Docket No. 50-395

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Mr. D. A. Nauman Vice President, Nuclear Operations South Carolina Electric & Gas Company P.O. Box 764 (Mail Code 167) Columbia, South Carolina 29218

Dear Mr. Nauman:

The Commission has issued the enclosed Amendment No. 56 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 in response to your application dated June 20, 1986.

The amendment involves administrative changes and functional definition clarifications. The amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

A copy of the related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next regular bi-weekly <u>Federal</u> <u>Register</u> notice.

Sincerely,

Jon B. Hopkins, Project Manager PWR Project Directorate #2 Division of PWR Licensing-A Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 56 to NPF-12

cc w/enclosures: See next page

LA (P)AD#2/	ALPM:PAD#2
DMWTer	JHopkins:ab
174 3/86	12/4/86

PD:PAD#2 LRubenstein 1⊉//√86



8701080611 861216 PDR ADDCK 05000395 P PDR

^{2.} Safety Evaluation

Mr. D. A. Nauman 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 167) Columbia, South Carolina 29218

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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 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



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. 56 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 and South Carolina Public Service Authority (the licensees) dated June 20, 1986, 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.
- 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:

8701030615 861216 PDR ADDCK 05000395 PDR PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 56, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

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Lester S. Rubenstein, Director PWR Project Directorate #2 Division of PWR Licensing-A Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: December 16, 1986

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 56 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 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	Insert Pages
3/4 3-35	3/4 3-35
3/4 3-36	3/4 3-36
3/4 3-37	3/4 3-37
3/4 3-71	3/4 3-71
3/4 3-72	3/4 3-72
3/4 3-79	3/4 3-79
3/4 5-9	3/4 5-9
B3/4 2-5	B3/4 2-5
	B3/4 2-6

TABLE 4.3-2

UMMER	ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS									
- UNIT 1 FUN	TION	IAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCF IS REQUIRE(
1.	SAF FEE ROC GEN FAN	ETY INJECTION, REACTOR TRI DWATER ISOLATION, CONTROL M ISOLATION START DIESEL HERATORS, CONTAINMENT COOLI IS AND ESSENTIAL SERVICE WA	P NG TER							
	a.	Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
3/4	b.	Automatic Actuation Logic and Actuation Relay	N.A. s	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
3-35	c.	Reactor Building Pressure-High-1	\$	R	M	N.A.	N.A	N.A.	N.A.	1, 2, 3
	d.	Pressurizer PressureLow	S	R	м	N.A	N.A.	N.A.	N.A.	1, 2, 3
	e.	Differential Pressure Between Steam Lines-~High	S	R	м	N.A.	N.A.	N.A.	N.A.	1, 2, 3
	f.	Steam Line Pressure Low	S	R	м	N.A.	N.A.	N.A.	N.A.	1, 2, 3
2.	REA	CTOR BUILDING SPRAY								
	a.	Manual Initiation	N.A.	N. A.	N.A.	R	N.A.	N. A.	N.A.	1, 2, 3, 4
Amende	b.	Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q ''	1, 2, 3, 4
ment	c.	Reactor Building Pressure-High-3	S	R	M	N.A.	N.A.	N.A.	N. A.	1, 2, 3

S

TABLE 4.3-2 (Continued)

SUMMER	ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS										
- UNIT 1 FUNC	TION	AL U	NIT_	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
3.	CON	TAIN	MENT ISOLATION								
	a.	Pha	se "A" Isolation								
		1)	Manua1	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
		2)	Safety Injection		See 1 above for	uirements	rements				
3/4		3)	Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
ω	b.	Pha	se "B" Isolation								
36		1)	Automatic Actuation Logic and Actuation Relays	N.A.	N. A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
		2)	Reactor Building Pressure-High-3	S	R	M	N. A.	N.A.	N.A.	N. A.	1, 2, 3
	· c.	Pur	ge and Exhaust Isola	tion							
₽		1)	Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q 	1, 2, 3, 4
nendme		2)	Containment Radio- activity-High	S	R	М	N.A.	N.A.	N.A.	N. A.	1, 2, 3, 4
nt		3)	Safety Injection		See 1 above f	or all Safety	Injection Sur	veillance Req	uirement	5.	

