.0 Exit Meeting Summary

On April 6, 2015, the inspectors presented the inspection results, via teleconference, to Terry Hobbs, 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

Licensee

B. Akins, Radiation Protection and Chemistry Manager
M. Anderson, Instructor
C. Burtoff, Lead Scientist (Radiation Protection)
P. Dixon, Director, Decommissioning Support
F. Frando, Licensing Engineer
P. Gerardin, Senior Nuclear QA Audit Specialist
T. Hobbs, General Manager
J. Jernigan, Certified Fuel Handler Candidate
J. Lane, Lead System Engineer
G. McCallum, Operations Manager
P. Rose, Licensing Engineer
M. Snyder, Nuclear, INPO, Self-Assessment, and Benchmarking Specialist
F. White, Licensing Engineer
I. Wilson, Planning Manager
B. Wunderly, Plant Manager

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Action Request (Condition Reports)

633809, 666003, 679866, 693991, 710758, 724094, 730716, 731612, 732828

Audits and Reports

Nuclear Oversight – Audit; Crystal River Radiological, Effluent and Waste Audit, 2014-CR3-REW-01, 10/8/14
Nuclear Oversight – Audit; Crystal River Emergency Planning Audit, 2014-CR3-EP-01, 11/17/14
Nuclear Oversight – Audit; Crystal River Quality Assurance Audit, 2014-CR3-QA-01, 06/26/14
Nuclear Oversight – Audit; Crystal River Security Functional Audit, 2014-CR3-SC-01, 12/22/14
2014 Nuclear Oversight Fleet Composite Evaluation Schedule, Revision 0
2015 Nuclear Oversight Fleet Composite Evaluation Schedule, Revision 0
Audit Plan - Crystal River Radiological, Effluent and Waste Audit, 2014-CR3-REW-01, 08/21/14
Audit Specific Checklist - Crystal River Radiological, Effluent and Waste Audit, 2014-CR3-REW-01, 08/21/14
Vulnerability Review for Crystal River Radiological, Effluent and Waste Audit, 2014-CR3-REW-01, 08/21/14
Audit Plan - Crystal River Security Functional Audit, 2014-CR3-SC-01, 11/24/14
Audit Specific Checklist - Crystal River Security Functional Audit, 2014-CR3-SC-01, 11/24/14
Vulnerability Review for Crystal River Security Functional Audit, 2014-CR3-SC-01, 11/24/14
Audit Plan - Crystal River Quality Assurance Audit, 2014-CR3-QA-01, 3/3/14
Audit Specific Checklist - Crystal River Quality Assurance Audit, 2014-CR3-QA-01, 3/3/14

Audits and Reports (Cont'd)

Vulnerability Review for Crystal River Quality Assurance Audit, 2014-CR3-QA-01, 3/3/14
Audit Plan - Crystal River Emergency Planning Audit, 2014-CR3-EP-01, 10/15/14
Audit Specific Checklist - Emergency Planning Audit, 2014-CR3-EP-01, 10/13/14
Vulnerability Review for Crystal River Emergency Planning Audit, 2014-CR3-EP-01, 10/13/14
Self-Assessment, 2014 Radiation Protection Program Annual Review, Assessment AR Number 727697, 1/13/2015 - 1/19/2015
Self-Assessment, Investment Recovery, Assessment AR Number 664352, 2/15/2014 - 3/4/2014
Self-Assessment, Inspection Readiness of the Radiation Protection and Chemistry Department, Assessment AR Number 668471, 3/27/2014

Procedures

AD-NO-ALL-1001, Conduct of Audit, Revision 2
AD-NO-ALL-0303, NOS Follow-up, Revision 1
AD-NO-ALL-0203, Differing Professional Opinion Process (DPO), Revision 0
AI-9000, Conduct of Decommissioning, Revision 2
CAP-0200, Conduct of Performance Improvement, Revision 2
HPP-202A, Radiological Surveys and Inspections, Revision 42
HPP-215, Health Physics Source Receipt and Control, Revision 23
TPP-901, Certified Fuel Handler Training and Retraining Program, Revision 0
TPP-902, Non-Certified Plant Operator Training and Retraining Program, Revision 0

Miscellaneous

AOQOC27C, Certified Fuel Handler Task Performance Manual
AOQOC28C, NCPO Tier 1 Task Performance Manual
AOQOC29C, NCPO Tier 2 Task Performance Manual
NRR Safety Evaluation, Certified Fuel Handler Training and Retraining Program, Crystal River Unit 3 Nuclear Generating Plant, June 26, 2014
Radiological Survey CR3-M-2015-0316-5, Ready Warehouse First Floor
Radiological Survey CR3-M-2015-0309-5, Ready Warehouse Mezzanine
Radiological Survey CR3-M-2015-0316-10, Ready Warehouse Second Floor
Radiological Survey CR3-M-2015-0204-1, ISFSI Pad Area
Radiological Survey CR3-M-2015-0217-2, ISFSI Pad Area Remediation
List of Condition Reports between 1/1/2014 and 2/28/2015
Proposed SAFSTOR Organization Chart effective on or before 7/1/2015
TMS-003, Time-Motion Study for Minimum On-Shift Staffing of Operations Personnel, dated December 2014
EMG-NGGC-0010, Revision 4, Attachment 1 – 50.54(q)(3) Screening Sheet, Screening/Evaluation Number: EREG 706180
EMG-NGGC-0010, Revision 3, Attachment 2 – 50.54(q)(3) Evaluation Sheet, Screening/Evaluation Numbers: EREG 706180, EREG693270

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
CR-3	Crystal River Unit 3
Duke Energy	Duke Energy Florida, Inc
EP	Emergency Preparedness
IMC	Inspection Manual Chapter

LIST OF ACRONYMS USED (Contd)

IP	Inspection Procedure
ISFSI	Independent Spent Fuel Storage Installation
NRC	U.S. Nuclear Regulatory Commission
QA	Quality Assurance
RP	Radiation Protection
SFP	Spent Fuel Pool