August 8, 1997

Mr. Gary J. Taylor
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88
Jenkinsville, South Carolina 29065

SUBJECT: ISSUANCE OF AMENDMENT NO. 136 TO FACILITY OPERATING LICENSE NO. NPF-12 REGARDING TECHNICAL SPECIFICATIONS FOR CHARGING/HIGH HEAD SAFETY INJECTION PUMP CROSS CONNECT VALVES AND CHARGING PUMP MINI-FLOW HEADER ISOLATION VALVE - VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1 (TAC NO. M92287)

Dear Mr. Taylor:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 136 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 March 26, 1997.

The amendment revises TS 4.5.2.a for the two charging/high head safety injection (HHSI) pump cross connect valves (XVG-8133A and XVG-8133B) and charging pump mini-flow header isolation valve (XVG-8106) in the emergency core cooling system (ECCS). The proposed amendment adds these valves to the list of valves in TS Surveillance Requirement 4.5.2.a on page 3/4 5-4, consequently these valves will be verified once every 12 hours to indicate that they are in the required position with power to the valve operators removed.

A copy of the related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's Biweekly Federal Register notice. This completes the staff's efforts on TAC No. M98287.

Sincerely,
Original signed by:
Allen R. Johnson, 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. 136 to NPF-12
2. Safety Evaluation

cc w/enclosures: See next page

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COPY	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
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NAME	GEdison				
DATE	8/8/97				
COPY	Yes/No				

Mr. Gary J. Taylor
South Carolina Electric & Gas Company

VIRGIL C. SUMMER NUCLEAR STATION

cc:

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Letter Dated August 8, 1997

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

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. 136
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 March 26, 1997, 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 and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 136, are hereby incorporated into this license. South Carolina Electric & Gas Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

FOR THE NUCLEAR REGULATORY COMMISSION

Gordon Edison, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachments:
1.. Changes to the Technical Specifications
2. Safety Evaluation

Date of Issuance: August 8, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 136

TO FACILITY OPERATING LICENSE NO. NPF-12

DOCKET NO. 50-395

Replace the following page of the Appendix A Technical Specifications with the enclosed page. The revised area is indicated by a marginal line.

Remove Page	Insert Page
3/4 5-4	3/4 5-4

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

	Valve Number	Valve Function	Valve Position
1.	8884	HHSI Hot Leg Injection	Closed
2.	8886	HHSI Hot Leg Injection	Closed
3.	8888A	LHSI Cold Leg Injection	Open
4.	8888B	LHSI Cold Leg Injection	Open
5.	8889	LHSI Hot Leg Injection	Closed
6.	8701A	RHR Inlet	Closed
7.	8701B	RHR Inlet	Closed
8.	8702A	RHR Inlet	Closed
9.	8702B	RHR Inlet	Closed
10.	8133A	Charging/HHSI Cross-Connect	Open
11.	8133B	Charging/HHSI Cross-Connect	Open
12.	8106	Charging Mini-Flow Header Isolation	Open

b. At least once per 31 days by:

1. Verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position, and

2. Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the reactor building which could be transported to the RHR and Spray Recirculation sumps and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the reactor building prior to establishing CONTAINMENT INTEGRITY, and

2. Of the areas affected within the reactor building at the completion of each reactor building entry when CONTAINMENT INTEGRITY is established.

d. At least once per 18 months by:

1. Verifying automatic interlock action of the RHR system from the Reactor Coolant System by ensuring that, with a simulated or actual Reactor Coolant System pressure signal greater than or equal to 425 psig, the interlocks prevent the valves from being opened.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 136 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

In its application dated March 26, 1997, South Carolina Electric & Gas Company (the licensee) proposed that Technical Specification (TS) for the two charging/high head safety injection (HHSI) pump cross connect valves and the charging pump mini-flow header isolation valve in the emergency core cooling system (ECCS) be revised at Virgil C. Summer Nuclear Station (Summer). The proposed amendment will add these valves to the list of valves shown on TS Surveillance Requirement (SR) 4.5.2.a. This amendment request is to satisfy application of the single failure criterion for manually-controlled electrically-operated valves recommended in Branch Technical Position (BTP) ICSB 18.

2.0 BACKGROUND

The purpose of this amendment request is to satisfy the requirements of a single failure criterion of an electrical system component, which can cause undesirable mechanical motion of the valve or other fluid system component. Since such a single failure in the ECCS can result in loss of a safety function, Branch Technical Position (BTP) ICSB 18, "Application of the Single Failure Criterion to Manually-Controlled Electrically-Operated Valves," allows, in lieu of design changes, to disconnect electrical power to the valves, but these valves are to be identified and their required valve positions are to be listed in the plant TS.

To satisfy the recommendations of BTP ICSB 18, these valves should be operable from the main control room, and should have redundant position indication in the main control room; the indication system itself shall meet the single failure criterion.

3.0 EVALUATION

The licensee proposes to add the following valves 8133A, 8133B, and 8106 as Valve Nos. 10, 11, and 12, to the valves already listed in TS SR 4.5.2.a for the ECCS, along with its required valve position and its function as follows:

Valve Number	Valve Function	Valve Position
10. 8133A	Charging/HHSI Cross-Connect	Open
11. 8133B	Charging/HHSI Cross-Connect	Open
12. 8106	Charging Mini-Flow Header Isolation	Open

Since these valves belong to a subsystem of the ECCS, they are required to be operable during a loss-of-coolant accident. Although the initiation of the ECCS does not require any realignment of these valves from their normal position, the operator may need to realign Valves 8133A and 8133B, depending on which charging pumps are operating, later in the transient when the switchover from safety injection to cold leg recirculation is required. During the injection or recirculation phase of the ECCS, a single failure in the control circuitry could cause a spurious actuation of the valves that may result in loss of a safety function.

The specific concern at Summer is the following: while charging pump C is aligned to train B (i.e., Valve Nos. 8133A and 8133B are open and connected in series), a "hot short" in the control circuitry of either of these valves could cause a valve to mechanically change its position, and this could disable all HHSI flow through the train B flow path. To meet the recommendations of BTP ICSB 18, the licensee will modify Valve Nos. 8133A and 8133B during the tenth refueling outage (scheduled for October 1997) to install a power lockout feature that can be controlled from the main control board and a redundant position indication on the main control board that is powered from the opposite train.

Since these modifications would eliminate a single failure vulnerability that could result in spurious actuation of the valves, the staff finds that the proposed modification of Valve Nos. 8133A and 8133B to install a power lockout feature for these valves and redundant position indication is consistent with BTP ICSB 18. By adding these valves to TS SR 4.5.2.a, their required valve positions would be verified with power to the valve operator removed once every 12 hours.

As part of the resolution of NRC Bulletin 86-03, the licensee completed the modification for Valve No. 8106 in 1988. Currently, the licensee verifies that power is removed from the valve once every 12 hours and the valve position is logged once every 31 days as part of the valve lineup. Since Valve No. 8106 already meets the recommendations of BTP ICSB 18, it is only necessary to add Valve No. 8016 to TS SR 4.5.2.a.

The staff concludes that the proposed addition of Valve Nos. 8133A, 8133B, and 8106 to the list of valves in TS SR 4.5.2.a, which requires these valves be verified "open" with the power to the valve operators removed once per 12 hours, is acceptable.

4.0 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.

5.0 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. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent 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 (62 FR 27801). 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.

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

Principal Contributors: Peter Kang
Amritpal Gill

Date: August 8, 1997