



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II**

245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

May 4, 2016

Mr. Kelvin Henderson
Site Vice President
Duke Energy Carolinas, LLC
Catawba Nuclear Station
4800 Concord Road
York, SC 29745-9635

SUBJECT: CATAWBA NUCLEAR STATION – U.S. NUCLEAR REGULATORY
COMMISSION EMERGENCY PREPAREDNESS INSPECTION REPORT
05000413/2016502 AND 05000414/2016502

Dear Mr. Henderson:

On April 7, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Catawba Nuclear Station, Units 1 and 2. The enclosed inspection report (IR) documents the inspection results that were discussed on April 7, 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. 50-413 and 50-414
License Nos. NPF-35 and NPF-52

Enclosure:
NRC IR 05000413 and 05000414/2016502
w/Attachment: Supplementary Information

cc: Distribution via Listserv

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Letter to Kelvin Henderson from Brian R. Bonser dated May 4, 2016

SUBJECT: CATAWBA NUCLEAR STATION – U.S. NUCLEAR REGULATORY
COMMISSION EMERGENCY PREPAREDNESS INSPECTION REPORT
05000413/2016502 AND 05000414/2016502

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-413 and 50-414

License Nos: NPF-35 and NPF-52

Report Nos: 05000413/2016502 and 05000414/2016502

Licensee: Duke Energy Carolinas, LLC

Facility: Catawba Nuclear Station, Units 1 and 2

Location: York, SC

Dates: April 4 - 7, 2016

Inspectors: Steven Sanchez, Senior Emergency Preparedness Inspector
Christopher Fontana, Emergency Preparedness Inspector
John Hickman, Emergency Preparedness Inspector (Trainee)
Andy Hutto, Senior Resident Inspector

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

Enclosure

SUMMARY

Inspection Report (IR) 05000413/2016502 and 05000414/2016502; 4/4/2016 – 4/8/2016;
Catawba Nuclear Station, Units 1 and 2; Exercise and Baseline Inspection

This report covers an inspection by three emergency preparedness inspectors, and one senior resident inspector. 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 April 5, 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 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 April 7, 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 April 7, 2016. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis.

b. Findings

No findings were identified.

EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, there was no revision to emergency action levels and three revisions to the emergency plan. The licensee determined that, in accordance with 10 CFR 50.54(q), the Plan continued to meet the requirements of 10 CFR 50.47(b), and Appendix E to 10 CFR Part 50. The inspectors reviewed the emergency plan revisions 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 January 1, 2015, through December 31, 2015. 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 April 7, 2016, the inspection team presented the inspection results to Mr. Henderson and other members of the plant staff. The inspectors confirmed that no proprietary information was provided during the inspection.

ATTACHMENT: Supplementary Information

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

S. Andrews, Regulatory Affairs Specialist
M. Austin, Emergency Preparedness Corporate Facility Area Manager
E. Benfield, Radiation Protection Supervising Scientist
D. Brunson, Nuclear Engineer II
M. Carwile, Chemistry Manager
C. Fletcher, Regulatory Affairs Manager
B. Foster, Operations Manager
M. Hare, Senior Emergency Preparedness Specialist
K. Henderson, Site Vice President
T. Jenkins, Maintenance Manager
L. Keller, General Manager Nuclear Engineering
B. Kimray, Senior Emergency Preparedness Specialist
B. Leonard, Training Manager
G. McAllister, Emergency Preparedness Specialist
M. Nelson, Senior Emergency Preparedness Specialist
J. Overly, Fleet Emergency Preparedness Programs Manager
T. Simril, Plant Manager
T. White, Senior Emergency Preparedness Specialist