No. 56

TABLE 4.3-2 (Continued)

SUMMER - UNIT FNGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS TRIP MODES FOR ACTUATING ANALOG MASTER SLAVE WHICH CHANNEL DEVICE ئے RELAY SURVEILLANCF ACTUATION RELAY **OPERATIONAL** CHANNEL CHANNEL **OPERATIONAL** IS REQUIRE LOGIC TEST TEST TEST TEST CALIBRATION CHECK TEST FUNCTIONAL UNIT STEAM LINE ISOLATION 4 1, 2, 3 NA. R N.A. N.A. N.A. N.A. a. Manual N.A. 1, 2, 3 Q N.A. N.A. M(1) M(1)N.A. Automatic Actuation Logic N.A. b. and Actuation Relays 1, 2, 3 N.A. N.A. N.A. M N.A. R **Reactor Building Pres-**S с. sure-High-2 3/4 3-37 1, 2, 3 N. A. N.A. N.A. N.A. R M Steam Flow in Two Steam S d. Lines--High Coincident N.A. 1, 2, 3 N.A. N.A. N.A. R Μ With Tavg--Low-Low S TURBINE TRIP AND FEEDWATER 5. ISOLATION 1, 2 N.A. N.A. N.A. N.A. Μ Steam Generator Water S R a. Level--High-High 1, 2 M(1) M(1)Q N. A. N.A. N.A. N.A. b. Automatic Actuation Logic and Actuation Relay ٠, EMERGENCY FEEDWATER 6. N.A. N.A. 1, 2, 3 N.A. N.A. N.A. R Manua1 N.A. a. 1, 2, 3 M(1)M(1)0 N.A. N.A. Amendment N.A. N.A. **b**. Automatic Actuation Logic and Actuation Relays N.A. N.A. N.A. 1, 2, 3 Μ N.A. R Steam Generator Water S Level--Low-Low

