

July 30, 2001

Mr. Stephen A. Byrne
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88
Jenkinsville, South Carolina 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1 - ISSUANCE OF
AMENDMENT RE: DELETION OF INDEPENDENT SAFETY ENGINEERING
GROUP FROM TECHNICAL SPECIFICATIONS (TAC NO. MB0066)

Dear Mr. Byrne:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 151 to Facility Operating License No. NPF-12 for the Virgil C. Summer Nuclear Station, Unit No. 1. The amendment changes the Technical Specifications (TS) in response to your application dated September 14, 2000, as supplemented by letters dated April 24 and May 24, 2001. The supplements provided clarifying information only and did not change the initial no significant hazards consideration determination or expand the scope of the initial application.

This amendment deletes TS Section 6.2.3 and revises TS Sections 6.3.1 and 6.5.2.8 to remove the references to the Independent Safety Engineering Group (ISEG). The ISEG functions will remain a part of the Operational Quality Assurance Program.

A copy of the related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's Bi-weekly Federal Register notice. This completes the staff's efforts on TAC No. MB0066.

Sincerely,

/RA/

Karen Cotton, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-395

Enclosures:

1. Amendment No. 151 to NPF-12
2. Safety Evaluation

cc w/enclosures: See next page

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SOUTH CAROLINA ELECTRIC & GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

DOCKET NO. 50-395

VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 151
License No. NPF-12

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by South Carolina Electric & Gas Company (the licensee), dated September 14, 2000, as supplemented by letters dated April 24 and May 24, 2001, 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 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 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. 151 , 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 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Richard L. Emch, Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: July 30, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 151

TO FACILITY OPERATING LICENSE NO. NPF-12

DOCKET NO. 50-395

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

Remove Pages

Index Page XVIII

6-3

6-8

Insert Pages

Index Page XVIII

6-3

6-8

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 151 TO FACILITY OPERATING LICENSE NO. NPF-12

SOUTH CAROLINA ELECTRIC & GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-395

1.0 INTRODUCTION

By application dated September 14, 2000, as supplemented by letters dated April 24 and May 24, 2001, South Carolina Electric & Gas Company (SCE&G, the licensee) requested changes to the Technical Specifications (TS) for the Virgil C. Summer Nuclear Station (VCSNS). The proposed changes would delete TS Section 6.2.3 and revise TS Sections 6.3.1 and 6.5.2.8 to remove the references to the Independent Safety Engineering Group (ISEG). ISEG functional responsibilities would be incorporated into the Operational Quality Assurance Plan. The supplements provided clarifying information only and did not change the initial no significant hazards consideration determination or expand the scope of the initial application.

2.0 BACKGROUND

The ISEG concept was developed as part of the U.S. Nuclear Regulatory Commission Action Plan (NUREG-0660) to implement the various recommendations of official studies and investigations of the 1979 accident at Three Mile Island Unit 2. The ISEG was created to improve site organizations by providing onsite technical support and continuous evaluation and feedback of lessons learned from operating experience. The ISEG requirements established by NUREG-0737, Item I. B.1.2, apply to all operating licenses granted after June 26, 1980.

The ISEG responsibilities, as described by NUREG-1431, Rev 0 (Standard Technical Specifications, Westinghouse Plants), encompass review of:

1. Plant operating characteristics, NRC issuances, industry advisories, Licensing Event Reports, and other appropriate sources that may indicate areas for improving safety,
2. Plant operations, modifications, maintenance, and surveillance to independently verify that these activities are performed safely and correctly and that human errors are reduced as much as practical, and
3. Internal and external operational experience information that may indicate areas for improving plant safety.

3.0 ALTERNATIVE IMPLEMENTATION OF ISEG FUNCTIONAL RESPONSIBILITIES

The licensee's submittal of September 14, 2000, describes how the ISEG functions have been implemented by organizations and processes in addition to those activities performed by the dedicated ISEG organization.

