

November 29, 1994

Mr. John L. Skolds
Senior Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88
Jenkinsville, South Carolina 29065

Dear Mr. Skolds:

SUBJECT: ISSUANCE OF AMENDMENT NO. 121 TO FACILITY OPERATING LICENSE NO.
NPF-12 REGARDING ALTERNATIVE TESTING OF EMERGENCY DIESEL GENERATORS
- VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1 (TAC NO. M90042)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 121 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 July 20, 1994, as supplemented September 20, 1994.

The amendment changes the TS to allow alternative, equivalent testing of diesel fuel used in the emergency diesel generators (EDG). These alternative methods are necessary due to recent changes in Environmental Protection Agency (EPA) Regulations that are designed to limit the use of high sulfur fuels.

The licensee also proposes to modify the TS by changing the revision level of WCAP-10216-P-A, "Relaxation of Constant Axial Offset Control - FQ Surveillance Technical Specification," referenced in TS 6.9.1.11. This pertains to the FQ(z) TS (TS 3.2.1 and 3.2.2) and is necessary since Westinghouse revised their methodology in determining FQ(z).

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

Sincerely,

Original signed by:

George F. Wunder, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-395

Enclosures:

1. Amendment No. 121 to NPF-12
2. Safety Evaluation

cc w/enclosures:
See next page

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AMENDMENT NO. 121 TO FACILITY OPERATING LICENSE NO. NPF-12 - SUMMER, UNIT NO.1

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cc: Summer Service List

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South Carolina Electric & Gas Company
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Jenkinsville, South Carolina 29065

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Mr. John L. Skolds
South Carolina Electric & Gas Company

Virgil C. Summer Nuclear Station

cc:

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South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88
Jenkinsville, South Carolina 29065



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

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.121
License No. NPF-12

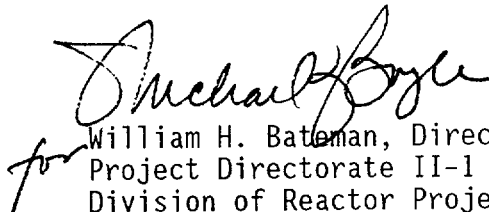
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by South Carolina Electric & Gas Company (the licensee), dated July 20, 1994, as supplemented September 20, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as 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. 121, 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


for William H. Bateman, Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 29, 1994

ATTACHMENT TO LICENSE AMENDMENT NO.121
TO FACILITY OPERATING LICENSE NO. NPF-12
DOCKET NO. 50-395

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are indicated by marginal lines.

<u>Remove Pages</u>	<u>Insert Pages</u>
3/4 8-3	3/4 8-3
3/4 8-4	3/4 8-4
6-16a	6-16a

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 Each EDG shall be demonstrated OPERABLE:

- a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:
 1. Verifying the fuel level in the day tank and fuel storage tank.
 2. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.
 3. Verifying the diesel generator can start* and accelerate to synchronous speed (504 rpm) with generator voltage and frequency at 7200 ± 720 volts and 60 ± 1.2 Hz.
 4. Verifying the generator is synchronized, gradually loaded* to an indicated 4150-4250 kW** and operates for at least 60 minutes.
- b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by removing accumulated water from the day tank.
- c. At least once per 31 days by checking for and removing accumulated water from the fuel oil storage tanks;
- d. By sampling new fuel oil in accordance with the applicable ASTM standard prior to addition to storage tanks and:
 1. By verifying in accordance with the tests specified in the applicable ASTM standard prior to addition to the storage tanks that the sample has:
 - a. An API Gravity of within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate, or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89, or an API gravity of greater than or equal to 27 degrees but less than or equal to 39 degrees;
 - b. A kinematic viscosity of 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes (alternatively, Saybolt viscosity, SUS at 100°F of greater than or equal to 32.6, but not less than or equal to 40.1), if gravity was not determined by comparison with the supplier's certification;

* This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading recommendations.

** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band shall not invalidate the test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. A flash point equal to or greater than 125°F; and
- d. A clear and bright appearance with proper color when tested in accordance with the applicable ASTM standard.
- 2. By verifying within 30 days of obtaining the sample that the specified properties are met when tested in accordance with the applicable ASTM standard.
- e. At least once every 31 days by obtaining a sample of fuel oil in accordance with the applicable ASTM standard, and verifying that total contamination is less than 10 mg/liter when checked in accordance with the applicable ASTM standard.
- f. At least once per 184 days by:
 - 1. Starting and accelerating the EDG to synchronous speed (504 rpm) with generator voltage and frequency at 7200 ± 720 volts and 60 ± 1.2 Hz within 10 seconds after the start signal. The EDG shall be started for this test by using one of the following signals:
 - a) Simulated loss of offsite power by itself.
 - b) Simulated loss of offsite power in conjunction with an ESF actuation test signal.
 - c) An ESF actuation test signal by itself.
 - d) Simulated degraded offsite power by itself.
 - e) Manual.
 - 2. The generator shall be manually synchronized, loaded to an indicated 4150-4250 kW** in less than or equal to 60 seconds, and operate for at least 60 minutes.
- g. At least once every 18 months by:
 - 1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service,
 - 2. Verifying that on rejection of a load of greater than or equal to 729, the voltage and frequency are maintained at 7200 ± 720 volts and frequency at 60 ± 1.2 Hz.
 - 3. Verifying the generator capability to reject a load of 4250 kW without tripping. The generator voltage shall not exceed 7920 volts during and following the load rejection.

** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band shall not invalidate the test.

ADMINISTRATIVE CONTROLS

CORE OPERATING LIMITS REPORT (Continued)

(Methodology for Specification 3.1.1.3 - Moderator Temperature Coefficient 3.1.3.5 - Shutdown Bank Insertion Limit, 3.1.3.6 - Control Bank Insertion Limit, 3.2.1 - Axial Flux Difference, 3.2.2 - Heat Flux Hot Channel Factor, and 3.2.3 - Nuclear Enthalpy Rise Hot Channel Factor).

- b. WCAP-10216-P-A, Rev. 1A, "RELAXATION OF CONSTANT AXIAL OFFSET CONTROL FQ SURVEILLANCE TECHNICAL SPECIFICATION", February 1994 (W Proprietary).

(Methodology for Specifications 3.2.1 - Axial Flux Difference (Relaxed Axial Offset Control) and 3.2.2 - Heat Flux Hot Channel Factor (FQ Methodology for W(Z) surveillance requirements).)

- c. WCAP-10266-P-A, Rev. 2, "THE 1981 VERSION OF WESTINGHOUSE EVALUATION MODEL USING BASH CODE", March 1987 (W Proprietary).

(Methodology for Specification 3.2.2 - Heat Flux Hot Channel Factor).

The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements there to shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 121 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 letter dated July 20, 1994, as supplemented September 20, 1994, South Carolina Electric & Gas Company (the licensee), submitted a request for changes to the Virgil C. Summer Nuclear Station, Unit No. 1 (Summer Station) Technical Specifications (TS).

The proposed change would modify the TS to allow alternative, equivalent testing of diesel fuel used in the emergency diesel generators (EDG). These alternative methods are necessary due to recent changes in Environmental Protection Agency (EPA) Regulations that are designed to limit the use of high sulfur fuels. The licensee also proposes to modify the TS by changing the revision level of WCAP-10216-P-A, "Relaxation of Constant Axial Offset Control - FQ Surveillance Technical Specification," referenced in TS 6.9.1.11. This pertains to the FQ(z) TS (TS 3.2.1 and 3.2.2) and is necessary since Westinghouse revised their methodology in determining FQ(z).

2.0 EVALUATION

The Summer Station TS require that diesel fuel oil be sampled in accordance with American Society of Testing and Materials (ASTM) standards D4057, D975-81, D4176-82, D2276-68, and either D1522-79 or D2262-82, at various times during its handling and storage. Alternative tests that accomplish the same goal as these have been developed. Some of these tests are better and more efficient than the specific tests cited in the TS; therefore, the licensee would like the option of using the alternative tests. In anticipation of future improvements in testing, the licensee has requested that no specific ASTM standard be cited in the TS; rather, they would like a general statement that "the applicable ASTM standard..." be applied. The Summer Station EDG fuel oil testing program is consistent with the testing program described in Section 5.7.2.17 of the Westinghouse Standard TS. The staff finds this proposed change acceptable.

The Summer Station TS require that the analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the staff. In the Summer Station TS this includes WCAP-10216-P-A, "Relaxation of Constant Axial Offset Control - FQ Surveillance Technical Specification." Westinghouse has since made a revision to this WCAP, and the staff has found this revision acceptable; therefore, the licensee would like to replace the reference to WCAP-10216-P-A with a reference to WCAP-10216-P-A, Rev. 1A. The staff finds this change acceptable.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 the Surveillance Requirements. The NRC staff has determined that the amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 51626). Accordingly, the amendment meets 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 amendment.

5.0 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: G. Wunder

Date: November 29, 1994