



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

March 6, 2012

Mr. Thomas D. Gatlin  
Vice President, Nuclear Operations  
South Carolina Electric and Gas Company  
Virgil C. Summer Nuclear Station  
Post Office Box 88  
Jenkinsville, SC 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1 - ISSUANCE OF  
AMENDMENT REGARDING SLAVE RELAY SURVEILLANCE FREQUENCY  
(TAC NO. ME6093)

Dear Mr. Gatlin:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 187 to Renewed Facility Operating License No. NPF-12 for the Virgil C. Summer Nuclear Station (VCSNS), Unit 1, in response to your letters dated April 18, 2011 and September 26, 2011. This amendment revises the VCSNS Technical Specification (TS) Table 4.3-2 for the engineered safety feature actuation system instrumentation to allow the surveillance frequency for the slave relay test to be extended from quarterly to every 18 months or refueling for the specific slave relays or auxiliary relays used in VCSNS.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's Biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, reading "Robert Martin", is positioned above the typed name and title.

Robert E. Martin, Senior Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-395

Enclosures:

1. Amendment No. 187 to NPF-12
2. Safety Evaluation

cc w/encls: Distribution via Listserv



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SOUTH CAROLINA ELECTRIC AND GAS COMPANY

DOCKET NO. 50-395

VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 187  
Renewed License Nos. NPF-12

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by South Carolina Electric and Gas Company, dated April 18, 2011, as supplemented by letter dated September 26, 2011, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

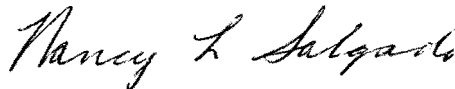
2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-12 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 187, and the Environmental Protection Plan contained in appendix B, are hereby incorporated in the license. South Carolina Electric & Gas Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective as of its date of issuance and shall be implemented within 120 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Nancy Salgado, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to Renewed Facility  
Operating License Nos. NPF-12  
and the Technical Specifications

Date of Issuance: March 6, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 187  
TO RENEWED FACILITY OPERATING LICENSE NOS. NPF-12  
DOCKET NO. 50-395

Replace the following pages of the License and Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

License

License No. NPF-12, page 3

TS

3/4 3-35

3/4 3-36

3/4 3-37

3/4 3-38

3/4 3-40

Insert Pages

License

License No. NPF-12, page 3

TS

3/4 3-35

3/4 3-36

3/4 3-37

3/4 3-38

3/4 3-40

- (3) SCE&G, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as amended through Amendment No. 33;
- (4) SCE&G, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed neutron sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (5) SCE&G, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus of components; and
- (6) SCE&G, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain, and is subject to, the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

SCE&G is authorized to operate the facility at reactor core power levels not in excess of 2900 megawatts thermal in accordance with the conditions specified herein and in Attachment 1 to this renewed license. The preoccupation tests, startup tests and other items identified in Attachment 1 to this renewed license shall be completed as specified. Attachment 1 is hereby incorporated into this renewed license.

(2) Technical Specifications and Environmental Protection Plan

The technical Specifications contained in Appendix A, as revised through Amendment No. 187 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. South Carolina Electric & Gas Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

TABLE 4.3-2

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
1. SAFETY INJECTION, REACTOR TRIP, FEEDWATER ISOLATION, CONTROL ROOM ISOLATION, START DIESEL GENERATORS, CONTAINMENT COOLING FANS AND ESSENTIAL SERVICE WATER								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R(3)	1, 2, 3, 4
c. Reactor Building Pressure-High-1	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Pressurizer Pressure--Low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
e. Differential Pressure Between Steam Lines--High	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
f. Steam Line Pressure Low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
2. REACTOR BUILDING SPRAY								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R(3)	1, 2, 3, 4
c. Reactor Building Pressure-High-3	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3

## ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

### SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
<b>3. CONTAINMENT ISOLATION</b>								
a. Phase "A" Isolation								
1) Manual	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
2) Safety Injection		See 1 above for all Safety Injection Surveillance Requirements.						
3) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R(3)	1, 2, 3, 4
b. Phase "B" Isolation								
1) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R(3)	1, 2, 3, 4
2) Reactor Building Pressure-High-3	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
c. Purge and Exhaust Isolation								
1) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R(3)	1, 2, 3, 4
2) Containment Radioactivity-High	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
3) Safety Injection		See 1 above for all Safety Injection Surveillance Requirements.						

