



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

November 9, 2017

Mr. David R. Vineyard
Vice President
Southern Nuclear Operating Company, Inc.
Edwin I. Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513

**SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – U.S. NUCLEAR REGULATORY
COMMISSION EMERGENCY PREPAREDNESS INSPECTION REPORT
05000321/2017502 AND 05000366/2017502**

Dear Mr. Vineyard:

On October 20, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Hatch Nuclear Plant. On October 19, 2017, the NRC inspectors discussed the results of this inspection with members of your staff. The results of this inspection are documented in the enclosed report.

No NRC-identified or self-revealing findings were identified during this inspection. However, inspectors documented a licensee-identified violation which was determined to be of Severity Level IV in this report. The NRC is treating this violation as non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Eugene F. Guthrie, Chief
Operator Licensing Branch 2
Division of Reactor Safety

Docket Nos. 50-321 and 50-366
License Nos. DPR-57 and NPF-5

Enclosure:
NRC IR 05000321, 366/2017502
w/Attachment: Supplemental Information

cc: Distribution via Listserve

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – U.S. NUCLEAR REGULATORY
 COMMISSION EMERGENCY PREPAREDNESS INSPECTION REPORT
 05000321/2017502 AND 05000366/2017502

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-321, 50-366

License No: DPR-57, NPF-5

Report No: 05000321/2017502 and 05000366/2017502

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, GA

Dates: October 16 – 20, 2017

Inspectors: Steven P. Sanchez, Senior Emergency Preparedness Inspector
Christopher A. Fontana, Emergency Preparedness Inspector
John D. Hickman, Emergency Preparedness Inspector
Adam Ruh, Acting Senior Resident Inspector
Jacob Panfel, Health Physicist

Approved by: Eugene F. Guthrie, Chief
Operator Licensing Branch 2
Division of Reactor Safety

Enclosure

SUMMARY

Inspection Report (IR) 05000321/2017502 and 05000366/2017502; 10/16/2017 – 10/20/2017; Edwin I. Hatch, Units 1 and 2; Exercise and Baseline Inspection

This report covers an announced inspection by three emergency preparedness inspectors, one senior resident inspector, and one health physicist. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated April 29, 2015. The U.S. Nuclear Regulatory Commission's (NRC) program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

The NRC inspectors did not identify any findings or violations of more than minor significance. One violation of Severity Level IV that was identified by the licensee has been reviewed by the NRC. Corrective action taken or planned by the licensee has been entered into the licensee's corrective action program (CAP). This violation and corrective action tracking number is listed in Section 4OA7 of this report.

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 October 17, 2017, 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 the corporate 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 October 19, 2017, 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 October 20, 2017. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, one revision to the emergency plan, one revision to the 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 emergency 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

A licensee-identified violation (LIV) is documented in Section 4OA7.

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 October 1, 2016, through June 30, 2017. 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 October 19, 2017, the inspection team presented the inspection results to Mr. T. Spring and other members of the plant staff. The inspectors confirmed that no proprietary information was provided during the inspection.

4OA7 Licensee-Identified Violations

The following licensee-identified violation of NRC requirements was determined to be of very low safety significance or Severity Level IV and meet the NRC Enforcement Policy criteria for being dispositioned as a Non-Cited Violation. Because it had the potential for impacting the NRC’s ability to perform its regulatory function, traditional enforcement is applicable in accordance with Inspection Manual Chapter 0612, Appendix B. This finding was also determined to be a Severity Level IV violation in accordance with Section 6.6.d.1 of the Enforcement Policy because it involved the licensee’s ability to meet or implement a regulatory requirement not related to assessment or notification such that the effectiveness of the emergency plan was reduced. Title 10 of the Code of Federal Regulations, Part 50.54(q) states, in part, that a licensee may make changes to emergency plans without prior NRC approval only if the changes do not reduce the effectiveness of the plans and the plans, as changed, continue to meet the standards of 50.47(b) and the requirements of Appendix E. Proposed changes that reduce the effectiveness of the approved emergency plans may not be implemented without application to and approval by the NRC. Contrary to the above, on multiple occasions between 2008 and 2014, the licensee implemented changes to their Radiological Emergency Plan and Emergency Action Levels (EALs) which reduced the effectiveness

of the Plan. Specifically, the licensee deleted and/or changed EAL threshold values, all of which would have resulted in a change that reduced the effectiveness of the approved Emergency Plan and was implemented without application to and approval by the NRC. Because the violation was entered into the licensee's corrective action program as Condition Report 10421212, it is being treated as a Green non-cited licensee-identified SL IV violation consistent with Section 2.3.2 of the Enforcement Policy.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

