



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

August 18, 2011

Mr. Regis T. Repko  
Vice President  
Duke Energy Carolinas, LLC  
McGuire Nuclear Station  
MG01VP/12700 Hagers Ferry Road  
Huntersville, NC 28078

SUBJECT: WILLIAM B. MCGUIRE NUCLEAR STATION - NRC EMERGENCY  
PREPAREDNESS INSPECTION REPORT 05000369/2011501 AND  
05000370/2011501

Dear Mr. Repko:

On August 12, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your William B. McGuire Nuclear Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

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

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," 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 document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/ R. Hamilton for B. Bonser**

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

Docket Nos.: 50-369, 50-370  
License Nos.: NPF-9, NPF-17

Enclosure:  
Inspection Report 05000369/2011501 and 05000370/2011501  
w/Attachment: Supplemental Information

cc w/encl.: (See page 2)

August 18, 2011

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INSPECTION REPORT 05000369/2011501 AND 05000370/2011501

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12700 Hagers Ferry Rd  
Huntersville, NC 28078

**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 05000369, 05000370

License Nos.: NPF-9, NPF-17

Report No.: 05000369/2011-501 and 05000370/2011-501

Licensee: Duke Power Company LLC.

Facility: William B. McGuire Nuclear Station, Units 1 and 2

Location: Huntersville, NC

Dates: August 8, 2011, through August 12, 2011

Inspectors: M. Speck, Senior Emergency Preparedness Inspector  
J. Zeiler, Senior Resident Inspector  
G. Ottenberg, Resident Inspector  
C. Fontana, Emergency Response Coordinator, NRC Region II

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

Enclosure

## SUMMARY OF FINDINGS

IR 05000369/2011501 and 05000370/2011-01; August 8 – 12, 2011; William B. McGuire  
Nuclear Station, Units 1 and 2; Exercise Evaluation

The report covered an announced inspection by one emergency preparedness inspector, one senior resident inspector, one regional incident response coordinator, and one resident inspector. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Emergency Preparedness

No findings were identified.

B. Licensee-Identified Violations.

None

Enclosure

## REPORT DETAILS

### 1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

#### 1EP1 Exercise Evaluation

##### 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 to determine if the exercise would test major elements of the emergency plan as required by 10 CFR 50.47(b)(14). This inspection activity represents one sample on a biennial cycle.

The onsite inspection consisted of the following review and assessment:

- The adequacy of the licensee's performance in the biennial exercise conducted on August 9, 2011, was reviewed and assessed regarding the implementation of the Risk Significant Planning Standards (RSPSs) 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, Operations Support Center (OSC), Technical Support Center (TSC), and Emergency Operations Facility (EOF).
- Other performance areas besides the RSPS, 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 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 August 12, 2011, to evaluate the licensee's self-assessment of its ERO performance during the exercise, and to ensure compliance with 10 CFR 50 Appendix E.IV.F.2.g.

The inspectors reviewed various documents which are listed in the Attachment.

##### b. Findings

No findings were identified.

Enclosure

#### 1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

##### a. Inspection Scope

Since the last NRC inspection of this program area, Revision 10-02, 11-1, and 11-2 of the Emergency Plan were implemented based on the licensee's determination, in accordance with 10 CFR 50.54(q), that the changes resulted in no decrease in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E, to 10 CFR Part 50. The inspector conducted a review of the Plan changes and a sampling review of the implementing procedure changes made between August 1, 2010, and August 1, 2011, to evaluate for potential decreases in effectiveness of the Plan. This review was not documented in a Safety Evaluation Report, and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 04, "Emergency Action Level and Emergency Plan Changes". The applicable planning standard 10 CFR 50.47(b)(4) and related requirements contained in 10 CFR 50.54(q) and Appendix E to 10 CFR Part 50 were used as reference criteria. This inspection activity represents one sample on an annual cycle.

The inspector reviewed various documents which are listed in the Attachment.

##### b. Findings

No findings were identified.

#### 4. OTHER ACTIVITIES

#### 4OA1 Performance Indicator (PI) Verification

##### a. Inspection Scope

The inspectors sampled licensee submittals for the three performance indicators (PI) listed below. For each of the submittals, the inspectors reviewed the period from July 1, 2010, through June 30, 2011. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Indicator Guideline, Revision 6, were used to verify the basis in reporting for each data element.

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

The inspectors reviewed portions of the raw PI data developed from monthly performance indicator reports and discussed the methods for compiling and reporting the PIs with the responsible emergency preparedness personnel. The inspectors also independently screened drill and exercise opportunity evaluations, drill participation reports, and drill evaluations. Selected reported values were calculated to verify their

accuracy. The inspectors compared graphical representations from the most recent PI report to the raw data to verify that the data was correctly reflected in the report. Reviewed documents are listed in the Attachment.

The inspection was conducted in accordance with NRC Inspection Procedure 71151, "Performance Indicator Verification." This inspection activity represents three samples on an annual cycle.

