



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

August 25, 2015

Mr. Steven D. Capps  
Site Vice President  
Duke Energy Carolinas, LLC  
McGuire Nuclear Station  
MG01VP/12700 Hagers Ferry Road  
Huntersville, NC 28078

SUBJECT: MCGUIRE NUCLEAR STATION – U.S. NUCLEAR REGULATORY COMMISSION  
EMERGENCY PREPAREDNESS INSPECTION REPORT 05000369/2015502  
05000370/2015502

Dear Mr. Capps:

On August 7, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your McGuire Nuclear Station. The enclosed inspection report (IR) documents the inspection results that were discussed on August 6, 2015, with you and other members of your staff.

No findings were identified during this inspection.

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 Public Document Room, or from the Publicly Available Records (PARS) component of NRC's 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. 50-369 and 50-370  
License Nos. NPF-9 and NPF-17

Enclosure:  
IR 05000369 and 370/2015502  
w/Attachment: Supplementary Information

cc: Distribution via Listserv

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SIGNATURE	SPS via e-mail	CAF2 via e-mail	JCS3	JSD	REC3 via e-mail	FJE	BRB1
NAME	S. Sanchez	C. Fontana	J. Shehee	J. Dodson	R. Cureton	F. Ehrhardt	B. Bonser
DATE	8/ 18 /2015	8/ 18 /2015	8/ 18 /2015	8/ 19 /2015	8/ 18 /2015	8/ 19 /2015	8/ 25 /2015
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Letter to Seven D. Capps from Brian R. Bonser dated August 25, 2015

SUBJECT: MCGUIRE NUCLEAR STATION – U.S. NUCLEAR REGULATORY COMMISSION  
EMERGENCY PREPAREDNESS INSPECTION REPORT 05000369/2015502  
05000370/2015502

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos: 05000369 and 05000370

License Nos: NPF-9 and NPF-17

Report Nos: 05000369/2015502 and 05000370/2015502

Licensee: Duke Energy Carolinas, LLC

Facility: McGuire Nuclear Station, Units 1 and 2

Location: Huntersville, NC

Dates: August 3 - 7, 2015

Inspectors: Steven Sanchez, Senior Emergency Preparedness Inspector  
Christopher Fontana, Emergency Preparedness Inspector  
James Shehee, Senior Physical Security Inspector  
James Dodson, Senior Project Engineer  
Ron Cureton, Resident Inspector

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

Enclosure

## **SUMMARY**

Inspection Report (IR) 05000369/2015502; 0500037/2015502; 8/3/2015 – 8/7/2015; McGuire Nuclear Station, Units 1 and 2; Exercise and Baseline Inspection

This report covers an announced inspection by two emergency preparedness inspectors, one senior physical security inspector, one senior project engineer, and one 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."

No findings were identified during this inspection.

## REPORT DETAILS

### 1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

#### 1EP4 Emergency Action Level and Emergency Plan Changes

##### a. Inspection Scope

Since the last NRC inspection of this program area, several revisions were made to the Radiological 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 changes and sampled implementing procedure changes made between September 2014 and July 2015 to evaluate for potential reductions in the effectiveness of the Plan. As this review was not documented in a Safety Evaluation Report (SER), 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 (EAL) and emergency plan changes on an annual basis.

##### b. Findings

No findings were identified.

#### 1EP7 Exercise Evaluation – Hostile Action Event

##### a. Inspection Scope

Title 10 CFR 50, Appendix E, Section IV.F.2.j, requires in part that nuclear power reactor licensees, in each 8-calendar-year exercise cycle, provide the opportunity for their emergency response organization (ERO) to demonstrate proficiency in the key skills necessary to respond to a hostile action (HA) directed at the plant site. The licensee designed the August 4, 2015, exercise to satisfy that requirement, and the NRC inspected the HA event exercise to assess the licensee's ability to effectively implement their emergency plan during a HA event, and adequately protect public health and safety.