No.5

σ

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TION	AL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
LIAR	Y FEEDWATER (Continued)								
d.	Undervoltage - ESF	N.A.	R	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
e.	Safety Injection	See 1 a	bove for all	Safety Injecti	on Surveillanc	e Requirement	s		
f.	Trip of Main Feedwater Pumps	N. A.	N.A.	N. A.	R	N.A.	N.A.	N.A.	1, 2
g.	Suction transfer on low pressure	S	R	м	N.A.	N. A.	N. A.	N. A.	1, 2, 3
LOS	S OF POWER								
a.	7.2 kV Emergency Bus Undervoltage (Loss of Voltage)	N.A.	R	N. A.	R	N. A.	N.A.	N.A.	1, 2, 3, 4
b.	7.2 kV Emergency Bus Undervoltage (Degraded Voltage)	N.A.	R	N.A.	R	N. A.	N. A.	N.A.	1, 2, 3, 4
aut To	OMATIC SWITCHOVER CONTAINMENT SUMP								
a.	RWST level low-low	S	R	M	N. A.	́ N.A.	N.A.	N.A.	1, 2, 3
b.	Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q.	1, 2, 3
	TION LIAR d. e. f. g. LOS a. b. AUT TO a. b.	TIONAL UNIT LIARY FEEDWATER (Continued) d. Undervoltage - ESF e. Safety Injection f. Trip of Main Feedwater Pumps g. Suction transfer on low pressure LOSS OF POWER a. 7.2 kV Emergency Bus Undervoltage (Loss of Voltage) b. 7.2 kV Emergency Bus Undervoltage (Degraded Voltage) b. 7.2 kV Emergency Bus Undervoltage (Degraded Voltage) AUTOMATIC SWITCHOVER TO CONTAINMENT SUMP a. RWST level low-low b. Automatic Actuation Logic and Actuation Relays	TIONAL UNITCHANNEL CHECKLIARY FEEDWATER (Continued)d.Undervoltage - ESFN.A.e.Safety InjectionSee 1 af.Trip of Main FeedwaterN.A.Pumpsg.Suction transfer on low pressureSLOSS OF POWERa.7.2 kV Emergency Bus Undervoltage (Loss of Voltage)N.A.b.7.2 kV Emergency Bus Undervoltage (Degraded Voltage)N.A.AUTOMATIC SWITCHOVER TO CONTAINMENT SUMPSa.RWST level low-lowSb.Automatic Actuation Logic and Actuation RelaysN.A.	TIONAL UNITCHANNEL CHECKCHANNEL CALIBRATIONLIARY FEEDWATER (Continued)d.Undervoltage - ESFN.A.Re.Safety InjectionSee 1 above for all sf.Trip of Main Feedwater PumpsN.A.N.A.N.A.g.Suction transfer on low pressureSRLOSS OF POWER a.7.2 kV Emergency Bus Undervoltage (Loss of Voltage)N.A.Rb.7.2 kV Emergency Bus Undervoltage (Degraded Voltage)N.A.RAUTOMATIC SWITCHOVER TO CONTAINMENT SUMPSRa.RWST level low-lowSRb.Automatic Actuation Logic and Actuation RelaysN.A.N.A.	TIONAL UNITCHANNEL CHECKCHANNEL CALIBRATIONANALOG CHANNEL OPERATIONAL TESTLIARY FEEDWATER (Continued)H.A.N.A.N.A.d.Undervoltage - ESFN.A.RN.A.e.Safety InjectionSee 1 above for all Safety InjectionSee 1 above for all Safety Injectionf.Trip of Main Feedwater PumpsN.A.N.A.N.A.g.Suction transfer on low pressureSRMLOSS OF POWER a.7.2 kV Emergency Bus Undervoltage (Loss of Voltage)N.A.RN.A.b.7.2 kV Emergency Bus Undervoltage (Degraded Voltage)N.A.RN.A.AUTOMATIC SWITCHOVER TO CONTAINMENT SUMPSRMa.RWST level low-lowSRMb.Automatic Actuation RelaysN.A.N.A.N.A.	TRIP ACTUATING CHANNEL UNITTRIP ACTUATING DEVICE OPERATIONAL TESTLIARY FEEDWATER (Continued)CHANNEL CHECK CALIBRATIONOPERATIONAL TESTd. Undervoltage - ESFN.A.RN.A.e. Safety Injection f. Trip of Main Feedwater PumpsSee 1 above for all Safety Injection Surveilland N.A.N.A.Rg. Suction transfer on low pressureSRMN.A.LOSS OF POWER a. 7.2 kV Emergency Bus Undervoltage (Loss of Voltage)N.A.RN.A.Rb. 7.2 kV Emergency Bus Undervoltage (Degraded Voltage)N.A.RN.A.RAUTOMATIC SWITCHOVER TO CONTAINMENT SUMPSRMN.A.a. RWST level low-low RelaysSRMN.A.	TRIP ANALOG ACTUATING DEVICE OPERATIONAL UNITTRIP ANALOG ACTUATING DEVICE OPERATIONAL DEVICE OPERATIONAL DEVICE OPERATIONAL TESTTOUATING ACTUATION DEVICE OPERATIONAL DEVICE OPERATIONAL DEVICE OPERATIONAL TESTACTUATION 	TIONAL UNITCHANNEL CHANNEL CHANNEL CHANNEL CHANNEL CHANNEL CHANNEL CHANNEL DEVICE OPERATIONAL TESTTRIP ACTUATING OPERATIONAL TEST LOGIC TEST OPERATIONAL TEST LOGIC TEST TEST LOGIC TEST TESTMASTER RELAY TEST LOGIC TEST TEST110NAL UNIT LIARY FEEDMATER (Continued)CHANNEL CHANNEL CHANNEL COPERATIONAL OPERATIONAL TESTOPERATIONAL OPERATION SUPER A. 7.2 kV Emergency Bus Undervoltage (Degraded Voltage)N.A. RR.A. RN.A. N.A. N.A. RN.A. N.A. N.A. RN.A. N.A. N.A. RN.A. N.A. N.A. N.A. RN.A. N.A. N.A. N.A. N.A. N.A. RN.A. N.	TIONAL UNITCHANNEL CHANNEL CHENNE