As described in NUREG-0660, many of the recommendations were considered to be interim improvements until a better, more comprehensive or more desirable solution could be implemented. The ISEG concept was implemented to improve licensee safety performance and ability to respond to accidents by providing onsite technical support and continuous evaluation and feedback of lessons learned from operating experience. Since implementation of the ISEG concept, the licensee's organization has evolved such that the functions of the ISEG organization are duplicated by other organizations and processes. For example:

1. The Plant Support Engineering Group has been developed. This group is staffed with personnel responsible for monitoring the performance and reliability of plant systems and equipment.
2. Onsite engineering staff capabilities have improved, resulting in less reliance on architect/engineers.
3. Quality programs have been expanded to include areas reviewed by the ISEG organization. The Quality organization is staffed with technically competent personnel, including personnel that have been previously licensed or certified.
4. Self-assessment and independent-assessment processes have evolved to conduct proactive review of facility design and operation for potential safety concerns.
5. Implementation of the corrective action program has improved significantly, with tracking and trending capabilities to identify concerns and assess the effectiveness of corrective actions.
6. Oversight is provided by several groups in addition to the Plant Safety Review Committee and Nuclear Safety Review Committee. These groups include a group of senior engineers responsible for reviewing engineering changes, a working group responsible for reviewing problems and concerns tracked by the corrective action program, a group of site managers responsible for reviewing significant plant events, and a group of site managers that review the results of corrective actions.
7. Industry plant design and operating experience information is assigned to site organizations for review and/or action. Actions that result from these reviews are tracked by the corrective action program.

3.1 ISEG Functions

3.1.1 **Examine plant operating characteristics**

As part of its corrective action program, the licensee has implemented a Condition Evaluation, Reporting, and Trending (CER) program, which provides a process for identifying, classifying,

trending, reporting, and correcting situations requiring further review, evaluation, and/or action for resolution. Conditions potentially adverse to quality, safety or reliability are reported in accordance with the CER program. Conditions that are subsequently designated either as “high significance” or related to a plant structure, system or component are immediately reported to the Control Room Shift Supervisor for review. The CER program provides plant personnel with the opportunity to identify potential concerns with plant and system operability.

Independent oversight activities are performed by the Quality Systems organization during refueling outages, startup activities, and normal and off-normal operational activities. Areas that are monitored are determined by safety significance, past performance, regulatory requirements, or by request of responsible organizations. Oversight activities cover the areas of operations, maintenance, engineering, support activities, and procurement.

The corrective action program, administered by the Nuclear Licensing and Operating Experience (NL&OE) Group, includes root cause evaluation. The program provides independent oversight and a uniform approach for performing cause analyses of concerns associated with structures, systems and components, as well as human performance concerns.

The Maintenance Rule program, implemented in compliance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.65, monitors the effectiveness of maintenance activities for risk-significant plant equipment. The performance or condition of plant equipment is monitored against established performance criteria and goals to provide reasonable assurance that the equipment is capable of performing its design functions.

System performance and reliability are systematically reviewed by the Plant Support Engineering Department. Issues are tracked in accordance with the corrective action program and reported to station management.

The Probabilistic Safety Assessment Group develops and maintains the station probabilistic risk and safety analyses, which models plant performance and operating characteristics for risk-informed management.

As an additional oversight activity, a management team provides oversight of the corrective action program with respect to timeliness, effectiveness, and priority. This oversight function also evaluates the effectiveness of the corrective action program and root cause determination. Results and recommendations of these reviews are provided to the responsible station managers.

3.1.2 Examine NRC issuances, industry advisories and Licensee Event Reports:

The NL&OE Group is comprised of technically qualified personnel who review NRC issuances and industry advisories (including documents from the Institute of Nuclear Power Operations) for information on plant design and operating experience. The group reports to the General Manager, Nuclear Support Services through the Manager, NL&OE.

NL&OE routinely reviews NRC and Institute of Nuclear Power Operations plant status reports for insight into industry activities and practices. This information, which often includes Licensee

Event Reports (LERs) submitted by other licensees, is reviewed for station applicability. In addition, NL&OE develops LERs pursuant to 10 CFR 50.73 in conjunction with investigation of adverse conditions tracked by the corrective action program.

