

June 6, 1989

Docket No. 50-395

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Mr. O. S. Bradham
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88
Jenkinsville, South Carolina 29065

Dear Mr. Bradham:

SUBJECT: ISSUANCE OF AMENDMENT NO. 78 TO FACILITY OPERATING LICENSE NO.
NPF-12 - VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1, REGARDING
AUTO SHUNT TRIP (TAC NO. 53406)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 78 to Facility Operating License No. NPF-12 for the Virgil C. Summer Nuclear Station, Unit No. 1. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated January 20, 1989, as supplemented on March 20, 1989.

The amendment implements the NRC staff recommendations of Generic Letter 85-09, "Technical Specifications for Generic Letter 83-28, Item 4.3," regarding reactor trip breaker testing. Specifically, the changes involve revisions to TS Tables 3.3-1 and 4.3-1 relating to the reactor trip breakers.

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

Sincerely,

Original Signed By:

John J. Hayes, Jr., Project Manager
Project Directorate II-1
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation.

Enclosures:

1. Amendment No. 78 to NPF-12
2. Safety Evaluation

cc w/enclosures:
See next page

[SUM AMEND 53406]

OFC	: LA: PD21: DRPR: PM: PD21: DRPR: A/D: PD21: DRPR	:	:	:	:
NAME	: PA: [Signature] : JJHayes: jfw : EAdensam	:	:	:	:
DATE	: 4/ 1/89 : 4/10/89 : 4/10/89	:	:	:	:

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Mr. O. S. Bradham
South Carolina Electric & Gas Company

Virgil C. Summer Nuclear Station

cc:

Mr. William A. Williams, Jr.
Technical Assistant - Nuclear Operations
Santee Cooper
P. O. Box 764 (Mail Code 153)
Columbia, South Carolina 29218

J. B. Knotts, Jr., Esq.
Bishop, Cook, Purcell
and Reynolds
1400 L Street, N.W.
Washington, D. C. 20005-3502

Resident Inspector/Summer NPS
c/o U.S. Nuclear Regulatory Commission
Route 1, Box 64
Jenkinsville, South Carolina 29065

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission,
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia 30323

Chairman, Fairfield County Council
P. O. Box 293
Winnsboro, South Carolina 29180

Attorney General
P. O. Box 11549
Columbia, South Carolina 29211

Mr. Heyward G. Shealy, Chief
Bureau of Radiological Health
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

South Carolina Electric & Gas Company
Mr. A. R. Koon, Jr., Manager
Nuclear Licensing
Virgil C. Summer Nuclear Station
P. O. Box 88
Jenkinsville, South Carolina 29065

AMENDMENT NO. 78 TO FACILITY OPERATING LICENSE NO. NPF-12

Docket File
NRC PDR
Local PDR
PDII-1 Reading
S. Varga (14E4)
G. Lainas
E. Adensam
P. Anderson
Project Manager
OGC
D. Hagan (MNBB 3302)
E. Jordan (MNBB 3302)
B. Grimes (9A2)
T. Meeks (4) (P1-137)
W. Jones (P-130A)
E. Butcher (11F23)
D. Lasher (7E12)
ACRS (10)
GPA/PA
ARM/LFMB

cc: Licensee/Applicant Service List



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. 78
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 January 20, 1989, as supplemented on March 20, 1989, 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:

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P PDC

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 78, 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

Original Signed By:

Elinor G. Adensam, 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: June 6, 1989

OGC/ky *to SE, 1/23/89* *to STATE of SC* *5/23/89*

OFC	:LA:RD21:DRPR:PM:PB21:DRPR:	OGC/ky	:D:PD21:DRPR:	:	:
NAME	: Anderson	: Hayes	: Myung	: EAdensam	:
DATE	: 4/11/89	: 4/11/89	: 5/23/89	: 6/6/89	:

ATTACHMENT TO LICENSE AMENDMENT NO. 78
TO FACILITY OPERATING LICENSE NO. NPF-12
DOCKET NO. 50-395

Replace the following pages of the Appendix Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change. Corresponding overleaf pages are also provided to maintain document completeness.