SUMMER - UNI

TABLE 4.3-8

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INS	TRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST
1.	GROSS BETA OR GAMMA RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE				
	a. Liquid Radwaste Effluent Line - RM-L5, RM-L9	9 D	Р	R(2)	Q(1)
·	b. Nuclear Blowdown Effluent Line - RM-L7	D	Р	R(2)	Q(1)
	c. Steam Generator Blowdown Effluent Line - RM-L3, RM-L10	D	M	R(2)	Q(1)
	d. Turbine Building Sump Effluent Line - RM-L8	D	M	R(2)	Q(1)
	e. Condensate Demineralizer Backwash Line RM-L	11 D	M	R(2)	Q(4)
2.	FLOW RATE MEASUREMENT DEVICES				
	a. Liquid Radwaste Effluent Line	D(3)	N.A.	R	Q
	b. Penstocks Minimum Flow Interlock	D(3)	N.A.	R	Q
	c. Nuclear Blowdown Effluent Line	D(3)	N.A.	R	Q
	d. Steam Generator Blowdown Effluent Line	D(3)	N.A.	R	Q
3.	TANK LEVEL INDICATING DEVICES				
	a. Condensate Storage Tanks	D	N.A.	R	Q

SUMMER - UNIT 1

INSTRUMENTATION

TABLE 4.3-8 (Continued)

TABLE NOTATION

- (1) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:
 - 1. Instrument indicates measured levels above the alarm/trip setpoint.
 - 2. Loss of Power (alarm only).
 - 3. Low flow (alarm only).
 - 4. Instrument indicates a downscale failure (alarm only).
 - 5. Normal/Bypass switch set in Bypass (alarm only).
 - 6. Other instrument controls not set in operate mode.
- (2) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.
- (3) CHANNEL CHECK shall consist of verifying indication of flow during periods of release. CHANNEL CHECK shall be made at least once per 24 hours on days on which continuous, periodic, or batch releases are made.
- (4) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and local panel alarm annunciation occurs if any of the following conditions exists:
 - 1. Instrument indicates measured levels above the alarm/trip setpoint.
 - 2. Loss of Power (alarm only).
 - 3. Low flow (alarm only).
 - 4. Instrument indicates a downscale failure (alarm only).
 - 5. Normal/Bypass switch set in Bypass (alarm only).
 - 6. Other instrument controls not set in operate mode.

Amendment No. 20,56

INSTRUMENTATION

TABLE 4.3-9 (Continued)

TABLE NOTATION

* At all times.

- ** During waste gas holdup system operation (treatment for primary system offgases).
- (1) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:
 - 1. Instrument indicates measured levels above the alarm/trip setpoint.
 - 2. Loss of Power (alarm only).
 - 3. Low flow (alarm only).
 - 4. Instrument indicates a downscale failure (alarm only).
 - 5. Normal/Bypass switch set in Bypass (alarm only).
 - 6. Other instrument controls not set in operate mode.
- (2) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists:
 - 1. Instrument indicates measured levels above the alarm setpoint.
 - 2. Loss of Power.
 - 3. Low flow.
 - 4. Instrument indicates a downscale failure.
 - 5. Instrument controls not set in operate mode.
- (3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.
- (4) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:
 - 1. 1500 \pm 30 ppm hydrogen, balance nitrogen, for the outlet hydrogen monitor and
 - 2. 4 ± 0.1 volume percent hydrogen, balance nitrogen, for the inlet hydrogen monitor.
- (5) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:
 - 75 ± 1.5 ppm oxygen, balance nitrogen, for the outlet oxygen monitor and
 - 2. 3.5 ± 0.1 volume percent oxygen, balance nitrogen, for the inlet oxygen monitor.

SUMMER - UNIT 1

Amendment No. 7,56

INSTRUMENTATION

LCOSE-PART DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.10 The loose-part detection system shall be OPERABLE.

