



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

November 29, 2017

Mr. George A. Lippard III
Vice President Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
P.O. Box 88 (Mail Code 800)
Jenkinsville, SC 29065

**SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION – U.S. NUCLEAR REGULATORY
COMMISSION EMERGENCY PREPAREDNESS INSPECTION REPORT
05000395/2017502**

Dear Mr. Lippard:

On November 3, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Virgil C. Summer Nuclear Station. The enclosed inspection report (IR) documents the inspection results that were discussed on November 3, 2017, with you and members of your staff.

The NRC inspectors did not identify any findings or violations of more than minor significance.

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. 50-395
License Nos. NPF-12

Enclosure:
NRC IR 05000395/2017502
w/Attachment: Supplementary Information

cc: Distribution via Listserv

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION – U.S. NUCLEAR REGULATORY
COMMISSION EMERGENCY PREPAREDNESS INSPECTION REPORT
05000395/2017502

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ADAMS: Yes ACCESSION NUMBER: _____ SUNSI REVIEW COMPLETE FORM 665 ATTACHED

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DATE	11/15 /2017	11/15/2017	11/ /2017	11/27 /2017	11/ 28 /2017	11/29 /2017	11/ 29/2017
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 05000395

License No: NPF-12

Report No: 05000395/2017502

Licensee: South Carolina Electric & Gas (SCE&G) Company

Facility: Virgil C. Summer Nuclear Station

Location: Jenkinsville, SC

Dates: October 30 through November 3, 2017

Inspectors: Steven P. Sanchez, Senior Emergency Preparedness Inspector
Christopher A. Fontana, Emergency Preparedness Inspector
John D. Hickman, Emergency Preparedness Inspector
Carey Read, Resident Inspector (Surry)

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

Enclosure

SUMMARY

Inspection Report (IR) 05000395/2017502; 10/30/2017 – 11/03/2017; Virgil C. Summer Nuclear Station; Exercise and Baseline Inspection

This report covers an inspection by three emergency preparedness 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," Revision 6.

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 31, 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 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 November 2, 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 November 2, 2017. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis as defined in Inspection Procedure (IP) 71114.01, "Exercise Evaluation". This inspection activity satisfied three inspection samples for PI verification on an annual basis as defined in IP 71151, "Performance Indicator Verification".

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

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, 2016, through September 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. This inspection activity satisfied one inspection sample for the exercise evaluation on a biennial basis as defined in Inspection Procedure (IP) 71114.01, “Exercise Evaluation” & This inspection activity satisfied three inspection samples for PI verification on an annual basis as defined in IP 71151, “Performance Indicator Verification”.

b. Findings

No findings were identified.

4OA6 Meetings

On November 3, 2017, the inspection team presented the inspection results to Mr. G. Lippard and other members of the plant staff. The inspectors confirmed that no proprietary information was provided.

ATTACHMENT: Supplementary Information

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

M. Cekovsky, Emergency Preparedness Specialist
B. Dalick, Supervisor, Licensing
R. Haselden, General Manager, Organizational / Development Effectiveness
R. Justice, General Manager, Nuclear Plant Operations
H. Kirkland, Licensing Engineer
G. Lindamood, Santee Cooper
G. Lippard, Vice President, Nuclear Operations
M. Moore, Supervisor, Nuclear Licensing
W. Stuart, General Manager, Engineering Services
T. Tharp, Supervisor, Emergency Preparedness
B. Thompson, Manager, Nuclear Licensing
R. Williamson, Manager, Emergency Preparedness
S. Zarandi, General Manager, Nuclear Support Services