H. Betsill, Emergency Preparedness Specialist
G. Brinson, Maintenance Director
J. Calhoun, Fleet Drill & Exercise Coordinator
R. Collings, Fleet Emergency Preparedness
C. Collins, Licensing Supervisor
C. Cornelius, Emergency Preparedness Specialist
J. Henry, Operations Director
B. Hulett, Engineering Director
G. Johnson, Regulatory Affairs Director
R. Johnson, Work Management Director
S. Lee, Radiation Protection Support Supervisor
K. Long, Site Projects Manager
L. Mansfield, Fleet Emergency Preparedness Director
J. Merritt, Security Manager
D. Moore, Emergency Preparedness Specialist
A. Morgan, Chemistry Manager
R. Reddick, Emergency Preparedness Supervisor
R. Spring, Plant Manager
C. Edmond, Acting Nuclear Oversight Manager
C. Vonier, Engineering Plant Support Manager
K. Wainwright, Operations Training Manager
J. Willis, Assistant Plant Manager

LIST OF DOCUMENTS REVIEWED

1EP1 Exercise Evaluation

Procedures

NMP-EP-140, Accident Assessment, Ver. 1.0
NMP-EP-140-002-F01, Hatch Core Damage Assessment, Ver. 1.1
NMP-EP-141, Event Classification, Ver. 1.0
NMP-EP-141-002, Hatch Emergency Action Levels & Basis (NEI 99-01 Rev.6), Ver. 2.0
NMP-EP-141-F01, Emergency Classification Determination, Ver. 1.0
NMP-EP-141-002-F02, Cold Initiating Conditions Evaluation, Ver. 1.0
NMP-EP-142, Emergency Notification, Ver. 1.0
NMP-EP-142-F01, Emergency Notification Form (ENF), Ver. 1.0
NMP-EP-142-F02, Emergency Notification Instructions, Ver. 1.0
NMP-EP-142-F04, Plant Hatch Emergency Notification Agency Listing, Ver. 1.0
NMP-EP-143, Facility Activation, Ver. 1.0
NMP-EP-144, Protective Action Recommendations, Ver. 1.0
NMP-EP-145, Termination and Recovery, Ver. 1.0
NMP-EP-146, Emergency Response Organization, Ver. 1.0
NMP-EP-146-F10 EOF ENN Communicator, Ver. 1.0, p.1
NMP-EP-146-F12, EOF ERF Communicator, Ver. 1.0, p. 1
NMP-EP-146-F13, EOF Field Team Communicator, Ver. 1.0, p. 1
NMP-EP-146-F14, EOF Field Team Coordinator, Ver. 1.0, p.p. 1-2

NMP-EP-146-F24, EOF Technical Supervisor, Ver. 1.0, pp. 1-2
 NMP-EP-147, Offsite Dose Assessment, Ver. 2.0
 NMP-EP-147-001, SNC Field Monitoring Teams Radiological Surveys and Sampling, Ver. 1.0
 NMP-EP-147-001, GL02, SNC Field Monitoring Teams operation of FMT communication devices, Ver. 1.0
 NMP-EP-147-003, Hatch Units 1 and 2 MIDAS-NU Dose Projections, Ver. 1.0
 NMP-EP-147-F05, Offsite Dose Assessment Hatch Safety Parameter Display System (SPDS), data entry records, Ver. 1.0
 NMP-EP-147-F08, Offsite Dose Assessment Alternate Meteorology Data Services, Ver. 1.0
 NMP-EP-303, Drill and Exercise Standards, Ver. 17.0
 NMP-GM-002-001, Corrective Action Program Instructions, Ver. 36.0
 Southern Nuclear Operating Company (SNC) Standard Emergency Plan (SEP), Ver. 1.0
 SNC Standard Emergency Plan Annex for Hatch Nuclear Plant (HNP) Units 1 & 2, Ver. 1.0

Records and Data

Plant Hatch Emergency Preparedness, 2017 Evaluated Exercise, 10/17/2017, Exercise Controller Book
 Simulator Control Room, Technical Support Center, Operations Support Center, and the Emergency Operations Facility Documentation packages (logs, event notification forms, Protective Action Recommendations, Media releases, and Radiological Dose Assessments)

Corrective Action Program Documents (Condition Reports)

CR 10348137, TSC Low Differential Pressure Alarms
 CR 10387634, Toombs County ENN Inoperable
 CR 10402509, Loss of NRC phone line in the Control Room
 CR 10420563, Offsite Dose assessment issues
 CR 10420844, HNP Exercise PAR accuracy failure
 CR 10420845, HNP Exercise Alert notification was not timely
 CR 10421255, HNP Exercise ENS Notification to NRC was not timely

1EP4 Emergency Action Level and Emergency Plan Changes

Procedures

Edwin I. Hatch Nuclear Plant Unit 1 & 2 Emergency Plan, Ver. 39
 NMP-EP-141-002, Hatch Emergency Action Levels & Basis (NEI 99-01 Rev.6), Ver. 2.0
 NMP-EP-142, Emergency Notification, Ver. 1.0
 NMP-EP-143, Facility Activation, Ver. 1.0
 NMP-EP-144, Protective Action Recommendations, Ver. 1.0
 NMP-EP-147, Offsite Dose Assessment, Ver. 2.0
 NMP-EP-312, Development of Emergency Preparedness Technical Products, Ver. 1.0
 Southern Nuclear Operating Company (SNC) Standard Emergency Plan (SEP), Ver. 1.0
 SNC Standard Emergency Plan Annex for Hatch Nuclear Plant (HNP) Units 1 & 2, Ver. 1.0