APPLICABILITY: MODES 1 and 2

ACTION:

- a. With one or more loose part detection system channels inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.10 Each channel of the loose-part detection system shall be demonstrated OPERABLE by performance of:

- a. A CHANNEL CHECK at least once per 24 hours,
- b. An ANALOG CHANNEL OPERATIONAL TEST at least once per 31 days, and
- c. A CHANNEL CALIBRATION at least once per 18 months.

3/4 3-80

EMERGENCY CORE COOLING SYSTEMS

3/4.5.4 REFUELING WATER STORAGE TANK

LIMITING CONDITION FOR OPERATION

3.5.4 The refueling water storage tank (RWST) shall be OPERABLE with:

- a. A minimum contained borated water volume of 453,800 gallons,
- b. A boron concentration of between 2000 and 2100 ppm of boron, and
- c. A minimum water temperature of 40°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the refueling water storage tank inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

- 4.5.4 The RWST shall be demonstrated OPERABLE:
 - a. At least once per 7 days by:
 - 1. Verifying the contained borated water volume in the tank, and
 - 2. Verifying the boron concentration of the water.
 - b. At least once per 24 hours by verifying the RWST temperature when the outside air temperature is less than 40°F.

POWER DISTRIBUTION LIMIT

BASES

HEAT FLUX HOT CHANNEL FACTOR and RCS FLOWRATE and NUCLEAR ENTHALPY RISE HOT CHANNEL FACTOR (Continued)

 F_{xy} limit for Rated Thermal Power (F_{xy}^{RTP}) as provided in the Radial Peaking Factor Limit Report per specification 6.9.1.11 was determined from expected power control maneuvers over the full range of burnup conditions in the core.

When RCS flow rate and $F_{\Delta H}^{N}$ are measured, no additional allowances are necessary prior to comparison with the limits of Figures 3.2-3. Measurement errors of 3.5% for RCS total flow rate and 4% for $F_{\Delta H}^{N}$ have been allowed for in determining the limits of Figure 3.2-3.

The 12 hour periodic surveillance of indicated RCS flow is sufficient to detect only flow degradation which could lead to operation outside the acceptable region of operation shown on Figure 3.2-3.

3/4.2.4 QUADRANT POWER TILT RATIO

The quadrant power tilt ratio limit assures that the radial power distribution satisfies the design values used in the power capability analysis. Radial power distribution measurements are made during startup testing and periodically during power operation.

The limit of 1.02, at which corrective action is required, provides DNB and linear heat generation rate protection with x-y plane power tilts. A limiting tilt of 1.025 can be tolerated before the margin for uncertainty in F_Q is depleted. The limit of 1.02 was selected to provide an allowance for the uncertainty associated with the indicated power tilt.

The two hour time allowance for operation with a tilt condition greater than 1.02 but less than 1.09 is provided to allow identification and correction of a dropped or misaligned control rod. In the event such action does not correct the tilt, the margin for uncertainty on F_0 is reinstated by

reducing the maximum allowed power by 3 percent for each percent of tilt in excess of 1.0.

For purposes of monitoring QUADRANT POWER TILT RATIO when one excore detector is inoperable the movable incore detectors are used to confirm that the normalized symmetric power distribution is consistent with the QUADRANT POWER TILT RATIO. The incore detector monitoring is done with a full incore flux map or two sets of 4 symmetric thimbles. These locations are C-8, E-5, E-11, H-3, H-13, L-5, L-11, N-8.

3/4.2.5 DNB PARAMETERS

The limits on the DNB related parameters assure that each of the parameters are maintained within the normal steady state envelope of operation assumed in the transient and accident analyses. The limits are consistent

POWER DISTRIBUTION LIMIT

BASES

HEAT FLUX HOT CHANNEL FACTOR and RCS FLOWRATE and NUCLEAR ENTHALPY RISE HOT CHANNEL FACTOR (Continued)

with the initial FSAR assumptions and have been analytically demonstrated adequate to maintain a minimum DNBR of 1.30 throughout each analyzed transient.