LIST OF DOCUMENTS REVIEWED

1EP1 Exercise Evaluation

Procedures

EP-100, V.C. Summer Radiation Emergency Plan, Rev. 68
EPD-17-01B, October 31, 2017, V.C. Summer Nuclear Station C-ERO Evaluated Exercise Scenario Manual, Rev. 1
EPM-100.010, Emergency Field Flash of Emergency Diesel Generator, Rev. 1, Change C
EPP-001, Activation & Implementation of Emergency Plan, Rev. 31
EPP-012, Onsite Personnel Accountability and Evacuation, Rev. 13
SAP-0999, Corrective Action Program, Rev. 15
VCS-EPAP-0105, Conduct of Drills and Exercises, Rev. 0
VCS-EPMP-0106, Offsite Notification System (ONS), Rev. 0
VCS-EPP-0001.2, Alert, Rev. 0
VCS-EPP-0001.3, Site Area Emergency, Rev. 0
VCS-EPP-0001.4, General Emergency, Rev. 0
VCS-EPP-0002, Communication & Notification, Rev. 2
VCS-EPP-0020, Emergency Personnel Exposure Control, Rev. 0
VCS-EPP-0023, Technical Support Center, Rev. 0
VCS-EPP-0028, Operational Support Center Units 1, 2, & 3, Rev. 0
VCS-EPP-0051, Emergency Operations Center, Rev. 0

Records and Data

V.C. Summer Graded Exercise, 11/2/17 Management Debrief
EPD-17-01B, October 31, 2017, V.C. Summer Nuclear Station C-ERO Evaluated Exercise Scenario Manual. Rev. 1

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)

CR-15-04449, Risk significant planning standard items identified in the 9/22/15 NRC evaluated exercise
 CR-16-00490, Gap in EP training procedure and update of the OSC facility
 CR-16-01267, Classification was not timely
 CR-16-05172, Incorrect ERO Notification was activated
 CR-17-02101, Deficiencies identified during QA walk-down of Emergency Facilities
 CR-17-02105, Health Physics Drill performed during Graded Exercise, missed objective
 CR-17-05781, Unexpected PAR made during 10/31/17 NRC evaluated exercise
 CR-17-05785, Non-RSPS items from 10/31/17 evaluated exercise
 CR-17-05786, Minor errors identified on ENFs during 10/31/17 evaluated exercise
 CR-17-05787, An unsat drill objective was identified during the 10/31/17 evaluated exercise
 CR-17-05828, Observations identified by the NRC during the 2017 NRC EP inspection

1EP4 Emergency Action Level and Emergency Plan Changes

Procedures

EP-100, V.C. Summer Radiation Emergency Plan, Revs. 67 and 68
 EPP-005, Offsite Dose Calculation, Rev. 21
 SAP-0999, Corrective Action Program, Rev. 15
 VC1-EPAP-0108, Emergency Action Level Reference Manual – Unit 1, Rev. 1
 VC1-EPP-0108, Emergency Action Level Technical Bases Document – Unit 1, Rev. 0 & 1
 VCS-EPAP-0001, Emergency Plan Changes, Rev. 0
 VCS-EPP-0001.1, Unusual Event, Rev. 0
 VCS-EPP-0001.2, Alert, Rev. 0
 VCS-EPP-0001.3, Site Area Emergency, Rev. 0
 VCS-EPP-0001.4, General Emergency, Rev. 0
 VCS-SAP-0127, Emergency Preparedness, Rev. 0
 VCS-TQP-0917, Emergency Preparedness Training Program, Rev. 0

Change Packages

10 CFR 50.54(q) Screen and Evaluation for VC1-EPP-0108, Emergency Action Level Technical Bases Document – Unit 1, Rev. 1, dated 10/2/17
 10 CFR 50.54(q) Screen and Evaluation for EP-100, V.C. Summer Radiation Emergency Plan, Rev. 68, dated 12/12/16
 10 CFR 50.54(q) Screen and Evaluation for EPP-005, Offsite Dose Calculation, Rev. 21, dated 10/21/16
 10 CFR 50.54 (q) Screen for VCS-EPP-0001.1, Unusual Event, Rev. 0, dated 7/21/16
 10 CFR 50.54 (q) Screen for VCS-EPP-0001.2, Alert, Rev. 0, dated 7/21/16
 10 CFR 50.54 (q) Screen for VCS-EPP-0001.3, Site Area Emergency, Rev. 0, dated 7/21/16
 10 CFR 50.54 (q) Screen for VCS-EPP-0001.4, General Emergency, Rev. 0, dated 7/21/16

