



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

December 29, 2016

Mr. Thomas Ray
Site Vice President
Duke Energy Carolinas, LLC
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 – U.S. NUCLEAR
REGULATORY COMMISSION EMERGENCY PREPAREDNESS INSPECTION
REPORT 05000269/2016502, 05000270/2016502, AND 05000287/2016502

Dear Mr. Ray:

On December 16, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Oconee Nuclear Station, Units 1, 2, and 3. The enclosed inspection report (IR) documents the inspection results that were discussed on December 16, 2016, with you and members of your staff.

The NRC inspectors did not identify any findings or violations of more than minor significance.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public inspections, exemptions, requests for withholding," of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its Enclosure, and your response if any, will be available electronically for public inspection in the NRC's Public Document Room, or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS); accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Brian R. Bonser, Chief
Plant Support Branch 1
Division of Reactor Safety

Docket Nos. 50-269, 50-270, and 50-287
License Nos. DPR-38, DPR-47, and DPR-55

Enclosure:
NRC IR 05000269, 270, and 287/2016502
w/Attachment: Supplementary Information

cc: Distribution via Listserv

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SIGNATURE	SPS VIA EMAIL	BRB1 FOR	CAF2 VIA EMAIL	JDB10 VIA EMAIL	BRB1 FOR	BRB1	
NAME	S. SANCHEZ	J. HICKMAN	C. FONTANA	J. BUNDY	R. CURETON	B. BONSER	
DATE	12/27/2016	12/29/2016	12/28/2016	12/28/2016	12/29/2016	12/29/2016	
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

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Letter to Mr. Thomas Ray from Mr. Brian R. Bonser dated December 29, 2016

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 – U.S. NUCLEAR
REGULATORY COMMISSION EMERGENCY PREPAREDNESS INSPECTION
REPORT 05000269/2016502, 05000270/2016502, AND 05000287/2016502

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 05000269, 05000270, and 05000287

License Nos: DPR-38, DPR-47, and DPR-55

Report Nos: 05000269/2016502, 05000270/2016502, and 05000287/2016502

Licensee: Duke Energy Carolinas, LLC

Facility: Oconee Nuclear Station, Units 1, 2, and 3

Location: Seneca, SC

Dates: December 12–16, 2016

Inspectors: Steven P. Sanchez, Senior Emergency Preparedness Inspector
Christopher A. Fontana, Emergency Preparedness Inspector
John D. Hickman, Emergency Preparedness Inspector (Trainee)
Jason Bundy, Operations Engineer (Trainee)
Ron Cureton, Resident Inspector - McGuire

Approved by: Brian R. Bonser, Chief
Plant Support Branch 1
Division of Reactor Safety

Enclosure

SUMMARY

Inspection Report (IR) 05000269/2016502, 05000270/2016502, and 05000287/2016502; 12/12/2016 – 12/16/2016; Oconee Nuclear Station, Units 1, 2, and 3; Exercise and Baseline Inspection

This report covers an inspection by three emergency preparedness inspectors, one resident inspector, and one operations engineer. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation

a. Inspection Scope

The onsite inspection consisted of the following review and assessment:

- The adequacy of the licensee's performance in the biennial exercise, conducted on December 13, 2016, was reviewed and assessed regarding the implementation of the Risk Significant Planning Standards in 10 CFR 50.47(b)(4), (5), (9), and (10); which address emergency classification, offsite notification, radiological assessment, and protective action recommendations, respectively.
- The overall adequacy of the licensee's emergency response facilities with regard to NUREG-0696, "Functional Criteria for Emergency Response Facilities," and Emergency Plan commitments. The facilities assessed were the Control Room Simulator, Technical Support Center, Operations Support Center, and the offsite Emergency Operations Facility.
- Other performance areas, such as the emergency response organization's (ERO) recognition of abnormal plant conditions; command and control, intra- and inter-facility communications; prioritization of mitigation activities; utilization of repair and field monitoring teams; interface with offsite agencies; and the overall implementation of the emergency plan and its implementing procedures.
- Past performance issues from NRC inspection reports and Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS) exercise reports to determine the effectiveness of corrective actions as demonstrated during this exercise to ensure compliance with 10 CFR 50.47(b)(14).
- The post-exercise critique process and the presentation to the licensee's senior management conducted on December 15, 2016, to evaluate the licensee's self-assessment of its ERO performance during the exercise, and to ensure compliance with 10 CFR Part 50, Appendix E, Subsection IV.F.2.g.

