

December 23, 1983

CPI

Mr. O. W. Dixon, Jr.
Vice President Nuclear Operations
South Carolina Electric & Gas Company
P.O. Box 764
Columbia, South Carolina 29218

Dear Mr. Dixon:

Subject: Issuance of Amendment No. 19 to Facility Operating License NPF-12 Virgil C. Summer Nuclear Station, Unit No. 1

The Nuclear Regulatory Commission has issued Amendment No. 19 to Facility Operating License NPF-12 for the Virgil C. Summer Nuclear Station, Unit No. 1 located in Fairfield County, South Carolina. This amendment is in response to your letter dated October 8, 1982.

The amendment corrects administrative errors in the Technical Specifications involving typographical errors and incorrect plotting of the rod bow penalty curve data.

A copy of the related safety evaluation supporting Amendment No. 19 to Facility Operating License NPF-12 is enclosed.

Sincerely,

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Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosures:

- 1. Amendment No. 19
- 2. Safety Evaluation

cc w/enclosure:
See next page

LA:DL:LB #4
MDuncan/hmc
12/9/83

DL:LB #4
JHopkins
12/12/83

DL:LB #4
EAdensam
12/12/83

SUMMER

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December 23, 1983

AMENDMENT NO. 19 TO FACILITY OPERATING LICENSE NO. NPF-12 - Virgil C. Summer Unit 1

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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. 19
License No. NPF-12

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Virgil C. Summer Nuclear Station, Unit No. 1 (the facility) Facility Operating License No. NPF-12 filed by the South Carolina Electric & Gas Company acting for itself and South Carolina Public Service Authority (the licensees), dated October 8, 1982, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the 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 set forth in 10 CFR Chapter I;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - E. The issuance of this license 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 hereby amended by page changes to the Technical Specifications as indicated in the attachments 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

The Technical Specifications contained in Appendix A, as revised through Amendment No. 19, 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.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosure:
Technical Specification Changes

Date of Issuance: December 23, 1983

LA:DL:LB #4
MDuncan/hmc
12/9/83

DL:LB #4
JHopkins
12/12/83

my noted revision on FRN
OELD/HHY
MYoung
12/14/83

DL:LB #4
EAdensam
12/12/83

AD:DL
TNowak
12/12/83

ATTACHMENT TO LICENSE AMENDMENT NO. 19

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 area of change. The corresponding overleaf pages are also provided to maintain document completeness.

| <u>Amended</u> <u>Page</u> | | <u>Overleaf</u> <u>Page</u> |
|-------------------------------|------|--------------------------------|
| 3/4 | 2-11 | 3/4 2-12 |
| 3/4 | 4-5 | 3/4 4-6 |
| 3/4 | 8-18 | 3/4 8-17 |
| 3/4 | 9-9 | 3/4 9-10 |

