



February 28, 2012  
RC-12-0032

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Sir / Madam:

Subject: VIRGIL C. SUMMER NUCLEAR STATION (VCSNS) UNIT 1  
DOCKET NO. 50-395  
OPERATING LICENSE NO. NPF-12  
RESPONSE TO ADDITIONAL NRC QUESTIONS ON THE PROPOSED  
LICENSE AMENDMENT REQUEST LAR-10-03108 AND QUALITY  
ASSURANCE PLAN CHANGES

- Reference:
1. SCE&G Letter, "License Amendment Request - LAR-10-03108, Proposed Change to Relocate Administrative Control Requirements Related to Quality Assurance and Submittal of Quality Assurance Program Description (QAPD)," dated March 18, 2011 (RC-11-0006) (ML110810688)
  2. USNRC Letter dated August 11, 2011, "Virgil C. Summer Unit No. 1 (V. C. Summer) - Request for Additional Information on Quality Assurance Plan (TAC No. ME5899) (ML11202A155)
  3. SCE&G Letter, "Response to Request for Additional Information on Quality Assurance Plan," dated August 30, 2011 (RC-11-0139)

South Carolina Electric & Gas Company (SCE&G), acting for itself and as agent for South Carolina Public Service Authority, submitted a letter (Reference 1) to the NRC requesting a revision to the VCSNS Unit 1 Facility Operating License NFP-12. This revision was to relocate certain administrative controls from the Technical Specifications (TS) to the new Quality Assurance Program Description (QAPD) which was also submitted for review and approval. During NRC review, Requests for Additional Information (RAIs) were issued (Reference 2). SCE&G provided a response to each of the RAIs in Reference 3.

In response to one of the RAIs (RAI 5.0.1) SCE&G agreed to continue its commitment for establishing, implementing and maintaining procedures as recommended in Appendix A of Regulatory Guide (RG) 1.33, Revision 2, February 1978. The previously proposed TS change was to replace RG 1.33 procedure requirements in Section 6.8.1.a with a statement that procedure requirements are addressed in the QAPD. Also, the commitment to RG 1.33 in the Final Safety Analysis Report (FSAR) in Appendix 3A was to be deleted. Since SCE&G is continuing with its commitment to RG 1.33, the revision to TS 6.8.1.a and the revision to FSAR Appendix 3A are no longer required. Therefore, a revised marked-up and retyped TS page (page 6-11) is attached to replace corresponding page in the original submittal and to show the procedure requirements of RG 1.33 are retained. Also, for your

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information the attached marked-up FSAR pages (pages 3A-18 and 3A-19) are provided to identify the continued commitment to the requirements of RG 1.33.

During subsequent NRC review, an issue was identified regarding independent review of the Plant Safety Review Committee (PSRC) activities. Based on the proposed wording in the QAPD Part V, Section 2.2, Paragraph 2, it appears that only results of supplemented reviews are reviewed by the PSRC and that independent reviews of PSRC activities have been deleted. This was not consistent with the wording in the Standard Review Plan (SRP) (NUREG-0800, Section 17.5) or the NEI Template (NEI-06-14A, Revision 7 dated August 2010). It was not SCE&G's intent to delete independent reviews of PSRC activities, since such reviews are a normal function of the Nuclear Safety Review Committee. The wording is being revised to be consistent with the SRP and closely follow the NEI template.

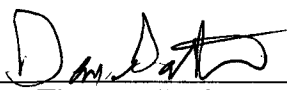
Also, in the same paragraph discussed above items "d" and "e" state that the PSRC determines issues that warrant special review and determines schedule, scope and composition of the review team. The SRP and NEI template identify this as a management function instead of a PSRC function. SCE&G agrees that this is a management function, so the word "PSRC" is being replaced with "Management" for these two items. A revised page 49 of the QAPD is attached to show these changes.

Several pages in the proposed LAR were impacted by issuance of License Amendment 185 (TAC No. ME7088, issued 2/22/12) and require revision. These are Technical Specification pages which include index page XIX, mark-up page 6-10 and retype page XVIII. These pages replace those previously submitted for the LAR and are attached.

If you have any questions or require additional information, please contact Bruce Thompson at (803) 931-5042.

I certify under penalty of perjury that the foregoing is true and correct.