The inspectors reviewed various documents, which are listed in the Attachment. The inspectors also attended the FEMA-sponsored public meeting on December 15, 2016. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, four revisions to the emergency plan, one revision to the emergency action levels, and several revisions to emergency plan implementing procedures had been made. The licensee determined that, in accordance with 10 CFR 50.54(q), the emergency plan continued to meet the requirements of 10 CFR 50.47(b), and Appendix E to 10 CFR Part 50. The inspectors reviewed the revisions, and sampled implementing procedure changes to evaluate potential reductions in the effectiveness of the Plan. As this review was not documented in a Safety Evaluation Report, and does not constitute formal NRC approval of the changes, these changes remain subject to future NRC inspection in their entirety.

The inspection was conducted in accordance with NRC Inspection Procedure (IP) 71114, Attachment 04, Emergency Action Level and Emergency Plan Changes. The applicable planning standards of 10 CFR 50.47(b), and its related requirements in 10 CFR Part 50, Appendix E, were used as reference criteria.

The inspectors reviewed various documents, which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the emergency action level and emergency plan changes on an annual basis.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation – Scenario Review

a. Inspection Scope

Prior to the inspection activity, the inspectors conducted an in-office review of the exercise objectives and scenario submitted to the NRC using IP 71114.08, "Exercise Evaluation - Scenario Review," to determine if the exercise would test major elements of the emergency plan as required by 10 CFR 50.47(b)(14).

The inspectors reviewed various documents, which are listed in the Attachment to this report. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors sampled licensee submittals relative to the performance indicators (PIs) listed below for the period July 1, 2015, through September 30, 2016. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, was used to confirm the reporting basis for each data element.

Emergency Preparedness Cornerstone

- Drill/Exercise Performance (DEP)
- Emergency Response Organization (ERO) Readiness
- Alert and Notification System (ANS) Reliability

For the specified review period, the inspectors examined data reported to the NRC, procedural guidance for reporting PI information, and records used by the licensee to identify potential PI occurrences. The inspectors verified the accuracy of the PIs for ERO and DEP through review of a sample of drill and event records. The inspectors reviewed selected training records to verify the accuracy of the PI for ERO drill participation for personnel assigned to key positions in the ERO. The inspectors verified the accuracy of the PI for ANS reliability through review of a sample of the licensee's records of periodic system tests. The inspectors also interviewed the licensee personnel who were responsible for collecting and evaluating the PI data. Licensee procedures, records, and other documents reviewed within this inspection area, are listed in the Attachment.

This inspection satisfied three inspection samples for PI verification on an annual basis.

b. Findings

No findings were identified.

4OA6 Meetings

On December 16, 2016, the inspection team presented the inspection results to Mr. T. Ray and other members of the plant staff. The inspectors confirmed that no proprietary information was provided during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

E. Anderson, Nuclear Engineering Director
M. Austin, Emergency Preparedness Corporate Functional Area Manager
S. Batson, Senior Vice President of Operations
K. Brocklesby, Senior Licensing Specialist
E. Burchfield, Plant Manager
D. Crawl, Senior Emergency Preparedness Specialist
C. Dunton, Site Support Director
M. Dunton, Operations Manager
R. Elliott, Nuclear Oversight Manager
T. Grant, Engineering General Manager
D. Hayes, Projects Oversight
K. Henderson, Senior Vice President
D. Hubbard, Organizational Effectiveness Director
C. King, Assistant Operations Manager
J. Overly, Fleet EP Programs & Projects Manager
W. Pitesa, Chief Nuclear Officer
J. Ratliff, Reactor Electrical Systems Director
T. Ray, Site Vice President
C. Rop, Operations Training Manager
J. Steely, Training Manager
P. Street, Emergency Preparedness Manager
C. Wasik, Regulatory Affairs Manager