Remove Pages

3/4 3-5
3/4 3-7
3/4 3-8
3/4 3-11
3/4 3-12
3/4 3-13
3/4 3-14
3/4 3-14a

Insert Pages

3/4 3-5
3/4 3-7 (overleaf)
3/4 3-8
3/4 3-11
3/4 3-12 (overleaf)
3/4 3-13
3/4 3-14
3/4 3-14a

TABLE 3.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
19. Reactor Trip System Interlocks					
A. Intermediate Range Neutron Flux, P-6	2	1	2	2 [#]	7
B. Low Power Reactor Trips Block, P-7					
P-10 Input	4	2	3	1	7
P-13 Input	2	1	2	1	7
C. Power Range Neutron Flux, P-8	4	2	3	1	7
D. Power Range Neutron Flux, P-10	4	2	3	1, 2	7
E. Turbine First Stage Pressure, P-13	2	1	2	1	7
20. Reactor Trip Breakers	2	1	2	1, 2	8, 11
	2	1	2	3*, 4*, 5*	9
21. Automatic Trip Logic	2	1	2	1, 2	8
	2	1	2	3*, 4*, 5*	9

TABLE 3.3-1 (Continued)

ACTION STATEMENTS (Continued)

- ACTION 8 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1, provided the other channel is OPERABLE.
- ACTION 9 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the reactor trip breakers within the next hour.
- ACTION 10 - With the number of OPERABLE Channels less than the Total Number of Channels operation may continue provided the inoperable channels are placed in the tripped condition within 1 hour.
- ACTION 11 - With one of the diverse trip features (undervoltage or shunt trip attachment) inoperable, restore it to OPERABLE status within 48 hours or declare the breaker inoperable and apply ACTION 8. The breaker shall not be bypassed while one of the diverse trip features is inoperable except for the time required for performing maintenance to restore the breaker OPERABLE status.

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

SUMMER - UNIT 1

3/4 3-11

Amendment No. 78, 78

<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>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
1. Manual Reactor Trip	N.A.	N.A.	N.A.	R(11)	N.A.	1, 2, 3*, 4*, 5*
2. Power Range, Neutron Flux High Setpoint	S	D(2, 4), M(3, 4), Q(4, 6), R(4, 5)	M	N.A.	N.A.	1, 2
Low Setpoint	S	R(4)	M	N.A.	N.A.	1###, 2
3. Power Range, Neutron Flux, High Positive Rate	N.A.	R(4)	M	N.A.	N.A.	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R(4)	M	N.A.	N.A.	1, 2
5. Intermediate Range, Neutron Flux	S	R(4)	S/U(1),M	N.A.	N.A.	1###, 2
6. Source Range, Neutron Flux	S	R(4)	S/U(1),M(9)	N.A.	N.A.	2##, 3, 4, 5
7. Overtemperature ΔT	S	R	M	N.A.	N.A.	1, 2
8. Overpower ΔT	S	R	M	N.A.	N.A.	1, 2
9. Pressurizer Pressure--Low	S	R	M	N.A.	N.A.	1
10. Pressurizer Pressure--High	S	R	M	N.A.	N.A.	1, 2
11. Pressurizer Water Level--High	S	R	M	N.A.	N.A.	1
12. Loss of Flow	S	R	M	N.A.	N.A.	1

TABLE 4.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

SUMMER - UNIT 1

3/4 3-13

Amendment No. 24, 78

<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>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
D. Low Setpoint Power Range Neutron Flux, P-10	N.A.	R(4)	M (8)	N.A.	N.A.	1, 2
E. Turbine Impulse Chamber Pressure, P-13	N.A.	R	M (8)	N.A.	N.A.	1
20. Reactor Trip Breaker	N.A.	N.A.	N.A.	M (7, 12)	N.A.	1, 2, 3*, 4*, 5*
21. Automatic Trip Logic	N.A.	N.A.	N.A.	N.A.	M (7)	1, 2, 3*, 4*, 5*
22. Restore Trip Bypass Breaker	N.A.	N.A.	M(13), R(14)	N.A.	N.A.	1, 2, 3*, 4*, 5*

TABLE 4.3-1 (Continued)