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
4. STEAM LINE ISOLATION								
a. Manual	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R(3)	1, 2, 3
c. Reactor Building Pressure-High-2	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Steam Flow in Two Steam Lines--High Coincident with T <sub>avg</sub> --Low-Low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
e. Steam Line Pressure Low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
5. TURBINE TRIP AND FEEDWATER ISOLATION								
a. Steam Generator Water Level--High-High	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2
b. Automatic Actuation Logic and Actuation Relay	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R(3)	1, 2
6. EMERGENCY FEEDWATER								
a. Manual	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R(3)	1, 2, 3
c. Steam Generator Water Level--Low-Low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3



TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
EMERGENCY FEEDWATER (Continued)								
d. Undervoltage - Both ESF Busses	N.A.	R	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
e. Safety Injection		See 1 above for all Safety Injection Surveillance Requirements.						
f. Undervoltage - One ESF Bus	N.A.	R	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
g. Trip of Main Feedwater Pumps	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2
h. Suction transfer on low pressure	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
7. LOSS OF POWER								
a. 7.2 kV Emergency Bus Undervoltage (Loss of Voltage)	N.A.	R	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
b. 7.2 kV Emergency Bus Undervoltage (Degraded Voltage)	N.A.	R	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
8. AUTOMATIC SWITCHOVER TO CONTAINMENT SUMP								
a. RWST level low-low	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	R(3)	1, 2, 3

## INSTRUMENTATION

TABLE 4.3-2 (Continued)

### TABLE NOTATION

- (1) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (2) The 36 inch containment purge supply and exhaust isolation valves are sealed closed during Modes 1 through 4, as required by TS 3.6.1.7. With these valves sealed closed, their ability to open is defeated; therefore, they are excluded from the quarterly slave relay test.
- (3) Slave Relay Testing will be conducted every 18 months for Westinghouse type AR relays and preferably during a refueling outage to preclude the risk of actuation. Replacement relays other than Westinghouse type AR or reconciled Cutler-Hammer relays will require further analysis and NRC approval to maintain the established frequency.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 187 TO RENEWED FACILITY OPERATING LICENSE NOS. NPF-12

SOUTH CAROLINA ELECTRIC AND GAS COMPANY

VIRGIL C. SUMMER, UNIT 1

DOCKET NO. 50-395

1.0 INTRODUCTION

By letter dated April 18, 2011, as supplemented by letter dated September 26, 2011 (References 1 and 2, respectively), the South Carolina Electric and Gas Company (SCE&G) submitted a request to revise the Technical Specifications (TS), in Appendix A to Facility Operating License No. NPF-12 for the Virgil C. Summer Nuclear Station, Unit 1, (VCSNS). The changes would revise TS table 4.3-2 for the Engineered Safety Feature Actuation System (ESFAS) Instrumentation to allow the surveillance frequency to be extended from quarterly to every 18 months or refueling for the specific Westinghouse type AR relays used as Solid State Protection System (SSPS) slave relays or auxiliary relays.

The September 26, 2011, supplement contained clarifying information, did not change the scope of the original application or the initial no significant hazards consideration determination, and did not expand the scope of the original *Federal Register* notice dated August 16, 2011 (76 FR 50763).

Specifically, the proposed amendment would revise Surveillance Requirements (SR) for the following functional units listed on TS Table 4.3-2, "Engineered Safety Feature Actuation System Instrumentation Surveillance Requirements":

- Safety Injection, Reactor Trip, Feedwater Isolation, Control Room Isolation, Start Diesel Generators, Containment Cooling Fans and Essential Service Water
- Reactor Building Spray
- Containment Isolation, Phase "A" Isolation
- Containment Isolation, Phase "B" Isolation
- Containment Isolation, Purge and Exhaust Isolation
- Steam Line Isolation
- Turbine Trip and Feedwater Isolation
- Emergency Feedwater
- Automatic Switchover to Containment Sump

## 2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.36(c)(3), "Surveillance Requirements," states, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met." This regulation thus establishes a need for surveillance testing that demonstrates the ability of the associated devices to perform its functions. However, it does not establish schedule-related requirements concerning such testing.

Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," supports the extension of surveillance intervals and states that safety can be improved, equipment degradation decreased, and an unnecessary burden on personnel resources eliminated by reducing the amount of testing that the TS require during power operation.

## 3.0 TECHNICAL EVALUATION

The Westinghouse topical report WCAP-13877, Revision 2-P-A, "Reliability Assessment of Westinghouse Type AR Relays Used as SSPS Slave Relays" (Reference 3), provides the technical justification for relaxing the slave relay surveillance test interval from quarterly to every 18 months or refueling for Westinghouse Type AR relays used as SSPS slave relays.

Based on the NRC staff's review of WCAP-13877 Rev. 1, the staff concluded that the failure data and analysis provided for Type AR relays used in SSPS applications support the proposed test interval extension to each refueling outage or 18 months.

The NRC staff approved Revision 2 of WCAP-13877 in a safety evaluation (SE) dated July 12, 2000 (included in Reference 3), where it stated that the previous SE is still applicable to Rev. 2 of the WCAP, and the plant-specific TS change request for an extended surveillance test interval should meet the requirements identified in the previous staff SE.

Additionally, the SE establishes the following four plant-specific criteria that must be addressed by licensees that reference WCAP-13877 in TS change amendment requests to extend the surveillance interval for Type AR slave relays from once per quarter, to each refueling outage or 18 months.

- (1) Confirm the applicability of the WCAP-13877 analyses to the given plant.
- (2) Ensure that the contact loading analysis for the Westinghouse Type AR relays has been performed to determine the acceptability of the relays.
- (3) Determine the qualified life for the Type AR relays based on plant-specific environmental conditions.
- (4) Establish a program to evaluate the adequacy of the proposed test interval if two or more AR relays fail in a 12-month period.

The WCAP-13877 analysis covers the Westinghouse type AR relay when used in an SSPS slave relay application. The analysis addresses several configurations (e.g., type AR440, with or

without the ARLA latch attachment) and the two operating modes normally energized (NE) or normally de-energized (ND) of the type AR relays.

### 3.1 Description of the Westinghouse Type AR relay based on licensee's submittals

The basic Westinghouse type AR relay consists of a coil assembly and a contact block assembly. The principal components of the contact block assembly are the cover, crossbar, and a set of contact cartridge assemblies. An AR440 relay consists of a coil assembly that is ac current actuated and a four-pole contact block assembly. An AR880 relay is an AR440 relay equipped with an "adder block", which is an additional four-pole contact assembly.

Type AR relays are designed to operate without the aid of gravity. The de-energized contact state is maintained or restored by a return spring. When the relay coil is energized, the upper-half armature is drawn into the coil block assembly, overcoming the resistance of the return spring. The crossbar is pulled along by the action of the relay coil assembly, causing the change of state of the relay contact cartridges.

Type AR relays can be equipped with a latch assembly (called an ARLA latch) which provides a "retentive memory" feature. That is, once the slave relay has energized, it remains latched in the energized position even if power is interrupted. These slave relays must be reset electrically. Typically, a latching relay is used to control functions where loss of power should not cause an inadvertent reset, or where deliberate action is required to reset or terminate a function, such as safety injection. The latch is disengaged by momentarily energizing the latch (reset) coil, allowing the contacts to return to the de-energized state.

Westinghouse type AR non-latching relays are either normally energized (NE) or normally deenergized (ND). A relay is considered to be NE if its coil is energized to maintain a desired contact position under normal plant operating conditions and de-energized to perform its safety-related function. A relay is considered to be ND if its coil is de-energized during normal plant operating conditions and energized to perform its safety-related function. Latching relays are ND.