LIST OF DOCUMENTS REVIEWED

1EP1 Exercise Evaluation

Procedures

Catawba Nuclear Station (CNS) Emergency Plan, Rev. 148
AD-EP-ALL-0203, Protocol for the Field Monitoring Coordinator During Emergency Conditions, Rev. 0
AD-LS-ALL-0803, Evaluation and Critique of Drills and Exercises, Rev. 0
PT/0/B/4600/004, Periodic Verification of Emergency Supplies & Equipment Operation, Rev. 041
RP/0/A/5000/004, Site Area Emergency, Rev. 053
RP/0/A/5000/006B, Notification to States and Counties from the Technical Support Center, Rev. 037
RP/0/A/5000/010, Conducting a Site Assembly or Preparing the Site for an Evacuation, Rev. 027
RP/0/B/5000/013, NRC Notification Requirements, Rev. 038
RP/0/A/5000/015, Core Damage Assessment, Rev. 007
RP/0/A/5000/020, Technical Support Center Activation Procedure, Rev. 039
RP/0/A/5000/024, OSC Activation Procedure, Rev. 34
SR/0/A/2000/001, Standard Procedure for Corporate Communications Response to the EOF, Rev. 002

Records and Data

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)

Corrective Action Program Documents (Action Requests)

AR 01972704, Focused SA: Pre-Inspection for NRC Graded Exercise in 2016
 AR 01938212, LOR Exam missed EAL Classification
 AR 02017713, RP field monitoring team drill objective rated as unsatisfactory
 AR 02017246, Emergency Plan revision 14-5 missing revisions
 AR 02017131, E-Plan Rev. 148 50.54q annotated incorrect revision number
 AR 02017294, Potential EP Monitoring Kit needed for new JIC location
 AR 02017116, RP Procedures issued with NSD 703 paperwork (PPR)
 AR 02017695, Intermittent DEMNET Issues During Graded Exercise
 AR 02017702, Drill Materials - Positive Control Not Maintained
 AR 02017713, Field Monitoring Team drill objective rated unsatisfactory
 AR 02017715, WebEOC Fax Challenges During Graded Exercise
 AR 02017716, Expired Radio Station Authorization Posted in TSC
 AR 02017717, EP Exercise 4/5/16 DEMNET failures at OROs
 AR 02017720, EP Exercise 4/5/16 DEMNET dropped notify call
 AR 02017723, Drill Critique item from 4/5/16 ERO drill
 AR 02017729, Drill Critique Item from 4/5/16 ERO drill
 AR 02017742, Debrief Item from the CNS 2016 NRC Evaluated Emergency Exercise
 AR 02017764, Simulator scheduling issue due to EP Drill running long
 AR 02017840, Bridge line utilized by OPS during EP drill insufficient
 AR 02017984, URI Transfer to WebEOC inconsistent
 AR 02017845, Required TCOA procedure not in correct location in the SSF
 AR 02017993, RP/0/A/5000/020
 AR 02018036, Unsat. Demonstration Criteria I.5 #2 during CNS Drill 16-03
 AR 02018200, CAP Items for ANS Failures
 AR 02018294, Drill site assembly notification timeliness
 AR 02018330, Inconsistent NRC DEP KPI documentation

1EP4 Emergency Action Level and Emergency Plan Changes

Procedures

AD-EP-ALL-0602, Emergency Plan Change Screening and Effectiveness Evaluations 10 CFR 50.54(Q), Rev. 0
 Catawba Nuclear Station Emergency Plan, Revision 148

Change Packages

50.54(q) Screening Evaluation Form for Catawba Emergency Plan, § D, Rev. 146, dated 5/14/15
 50.54(q) Effectiveness Evaluation Form for Catawba Emergency Plan, § D, Rev. 146, dated 5/17/15
 50.54(q) Screening Evaluation Form for Catawba Emergency Plan, § E, Rev. 146, dated 5/15/15
 50.54(q) Screening Evaluation Form for Catawba Emergency Plan, § F, Rev. 146, dated 5/14/15

50.54(q) Effectiveness Evaluation Form for Catawba Emergency Plan, § F, Rev. 146, dated 5/17/15

50.54(q) Screening Evaluation Form for Catawba Emergency Plan, § H, Rev. 146, dated 5/14/15

50.54(q) Effectiveness Evaluation Form for Catawba Emergency Plan, § H, Rev. 146, dated 5/19/15

50.54(q) Screening Evaluation Form for Catawba Emergency Plan § I, Rev. 146, dated 5/14/15

50.54(q) Screening Evaluation Form for Catawba Emergency Plan § J, Rev. 146, dated 5/15/15