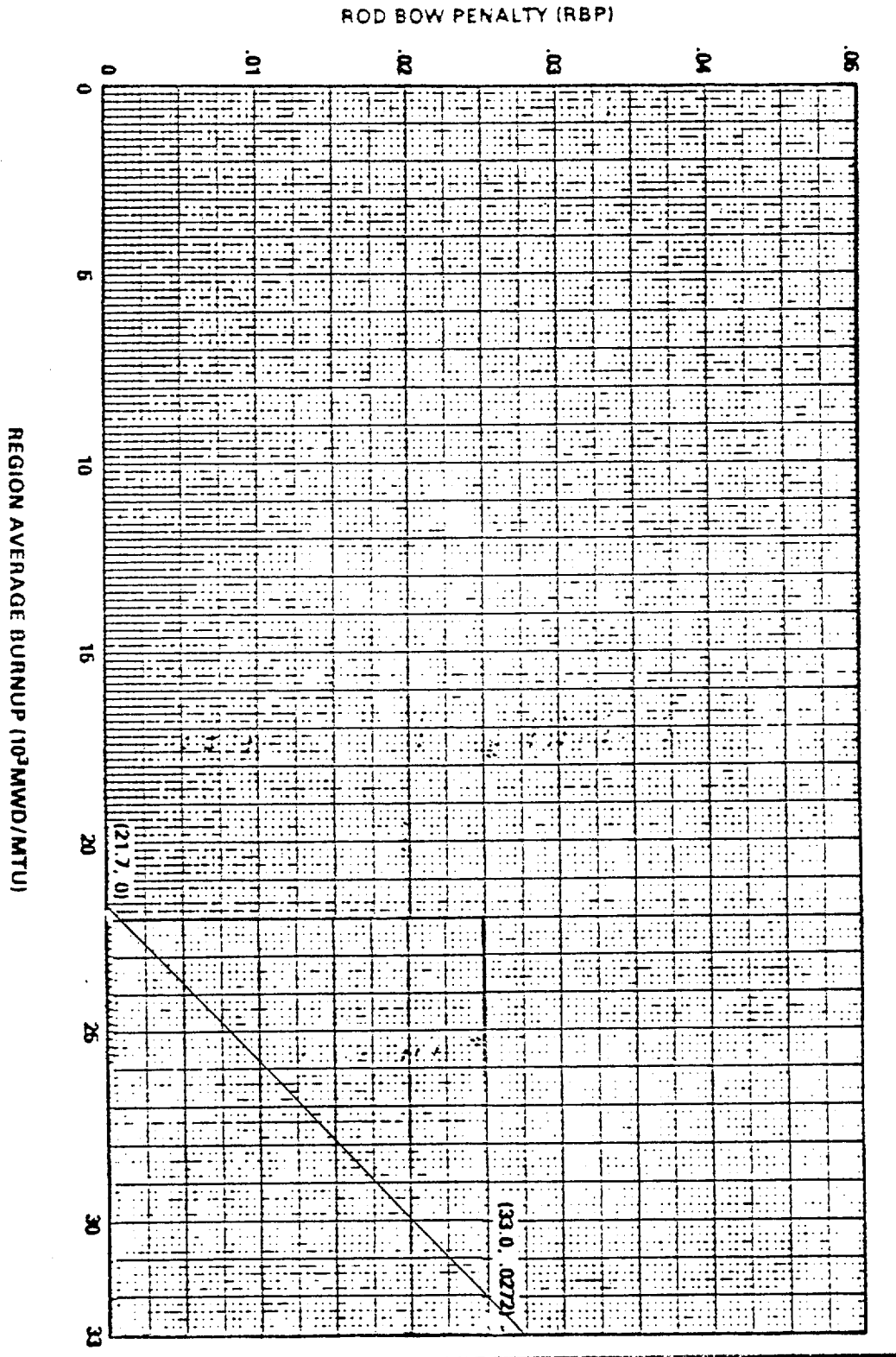


Figure 3.2.4 Rod Bow Penalty as a Function of Burnup

POWER DISTRIBUTION LIMITS

3/4.2.4 QUADRANT POWER TILT RATIO

LIMITING CONDITION FOR OPERATION

3.2.4 The QUADRANT POWER TILT RATIO shall not exceed 1.02.

APPLICABILITY: MODE 1 above 50% of RATED THERMAL POWER*

ACTION:

- a. With the QUADRANT POWER TILT RATIO determined to exceed 1.02 but less than or equal to 1.09:
 1. Calculate the QUADRANT POWER TILT RATIO at least once per hour until either:
 - a) The QUADRANT POWER TILT RATIO is reduced to within its limit, or
 - b) THERMAL POWER is reduced to less than 50% of RATED THERMAL POWER.
 2. Within 2 hours either:
 - a) Reduce the QUADRANT POWER TILT RATIO to within its limit, or
 - b) Reduce THERMAL POWER at least 3% from RATED THERMAL POWER for each 1% of indicated QUADRANT POWER TILT RATIO in excess of 1.0 and similarly reduce the Power Range Neutron Flux-High Trip Setpoints within the next 4 hours.
 3. Verify that the QUADRANT POWER TILT RATIO is within its limit within 24 hours after exceeding the limit or reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within the next 2 hours and reduce the Power Range Neutron Flux-High Trip setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours.
 4. Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER; subsequent POWER OPERATION above 50% of RATED THERMAL power may proceed provided that the QUADRANT POWER TILT RATIO is verified within its limit at least once per hour for 12 hours or until verified acceptable at 95% or greater RATED THERMAL POWER.

