



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

January 22, 2010

Mr. Bruce H. Hamilton  
Vice President  
Duke Energy Carolinas, LLC  
McGuire Nuclear Station  
12700 Hagers Ferry Road  
Huntersville, NC 28078-8985

**SUBJECT: WILLIAM B. MCGUIRE NUCLEAR STATION - NRC EMERGENCY  
PREPAREDNESS INSPECTION REPORT 05000369/2009-501 AND  
05000370/2009-501**

Dear Mr. Hamilton:

On November 30, 2009, 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 on December 3, 2009, with Mr. S. Capps 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.

The report documents one NRC-identified finding of very low safety significance (Green). The finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it is entered into your corrective action program, the NRC is treating the finding as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis of your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at William B. McGuire Nuclear Station.

Additionally, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II, and the NRC Resident Inspector at the William B. McGuire Nuclear Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

DPC

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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,

***/Heather Gepford RA for/***

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

Docket No.: 50-369, 50-370  
License No.: NPF-9, NPF-17

Enclosure: Inspection Report 05000369/2009-501 and 05000370/2009-501  
w/Attachment: Supplemental Information

cc w/encl.: (See page 3)

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(\*) – SEE PREVIOUS PAGE FOR CONCURRENCES

X PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE      X NON-SENSITIVE  
ADAMS:  Yes      ACCESSION NUMBER: \_\_\_\_\_       SUNSI REVIEW COMPLETE

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OFFICIAL RECORD COPY DOCUMENT NAME: G:\DRS\IPSB1\EMERGENCY PREPAREDNESS\MCGUIRE\INSPECTION PLAN AND INPUT\FY2009\MCGUIRE IR2009501 (REV 5).DOC

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Letter to Bruce H. Hamilton from Brian Bonser dated January 22, 2010

SUBJECT: WILLIAM B. MCGUIRE NUCLEAR STATION - NRC EMERGENCY  
PREPAREDNESS INSPECTION REPORT 05000369/2009-501 AND  
05000370/2009-501

Distribution w/encl:

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RidsNrrPMMcGuire Resource

**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 05000369, 05000370

License Nos.: NPF-9, NPF-17

Report No.: 05000369/2009-501 and 05000370/2009-501

Licensee: Duke Power Company LLC.

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

Location: Huntersville, NC

Dates: August 17, 2009 through November 30, 2009

Inspectors: L. Miller, Senior Emergency Preparedness Inspector  
J. Beavers, Emergency Preparedness Inspector  
J. Dodson, Senior Project Engineer  
D. Johnson, Senior Emergency Preparedness Specialist  
R. Eul, Resident Inspector

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

Enclosure

## SUMMARY OF FINDINGS

IR 05000369/2009-501 and 05000370/2009-501; August 17, 2009 – November 30, 2009;  
William B. McGuire Nuclear Station, Units 1 and 2; Exercise Evaluation

The report covered an announced inspection by two emergency preparedness inspectors, a senior project engineer, a senior emergency preparedness specialist, and a resident inspector. One Green finding which is an NCV was identified. One finding was identified and determined to be a non-cited violation (NCV). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The cross-cutting aspect was determined using IMC 0305, "Operating Reactor Assessment Program." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" Revision 4, dated December 2006.

### Cornerstone: Emergency Preparedness

- Green. The inspectors identified a Green NCV of 10 CFR50.47(b)(14) for failure to conduct a biennial exercise that was technically accurate and challenging, to the extent that it was not an adequate test of the plans, procedures, equipment, and implementation of the licensee's emergency response capabilities. The licensee entered the deficiency into their corrective action program, as Problem Investigation Process (PIP) M-09-04560, M-09-05183, and M-09-05186, and planned to conduct a re-demonstration drill in May 2010.

This finding is greater than minor because it is associated with the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone, in that a biennial exercise that is not technically accurate and challenging is not an adequate test of the plans, procedures, equipment, and implementation of the licensee's emergency response capabilities. The finding does not represent an immediate safety concern. This finding was evaluated using the Emergency Preparedness SDP and determined to be a finding of very low safety significance because there was no loss of planning standard function. The cause of the finding was directly related to the cross-cutting component of work practices in the area of Human Performance, because the licensee did not ensure the supervisory and management oversight of work activities supported nuclear safety [H.4(c)]. (Section 1EP1)

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 18, 2009, 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, Technical Support Center (TSC), Operations Support Center (OSC) 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 21, 2009, 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.

