



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

March 29, 2016

Cheryl A. Gayheart, Vice President  
Southern Nuclear Operating Company, Inc.  
Joseph M. Farley Nuclear Plant  
7388 North State Highway 95  
Columbia, AL 36319

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT – U.S. NUCLEAR REGULATORY  
COMMISSION EMERGENCY PREPAREDNESS INSPECTION REPORT  
05000348/2016502 AND 05000364/2016502

Dear Ms. Gayheart:

On March 11, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Joseph M. Farley Nuclear Plant, Units 1 and 2. The enclosed inspection report (IR) documents the inspection results that were discussed on March 10, 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. 50-348 and 50-364  
License Nos. NPF-2 and NPF-8

Enclosure:  
NRC IR 05000348 and 364/2016502  
w/Attachment: Supplementary Information

cc: Distribution via Listserv

March 29, 2016

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos: 05000348 and 05000364

License Nos: NPF-2 and NPF-8

Report Nos: 05000348/2016502 and 05000364/2016502

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Joseph M. Farley Nuclear Plant, Units 1 and 2

Location: Columbia, AL

Dates: March 7–11, 2016

Inspectors: Steven Sanchez, Senior Emergency Preparedness Inspector  
John Hickman, Emergency Preparedness Inspector (Training)  
Kenneth Miller, Resident Inspector  
Mark Speck, Senior Technical Training Program Specialist

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

Enclosure

## **SUMMARY**

Inspection Report (IR) 05000348/2016502 and 05000364/2016502; 3/7/2016 – 3/11/2016;  
Joseph M. Farley, Units 1 and 2; Exercise and Baseline Inspection

This report covers an inspection by two emergency preparedness inspectors, one resident inspector, and one senior technical training program specialist. 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 March 9, 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 March 10, 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 March 11, 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, one revision to 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 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 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 March 10, 2016, the inspection team presented the inspection results to Ms. C. Gayheart 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

J. Andrews, Maintenance Director  
B. Askren, Security Manager  
G. Bell, Licensing Supervisor  
E. Berry, Acting Engineering Director  
K. Brown, Chemistry Manager  
J. Calhoun, Fleet Emergency Preparedness Coordinator  
D. Coffin, Fleet Emergency Preparedness Specialist  
J. Collier, Licensing Engineer  
R. Collings, Fleet Emergency Preparedness Coordinator  
C. Gayheart, Site Vice President  
D. Hall, Emergency Preparedness Supervisor  
S. Henry, Operations Director  
J. Hutto, Plant Manager  
V. Locke, Performance Improvement Manager  
L. Mansfield, Fleet Emergency Preparedness Director  
C. Martin, Operations Instructor  
S. Odom, Fleet Emergency Preparedness Manager  
J. Perkins, Emergency Preparedness Specialist  
B. Reed, Training Director  
S. Sampson, Radiation Protection Manager  
D. Simmons, Senior Emergency Preparedness Specialist  
W. Simmons, Site Projects Supervisor  
B. Taylor, Regulatory Affairs Manager  
C. Thornell, Site Projects Manager

### **LIST OF DOCUMENTS REVIEWED**

#### 1EP1 Exercise Evaluation

##### Procedures

Joseph M. Farley Emergency Plan, Revision 64  
Joseph M. Farley Nuclear Plant, Units 1 and 2, Technical Specifications, Amend. 198 (Unit 1)  
FNP-0-EIP-0.0, Emergency Organization, Version 30.0  
FNP-0-EIP-4.0, Radiation Protection Support to the Emergency Plan, Version 47.0  
FNP-0-EIP-5.0, Maintenance Support to the Emergency Plan, Version 18.0  
FNP-0-EIP-6.0, TSC Setup and Activation, Version 47.0  
FNP-0-EIP-10.0, Evacuation, Personnel Accountability, and Site Dismissal, Version 44.0  
FNP-0-EIP-30.0, Post Accident Core Damage Assessment, Version 15.0  
FNP-1-AOP-17.1, Rapid Turbine Power Reduction, Revision 7.0  
FNP-1-AOP-30.0, Refueling Accident, Version 20.0  
FNP-1-AOP-100.0, Instrument Malfunction, Version 17.0  
FNP-1-CSF-0, Critical Safety Function Status Trees, Revision 17  
FNP-1-EEP-0, Reactor Trip or Safety Injection, Revision 47.0



FNP-1-ESP-0.1, Reactor Trip Response, Revision 35.0  
 FNP-1-FRP-S.1, Response to Nuclear Power Generation/ATWT, Revision 28.0  
 FNP-1-FRP-H.1, Response to Loss of Secondary Heat Sink, Revision 27  
 FNP-1-FRP-P.1, Response to Imminent Pressurized Thermal Shock Conditions, Revision 20  
 FNP-1-SOP-2.3, Chemical & Volume Control System Reactor Makeup Control, Version 60.2  
 FNP-1-SOP-28.1, Turbine Generator Operation, Version 128.2  
 FNP-1-SOP-60.0, Penetration Room Filtration System, Version 36.0  
 NMP-AD-031-F01, Reactor Plant Event Notification Worksheet, Version 1.1  
 NMP-EP-101, Emergency Operations Facility (EOF), Activation, Version 4.0  
 NMP-EP-102, EOF Manager, Version 7.0  
 NMP-EP-104, Dose Assessment, Version 8.0  
 NMP-EP-105, EOF Technical Supervisor, Version 5.0  
 NMP-EP-110, Emergency Classification Determination and Initial Action, Version 8.1  
 NMP-EP-111, Emergency Notifications, Version 11.0  
 NMP-EP-111-F12, Emergency Page Announcement Instructions, Version 1.0  
 NMP-EP-111-001, Emergency Notification Communicator Instructions – Farley, Version 3.3  
 NMP-EP-110-GL01, FNP EALs – ICs, Threshold Values and Basis, Version 9.1  
 NMP-EP-112, Protective Action Recommendations, Version 5.1  
 NMP-EP-112-001, Farley Site Specific PAR Instruction, Version 1.0  
 NMP-EP-300, SNC EP Conduct of Operations, Version 21.0  
 NMP-EP-303, Drill & Exercise Standards, Version 16.1  
 NMP-EP-303-F05, Drill and Exercise Objectives, Version 1.1