The 12 hour periodic surveillance of these parameters through instrument readout is sufficient to ensure that the parameters are restored within their limits following load changes and other expected transient operation.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 56 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

INTRODUCTION

South Carolina Electric and Gas Company (SCE&G, the licensee) submitted information regarding revisions to the Virgil C. Summer Technical Specifications by letter dated June 20, 1986 from D. A. Nauman (SCE&G) to Harold R. Denton (NRC). The requested amendment involves administrative changes to Technical Specification sections 3/4.5.4, Table 4.3-8, Table 4.3-9, Table 4.3-2, and 3/4.2.4 bases. The changes involve renumbering of sections, terminology changes for consistency, typographical corrections, and clarification of the notes to Tables 4.3-8 and 4.3-9 as to what instrument analog channel operation tests must demonstrate.

EVALUATION

The following is an item-by-item evaluation of the licensee's requested changes to the Technical Specifications:

- Technical Specification paragraphs 3.5.5 and 4.5.5 were renumbered to 3.5.4 and 4.5.5, respectively, to reflect the previous issuance of Amendment 44 to the Technical Specifications. This amendment had deleted section 3/4.5.4.
- (2) As a result of an internal review, the licensee identified portions of the Technical Specifications dealing with radiation monitors which needed clarification. As identified in Tables 4.3-8 and 4.3-9, an analog channel operational test is required of effluent monitoring instrumentation. Notes contained in the tables (Notes 1 and 5 on page 3/4.3-72 and Note 1 on page 3/4.3-79) pertaining to certain monitors indicate that this test shall also demonstrate that automatic isolation of the pathway and control room alarm annunciation occurs if certain conditions exist. One of these conditions (existing Item 4 of the notes) is the instrument controls not set in the operate mode. The licensee's position is that when those radiation monitors to which the notes apply are placed in the bypass position (via the Normal/ Bypass switch) for the performance of a test procedure, the monitors are considered inoperable and the applicable action statement is applied.

8701090616 861216 PDR ADOCK 05000395 P PDR The purpose and incorporation of the Normal/Bypass switch in the original design of the systems is to defeat the interlock function during calibration and maintenance to allow implementation of action statements without the need to temporarily lift leads and/or install jumpers. Therefore, the Normal/Bypass switch is not considered by the licensee to be one of the instrument controls as stated in existing Item 4 of the notes. To describe the existing system function, the low flow (alarm only) and Normal/Bypass switch set in Bypass (alarm only) items were added to existing Notes 1 and 5 on page 3/4 3-72 and to existing Note 1 on page 3/4 3-79. Table 4.3-8 did not reference Note 2 on page 3/4.3-72. Therefore, Note 2 on page 3/4.3-72 was deleted and existing Notes 3, 4 and 5 were renumbered 2, 3 and 4 respectively.

- (3) In a review of Technical Specification Tables 3.3-3, 3.3-5 and 4.3-2, inconsistencies in terminology were discovered by the licensee in three instances. These inconsistencies deal with line items containing terms such as "High-High" or "High 2" that are identified in each of the four tables. Therefore, the licensee proposed that these items be consistently identified. It was also noted that for item 2.C in Table 4.3-2 on page 3/4.3-35, the correct term should be "Reactor Building Pressure High 3" as opposed to the presently stated "3". This terminology agrees with the corresponding items found in Tables 3.3-3, 3.3-4 and 3.3-5, and identifies the correct actuation signal for Reactor Building Pressure.
- (4) Typographical corrections were made to Technical Specification Page B 3/4 2-5. This consisted of replacing "thimble" for "thimbles" and "L-11" for "2-11."

The staff has reviewed the information provided in the licensee's submittal and has found that (1) items 1, 3 and 4 above are either administrative or typographical corrections and (2) item 2 is a mixture of administrative and functional definition corrections. The staff has concluded that the administrative and typographical revisions proposed by the licensee are acceptable. Furthermore, the staff concludes that the function corrections to the ANALOG CHANNEL OPERATIONAL TEST Table Notation on pages 3/4 3-72 and 3/4 3-79 (item 2 above) are acceptable.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the surveillance requirements or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 findings. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 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.

CONCLUSION

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.

Dated: December 16, 1986

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