Enclosure



The off-site inspection consisted of the following review and assessment:

- Review of all full-scale exercise scenarios, off-year exercises, integrated response facility drills, and exercise/drill documentation to determine if all program elements had been tested within a six-year period and that there was no scenario compromise for the present exercise.

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

b. Findings

Introduction: The inspectors identified a Green NCV of 10 CFR 50.47(b)(14). The biennial emergency exercise conducted on August 18, 2009, was not technically accurate and challenging, to the extent that it did not adequately test the plans, procedures, equipment, and implementation of the licensee's emergency response capabilities as required by McGuire's Emergency Plan, Revision 07-01.

Description: On August 18, 2009, McGuire conducted a biennial exercise that was not technically accurate and challenging, to the extent that it did not adequately test the plans, procedures, equipment, and implementation of the licensee's emergency response capabilities as required by McGuire's Emergency Plan, Revision 07-01. McGuire's emergency plan, Section N.1.b, Exercise Scenario/Response, states in part that exercises will be designed to test the integrated capability of those involved and a major portion of the basic elements existing within the plans and organization. Section N.1.b also states in part that the exercise scenarios will be varied from year to year.

The inspectors identified examples of the similarities between the 2007 and 2009 exercise scenarios, scenario development issues, simulator fidelity issues, and issues with the administration of the scenario which demonstrated that the 2009 biennial exercise was not technically accurate and challenging.

1. The inspectors identified that there were significant similarities between McGuire's August 16, 2009, exercise and the October 16, 2007, exercise. The following are examples of the similarities:
  - The 2009 scenario timeline was adopted verbatim from the 2007 scenario.
  - The 2009 and 2007 exercises used the same Emergency Actions Levels (EALs) for both the Alert classification (EAL 4.6.A.1, Fire or explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown) and Site Area Emergency classification (EAL 4.4.S.1, Failure of the reactor protective system instrumentation to complete or initiate an automatic reactor trip once a reactor Protective System setpoint has been exceeded and a manual trip was not successful).

- Loss of the 1B feedwater pump turbine occurred due to oil leaks on the B train safety related trip solenoids at time 0920 on both exercises.
  - A reactor coolant pump D trip resulted in an Anticipated Transient Without Scram (ATWS) with the manual reactor trip from the control room function inoperable for both exercises.
2. The inspectors identified issues in the scenario development that created confusion among key ERO decision makers. The following are examples:
- The ATWS at 50% power resulted in fuel damage sufficient to produce site boundary doses of 1 rem Total Effective Dose Equivalent and 5 rem thyroid. With no mechanism for clad damage in the scenario, there would be no fuel damage and no resultant site boundary doses. While the EOF staff thought there was fuel damage, other technical staff questioned how fuel damage could be possible.
  - The scenario development team did not recognize that a primary chemistry sample would be requested as a result of the transient and no Dose Equivalent Iodine (DEI) values were developed that would validate the whole body and thyroid doses at the site boundary.
  - The EOF radiological controller injected an incorrect (for simulated plant conditions) DEI value early in the scenario timeline when plant staff requested a reactor coolant sample. The controller's incorrect information early in the scenario resulted in significant confusion to players in the TSC and EOF and questioning of the DEI values provided.
  - The scenario development did not anticipate the Pressurizer Relief Tank rupturing.
  - Confusion in the EOF and a perceived time pressure for making an emergency declaration led to an early and incorrect General Emergency declaration.
3. A simulator fidelity issue resulted from the high unit vent iodine levels not being correlated to the low iodine values in the Auxiliary Building and created confusion among key ERO decision makers.
4. The inspectors identified issues with administration of the scenario that limited the challenge to the integrated capability of those involved. The following are examples:
- The inspectors determined through interviews that McGuire's routine exercise/drill practice limited the demonstration of radioprotective drugs (potassium iodine). Because the use of KI was not developed beyond the basic consideration of its use, the process documentation and subsequent evaluation could not be evaluated. Thus the scenario was limited in challenge.

