



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

September 1, 2006

South Carolina Electric & Gas Company
ATTN: Mr. Jeffrey B. Archie
Vice President, Nuclear Operations
Virgil C. Summer Nuclear Station
P. O. Box 88
Jenkinsville, SC 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION - NRC INSPECTION REPORT
05000395/2006012

Dear Mr. Archie:

On August 4, 2006, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at your Virgil C. Summer Nuclear Station. The enclosed inspection report documents the inspections 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 of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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 Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact me at (404) 562-4653.

Sincerely,

/RA: James C. Shehee for/

Brian R. Bonser, Chief
Plant Support Branch 2
Division of Reactor Safety

Docket No. 50-395
License No. NPF-12

Enclosure: See page 2

Enclosure: NRC Inspection Report 05000395/2006012
w/Attachment: Supplemental Information

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(cc w/encl cont'd - See page 3)

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3

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 50-395

License No.: NPF-12

Report No: 05000395/2006012

Licensee: South Carolina Electric and Gas

Facility: Virgil C. Summer Nuclear Station

Location: 576 Stairway Road
Jenkinsville, SC 29065

Dates: July 31 - August 4, 2006

Inspectors: Lee Miller, Senior Emergency Preparedness Inspector
Sections 1EP2, 1EP3, 1EP4, 1EP5, 4OA1
James Kreh, Emergency Preparedness Inspector, Section 1EP4

Approved by: Brian R. Bonser, Chief
Plant Support Branch 2
Division of Reactor Safety

Enclosure

Summary of Findings

IR No:50-395/2006-012; 07/31-08/04/2006; Virgil C. Summer Nuclear Station; Baseline Inspection

The report covered an announced inspection by a team of two emergency preparedness inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations.

None

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Testing

a. Inspection Scope

The inspectors evaluated the adequacy of licensee methods for testing the alert and notification system in accordance with NRC Inspection Procedure 71114, Attachment 02, "Alert and Notification System (ANS) Testing." The applicable planning standard 10 CFR Part 50.47(b)(5) and its related 10 CFR Part 50, Appendix E, Section IV.D requirements were used as reference criteria. The criteria contained in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, was also used as references.

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

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation

a. Inspection Scope

The inspectors reviewed the ERO augmentation staffing requirements and the process for notifying the ERO to ensure the readiness of key staff for responding to an event and timely facility activation. The results of the December 20, 2005, unannounced off-hours augmentation drill were reviewed. The inspectors conducted a review of the backup notification systems. The qualification records of key position ERO personnel were reviewed to ensure ERO qualifications were current. A sample of problems identified from augmentation drills or system tests performed since the last inspection was reviewed to assess the effectiveness of corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 03, "Emergency Response Organization (ERO) Augmentation Testing." The applicable planning standard, 10 CFR 50.47(b)(2) 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 to this report.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors' review of revisions to the emergency plan, implementing procedures and EAL changes was performed for determining that changes had not decreased the effectiveness of the plan. The inspectors also evaluated the associated 10 CFR 50.54(q) reviews associated with non-administrative emergency plan, implementing procedures and EAL changes. The Virgil C. Summer Nuclear Station Emergency Plan, Revision 53 was the latest revision reviewed.

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 its related 10 CFR 50, Appendix E requirements were used as reference criteria. The criteria contained in NUMARC/NESP-007, Methodology for Development of Emergency Action Levels, Revision 2, and Regulatory Guide 1.101 were also used as references.

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

b. Findings

Introduction. The Senior Resident Inspector had provided several instances of changes to the detection methods V. C. Summer had in their EALs prior to the inspection. The inspectors determined that there are a number of inconsistencies between the EALs in EP-100, Radiological Emergency Plan, Revision 53, and NUREG-0654 Revision 1. Summer's implementing procedure for the emergency plan EALs reflects the same inconsistencies with NUREG-0654 Revision 1. The inspectors determined that a detailed review was warranted to determine the extent of problem.

The inspectors requested the cognizant NRC's Program Office review V. C. Summer's EAL scheme to determine if the changes made over time have caused a blending of EAL schemes and determine if changes made are decreases in effectiveness. The detailed review was necessary to provide the proper scope on the significance of the blending of the EAL schemes.

This is an unresolved item pending completion of further NRC staff review.