3.1.3 Review of other appropriate sources of plant design and operating experience information:

NL&OE also reviews plant design and operating experience information provided by vendors (such as Westinghouse and General Electric) and information gathered through participation in industry owners' groups. Information that is applicable to site organizations is routed for review by these organizations. Results of these reviews, including responsive follow-up actions, are entered into a regulatory tracking system.

3.1.4 Make detailed recommendations for procedure revisions, equipment modifications, maintenance activities, operations activities or other means of improving plant safety to the General Manager, Nuclear Safety:

Recommendations resulting from root cause determinations and the reports of Quality Services oversight activities may be provided to the General Manager, Nuclear Support Services.

3.2 Personnel Qualifications

Personnel performing the activities described above are appropriately qualified for their responsibilities and receive ongoing training in accordance with the site training program. Personnel performing these activities in Quality Systems, Engineering Services, and NL&OE include engineers with degrees in engineering or a related science.

3.3 Independence

The ISEG, as described in NUREG-0737, was intended to provide independent verification of plant activities. Independent verification is inherent to many of the licensee's programs and processes that implement ISEG-type functions.

Quality Systems and NL&OE organizations report to the General Manager, Nuclear Support Services, and are independent of line operations.

Organizations responsible for implementing the Maintenance Rule are independent of line operations.

The Operations Group has implemented an independent verification program, which provides for independent verification of the position or condition of designated systems or components and calculations and data collection points. This independent verification process reduces the likelihood of errors in plant operations.

The Maintenance Second Verification Program provides verification by qualified personnel that specific maintenance functions are performed in accordance with program requirements. Only personnel who have successfully completed the Maintenance Second Verification Training and/or are ANSI 45.2.6-certified may perform this function. Maintenance Second Verifiers have

direct access to the Manager, Quality Systems to assure that any quality concerns receive appropriate management attention, thereby ensuring independence from line operations.

Administrative procedures require that personnel performing independent verifications are independent of direct responsibility for the activities verified and that they specifically trained for this activity.

4.0 EVALUATION

The licensee has provided a copy of the Operational Quality Assurance Plan (OQAP), Revision 25, which was implemented at VCSNS on January 9, 2001. The OQAP incorporates several commitments that incorporate the NUREG-0737 provisions for the Independent Safety Review Group. The licensee has agreed to include these commitments in the next update of the Final Safety Analysis Report (FSAR), section 17. 2 (Quality Assurance During the Operations Phase). (<http://www.nrc.gov/NRC/reference.html> under accession number ML011710295).

The licensee proposes to delete TS 6.2.3, Independent Safety Engineering Group (ISEG) Function. TS 6.2.3.2 describes an ISEG organization composed of a multi-disciplined dedicated onsite group with a minimum assigned complement of five engineers or appropriate specialists. The licensee proposes to eliminate the NUREG-0737 guidance regarding ISEG composition on the basis that these functions are effectively performed by other organizations and processes. Other ISEG commitments, currently established by TS 6.2.3.1, TS 6.2.3.3, and TS 6.2.3.4, would be retained through the following OQAP commitments.

4.1 TS 6.2.3.1

Management of the ISEG function is assigned to Quality Systems, as described in section 2.3.3.A.2 of the OQAP. Pursuant to a conference call with the licensee's quality assurance staff on June 6, 2001, the licensee agreed to revise this section 2.3.3.A.2 as follows:

2.3.3.A.2 Management of the Independent Safety Engineering Group (ISEG)

Independent safety review is performed in accordance with the functions described in NUREG-0737, Item I.B.1.2. These reviews include reviews of plant activities to verify compliance to the operating license and may include plant operating characteristics, NRC issues, industry advisories, or others.

In addition, the ISEG function to review internal and external operational review information that may indicate areas for improving plant safety is implemented by NL&OE as identified by OQAP, section 2.3.3.