The exercise evaluation consisted of the following reviews and assessments:

- The adequacy of the licensee's performance in the biennial exercise, conducted on August 4, 2015, was reviewed and assessed regarding the implementation of the

Risk-Significant Planning Standards (RSPS) 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 (ERF) with regard to NUREG-0696, "Functional Criteria for Emergency Response Facilities," and Emergency Plan commitments. The facilities assessed were the Control Room Simulator, Secondary Alarm Station (SAS), Incident Command Post (ICP), the Technical Support Center (TSC), and the Emergency Operations Facility (EOF).
- A review of other performance areas, such as the ERO recognition of abnormal plant conditions; command and control, including interactions with site security staff, intra- and inter-facility communications; prioritization of mitigation activities; utilization of repair and field monitoring teams; interface with offsite agencies, including local law enforcement agencies; staffing and procedure adequacy; 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 adequacy of the licensee's post-exercise critiques, to evaluate licensee self-assessment of its ERO performance during the August 4, 2015, exercise 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. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial 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, 2014, through June 30, 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

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

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, Including Exit

On August 6, 2015, the inspection team presented the inspection results to Mr. S. Capps 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

B. Anderson, Operations Manager  
M. Austin, Corporate Functional Area Manager  
D. Black, Security Manager  
S. Capps, Site Vice President  
K. Crane, Senior Licensing Specialist  
J. Gabbert, Chemistry Manager  
J. Glenn, Organizational Effectiveness Manager  
L. Hentz, Regulatory Affairs  
M. Kelly, Outage and Scheduling Manager  
B. Kimray, Fleet Emergency Preparedness  
S. Mooneyhan, Radiation Protection Manager  
C. Morris, Plant Manager  
G. Murphy, Regulatory Affairs  
K. Murray, Emergency Preparedness Manager  
B. Nanney, Fleet Emergency Preparedness  
J. Robertson, Radiation Protection Manager  
B. Sherrill, Radiation Protection General Supervisor  
S. Snider, Engineering Manager  
T. White, Fleet Emergency Preparedness

### **ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED**

None

### **LIST OF DOCUMENTS REVIEWED**

#### 1EP4 EAL and Emergency Plan Changes

##### Procedures

AD-EP-ALL-0602, Emergency Plan Change Screening & Effectiveness Evaluation 10 CFR 50.54(q), Rev. 0

##### Records and Data

10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section Q (Appendix), Rev. 15-2, dated 7/8/2015  
10 CFR 50.54(q) Effectiveness Evaluation Form for MNS Emergency Plan Section F (Emergency Communications), Rev. 15-1, dated 5/18/2015  
10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section Q Appendix 5 (Agreement Letters), Rev. 15-1, dated 5/19/2015  
10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section E (Notification Methodology), Rev. 14-4, dated 9/30/2014

- 10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section Q Appendix Index (Appendix 5 Agreement Letters), Rev. 14-4, dated 10/1/2014
- 10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section D (Emergency Classification System), Rev. 14-5, dated 11/11/2014
- 10 CFR 50.54(q) Effectiveness Evaluation Form for MNS Emergency Plan Section H (Emergency Facilities & Equipment), Rev. 14-5, dated 11/11/2014
- 10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section I (Accident Assessment), Rev. 14-5, dated 10/22/2014
- 10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section J Figure J-1, Offsite Protective Actions, Rev. 14-5, dated 11/11/2014
- 10 CFR 50.54(q) Effectiveness Evaluation Form for MNS Emergency Plan Section N (Exercises & Drills), Rev. 14-5, dated 11/11/2014
- 10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section P (Accident Assessment), Rev. 14-5, dated 10/22/2014
- 10 CFR 50.54(q) Effectiveness Evaluation Form for MNS Emergency Plan Section P (Responsibility for the Planning Effort), Rev. 14-5, dated 11/11/2014
- 10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section Q (Appendix 2, Meteorological System Description), Rev. 14-5, dated 10/22/2014
- 10 CFR 50.54(q) Screening Evaluation Form for MNS Emergency Plan Section Q (Appendix 3, Alert & Notification System), Rev. 14-5, dated 11/11/2014