### 3.2 WCAP-13877 Plant-Specific Items

In its submittals the licensee addressed each of the plant-specific items listed in Section 3.0 above. The staff's evaluation for these plant-specific items is discussed below.

#### 3.2.1 Confirm the applicability of the WCAP-13877 analyses to the given plant.

The licensee referenced relays from Cutler Hammer and the staff requested additional information. The following is a summary from the licensee's two submittals.

The licensee stated that the SSPS slave relays used at VCSNS, Unit 1, are Westinghouse type AR relays with the catalog numbering 'AR440ARY'. These relays were installed during plant construction and were manufactured by Cutler-Hammer with the catalog numbering 'AR440AR'.

Cutler-Hammer became part of Eaton Corporation in 1978 and Westinghouse sold its Distribution and Control Business Unit to Eaton in 1994. Westinghouse procures commercially manufactured AR relays from Cutler-Hammer and dedicates them for class

1E Safety-Related applications under the Westinghouse 10 CFR 50 Appendix B program for the nuclear industry.

Per the specification sheets, the part numbering is the same except for the 'Y' designation. Westinghouse uses the 'Y' to indicate a safety-related component.

On the basis of the foregoing, the NRC staff finds that the licensee has adequately addressed the applicability of WCAP-13877 to VCSNS with regard to plant-specific item 1 for Westinghouse Type AR relays with ac coils.

3.2.2 Ensure that the contact loading analysis for the Westinghouse Type AR relays has been performed to determine the acceptability of the relays.

The licensee stated that the contact load design for VCSNS AR relay contacts was recently reviewed for inductive loads and found to be within specifications. As discussed in Reference 2, the slave relay contact loading review was performed under the VCSNS Corrective Action Program. The data was compiled from the site and vendor drawings with analysis of applicable vendor data. Each set of contacts were reviewed for the specific action required, the device that was actuated, and the applied load.

The licensee's final assessment determined that the contact ratings are acceptable for the applied loads.

On the basis of the foregoing analysis, the NRC staff finds that the licensee has adequately addressed the staff's concern with regard to plant-specific item 2.

3.2.3 Determine the qualified life for the Type AR relays based on plant-specific environmental conditions.

WCAP-13877 states that the operating life of a relay depends on the ambient temperature at the location of the relay and temperature rise of the internal components of the relay. Type AR relays used as ND SSPS slave relays will not experience temperature-induced, age-related degradation sufficient to result in failure within the 40-year plant life. The licensee addressed this in Reference 1 as follows:

4.3.1 Environment

The SSPS cabinets are located within an environmentally controlled area that is monitored per Technical Specification requirements. The Technical Specification Table 3.7-7 details the room temperature limit of 83 degrees Fahrenheit that is validated every 12 hours. The temperature profile for the room was reviewed from January 2007 to March 2010. The review found the room to have an average temperature of 67.74 degrees Fahrenheit, a maximum of 82.78 degrees Fahrenheit and a minimum of 59.77 degrees Fahrenheit. The average thermal temperature rise through the cabinet was found to be less than 10 degrees Fahrenheit; therefore, the AR relays are well below the suitable service environment limit of 212 degrees Fahrenheit and the Westinghouse Replacement Component Services (RCS) of 120 degrees Fahrenheit for a 40 year shelf life.

On the basis of the foregoing analysis, the NRC staff finds that the licensee has adequately addressed the staff's concern with regard to plant-specific item 3.

3.2.4 Establish a program to evaluate the adequacy of the proposed test interval if two or more AR relays fail in a 12-month period.

The licensee stated in Reference 1 that plant procedures and the maintenance rule program, which implements the requirements of 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance of nuclear power plants," will be revised to specifically monitor for slave relay failures.

The licensee also stated that if two or more relays fail in a 12-month period, it will re-evaluate the adequacy of the extended surveillance frequency interval.

On the basis of the foregoing analysis, the NRC staff finds that the licensee has adequately addressed the staff's concern with regard to plant-specific item 4.