4.2 TS 6.2.3.3

TS 6.2.3.3 addresses the responsibility for maintaining surveillance of plant activities to provide independent verification that these activities are performed correctly and that human errors are reduced as much as practical. This aspect of ISEG responsibilities is addressed by OQAP, section 3.3, Independent Review, which assigns applicable reviews of plant activities to ISEG (i.e., Quality Systems).

4.3 TS 6.2.3.4

TS 6.2.3.4 addresses the process for ISEG reporting. Quality Systems and NL&OE report to the General Manager, Nuclear Services (OQAP, section 2.3.3). The General Manager, Nuclear Services, reports to the Vice President, Nuclear Operations, who is vested with the single-point authority and accountability for all nuclear matters within SCE&G.

The Manager, Quality Systems, is authorized by the OQAP to identify concerns adverse to quality directly to the Vice President, Nuclear Operations. The Manager, Quality Systems, has the responsibility and authority to report quality matters to any management level necessary within the licensee's organization in order to establish timely and effective corrective action. Specific details of ISEG reporting processes are implemented by site administrative procedures.

The licensee's OQAP commitments provide an acceptable method, consistent with the regulation at 10 CFR 50.34(b)(6)(ii), in describing how the ISEG functions are implemented. Subsequent changes to these commitments are subject to the change control process established by the regulation at 10 CFR 50.54(a)

5.0 STATE CONSULTATION

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

6.0 ENVIRONMENTAL CONSIDERATIONS

This amendment changes recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

7.0 CONCLUSION

NUREG-0737, Item I.B.1.2 provides guidance for establishment of an independent safety engineering function to provide increased onsite technical support and evaluation and feedback of lessons learned from operating experience. Since creation of ISEG organizations in the early 1980s, the licensee has developed and implemented alternate programs and processes that essentially duplicate ISEG functional responsibilities. These programs and processes collectively constitute an acceptable alternative to the concept of five dedicated engineers originally envisioned by NUREG-0737. These alternate programs and processes provide for the requisite independence from line activities for operations and maintenance. Training for independent review activities is commensurate with the complexity and safety significance of the activities to be reviewed.

The revised OQAP describes how the Quality Systems and NL&OE organizations effectively implement ISEG functions. These activities maintain the necessary independence from line organizations responsible for operations and maintenance. Communication of concerns and recommendations that result from these activities are reported to appropriate levels of

management, including the General Manager, Nuclear Services. The licensee's implementation of the ISEG concept, as described in the OQAP, provides an acceptable alternative for implementing the guidance of NUREG-0737 for the ISEG organization. Subsequent changes to these commitments are controlled in accordance with the change control process established by the regulation at 10 CFR 50.54(a).

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 in conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: Kenneth Heck, NRR
Karen Cotton, NRR

Date: July 30, 2001

Mr. Stephen A. Byrne
South Carolina Electric & Gas Company

VIRGIL C. SUMMER NUCLEAR STATION

cc:

Mr. R. J. White
Nuclear Coordinator
S.C. Public Service Authority
c/o Virgil C. Summer Nuclear Station
Post Office Box 88, Mail Code 802
Jenkinsville, South Carolina 29065

J. B. Knotts, Jr., Esquire
Winston & Strawn Law Firm
1400 L Street, N.W.
Washington, D.C. 20005-3502

Resident Inspector/Summer NPS
c/o U.S. Nuclear Regulatory Commission
576 Stairway Road
Jenkinsville, South Carolina 29065

Chairman, Fairfield County Council
Drawer 60
Winnsboro, South Carolina 29180

Mr. Henry Porter, Assistant Director
Division of Waste Management
Bureau of Land & Waste Management
Department of Health & Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Mr. Bruce C. Williams, General Manager
Nuclear Plant Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station, Mail Code 303
Post Office Box 88
Jenkinsville, South Carolina 29065

Mr. Melvin N. Browne, Manager
Nuclear Licensing & Operating Experience
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station, Mail Code 830
Post Office Box 88
Jenkinsville, South Carolina 29065