LIST OF DOCUMENTS REVIEWED

1EP1 Exercise Evaluation

Procedures

AD-DC-ALL-201, Development and Maintenance of Controlled Procedure Manual Procedures, Rev. 17
AD-EP-ALL-0202, Emergency Response Offsite Dose Assessment, Rev. 3
AD-EP-ALL-0301, Activation of the Emergency Response Organization System, Rev. 2
AD-EP-ALL-0802, Conducting Drills and Exercises, Rev. 2
AD-EP-ALL-0803, Evaluation and Critique of Drills and Exercises, Rev. 2
AD-EP-ALL-2000, Preparation and Management of Radiation Work Permits (RWP), Rev. 3
AD-PI-ALL-0100, Corrective Action Program, Rev. 7
EPFAM Section 1, Administration, Rev. 5
Oconee Nuclear Station (ONS) Emergency Plan (E-Plan), Rev. 2016-003
PD-EP-ALL-0800, Drills and Exercises Program, Rev. 3
RP/0/A/1000/001, Emergency Classifications, Rev. 5
RP/0/A/1000/002, Control Room Emergency Coordinator Procedure, Rev. 11
RP/0/A/1000/009, Procedure for Site Assembly, Rev. 2
RP/0/A/1000/018, Core Damage Assessment, Rev. 0
RP/0/A/1000/019, Technical Support Center Emergency Coordinator Procedure, Rev. 9
RP/0/B/1000/011, Planned Emergency Exposure, Rev. 1

Records and Data

Oconee Nuclear Station Units 1, 2, and 3, 2016 Emergency Preparedness Biennial Exercise Scenario

Control Room Simulator, Operations Support Center, Technical Support Center, and Emergency Operations Facility /Joint Information Center - Documentation packages (logs, event notification forms, Protective Action Recommendations, Media releases, and Radiological Dose Assessments)

2015 and 2016 Emergency Exercise and drill scenario documents

Corrective Action Program Documents (Nuclear Condition Reports)

02086125, Failure to follow site accountability requirements

02086287, ONS graded exercise objective failures from the control room simulator

02086310, ONS simulator RB sump modeling incorrect

02086446, ONS graded exercise G-01 criteria 01 not met

02086448, ONS graded exercise F-01 criteria 02

02086459, ONS graded exercise G-01 criteria 04 not met

02086503, 2016-006 Drill improvement item on minimum staffing

02086506, Training concerning rapidly progressing severe accident needed

02086510, 2016-006 Drill objective failure to activate ERFs in 75 minutes

02086552, ERO updates can't be heard by field teams outside the OSC

02086554, Graded exercise objective J-01 (control room simulator) unsatisfactorily

02086556, Graded exercise objective J-02 (control room simulator) unsatisfactorily

02086557, ENF EAL description not in accordance with procedure

02086568, Personnel not frisking when reporting to the OSC during ERO drill

02086580, 2016 Graded Exercise observation issues with the fire event

1EP4 Emergency Action Level and Emergency Plan ChangesProcedures

AD-EP-ALL-0501, Emergency Preparedness Staff Training & Qualifications, Rev. 0

AD-EP-ALL-0502, Emergency Preparedness 10 CFR 50.54(q) Training Requirements, Rev. 1

AD-EP-ALL-0602, Emergency Plan Change Screening & Effectiveness Evaluations 10 CFR 50.54(q), Rev. 1