### 3.3 Summary

The NRC staff reviewed the licensee's proposed surveillance frequency extension from quarterly to every 18 months or refueling for Westinghouse Type AR relays used as SSPS slave relays for the functions listed in TS Table 4.3-2. Based on its review of the licensee's submittals, the staff finds that the generic analyses contained in WCAP-13877, Rev. 2-P-A, are applicable to VCSNS, Unit 1, that the licensee's proposed amendment is consistent with the approved WCAP-13877 Rev. 2-P-A, SE conclusions and that the licensee has adequately addressed the staff's plant-specific concerns. Therefore, the licensee's proposed amendment meets the requirements of 10 CFR 50.36(c)(3), as described in Section 2 of this SE, and is acceptable.

## 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the South Carolina State official was notified of the proposed issuance of the amendment. The State official had no comments.

## 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (76 FR 50763). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

## 5.0 REFERENCE

1. Letter from T. D. Gatlin, SCE&G, submitting license amendment request, dated April 18, 2011, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11109A113).
2. Letter from T. D. Gatlin, SCE&G, responding to requests for additional information, dated September 26, 2011, ADAMS Accession No. ML11271A025.
3. Letter from H. A. Sepp, Westinghouse Electric Company, transmitting approved topical report, WCAP-13877, Revision 2-P-A (Proprietary) and WCAP-14129, Revision 2-NP-A (Non-Proprietary), Entitled "Reliability Assessment of Westinghouse Type AR Relays Used as SSPS Lave Relays," dated August 15, 2009, ADAMS Accession No ML003753905.
4. Letter from M. A. Wesolowski (Westinghouse) to R. E. Martin (NRC), "Response to NRC Request for Additional Information (TAC No. ME6093) License Amendment Request for Slave Relay Testing Intervals," September 27, 2011, ADAMS Accession No. ML12039A149.

Principal Contributors: Samir Darbali, NRR/DE

Date of Issuance: March 6, 2012



March 6, 2012

Mr. Thomas D. Gatlin  
Vice President, Nuclear Operations  
South Carolina Electric and Gas Company  
Virgil C. Summer Nuclear Station  
Post Office Box 88  
Jenkinsville, SC 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1 - ISSUANCE OF  
AMENDMENT REGARDING SLAVE RELAY SURVEILLANCE FREQUENCY  
(TAC NO. ME6093)

Dear Mr. Gatlin:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 187 to Renewed Facility Operating License No. NPF-12 for the Virgil C. Summer Nuclear Station (VCSNS), Unit 1, in response to your letters dated April 18, 2011 and September 26, 2011. This amendment revises the VCSNS Technical Specification (TS) Table 4.3-2 for the engineered safety feature actuation system instrumentation to allow the surveillance frequency for the slave relay test to be extended from quarterly to every 18 months or refueling for the specific slave relays or auxiliary relays used in VCSNS.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's Biweekly *Federal Register* notice.

Sincerely,

/RA/

Robert E. Martin, Senior Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-395

Enclosures:

1. Amendment No. 187 to NPF-12
2. Safety Evaluation

cc w/encls: Distribution via Listserv

DISTRIBUTION:

Public	LPL2-1 R/F	RidsNrrDorlP2-1	RidsNrrPMSummer	SDarbali, NRR
RidsAcrrs_AcnwMailCTR	RidsNrrLASFigueroa	RidsOgcRp	RidsNrrDorlDpr	TGovan, NRR
RidsRgn2MailCenter	NrrDeEicb	JThorp, NRR	NSalgado, NRR	

ADAMS Accession No.: ML12047A192

\*by memo dated

OFFICE	NRR/LPL2-1/PM	NRR/LPL2-1/PM	NRR/LPL2-1/LA	DE/EICB/BC
NAME	TGovan	RMartin	SFigueroa	JThorp
DATE	03/06/12	02/28/12	02/27/12	01/19/12 *
OFFICE	OGC NLO	NRR/LPL2-1/BC	NRR/LPL2-1/PM	
NAME	DRoth	NSalgado	RMartin	
DATE	03/01/12	03/06/12	03/06/12	

OFFICIAL RECORD COPY