- The scenario's assembly and accountability required the capability to account for all individuals onsite within 30 minutes of the emergency and to account for all onsite individuals continuously thereafter. The licensee did not adequately demonstrate continuously maintaining accountability for onsite individuals.

Analysis: The licensee's conduct of a biennial emergency exercise on August 18, 2009, that was not technically accurate and challenging, to the extent that it did not adequately test the plans, procedures, equipment, and implementation of the licensee's emergency response capabilities as required by McGuire's Emergency Plan, Revision 07-01 was a performance deficiency. McGuire's emergency plan, Section N.1.b Exercise Scenario/Response, states in part that exercises will be designed to test the integrated capability of those involved and a major portion of the basic elements existing within the plans and organization. Section N.1.b also states in part that the exercise scenarios will be varied from year to year.

This finding was more than minor because it was associated with the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone, in that a biennial exercise that is not technically accurate and challenging is not an adequate test of the plans, procedures, equipment, and implementation of the licensee's emergency response capabilities. The finding does not represent an immediate safety concern. This finding was evaluated using the Emergency Preparedness SDP and determined to be a finding of very low safety significance because there was no loss of planning standard function.

The cause of this finding was directly related to the cross-cutting component of work practices in the area of Human Performance, because the licensee did not ensure the supervisory and management oversight of work activities supported nuclear safety. Specifically, the development and review of the scenario by EP supervision and the scenario development team failed to identify the inadequacies of the exercise [H.4(c)].

Enforcement: 10 CFR 50.47(b)(14) requires that periodic exercises are conducted to evaluate major portions of emergency response capabilities, periodic drills are conducted to develop and maintain key skills. Contrary to the above, the licensee's 2009 biennial exercise conducted on August 18, 2009, failed to evaluate major portions of the licensee's emergency response capabilities. The exercise was not an adequate test of the plans, procedures, equipment, and implementation of the licensee's emergency response capabilities. Because this failure to comply with 10 CFR 50.47(b)(14) is of very low safety significance and has been entered into the licensee's corrective action program, as Problem Investigation Process (PIP) M-09-04560, M-09-05183, and M-09-05186, and the licensee has determined a re-demonstration drill will be conducted in May 2010, the violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000369, 370/2009501-01, Biennial exercise was not an adequate test.

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

##### a. Inspection Scope

Since the last NRC inspection of this program area, revisions 08-01 and 09-01 of the McGuire Nuclear Station Emergency Plan were implemented. The licensee determined that in accordance with 10 CFR 50.54(q), 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 inspectors conducted a sampling review of the implementing procedure changes made between October 1, 2008, and June 30, 2009, to evaluate for potential decreases in effectiveness of the Plan. However, 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 (PS), 10 CFR 50.47(b)(4) and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

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

##### b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator Verification

##### a. Inspection Scope

###### Cornerstone: Emergency Preparedness

The inspectors sampled licensee submittals for three Performance Indicators (PI) listed below. For each of the submittals reviewed, the inspectors reviewed the period from July 1, 2008 through June 30, 2009. 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 cognizant 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.

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

On August 21, 2009, the lead inspector presented the inspection results to Mr. B. Hamilton and other members of his staff. The inspector confirmed that proprietary information was not provided during the inspection.

Subsequently, on September 21, October 15, and October 26, the lead inspector discussed information provided by the licensee and if additional information is required. On December 3, 2009, the lead inspector presented the inspection results to Mr. S. Capps and other members of your staff. The inspector confirmed that proprietary information was not provided during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

## **SUPPLEMENTAL INFORMATION**

### KEY POINTS OF CONTACT

#### Licensee personnel

B. Anderson, Fleet Independent Nuclear Oversight Manager  
M. Austin, Fleet Emergency Preparedness Manager  
K. Ashe, Regulatory Compliance Manager  
D. Brewer, Safety Assurance Manager  
J. Bryant, Regulatory Compliance Engineer  
S. Capps, Engineering Manager  
K. Crane – MNS Regulatory Compliance Specialist  
B. Hamilton, Site Vice-President  
K. Hoffman, Emergency Preparedness Drill Coordinator  
S. Mooneyhan, Radiation Protection Manager  
K. Murray, Emergency Preparedness Manager  
G. Peterson, Vice-President Oversight/Performance Improvement  
R. Repko, Station Manager  
K. Thomas, Fleet Licensing and Regulatory Compliance Manager