Corrective Action Program Documents

CR-16-03673, Programmatic weakness in completing 10CFR50.54(q) screenings & evaluations
 CR-16-04976, Wording in 50.54(q)'s did not clearly represent all changes

CR-17-05782, Change was not documented as being evaluated in a 50.54(q) for an EAL change (NRC-identified)

1EP8 Exercise Evaluation

Procedures

EP-100, V.C. Summer Radiation Emergency Plan, Rev. 68
 VCS-EPAP-0105, Conduct of Drills and Exercises, Rev. 0
 VCS-EPP-0023, Technical Support Center, Rev. 0
 VCS-EPP-0028, Operational Support Centers, Rev. 0
 VCS-EPP-0051, Emergency Operations Center, Rev. 0

Records and Data

EPD-17-01B, October 31, 2017, V.C. Summer Nuclear Station C-ERO Evaluated Exercise Scenario Manual, Rev. 1
 Updated 8-YR Drill Cycle Matrix, dated 8/29/17
 Log of E-Plan Elements Demonstrated in Drills, dated 8/29/17
 South Carolina Electric & Gas Company D-ERO Drill Report, dated 3/18/16
 South Carolina Electric & Gas Company B-ERO Drill Report, dated 5/11/16
 South Carolina Electric & Gas Company ERO Turnover Drill Report, dated 3/16/17
 South Carolina Electric & Gas Company D-ERO Drill Report, dated 8/25/17
 V. C. Summer Nuclear Station Final After Action Report Exercise Date September 22, 2015, FEMA, dated 1/1/16

Corrective Action Program Documents

CR-16-05172, Incorrect ERO Notification was activated
 CR-16-05811, After Hours Augmented Drill
 CR-17-00552, After Hours Augmented Drill
 CR-17-02105, Health Physics Drill performed during Graded Exercise missed objective
 CR-17-03735, After Hours Augmented Drill
 CR-17-03949, D-ERO Drill Deficiencies
 CR-17-03959, Notification did not meet the regulatory time of 15 minutes
 CR-17-04836, 2017 Biennial Exercise Scenario was not submitted to the NRC within 60 days

40A1 Performance Indicator Verification

Procedures

SAP-0999, Corrective Action Program, Rev. 15
 VCS-EPAP-0106, Emergency Preparedness Performance Indicator Procedure, Rev. 1

Records and Data

DEP opportunities documentation for 3rd & 4th quarters 2016, and 1st, 2nd, & 3rd quarters 2017
 Siren test data for 3rd & 4th quarters 2016, and 1st, 2nd, & 3rd quarters 2017
 Drill and exercise participation records for 3rd & 4th quarters 2016, and 1st, 2nd, & 3rd quarters 2017

Corrective Action Program Documents

CR-15-06676, Unexpected increase in power drain after analog to digital conversion
 CR-16-00146, To document the 1Q16 siren growl test
 CR-16-01267, Classification was not timely

CR-16-01908, Chopper motor on XAM0055-F5-10 had sporadic sound during initial post maintenance test
 CR-16-03445, Downward trend of the administrative PI for ERO support
 CR-16-05008, Siren #20 was blown down during hurricane Mathew
 CR-16-05034, Siren #N38 failed 4Q EWSS growl test
 CR-16-05581, Siren #F11 failed
 CR-16-05963, Siren #F40 did not communicate
 CR-16-06131, Missed DEP opportunity
 CR-17-00809, Inability to communicate with offsite agencies during the 2/15/17 ERO drill
 CR-17-02424, ERO duty person's qualification expired while on duty
 CR-17-03293, Key ERO member not participating in a DEP exercise in the last 18 months
 CR-17-03959, During the 7/27/17 ERO drill the first notification to the offsite agencies did not meet regulatory time of 15 minutes
 CR-17-04287, Drill performed that did not count DEP opportunities

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
ANS	Alert and Notification System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Report
DEP	Drill and Exercise Performance
DHS	Department of Homeland Security
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PI	Performance Indicator
PI&R	Problem Identification and Resolution
ROP	Reactor Oversight Process
SDP	Significance Determination Process