50.54(q) Screening Evaluation Form for Catawba Emergency Plan § N, Rev. 146, dated 5/15/15

50.54(q) Screening Evaluation Form for Catawba Emergency Plan § P, Rev. 146, dated 5/14/15

50.54(q) Screening Evaluation Form for Catawba Emergency Plan App. 5 Rev. 146, dated 5/15/15

50.54(q) Effectiveness Evaluation Form for Catawba Emergency Plan App. 5 Rev. 146, dated 5/17/15

50.54(q) Screening Evaluation Form for Catawba Emergency Plan, Rev. 147, dated 9/30/2015

50.54(q) Effectiveness Evaluation Form for Catawba Emergency Plan, Rev. 147, dated 9/30/15

50.54(q) Screening Evaluation Form for Catawba Emergency Plan, Rev. 148, dated 3/22/16

50.54(q) Effectiveness Evaluation Form for Catawba Emergency Plan, Rev. 148, dated 3/22/16

Corrective Action Documents

AR 02017131, 10 CFR 50.54 (q) Screening and Effectiveness Reviews for E-Plan change 148 annotated incorrect revision

AR 02017994, AD-EP-ALL-0602 needs to be revised to annotate when CFAM review is not required

1EP8 Exercise Evaluation

Procedures

Catawba Nuclear Station Emergency Plan, Rev. 146, 147, and 148

PD-EP-ALL-0800, Drills and Exercises Program, Rev. 1

AD-EP-ALL-0801, Design and Development of Drills and Exercises, Rev. 1

AD-EP-ALL-0802, Conducting Drills and Exercises, Rev. 0

AD-EP-ALL-0803, Evaluation and Critique of Drills and Exercises, Rev. 0

AD-EP-ALL-1000, Conduct of Emergency Preparedness, Rev. 0

Records and Data

Catawba Nuclear Station 2016 NRC Evaluated Emergency Preparedness Exercise Scenario, dated 4/5/16

Catawba 8 Year IC Tracking Spreadsheet, dated 1/28/16

Catawba 8 Year Drill Objective Tracking Spreadsheet, dated 1/28/16

Catawba Nuclear Station, ERO Drill 15-5 Timeline, dated October 08, 2015

March 18, 2014, CNS ERO Drill 14-2, NRC Graded Hostile Action Based (HAB) Exercise Critique Report

July 24, 2014 CNS ERO Practice Drill 14-4, Critique Report

September 4, 2014, CNS ERO Practice Drill 14-5, Critique Report

November 25, 2014, Critique Report 14-3, ERO Practice Drill

November 25, 2014, CNS ERO Practice Drill 14-3, Critique Report

January 8, 2015, CNS ERO Practice Drill 15-1, Critique Report

August 20, 2015 Critique Report

September 15, 2015 Critique Report
 October 1, 2015 Critique Report
 October 8, 2015 Critique Report
 October 16, 2015 Drill Report
 October 22, 2015, CNS SAMG ERO Drill, Critique Report
 November 18, 2015 (Tabletop) Drill Report

4OA1 Performance Indicator Verification

Procedures

AD-EP-ALL-0001, Emergency Preparedness Key Performance Indicators, Rev. 1
 AD-EP-ALL-0002, NRC Regulatory Assessment PI Guideline EP Cornerstone, Rev. 1
 AD-PI-ALL-0100, Corrective Action Program, Rev. 3

Records and Data

Documentation of Performance Indicator data from January 1, 2015, through December 31, 2015 for DEP, ANS, and ERO

Corrective Action Program Documents

C-15-01336, Siren 74 failure during silent test
 C-15-01611, Sirens 30 and 31 failure due to loss of AC
 AR 02018200, Lack of detail of ANS failures in Corrective Action Program for reportability and failure mechanism trending
 AR 01938212, LOR exam missed EAL classification
 AR 01985319, Inaccurate DEP KPI data reported to the NRC

LIST OF ACRONYMS USED

ANS	Alert and Notification System
DEP	Drill and Exercise Performance
DHS	Department of Homeland Security
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
IP	Inspection Procedure
PIs	Performance Indicators