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

#### Opened

05000369/2009501-01 NCV Biennial exercise was not an adequate test (Section 1EP1)  
05000370/2009501-01 NCV Biennial exercise was not an adequate test (Section 1EP1)

### **LIST OF DOCUMENTS REVIEWED**

#### 1EP1: Exercise Evaluation

#### Procedures

RP/0/A/5700/001, Notification of Unusual Event, Rev. 25  
RP/0/A/5700/002, Alert, Rev. 25  
RP/0/A/5700/003, Site Area Emergency, Rev. 25  
RP/0/A/5700/004, General Emergency, Rev. 25  
RP/0/A/5700/008, Release of Toxic or Flammable Gases, Rev. 06  
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. 14  
RP/0/A/5700/012, Activation of the Technical Support Center (TSC), Rev. 031  
RP/0/A/5700/019, Core Damage Assessment, Rev. 05  
RP/0/A/5700/020, Activation of the Operations Support Center (OSC), Rev. 021  
RP/0/A/5700/024, Recovery and Reentry Procedure, Rev. 002  
RP/0/A/5700/026, Operations/Engineering Required Actions in the Technical Support Center  
(TSC), Rev. 007  
RP/0/B/1009/023, Nuclear Communications (NC) Emergency Response Plan, Rev. 004  
RP/0/B/1009/029, Notifications to Offsite Agencies from the Control Room, Rev. 009

Attachment

HP/0/B/1009/002, Alternative Method for Determining Dose Rate Within the Reactor Building, Rev. 002  
 HP/0/B/1009/003, Recovery Plan, Rev. 004  
 HP/0/B/1009/006, Procedure for Quantifying High Level Radioactivity, Rev. 006  
 HP/0B/1009/110, Releases of Radioactive Effluents Exceeding Selected Licensee Commitments, Rev. 006  
 HP/0/B/1009/021, Estimating Food Chain Doses under Post-Accident Conditions, Rev. 001  
 HP/0/B/1009/022, Accident and Emergency Response, Rev. 004  
 HP/0/B/1009/023, Environmental Monitoring of Emergency Conditions, Rev. 006  
 HP/0/B/1009/024, Personnel Monitoring for Emergency Conditions, Rev. 003  
 HP/0/B/1009/29, Initial Response On-Shift Dose Assessment, Rev. 009  
 SH/0/B/2005/002, Protocol for the Field Monitoring Coordinator During Emergency Conditions, Rev. 5  
 Emergency Planning Functional Area Manual (EPFAM) Section 3.20, Emergency Planner Training and Qualification Plan, Rev. 0  
 Emergency Planning Functional Area Manual (EPFAM) Section 3.9, Emergency Planner Qualified Reviewer Requirements, Rev. 5  
 PT/0/A/4600/097, Procedure for Preparing and Conducting Emergency Exercises/Drills, Rev. 007

#### 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)

#### Data Packages for planning standard program elements review

Root Cause Failure Analysis Report, McGuire 2009 EP Evaluated Exercise, PIP #M-09-4560  
 Summary of Independent Assessment of McGuire Emergency Planning Evaluated Exercise Scenario Issues  
 D1 & D2 - Emergency Classification System package  
 E - Notification Methods and Procedures  
 F - Emergency Communications  
 G - Public Education & Information  
 H - Emergency Facilities and Equipment  
 I - Accident Assessment  
 J - Protective Response  
 K - Radiological Exposure Control  
 L - Medical and Public Health Support  
 M - Recovery and Re-entry Planning and Post Accident Operations  
 N - Exercises & Drills  
 29 Additional data and documentation packages

#### 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-09-04522, 2009 graded exercise emergency notification form, ENF, # 6 documented a General Emergency when conditions that were not met at that time.