2-28-12  
Executed on

  
Thomas D. Gatlin

GAR/TDG/jw

Attachments:

1. Technical Specification Mark-up: Index XVIII, Index XIX, 6-10, 6-11
2. Technical Specification Retype: Index XVIII, 6-10, 6-11
3. FSAR Appendix 3A- RG 1.33 Commitment: 3A-18, 3A-19
4. QAPD Revision: Page 49

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CR-10-03108

RC-12-0032

Page 3 of 3

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INDEX

ADMINISTRATIVE CONTROLS

<u>SECTION</u>	<u>PAGE</u>
6.1 RESPONSIBILITY.....	6-1
6.2 ORGANIZATION	
6.2.1 OFFSITE .....	6-1
6.2.2 UNIT STAFF.....	6-1
6.2.3 NOT USED.....	6-3
6.2.4 SHIFT TECHNICAL ADVISOR.....	6-3
6.3 UNIT STAFF QUALIFICATIONS.....	6-3
6.4 TRAINING.....	6-3

6.5 <del>REVIEW AND AUDIT</del> ← <span style="border: 1px solid black; padding: 2px;">DELETED</span> ↓	
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6.5.1 PLANT SAFETY REVIEW COMMITTEE	
Function.....	6-4
Composition.....	6-4
Alternates.....	6-4
Meeting Frequency.....	6-4
Quorum.....	6-4
Responsibilities.....	6-4
Authority.....	6-5
Records.....	6-6
6.5.2 NUCLEAR SAFETY REVIEW COMMITTEE	
Function.....	6-6
Composition.....	6-6
Alternates.....	6-6
Consultants.....	6-6
Meeting Frequency.....	6-7
Quorum.....	6-7



INDEX

DELETED

ADMINISTRATIVE CONTROLS

<u>SECTION</u>	<u>PAGE</u>
Review .....	6-7
Audits .....	6-8
Authority .....	6-8
Records .....	6-9
6.5.3 TECHNICAL REVIEW AND CONTROL	
Activities .....	6-9

6.6 NOT USED ..... 6-10

6.7 SAFETY LIMIT VIOLATION ..... 6-10

6.8 PROCEDURES AND PROGRAMS ..... 6-11

6.9 REPORTING REQUIREMENTS

6.9.1 ROUTINE REPORTS

Startup Report ..... 6-13

Annual Report ..... 6-13

Annual Radiological Environmental Operating Report ..... 6-14

Annual Radioactive Effluent Release Report ..... 6-14

Not Used ..... 6-16

Core Operating Limits Report ..... 6-16

6.9.2 SPECIAL REPORTS ..... 6-17

6.10 RECORD RETENTION ..... 6-17

DELETED

6.11 RADIATION PROTECTION PROGRAM ..... 6-18

17

6.12 HIGH RADIATION AREA ..... 6-18

17

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## ADMINISTRATIVE CONTROLS

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- c. Proposed tests and experiments which affect plant nuclear safety and are not addressed in the Final Safety Analysis Report shall be reviewed by an individual/group other than the individual/group which prepared the proposed test or experiment.
  - d. Events reportable pursuant to the Technical Specification 6.9 and violations of Technical Specifications shall be investigated and a report prepared which evaluates the event and which provides recommendations to prevent recurrence. Such report shall be approved by the General Manager, Nuclear Plant Operations and forwarded to the Chairman of the Nuclear Safety Review Committee.
  - e. Individuals responsible for reviews performed in accordance with 6.5.3.1.a, 6.5.3.1.b, 6.5.3.1.c and 6.5.3.1.d shall be members of the plant staff that meet or exceed the qualification requirements of Section 4 of ANSI 18.1, 1971, as previously designated by the General Manager, Nuclear Plant Operations. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by the review personnel of the appropriate discipline.
  - f. Each review will include a determination of whether or not an unreviewed safety question is involved.

### RECORDS

6.5.3.2 Records of the above activities shall be provided to the General Manager, Nuclear Plant Operations, PSRC and/or NSRC as necessary for required reviews.

### 6.6 NOT USED

### 6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

- a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within one hour. The Vice President, Nuclear Operations and the NSRC shall be notified within 24 hours.
- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PSRC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.
- c. The Safety Limit Violation Report shall be submitted to the Commission, the NSRC and the Vice President, Nuclear Operations within 14 days of the violation.

## ADMINISTRATIVE CONTROLS

- d. Critical operation of the unit shall not be resumed until authorized by the Commission.

### 6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978.
- b. Refueling operations.
- c. Surveillance and test activities of safety-related equipment.
- d. Security Plan.
- e. Emergency Plan.
- f. Fire Protection Program.
- g. PROCESS CONTROL PROGRAM.
- h. OFFSITE DOSE CALCULATION MANUAL.
- i. Effluent and environmental monitoring program using the guidance in Regulatory Guide 4.15, Revision 1, February 1979.

~~6.8.2 Each procedure of 6.8.1 above, and changes thereto, shall be reviewed prior to implementation as set forth in 6.5 above:~~ DELETED

6.8.3 NOT USED.

6.8.4 The following programs shall be established, implemented and maintained:

- a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the chemical and volume control, letdown, safety injection, residual heat removal, nuclear sampling, liquid radwaste handling, gas radwaste handling and reactor building spray system. The program shall include the following:

- 1) Preventive maintenance and periodic visual inspection requirements, and
- 2) Integrated leak test requirements for each system at refueling cycle intervals or less.