Oconee Nuclear Station (ONS) Emergency Plan (E-Plan), Rev. 2016-002 & 2016-003

RP/0/A/1000/001, Emergency Classifications, Rev. 4 & 5

Change Packages

10 CFR 50.54(q) Screening Evaluation Form for E-Plan Rev. 2015-006, dated 10/26/15

10 CFR 50.54(q) Effectiveness Evaluation Form for E-Plan Rev. 2015-006, dated 10/27/15

10 CFR 50.54(q) Screening Evaluation Form for E-Plan Rev. 2015-007, dated 3/31/16

10 CFR 50.54(q) Effectiveness Evaluation Form for E-Plan Rev. 2015-007, dated 3/31/16

10 CFR 50.54(q) Screening Evaluation Form for E-Plan App. 8 Rev. 2016-001, dated 6/3/16

10 CFR 50.54(q) Screening Evaluation Form for E-Plan Rev. 2016-002, dated 9/8/16

10 CFR 50.54(q) Screening Evaluation Form for E-Plan Rev. 2016-002, dated 9/8/16

10 CFR 50.54(q) Effectiveness Evaluation Form for E-Plan Rev. 2016-002, dated 9/8/16

10 CFR 50.54(q) Screening Evaluation Form for E-Plan Rev. 2016-003, dated 12/6/16

10 CFR 50.54(q) Effectiveness Evaluation Form for E-Plan Rev. 2016-003, dated 12/6/16

10 CFR 50.54(q) Screening Evaluation Form for Emergency Classifications Rev. 5, dated 3/2/16

10 CFR 50.54(q) Effectiveness Evaluation Form for Emergency Classifications Rev. 5, dated 3/2/16

10 CFR 50.54(q) Screening Evaluation Form for Emergency Classifications Rev. 5, dated 10/12/16

10 CFR 50.54(q) Effectiveness Evaluation Form for Emergency Classifications Rev. 5, dated 10/12/16
 10 CFR 50.54(q) Screening Evaluation Form for AD-EP-ALL-0202 Rev. 2, dated 9/6/16
 10 CFR 50.54(q) Effectiveness Evaluation Form for AD-EP-ALL-0202 Rev. 2, dated 9/6/16
 10 CFR 50.54(q) Screening Evaluation Form for AD-EP-ALL-1000 Rev. 1, dated 10/24/16
 10 CFR 50.54(q) Effectiveness Evaluation Form for AD-EP-ALL-1000 Rev. 1, dated 10/24/16
 10 CFR 50.54(q) Screening Evaluation Form for DPND-1551.0001 EP SECT 3.5, Basis for Protective Actions, dated 10/11/16
 10 CFR 50.54(q) Screening Evaluation Form for DPND-1551.0001 EP SECT 3.3, Alert and Notification System (Siren Program), dated 10/13/16
 10 CFR 50.54(q) Effectiveness Evaluation Form for DPND-1551.0001 EP SECT 3.3, Alert and Notification System (Siren Program), dated 10/18/16

Corrective Action Program Documents

02033937, DPND-1551.00-0001 EP Sect 3.3, Rev. 16, Alert and Notification System (Siren Program)
 02042298, DPND-1551.00-0001 EP Sect 3.5, Basis for Protective Action Recommendations
 02063541, QHSA 2055677 AFI #1, Evaluate all 10CFR50.54(q)s

1EP8 Exercise Evaluation

Procedures

AD-EP-ALL-0801, Design & Development of Drills & Exercises, Rev.
 AD-EP-ALL-0802, Conducting Drills & Exercises, Rev.
 AD-EP-ALL-0803, Evaluation & Critique of Drills & Exercises, Rev. 2

Records and Data

Oconee Nuclear Plant Units 1, 2 and 3, 2016 Emergency Preparedness Biennial Exercise Scenario
 Drill Report Sequoyah Off-Year Report 10/1/15, dated 12/2/15

4OA1 Performance Indicator Verification

Procedures

AD-EP-ALL-001, Emergency Preparedness Key Performance Indicators, Rev. 1
 AD-EP-ALL-002, NRC Regulatory Assessment Performance Indicator Guideline Emergency Preparedness Cornerstone, Rev. 2
 AD-EP-ALL-0803, Evaluation & Critique of Drills & Exercises, Rev. 2

Records and Data

DEP opportunities documentation for 3rd and 4th quarters 2015, 1st, 2nd, and 3rd quarters 2016
 Siren test data for 3rd and 4th quarters 2015, 1st, 2nd, and 3rd quarters 2016
 Drill and exercise participation records of ERO personnel for 3rd and 4th quarters 2015, 1st, 2nd, and 3rd quarters 2016

Corrective Action Program Documents

01908131, Documentation of DEP opportunity that did not meet performance criteria
 01908316, To document a DEP that did not meet NEI 99-02
 01908391, DEP failure not immediately discovered
 01934752, OSC manager had expired drill participation in ERO report
 01942872, O-ORG-SA-15-11 AFI#2 NRC DEP Key Performance Indicator data
 01942904, Correct ERO NRC KPI documentation

01959213, Drill participation credited prior to qualification
01962786, ONS Siren 4 (Oconee County) silent test failure
01965177, ONS Siren 57 failure
01971746, Weekly ONS ERONS test not performed
01980347, Unsuccessful DEP opportunity on 12/1/15
02058696, ERO participation data error for July 2016
02072112, ERO data support does not meet minimum staffing
02072636, NSD-117 qualifications challenged for ERO planner
02086323, Lost NRC performance indicator report for ERO participation

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
ANS	Alert and Notification System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DEP	Drill and Exercise Performance
DHS	Department of Homeland Security
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PIM	Plant Issues Matrix
PI	Performance Indicator
PI&R	Problem Identification and Resolution
ROP	Reactor Oversight Process
SDP	Significance Determination Process
SUNSI	Sensitive Unclassified Non-Safeguards Information
TBD	To Be Determined
TI	Temporary Instruction
VIO	Violation