#### 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 (Condition Reports)

10193954, Procedure NMP-EP-110-GL01 has embedded bookmarks  
 10193966, NRC inspection comments on PI packages  
 10194553, Procedure FNP-1/2-CCP-1300 enhancement from exercise  
 10194580, Corporate ERO pagers failed to activate by way of NXT during Farley drill on 3/9/2016  
 10194622, Farley graded exercise Objective D.3 failure  
 10194623, Modification to a preapproved EP exercise timeline  
 10194625, March 9, 2016 graded exercise procedure issue  
 10194628, Graded exercise drill objective failure for dose assessment  
 10194631, Drill objective failure  
 10194635, Inaccurate information provided in the follow-up news release at the Alert  
 10194791, Procedure revision need identified in NMP-EP-303  
 10194797, ERO proficiency concerns  
 10194924, March 9, 2016 graded exercise demonstration criteria failure

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

##### Procedures

Joseph M. Farley Emergency Plan, Revision 64  
 NMP-EP-110-GL01, FNP EALs – ICs, Threshold Values and Basis, Version 8.0, 9.0, & 9.1

Change Packages

Safety Evaluation for Emergency Action Level Revisions, dated 4/30/2007

FLT-15-001-01, NMP-EP-111 & F13 & F15 Version 10.0, 2.0, & 1.1 Screening/Evaluation, dated 2/13/2015

FLT-15-002-01, NMP-EP-104 & F01 Version 6.1 & 1.1 Screening/Evaluation, dated 1/12/2015

FNP-15-007-01, NMP-EP-110-GL01 Version 8.0 Screening/Evaluation, dated 4/7/2015

FNP-15-008-01, FNP-0-EIP-6.0 Version 47 Screening/Evaluation, dated 6/1/2015

FNP-15-017-01, FNP EALs – ICs, Threshold Values and Basis 50.54(q) Screening/Evaluation, dated 9/25/2015

FNP-16-001-01, FNP-0-EIP-0.0 Emergency Organization Version 30.0 Screening/Evaluation, dated 1/7/2016

1EP8 Exercise EvaluationProcedures

Joseph M. Farley Emergency Plan, Revision 64

NMP-EP-303-F05, Drill and Exercise Objectives, Version 1.1

Records and Data

Farley Nuclear Plant 2016 Emergency Preparedness Biennial NRC Evaluated Exercise Scenario

EP Drill Report – February 19, 2014 Hostile Action Based Pre-Exercise Drill, dated 3/13/2014

EP Exercise Report – April 23, 2014 Hostile Action Based Exercise, dated 6/18/2014

FEMA Report – Farley Nuclear Power Plant After Action Report/Improvement Plan, dated 6/19/2014

EP Report – EP Proficiency Table Top Drill Results, dated 9/15/2014

EP Report - EP Proficiency Table Top Drill Results 1Q-2015, dated 4/2/2015

FEMA Report - Farley Nuclear Power Plant After Action Report Pilcher's Ambulance Service/Southeast Alabama Medical Center 2015 Medical Services Drill, dated 5/12/2015

EP Report – Crew 3 TSC Mini Drill 9/15/2015, dated 10/27/2015

EP Report – Crew 3 Emergency Preparedness Drill 9/23/2015, dated 11/20/2015

Farley 8-Year IC-Obj-Drill-Ex Tracking Spreadsheet, dated 1/27/2016

40A1 Performance Indicator VerificationProcedures

NMP-EP-300, SNC Emergency Preparedness Conduct of Operations, Version 21.0

NMP-EP-310, Maintaining the Emergency Plan, Version 3.1

NMP-EP-311, SNC EP Tier 4 Performance Indicators, Version 2.0

NMP-GM-002-001, Corrective Action Program Instructions, Version 34.0

NMP-GM-002-GL03, Cause Analysis & Corrective Action Guideline, Version 26.1

NMP-GM-013-002, Performance Assessment and Trending, Version 5.0

Records and Data

DEP opportunities documentation for first, second, third, and fourth Quarters 2015

Siren test data for first, second, third, and fourth Quarters 2015

Drill and exercise participation records of ERO personnel for first, second, third, and fourth Quarters 2015

Corrective Action Program Documents

10020061, Report of sirens going off in Ashford, Webb, and Cowarts  
 10024419, Unit 2 IPC out of service  
 10051540, Both Southern Linc phones inside the control room are not operational  
 10058192, Siren 22 driver #2 failure  
 10058195, Siren 19 low DC voltage due to battery degradation  
 10063521, Siren 22 driver #2 failure  
 10086740, Siren 64 stuck by lightning  
 10086910, Emergency classification DEP failure during LOCT  
 10098214, Siren 19 speaker driver failure  
 10104942, Siren 41 driver #9 failure  
 10111139, Benchmarking assessment on ANS  
 10112423, Missed NRC 30-day procedure submittal requirement  
 10137341, ERO pagers failed to activate  
 10149141, Unusual behavior of Unit 1 radiation monitor R-7  
 10164457, Degraded communications capability for Houston County EMA/Alabama radiation control forward EOC  
 10174843, GE classification different than scenario handbook described  
 10193638, ANS common cause performed on siren driver failures

**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