- M-09-04523, Confusion was created in the EOF and TSC when an EOF controller provided a dose equivalent iodine, DEI, value to RP in the EOF 1.5 hours ahead of the timeline.
- M-09-04526, A successful site assembly was performed during the exercise but 50 people were unaccounted for.
- M-09-04527, During the 2009 exercise the EOF and TSC disagreed on how to interpret dose equivalent iodine, DEI, values in relation to what values constitute "significant" fuel damage.
- M-09-04529, Summary of issues identified in the 8/18/09 Graded ERO exercise that deal with the state and county liaisons.
- M-09-04532, The dose assessment program would not load data from the OAC or automatically import dose values onto the emergency notification form, ENF.
- M-09-04535, The state and county decision line, DL, and selective signaling, SS, phones had static or cut out on individuals to the point that the state and county players switched over to Bell lines.
- M-09-04548, Emergency notification form #4 had the following statement on line 13 the remarks section. "Approximately 900 people being released to their homes as a prudent measure". There was considerable discussion between the EOF and the TSC about using the word released over evacuated.
- M-09-04553, Evaluate step 3.1 in RP/0/A/5700/025, Fire Brigade Response, to determine if the SSF should be discussed in the referenced document. This step refers management to look at Appendix F of MCS-1465.00-00-0022. The SSF is not referenced in this appendix.
- M-09-04554, Training documentation issues in EP staff.
- M-09-04558, 2009 exercise, the OSC and TSC did not maintain personnel accountability throughout the exercise per MNS emergency plan step J.5
- M-09-4559, OSC Radiological Control Item
- M-09-04560, Scenario for the 2009 graded exercise was inadequate/not varied enough from the 2007 graded scenario.
- M-09-05181, Emergency Planning procedures do not provide adequate guidance to formally evaluate and document exercise performance.
- M-09-05182, Scenario development process lacks rigor and formality, which has resulted in confusing and technically invalid conditions in the drill/exercise scenarios. Contributing to this issue is that the level of detail in the Emergency Planning procedures does not provide sufficient criteria for scenario development, roles and responsibilities for the scenario development team, and validation process.
- M-09-05183, Site management has not established the attributes of a learning organization that is focused on continuous improvement in the Emergency Planning group.
- M-09-05184, The EOF Radiological Controller provided unearned unapproved ad-hoc erroneous DEI sample results to EOF players that was acted upon by key ERO decision makers and led to an incorrect escalation to General Emergency.
- M-09-05185, There is a lack of understanding of the technical basis and intent of the EALs by key ERO decision makers.
- M-09-5186, Independent Assessment of MNS Emergency Planning Evaluated Exercise Scenario Issues (REG-SA-2009-001)
- M-08-04375, PT/0/A/4600/097, Procedure for Preparing and Conducting Emergency Drills/Exercises, does not accurately reflect and implement some portions of the Emergency



1EP4: Emergency Action Level and Emergency Plan Changes

Emergency Planning Functional Area Manual (EPFAM) Section 3.10, 10 CFR 50.54(q)  
Evaluations, Rev. 10

Changes packages

McGuire Nuclear Station Emergency Plan, Rev. 08-01 and 09-01  
SH/0/B/2005/001, Emergency Response Offsite dose Projections, Rev. 6  
RP/0/A/5700/000, Classification of Emergency, Rev. 14  
RP/0/A/5700/007, Earthquake, Rev. 17  
RP/0/A/5700/018, Notification to the State and Counties from the TSC, Rev. 020  
RP/0/A/5700/006, Natural Disasters, Rev. 19

Corrective Action - Problem Investigation Process (PIP)

M-09-04822, Documentation on 50.54(q) screening needs to be enhanced.

4OA1: Performance Indicator Verification

Section 3.7, NRC Regulatory Assessment Performance Indicator Guideline – Emergency  
Preparedness Cornerstone, Rev. 15  
PT/0/A/4600/97, Procedure for Preparing and Conducting Emergency Exercises/Drills, Rev. 8

Records and Data

Documentation of Performance Indicator data July 1, 2008 through June 30, 2009 for DEP,  
ANS, and ERO

## LIST OF ACRONYMS

ANS	Alert and Notification System
ATWS	Anticipated Transient Without Scram
EALs	Emergency Action Levels
EOF	Emergency Operations Facility
DEI	Dose Equivalent Iodine
DEP	Drill/Exercise Performance
DHS	Department of Homeland Security
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
NCV	Non-cited violation
NEI	Nuclear Energy Institute
OSC	Operations Support Center
PI	Performance Indicator
PS	Planning Standard
RSPSs	Risk Significant Planning Standards
SDP	Significance Determination Process
TI	Temporary Instruction
TSC	Technical Support Center