*See Special Test Exception 3.10.2.

REACTOR COOLANT SYSTEM

COLD SHUTDOWN - LOOPS FILLED

LIMITING CONDITION FOR OPERATION

- 3.4.1.4.1 At least one residual heat removal (RHR) loop shall be OPERABLE and in operation*, and either:
- One additional RHR loop shall be OPERABLE[#], or
 - The secondary side water level of at least two steam generators shall be greater than 10 percent of wide range indication.

APPLICABILITY: MODE 5 with Reactor Coolant loops filled^{##}.

ACTION:

- With less than the above required loops OPERABLE and/or with less than the required steam generator level, immediately initiate corrective action to return the required loops to OPERABLE status or to restore the required level as soon as possible.
- With no residual heat removal loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required residual heat removal loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.4.1.1 The secondary side water level of at least two steam generators when required shall be determined to be within limits at least once per 12 hours.

4.4.1.4.1.2 At least one RHR loop shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

[#]One residual heat removal loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

^{##}A Reactor Coolant pump shall not be started with one or more of the Reactor Coolant System cold leg temperatures less than or equal to 300°F unless 1) the pressurizer water volume is less than 1288 cubic feet and/or 2) the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures.

^{*}The RHR pump may be de-energized for up to 1 hour provided 1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and 2) core outlet temperature is maintained at least 10°F below saturation temperature.

REACTOR COOLANT SYSTEM

COLD SHUTDOWN - LOOPS NOT FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4.2 Two residual heat removal (RHR) loops shall be OPERABLE[#] and at least one RHR loop shall be in operation.*

APPLICABILITY: MODE 5 with Reactor Coolant loops not filled.

ACTION:

- a. With less than the above required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible.
- b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.4.2.1 At least one RHR loop shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

[#]One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

*The RHR pump may be de-energized for up to 1 hour provided 1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and 2) core outlet temperature is maintained at least 10°F below saturation temperature.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- (c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.
2. By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. Testing of these circuit breakers shall consist of injecting a current in excess of the breakers nominal setpoint and measuring the response time. The measured response time will be compared to the manufacturer's data to insure that it is less than or equal to a value specified by the manufacturer. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.
3. By selecting and functionally testing a representative sample of each type of fuse on a rotating basis. Each representative sample of fuses shall include at least 10% of all fuses of that type. The functional test shall consist of a non-destructive resistance measurement test which demonstrates that the fuse meets its manufacturer's design criteria. Fuses found inoperable during these functional tests shall be replaced with OPERABLE fuses prior to resuming operation. For each fuse found inoperable during these functional tests, an additional representative sample of at least 10% of all fuses of that type shall be functionally tested until no more failures are found or all fuses of that type have been functionally tested.
- b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