Change Packages

FLT-17-005-01, 10 CFR 50.54(q) Screening/Evaluation for NMP-EP-142, Emergency Notifications, Ver. 1.0, dated 6/27/17
 FLT-17-006-01, 10 CFR 50.54(q) Screening/Evaluation for NMP-EP-143, Facility Activations, Ver. 1.0, dated 6/27/17
 FLT-17-007-01, 10 CFR 50.54(q) Screening/Evaluation for NMP-EP-144, Protective Actions, Ver. 1.0, dated 6/27/17

FLT-17-017-01, 10 CFR 50.54(q) Screening/Evaluation for NMP-EP-147, Offsite Dose Assessment, Ver. 2.0, dated 7/14/17
 HNP-15-003-02, 10 CFR 50.54(q) Screening/Evaluation for SNC SEP, HNP Unit 1 & 2 Annex, & HNP Unit 1 & 2 Justification Matrix, Ver. 1.0, dated 8/17/15
 HNP-17-005-01, 10 CFR 50.54(q) Screening/Evaluation for NMP-EP-141-002, Hatch Emergency Action Levels & Basis Ver. 2.0, date 10/04/17

Corrective Action Program Documents

CR 10340703, Hatch EAL review
 CR 10355799, NMP-EP-104, Ver. 9.0 procedural guidance is inadequate
 CR 10403331, Change Request to NMP-EP-144-F01 PAR Worksheet
 CR 10421212, 10 CFR 50.54(q) Evaluations for EAL did not identify a reduction in effectiveness

1EP8 Exercise Evaluation

Procedures

NMP-EP-303, Drill and Exercise Standards, Ver. 17.0
 Southern Nuclear Operating Company (SNC) Standard Emergency Plan (SEP), Ver. 1.0
 SNC Standard Emergency Plan Annex for Hatch Nuclear Plant (HNP) Units 1 & 2, Ver. 1.0

Records and Data

FEMA Final After Action Report, Edwin I. Hatch Nuclear Plant Radiological Emergency Preparedness Exercise, Exercise Date: December 9, 2015, dated 5/23/16
 Hatch Emergency Preparedness Drill Report 16EX01, dated 6/29/16
 Hatch Emergency Preparedness Drill Report 16EX02, dated 11/6/16
 Hatch Emergency Preparedness Drill Report 17EX01, dated 4/27/17
 Hatch Emergency Preparedness Drill Report 17EX02, dated 5/24/17
 Hatch 8 Year Tracking Matrix, dated 5/23/17
 Plant Hatch Emergency Preparedness, 2017 Evaluated Exercise, 10/17/2017, Exercise Controller Book
 2016 Plant Hatch Post Accident Sampling System Drill Report, dated 12/12/16
 2016 Plant Hatch Medical Drill Report, dated 12/12/16

Corrective Action Program Documents

CR 10285811, Emergency Drill 16EX02- 3 OSC phones inoperable
 CR 10287377, 16EX02 Drill Objective Failure
 CR 10287380, 16EX02 OSC Drill Objective Failure
 CR 10387634, Toombs County ENN inoperable

4OA1 Performance Indicator Verification

Procedures

NMP-EP-311, SNC Emergency Preparedness Tier 4 Performance Indicators, Ver. 3.0
 Southern Nuclear Operating Company (SNC) Standard Emergency Plan (SEP), Ver. 1.0
 SNC Standard Emergency Plan Annex for Hatch Nuclear Plant (HNP) Units 1 & 2, Ver. 1.0

Records and Data

DEP opportunities documentation for Fourth quarter 2016; and First and Second quarters 2017
 Siren test data for Fourth quarter 2016; and First and Second quarters 2017
 Drill and exercise participation records of ERO personnel for Fourth quarter 2016; and First and Second quarters 2017

Corrective Action Program Documents

CR 10321516, Applying Siren Station storm damage
 CR 10343233, Siren 77 has a partial activation
 CR 10351351, DEP Failure per NMP-TR-100
 CR 10351773, Siren 2 has a communication failure
 CR 10365343, ERO pager did not receive weekly meeting reminder
 CR 10366339, EP PI data for March was entered incorrectly
 CR 10367198, Potential issue with new ERO qualification effective July 1
 CR 10380685, ERO key position change status notification
 CR 10382654, Need to consider modifying requirement to be at weekly ERO muster meeting
 CR 10401708, DEP failure not coded for crew clock reset

LIST OF ACRONYMS USED

ANS	Alert and Notification System
DEP	Drill and Exercise Performance
DHS	Department of Homeland Security
EAL	Emergency Action Level
EOF	Emergency Operations Facility
EP	Emergency Preparedness
E-Plan	Emergency Plan
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
IP	Inspection Procedure
NEI	Nuclear Energy Institute
OSC	Operations Support Center
PIs	Performance Indicators
TSC	Technical Support Center