- b. In-Plant Radiation Monitoring

- 1) Training of personnel,
- 2) Procedures for monitoring, and
- 3) Provisions for maintenance of sampling and analysis equipment.

## INDEX

### ADMINISTRATIVE CONTROLS

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<u>SECTION</u>	<u>PAGE</u>
<u>6.1 RESPONSIBILITY</u> .....	6-1
<u>6.2 ORGANIZATION</u>	
6.2.1 OFFSITE .....	6-1
6.2.2 UNIT STAFF .....	6-1
6.2.3 NOT USED .....	6-3
6.2.4 SHIFT TECHNICAL ADVISOR .....	6-3
<u>6.3 UNIT STAFF QUALIFICATIONS</u> .....	6-3
<u>6.4 TRAINING</u> .....	6-3
<u>6.5 DELETED</u>	
<u>6.6 NOT USED</u>	
<u>6.7 SAFETY LIMIT VIOLATION</u> .....	6-10
<u>6.8 PROCEDURES AND PROGRAMS</u> .....	6-11
<u>6.9 REPORTING REQUIREMENTS</u>	
6.9.1 ROUTINE REPORTS	
Startup Report .....	6-13
Annual Report.....	6-13
Annual Radiological Environmental Operating Report.....	6-14
Annual Radioactive Effluent Release Report .....	6-14
Not Used.....	6-16
Core Operating Limits Report .....	6-16
6.9.2 SPECIAL REPORTS .....	6-17
<u>6.10 DELETED</u> .....	6-17
<u>6.11 RADIATION PROTECTION PROGRAM</u> .....	6-17
<u>6.12 HIGH RADIATION AREA</u> .....	6-17
<u>6.13 PROCESS CONTROL PROGRAM</u> .....	6-18
<u>6.14 OFFSITE DOSE CALCULATION MANUAL</u> .....	6-19



## ADMINISTRATIVE CONTROLS

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- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PSRC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.
- c. The Safety Limit Violation Report shall be submitted to the Commission, the NSRC and the Vice President, Nuclear Operations within 14 days of the violation.
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## ADMINISTRATIVE CONTROLS

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- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978.
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- c. Surveillance and test activities of safety-related equipment.
- d. Security Plan.
- e. Emergency Plan.
- f. Fire Protection Program.
- g. PROCESS CONTROL PROGRAM.
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- i. Effluent and environmental monitoring program using the guidance in Regulatory Guide 4.15, Revision 1, February 1979.

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- 1) Preventive maintenance and periodic visual inspection requirements, and
- 2) Integrated leak test requirements for each system at refueling cycle intervals or less.

b. In-Plant Radiation Monitoring

- 1) Training of personnel,
- 2) Procedures for monitoring, and
- 3) Provisions for maintenance of sampling and analysis equipment.

- 1(c). Battery Performance Discharge Tests - Comply, with the exception of battery service test "intervals not to exceed 18 months." Our service tests are performed during refueling outages with a nominal interval of 18 months. However, due to scheduling requirements within outage windows, the interval between tests can slightly exceed 18 months. In addition, per Tech Specs, service tests are not performed during refueling outages that require "performance discharge tests." Refer to Section 8.3.2.2.2.
- 1(d). Independence of Redundant Standby Sources - Refer to positions on Regulatory Guides 1.6 and 1.75 in Appendix 3A.
- 1(e). Connection of Non-Class 1E Equipment to Class 1E Systems - Refer to position on Regulatory Guide 1.75 in Appendix 3A.
- 1(f). Selection of Diesel Generator Set Capacity for Standby Power Supplies - Refer to position on Regulatory Guide 1.9 in Appendix 3A.
- 2(a). Shared Electric Systems for Multi-Unit Nuclear Power Plants - Refer to position on Regulatory Guide 1.81 in Appendix 3A.
- 2(b). Availability of Electric Power Sources - Refer to position on Regulatory Guide 1.93 in Appendix 3A.

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1.33 QUALITY ASSURANCE PROGRAM REQUIREMENTS (OPERATION)  
(REVISION 2; 2/78)

The Virgil C. Summer Nuclear Station complies with the recommendations of Regulatory Guide 1.33 ~~as discussed in Section 17.2 and Section 6.0 of the Technical Specifications~~ with the following exceptions and clarifications:

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- 1. The plant has programmatic control requirements in place that make the biennial review process redundant. These programmatic controls were affected in an effort to ensure that plant instructions and procedures are reviewed for possible revision when pertinent source material is revised, therefore maintaining the procedures current. In addition to these controls, the Quality Systems group will perform a biennial Quality Assurance Audit of the procedural development program utilizing a representative sampling process, thereby providing verification that the controls are effective in maintaining procedures current. SCE&G believes that this approach better addresses the intent of the biennial review process and is more acceptable from both a technical and a practical perspective than a static two-year review process.