The inspectors reviewed various documents which are listed in the Attachment.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On August 12, 2011, the lead inspector for the emergency preparedness inspection presented the inspection results to Mr. R. Repko, and other members of the onsite management staff. The inspectors confirmed that proprietary information was not provided or taken during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION



## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee personnel

M. Austin, Fleet Emergency Preparedness Manager  
K. Ashe, Safety Assurance Manager  
R. Burris, Emergency Preparedness staff  
S. Capps, Plant Manager  
K. Crane – MNS Regulatory Compliance Specialist  
K. Murray, Emergency Preparedness Manager  
M. Mulkey, Emergency Preparedness staff  
R. Repko, Site Vice-President

### **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

None

### **LIST OF DOCUMENTS REVIEWED**

#### 1EP1: Exercise Evaluation

##### Procedures

AP/1/A/5500/05, Generator Voltage and Electric Grid Disturbances, Rev. 8  
AP/1/A/5500/03, Load Rejection, Rev. 26  
AP/1/A/5500/23, Loss of Condenser Vacuum, Rev. 7  
AP/1/A/5500/07, Loss of Electrical Power, Rev. 30  
EP/1/A/5000/E-0, Reactor Trip or Safety Injection, Rev. 31  
EP/1/A/5000/ES-0.1, Reactor Trip Response, Rev. 32  
EP/1/A/5000/F-0, Critical Safety Function Status Trees, Rev. 4  
Emergency Planning Functional Area Manual (EPFAM) Section 3.19, Drills and Exercises, Rev. 1  
FR-Z.1, Response to High Containment Pressure, Rev. 18  
HP/0/B/1009/023, Environmental Monitoring of Emergency Conditions, Rev. 006  
PT/1/B/4700/078, Unit 1 Primary Chemistry Periodic Surveillance for Reactor Coolant System Specific Activity After a Thermal Power Change, Rev. 3  
RP/0/A/5700/000, Classification of Emergency, Rev. 17  
RP/0/A/5700/002, Alert, Rev. 27  
RP/0/A/5700/003, Site Area Emergency, Rev. 27  
RP/0/A/5700/004, General Emergency, Rev. 26  
RP/0/A/5700/010, NRC Immediate Notification Requirements, Rev. 18  
RP/0/A/5700/011, Conducting a Site Assembly, Site Evacuation or Containment Evacuation, Rev. 15  
RP/0/A/5700/012, Activation of the Technical Support Center (TSC), Rev. 037  
RP/0/A/5700/018, Notification to the State and Counties from the Technical Support Center, Rev. 21  
RP/0/A/5700/019, Core Damage Assessment, Rev. 05  
RP/0/A/5700/020, Activation of the Operations Support Center (OSC), Rev. 021

SH/0/B/2005/001, Emergency Response Offsite Dose Projections, Rev. 6  
 SH/0/B/2005/002, Protocol for the Field Monitoring Coordinator During Emergency Conditions, Rev. 5  
 SH/0/B/2005/003, Distribution of Potassium Iodide Tablets in the Event of a Radioiodine Release, Rev. 2  
 SR/0/B/2000/003, Activation of the Emergency Operations Facility, Rev. 23  
 SR/0/B/2000/001, Standard Procedure for Corporate Communications Response to the Emergency Operations Facility, Rev. 11

#### Records and Data Packages

Control Room (Simulator), Technical Support Center, Operations Support Center, Emergency Operations Facility, Joint Information Center - Documentation packages (logs, event notification forms, Protective Action Recommendations, Media releases, and Radiological Dose/Core damage Assessments)  
 FEMA After-Action Report – 2009 McGuire Exercise dated October 30, 2009  
 Drill reports 2009/2010/2011  
 McGuire 2011 NRC Graded Exercise Critique Report

#### Corrective Action – Problem Investigation Process (PIP)

M-09-04514, Summary of the issues identified in 8/19/09 critique of the Graded ERO exercise  
 M-11-05704, Incorrect reactor trip time recorded  
 M-11-05713, OSC Drill Objective H.3 evaluated as unsatisfactory  
 M-11-05733, Roll-up of Exercise Critique items

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

Emergency Planning Functional Area Manual (EPFAM) Section 3.10, 10 CFR 50.54(q) Evaluations, Rev. 11  
 Emergency Planning Functional Area Manual (EPFAM) Section 3.9, Emergency Planning Qualified Reviewer Requirements, Rev. 5

#### Changes packages

McGuire Nuclear Station Emergency Plan, Rev. 10-1, 11-1, and 11-2  
 RP/0/A/5700/000, Classification of Emergency, Rev. 17  
 RP/0/A/5700/002, Alert, Rev. 27  
 RP/0/A/5700/003, Site Area Emergency, Rev. 27  
 RP/0/A/5700/004, General Emergency, Rev. 26  
 RP/0/A/5700/007, Earthquake, Rev. 19  
 RP/0/A/5700/011, Conducting a Site Assembly, Site Evacuation or Containment Evacuation, Rev. 15  
 RP/0/A/5700/012, Activation of the Technical Support Center (TSC), Rev. 037  
 SR/0/B/2000/003, Activation of the Emergency Operations Facility, Rev. 23  
 SR/0/B/2000/004, Notification to States and Counties from the Emergency Operations Facility for Catawba, McGuire, and Oconee, Rev. 16

#### 4OA1: Performance Indicator Verification

Emergency Planning Functional Area Manual (EPFAM) Section 3.7, NRC Regulatory Assessment Performance Indicator Guideline, Rev. 17  
 Emergency Planning Functional Area Manual (EPFAM) Section 3.19, Drills and Exercises, Rev. 1

Records and Data

Documentation of Performance Indicator data July 1, 2010 through June 30, 2011 for DEP, ANS, and ERO

Corrective Action - Problem Investigation Process (PIP)

M-08-06564, Communicator training need to be revised

G-11-01102, Review communicator training and DEP notification practice

M-11-05707, Error in ERO PI

**LIST OF ACRONYMS**

ANS	Alert and Notification System
EAL	Emergency Action Level
EOF	Emergency Operations Facility
DEP	Drill/Exercise Performance
DHS	Department of Homeland Security
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
NEI	Nuclear Energy Institute
OSC	Operations Support Center
PI	Performance Indicator
PS	Planning Standard
RSPS	Risk Significant Planning Standard
TSC	Technical Support Center