Description. On July 31, 2006, inspectors reviewed the Emergency Plan for changes from the last NRC approved version, Revision 5, through the current Revision 53 that would be EAL scheme changes or changes that would not be allowed by 10 CFR 50.54(q). After two days of review by the inspectors, it was determined that a more detailed review was necessary to determine the scope and extent of the issue. Examples of the issue are: (1) On October 11, 1994, the licensee implemented an Emergency Plan change revision 35 that deleted EALs without providing specific technical basis for the EAL deletion. The licensee provide that the EALs were changed in accordance with Branch Position of Acceptable Deviations to Appendix 1 to NUREG-

0654/FEMA-REP-1 as justification for the changes; and, (2) changes to the Alert, Site Area Emergency, and General Emergency EALs to use RH-G5 in place of RH-A2 radiation monitor without 10 CFR 50.54(q) documentation.

Analysis. This finding affects the emergency preparedness cornerstone and was considered to be more than minor because, the Emergency Preparedness attribute of procedure quality was impacted. This, in turn, affects the Emergency Preparedness objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Due to the nature of this issue (affecting the regulatory process), traditional enforcement would be applied instead of the Significance Determination Process (SDP).

Enforcement. 10 CFR 50.54(q), states in part, that the licensee may make changes to these plans without Commission approval only if the changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to this part. Appendix E, IV(b) in part states: that a revision to an EAL must be approved by the NRC before implementation if the licensee is changing from one EAL scheme to another EAL scheme (e.g., a change from an EAL scheme based on NUREG-0654 to a scheme based upon NUMARC/NESP-007 or NEI-99-01).

Proposed changes that decrease the effectiveness of the approved Emergency Plans may not be implemented without application to and approval by the Commission. The licensee made changes to their Emergency Plan, which appeared to reduce the effectiveness of the emergency plans and appeared to be inconsistent with NUREG-0654 EAL scheme, but utilize other EAL schemes. These changes were not submitted to the NRC for approval prior to implementation. Pending further NRC review necessary to provide the proper scope on the significance on the blending of the EAL schemes and EAL changes that were made to the V. C. Summer Emergency Plan, this finding is identified as URI 50-395/2006012-001, Blending of EAL Schemes.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspectors reviewed the corrective actions identified through the EP program to determine the significance of the issues and to determine if repeat problems were occurring. The facility's self-assessments and audits were reviewed to assess the licensee's ability to be self-critical, thus avoiding complacency and degradation of their EP program. In addition, inspectors review licensee's self-assessments and audits to assess the completeness and effectiveness of all EP-related corrective actions.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 05, "Correction of Emergency Preparedness Weaknesses and Deficiencies." The applicable planning standard, 10 CFR 50.47(b)(14) 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 to this report.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors reviewed the licensee's procedure for developing the data for the Emergency Preparedness PIs which are: (1) Drill and Exercise Performance (DEP); (2) ERO Drill Participation; and (3) Alert and Notification System (ANS) Reliability. The inspectors examined data reported to the NRC for the period April 1, 2005 to March 31, 2006. Procedural guidance for reporting PI information and records used by the licensee to identify potential PI occurrences were also reviewed. The inspectors verified the accuracy of the PI for ERO 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 inspection was conducted in accordance with NRC Inspection Procedure 71151, "Performance Indicator Verification." The applicable planning standard, 10 CFR 50.9 and NEI 99-02, Revisions 3 and 4, "Regulatory Assessment Performance Indicator Guidelines," were used as reference criteria. This inspection activity represents three samples on an annual basis.

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

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

On August 4, 2006, the lead inspector presented the inspection results to Mr. J. Archie, Site Vice President, and other members of his staff who acknowledged the findings. The team lead stated that additional information would be accepted and reviewed. 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

J. Archie, Vice President Nuclear Plant Operations
D. Gatlin, General Manager, Nuclear Plant Operations
K. Nettles, General Manager, Support Services
G. Lippard, Manager, Operations
R. Sweet, Supervisor, Nuclear Licensing
R. Williamson, Supervisor, Emergency Services
F. Miller, Supervisor, Quality Control
R. McCauley, Quality Assurance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000395/2006012-01	URI	Blending of EAL Schemes. (Section 1EP4)
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Closed

None

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1EP2: Alert and Notification System Testing

Procedures

EPP-021, Activation of the Early Warning Siren System (EWSS), Revision 18
EMP-170.003, Warning Siren Maintenance, Revision 10

Records and Data

Siren Status Log for all 106 sirens

Miscellaneous

Model DCFCTB Federal Signal Corporation Technical Manual 2001 Siren Control, 10/03
SS2000D Controller/Encoder Technical Manual, 10/03