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2. The plant takes exception to paragraph C.4 regarding the increased frequencies required for the performance of the Nonconformance, Surveillance Testing, and Unit Staff audits. The specified frequencies in C.4 are six months, twelve months, and twelve months respectively. The plant will audit these areas at a minimum frequency of "... within a period of (2) two years." using the guidance of the Standard Review Plan 17.2. This change allows more flexibility in the scheduling of audits and allocation resources. Also, since previous audits have not identified any significant deficiencies in the stated programs, the frequency change will not decrease the effectiveness of the audits. The plant will audit these areas every two years. Audits shall be performed at the intervals designated for each audit area. Schedules shall be based on the month in which the audit starts. Two year audits may be extended not to exceed 25 percent of its interval. The maximum time between audits will not exceed 30 months. When an audit interval extension greater than one month is used, the next audit for that particular audit area will be scheduled from the original anniversary month rather from the month of the extended audit.

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1.34 CONTROL OF ELECTROSLAG WELD PROPERTIES  
(REVISION 0; 12/72)

Electroslag welding is not used for safety-related components at Virgil C. Summer Nuclear Station.

1.35 INSERVICE INSPECTION OF UNGROUTED TENDONS IN  
PRE-STRESSED CONCRETE CONTAINMENT STRUCTURES  
(REVISION 3; 4/79)

The surveillance program for the Virgil C. Summer Nuclear Station containment prestressing system is in compliance with the recommendations of Regulatory Guide 1.35 with the following exceptions and clarifications:

In place of the Lower Limit and 90% Lower Limit defined in this Guide, the 95% Base Value and 90% Base Value, respectively, are used. The Base Value is the force predicted for a tendon at the time of the surveillance. The Base Value is equal to the original stressing force minus the losses described in Proposed Regulatory Guide 1.35.1, "Determining Prestressing Forces for Inspection of Prestressed Concrete Containments," April 1979.

In the calculation of the Base Value, zero tolerance has been applied to the losses. The losses are combined by considering the interaction of the tendon stress relaxation and concrete creep using the procedure described in "A Method for Predicting Prestress Losses in a Prestressed Concrete Structure" which appeared in the Prestressed Concrete Institute Journal, March/April 1972. The Surveillance program is discussed in Section 3.8.1 and the Virgil C. Summer Nuclear Station Technical Specifications.

99-01

V. C. Summer Nuclear Station Unit 1  
Quality Assurance Program Description  
Revision 0

1. PSRC reviews are supplemented as follows:
  - a. A qualified person, independent of the preparer, reviews proposed changes in the procedures as described in the SAR prior to implementation of the change to determine if a technical specification change or NRC approval is required.
  - b. Audits of selected changes in the procedures described in the SAR are performed to verify that procedure reviews and revision controls are effectively implemented.
  - c. Competent individual(s) or group(s) other than those who performed the original design but who may be from the same organization verify that changes to the facility do not result in a loss of adequate design or safety margins.
2. The results of PSRC reviews of matters involving the safe operation of the facility are periodically independently reviewed with a minimum of one such review being conducted yearly. This review is intended to support management in identifying and resolving issues potentially affecting safe plant operation. This review supplements the existing corrective action programs and audits.
  - a. The review is performed by a team consisting of personnel with experience and competence in the activities being reviewed, but independent from cost and schedule considerations and from the organizations responsible for those activities. The PSRC supervisor or chairman has a minimum six (6) years combined managerial and technical support experience. The members of the PSRC should have a minimum of five (5) years of experience in their own area of responsibility as applicable to the activities being reviewed (i.e., a minimum of five years of experience in one of the twelve areas listed below:
    - (1) Nuclear power plant operations
    - (2) Nuclear engineering
    - (3) Chemistry and radiochemistry
    - (4) Metallurgy
    - (5) Nondestructive testing
    - (6) Instrumentation and control
    - (7) Radiological safety
    - (8) Mechanical engineering
    - (9) Electrical engineering
    - (10) Administrative control and quality assurance practices
    - (11) Training
    - (12) Emergency plans and related procedures and equipment).
  - b. The review is supplemented by outside consultants or organizations as necessary to ensure the team has the requisite expertise and competence.
  - c. Results of the review are documented and reported to responsible management, PSRC Chairman, and NSRC.
  - d. Management periodically consider issues they determine warrant special attention, such as deficient plant programs, declining performance trends, employee concerns, or other issues related to safe plant operations and determine what issues warrant the review.
  - e. Management determines the scheduling and scope of review and the composition of the team performing the review.