TABLE NOTATION

- * - With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.
- ## - Below P-6 (Intermediate Range Neutron Flux Interlock) setpoint.
- ### - Below P-10 (Low Setpoint Power Range Neutron Flux Interlock) setpoint.
- (1) - If not performed in previous 7 days.
- (2) - Comparison of calorimetric to excore power indication above 15% of RATED THERMAL POWER. Adjust excore channel gains consistent with calorimetric power if absolute difference is greater than 2 percent. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.
- (3) - Single point comparison of incore to excore axial flux difference above 15% of RATED THERMAL POWER. Recalibrate if the absolute difference is greater than or equal to 3 percent. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.
- (4) - Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (5) - Detector plateau curves shall be obtained evaluated and compared to manufacturer's data. For the Power Range Neutron Flux Channels the provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.
- (6) - Incore - Excore Calibration, above 75% of RATED THERMAL POWER. The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 or 1.
- (7) - Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (8) - With power greater than or equal to the interlock setpoint the required OPERATIONAL TEST shall consist of verifying that the interlock is in the required state by observing the permissive annunciator window.
- (9) - Monthly Surveillance in MODES 3*, 4* and 5* shall also include verification that permissives P-6 and P-10 are in their required state for existing plant conditions by observation of the permissive annunciator window.
- (10) - Setpoint verification is not required.
- (11) - The TRIP ACTUATING DEVICE OPERATIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).
- (12) - The TRIP ACTUATING DEVICE OPERATIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.
- (13) - Automatic undervoltage trip.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 78 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 a letter dated December 8, 1983, South Carolina Electric & Gas Company, (the licensee) proposed changes to the Virgil C. Summer Nuclear Station, Unit 1, (Summer Station) Technical Specifications (TS) which would address changes in the surveillance requirements made necessary by the installation of automatic actuation of the shunt trip attachments of the reactor trip breakers (RTB), as required by Generic Letter (GL) 83-28, Item 4.3, "Required Actions Based on Generic Implications of Salem ATWS Event." The original required changes were clarified and modified by GL 85-09, "Technical Specifications for Generic Letter 83-28, Item 4.3." Because the licensee's proposed changes did not conform to guidance contained in GL 85-09, the licensee withdrew the original TS proposal by a letter dated January 20, 1989 and submitted new proposed changes. These changes were consistent with the recommendations of GL 85-09. On March 20, 1989 the licensee supplemented their application with a letter addressing the standards of 10 CFR 50.92(c) regarding whether or not a no significant hazards consideration exists.

The January 20, 1989 proposed amendment would implement the recommendations of GL 85-09 regarding RTB testing. Specifically, the licensee proposed to modify TS Table 3.3-1, "Reactor Trip System Instrumentation," to add Action 11 to the RTBs for the case when one of the diverse trip features is inoperable. TS Table 4.3-1, "Reactor Trip System Instrumentation Surveillance Requirements," would be revised to modify notation 11 and to add notations 12-14. This table would also be modified to have notations 11 and 12 apply to the Trip Actuating Device Operational Test for the Manual Reactor Trip functional unit and the RTB functional unit, respectively. In addition, the Reactor Trip Bypass Breaker would be added as a functional unit to Table 4.3-1 with notations 13 and 14 applying to this unit.

2.0 EVALUATION

GL 83-28, recommended that there be automatic actuation of the shunt trip attachment for Westinghouse plants. In GL 85-09, it was recommended that TS specifically require independent testing of the undervoltage and shunt trip attachments during power operation and independent testing of the control room manual switch contacts during each refueling outage.

The licensee has incorporated the changes recommended by GL 85-09 to address the new surveillance test requirements for the shunt trip attachment of the RTBs, the bypass breakers and the reactor manual trip switch and wiring, at the Summer Station.

We have reviewed these proposed changes to the Virgil C. Summer Nuclear Station, Unit 1 TS. We conclude that these changes meet the requirements of both GL 83-28, Item 4.3 and GL 85-09 and are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change of a requirement with respect to installation or use of a facility component located within the restricted area defined in 10 CFR Part 20 and changes to the surveillance requirements. The 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 this amendment involves no significant hazards consideration, and there has been no public comment on such finding. Accordingly, this 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 this amendment.

4.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration, which was published in the Federal Register on May 3, 1989 (54 FR 18960) and consulted with the State of South Carolina. No public comments were received, and the State of South Carolina did not have any comments.

We have 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, and
(2) such activities will be conducted in compliance with the Commission's regulations and 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 Contributor: D. Lasher

Dated: June 6, 1989