## Corrective Action Program Documents

### 1EP7 Exercise Evaluation

#### Procedures

- AD-EP-ALL-0202, Emergency Response Offsite Dose Assessment, Rev. 0
- AD-EP-ALL-0301, Activation of the Emergency Response Organization Notification System (ERONS), Rev. 0
- AD-EP-ALL-0802, Conducting Drills & Exercises, Rev. 0
- AD-EP-ALL-0803, Evaluation & Critique of Drills & Exercises, Rev. 0
- AD-SY-A11-0150, Reporting Safeguards Security and Fitness for Duty Events, Rev. 1
- RP/0/A/5700/011, Conducting a Site Assembly, Site Evacuation or Containment Evacuation, Rev. 20
- RP/0/A/5700/012, Activation of the Technical Support Center, Rev. 45
- RP/0/A/5700/020, Activation of the Operational Support Center, Rev. 31
- RP/0/B/5700/035, Incident Command Post Operations Liaison Guidelines, Rev. 0
- RP/0/B/5700/036, Incident Command Post Radiation Protection Liaison Guidelines, Rev. 0
- SH/0/B/2005/001, Emergency Response Offsite Dose Projections, Rev. 6
- SP/O/1307-M, Security Response Strategy, Rev. 25
- SP/C/1605-M, Suspension of Security Measures During a Site Emergency, Rev. 3
- SP-C-1627-M, Site Assembly and Site Evacuation, Rev. 8
- SR/0/A/2000/001, Standard Procedure for Corporate Communications Response to the Emergency Operations Facility, Rev. 1
- SR/0/A/2000/003, Activation of the Emergency Operations Facility, Rev. 5
- SR/0/A/2000/004, Notifications to State & Counties from the Emergency Operations Facility for Catawba, McGuire, & Oconee, Rev. 4
- SR/0/B/2000/004, Notifications to State & Counties from the Emergency Operations Facility for Catawba, McGuire, & Oconee (Reference Use), Rev. 16

Records and Data

McGuire Nuclear Station 2015 NRC Graded Exercise, Critique Report for Drill 15-06, dated 8/6/2015

Corrective Action Program Documents

Action Request (AR) 1939861, Need to clarify guidance for liquid releases in procedures  
AR 1939917, Officer appeared to be less than attentive to duty  
AR 1939919, DEMNET issues during HAB drill  
AR 1940026, McGuire ENFs need to be evaluated if correct per procedure  
AR 1940037, NRC exercise notification of Alert was not made in 1 hour  
AR 1940081, Unqualified RP Technician during ERO drill  
AR 1940470, EOF access control issues during HAB exercise  
AR 1940842, McGuire Nuclear Station 2015 Graded Exercise low level issues

1EP8 Exercise Evaluation – Scenario Review

Procedures

AD-EP-ALL-0801, Design & Development of Drills & Exercises, Rev. 0

Section 4OA1: Performance Indicator Verification

Procedures

AD-EP-ALL-0002, NRC Regulatory Assessment Performance Indicator Guideline Emergency Preparedness Cornerstone, Rev. 1  
AD-PI-ALL-0100, Corrective Action Program, Rev. 3  
PD-EP-ALL-0800, Drills & Exercises Program, Rev. 0

Records and Data

DEP opportunities documentation for third and fourth quarters 2014; and first and second quarters 2015  
Siren test data for third and fourth quarters 2014; and first and second quarters 2015  
Drill and exercise participation records of ERO personnel for third and fourth quarters 2014; and first and second quarters 2015

**LIST OF ACRONYMS USED**

ANS	Alert and Notification System	HA	Hostile Action
AR	Action Request	HAB	Hostile Action Based
DEP	Drill and Exercise Performance	ICP	Incident Command Post
DHS	Department of Homeland Security	IP	Inspection Procedure
EAL	Emergency Action Level	PIs	Performance Indicators
EOF	Emergency Operations Facility	RSPS	Risk-Significant Planning Standard
ERF	Emergency Response Facility	SAS	Secondary Alarm Station
ERO	Emergency Response Organization	SER	Safety Evaluation Report
FEMA	Federal Emergency Management Agency	TSC	Technical Support Center