Section 1EP3: Emergency Response Organization Augmentation

Procedures

EPP-002, Communication and Notification, Revision 34
EPP-104, Verification of Communications Operability, Revision 8

Records and Data

EPP-05-02B, 'D' ERO Team Training Drill 'E' Operations shift, October 19, 2005
EPP-04-01A, 'B' ERO Team Training Drill 'B' Operations shift, March 22, 2006
EPP-03-02B, 'A' ERO Team Training Drill 'D' Operations shift, June 29, 2005
EPP-01-01A, 'A' ERO Team Training Drill 'A' Operations shift, June 8, 2005
Current ERO duty roster 3/28/06, Revision 97
Emergency Planning Telephone Directory, Revision 85
Database for ERO member qualification status as of August 3, 2006
File number: 151.45, Augmentation Drill Report, November 20, 2002

Section 1EP4:Emergency Action Level and Emergency Plan Changes

Procedures

EPP-027, Hostile Plan Procedure, Revision 1
Radiological Emergency Plan , Rev. 51, Revision 52, and Revision 53

Plans and Changes packages

Multiple change packages for EP-100, Radiation Emergency Plan Revision 5 through
Revision 53

Section 1EP5: Correction of Emergency Preparedness Weaknesses and Deficiencies

Procedures

SAP-999, Corrective Action Program, Revision 0

Records and Data

QA-AUD-200505-0, Emergency Plan, May 18, 2005
QA-AUD-200605-0, Emergency Plan, March 1, 2005
SA04-NP-01, EP Program Self-Assessment Report, April 26-30, 2004
SA06-NP-04, Early Warning Siren System Self-Assessment, June 19-29, 2006

Condition Evaluation Reports

0-C-04-1450, Results of EP Self Assessment SA04-NP-01
0-C-05-1290, Identified in Audit QA-AUD-200505-0
0-C-05-1292, Identified in Audit QA-AUD-200505-0
0-C-05-2716, Personnel did not respond to weekly pager test
0-C-05-2804, Siren System reported 105 of 106 failures
0-C-05-2894, 2005 NRC Evaluated EP Exercise, SAE Notification inaccurate
0-C-05-2898, 2005 NRC Evaluated EP Exercise, Alert delayed due to EAL detection method
0-C-05-2924, Siren Fairfield No. 54 (F54) failed the bi-weekly silent test
0-C-05-2949, Training related items from 2005 NRC Evaluated EP Exercise
0-C-05-3535, Duty person did not respond to weekly pager test and could not be contacted
0-C-05-3729, EP items identified during NRC Force on Force Exercise
0-C-05-4143, INPO recommendation to develop EALs that ensure accurate classification
0-C-06-0100, Duty person did not respond to weekly pager test and could not be contacted
0-C-06-0812, One Performance Indicator Failure out of two opportunities due to inaccurate time on notification time
0-C-06-0979, Inadvertent Activation of Plant Off-site System
0-C-06-1337, Identified in Audit QA-AUD-200605-0

Section 4OA1: Performance Indicator Verification

Procedures

EPP-106, Emergency Preparedness Performance Indicator Procedure, Revision 0

Records and Data

Documentation of DEP opportunities from Operations Simulator evaluations from 2nd quarter 2005 to 1st quarter 2006
Selected training records of drill/exercise participation by ERO personnel during 2005
LOR-SA-015, Simulator Exercise Guide, Revision 7
LOR-SA-075B, Simulator Exercise Guide, Revision 3
LOR-ST-055E, Simulator Exercise Guide, Revision 0
LOR-SA-005, Simulator Exercise Guide, Revision 2

EPP-104, EWSS Silent Tests data sheets 10/18-12/29
EPP-104, EWSS Annual Functional Test data sheets May 4, 2005
EPP-104, EWSS Growl Test Quarterly January 10, 2006 and October 18, 2005
Documentation of ERO qualifications

Condition Evaluation Reports

0-C-06-2493, ERO qualifications lapsed for two Operations personnel who are standing watch.
0-C-06-2498, DEP/PI correction

LIST OF ACRONYMS

ANS	Alert and Notification System
DEP	Drill/Exercise Performance
EAL	Emergency Action Level
EP	Emergency Plan
ERO	Emergency Response Organization
PI	Performance Indicator
SDP	Significance Determination Process
URI	Unresolved Item