TABLE 3.8-1

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICE TEST SETPOINT CRITERIA

| <u>EQUIP NO.-SYS/DESCRIPTION</u> | <u>DEVICE</u> | <u>LOCATION</u> | <u>TEST SETPOINT</u> | <u>RESPONSE TIME</u> |
|--|---------------|-----------------|--|----------------------------|
| <u>7.2 KV Swgr.</u> | | | | |
| 1) XPP0030A-RC Reactor Coolant Pump A | PRIMARY | XSW1A #9 | LONG TIME 3960 Amps INSTANT 5805 Amps GROUND INST. 11 Amps | < 15.75 Sec. N/A N/A |
| BUS1A Normal Feed | BACKUP | XSW1A #5 | LONG TIME 5544 Amps | < 15.33 Sec. |
| BUS1A Emergency Feed | BACKUP | XSW1A #3 | LONG TIME 5544 Amps | < 15.33 Sec. |
| 2) XPP0030B-RC Reactor Coolant Pump B | PRIMARY | XSW1B #7 | LONG TIME 3960 Amps INSTANT 5808 Amps GROUND INST. 11 Amps | < 15.75 Sec. N/A N/A |
| BUS1B Normal Feed | BACKUP | XSW1B #5 | LONG TIME 5544 Amps | < 15.33 Sec. |
| BUS1B Emergency Feed | BACKUP | XSW1B #3 | LONG TIME 5544 Amps | < 15.33 Sec. |
| 3) XPP0030C-RC Reactor Coolant Pump C | PRIMARY | XSW1C #3 | LONG TIME 3960 Amps INSTANT 5808 Amps GROUND INST. 11 Amps | < 15.75 Sec. N/A N/A |
| BUS1C Normal Feed | BACKUP | XSW1C #9 | LONG TIME 5544 Amps | < 15.33 Sec. |
| BUS1C Emergency Feed | BACKUP | XSW1C #13 | LONG TIME 5544 Amps | < 15.33 Sec. |

REFUELING OPERATIONS

3/4.9.8 REACTOR BUILDING PURGE SUPPLY AND EXHAUST ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.8 The Reactor Building Purge Supply and Exhaust Isolation System shall be OPERABLE.

APPLICABILITY: During CORE ALTERATIONS or movement of irradiated fuel within the containment.

ACTION:

With the Reactor Building Purge Supply and Exhaust Isolation System inoperable, close each of the Purge and Exhaust penetrations providing direct access from the reactor building atmosphere to the outside atmosphere. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.8 The Reactor Building Purge Supply and Exhaust Isolation System shall be demonstrated OPERABLE within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS by verifying that Reactor Building Purge Supply and Exhaust isolation occurs on manual initiation, on a high radiation test signal from each of the containment radiation monitoring instrumentation channels, and by verifying that isolation occurs on the 36-inch lines of the Purge Supply and Exhaust Isolation System on a high radiation test signal from the reactor building manipulator crane area channels.

REFUELING OPERATIONS

3/4 9.9 WATER LEVEL - REFUELING CAVITY AND FUEL TRANSFER CANAL

LIMITING CONDITION FOR OPERATION

3.9.9 At least 23 feet of water shall be maintained over the top of the reactor pressure vessel flange.

APPLICABILITY: During movement of fuel assemblies or control rods within the reactor pressure vessel or the refueling cavity when either the fuel assemblies being moved or the fuel assemblies seated within the reactor pressure vessel are irradiated.

ACTION:

With the requirements of the above specification not satisfied, suspend all operations involving movement of fuel assemblies or control rods within the pressure vessel.

SURVEILLANCE REQUIREMENTS

4.9.9 The water level shall be determined to be at least its minimum required depth within 2 hours prior to the start of and at least once per 24 hours thereafter during movement of fuel assemblies or control rods.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 19 TO FACILITY OPERATING LICENSE NPF-12

SOUTH CAROLINA ELECTRIC & GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

I. INTRODUCTION

By letter dated October 8, 1982, the South Carolina Electric & Gas Company (SCE&G) requested changes to correct errors in the Technical Specifications. The errors are administrative involving typographical errors and incorrect plotting of the rod bow penalty curve data.

II. EVALUATION

Figure 3.2-4 specifies the rod bow penalty as a function of burnup. The figure consists of two data points with a straight line drawn between them. The data points are correct; however, one of the data points (33, .0272) is plotted incorrectly resulting in an incorrect figure. This amendment corrects the plot of the data point and redraws the straight line.

Table 3.8-1 lists the containment penetration conductor overcurrent protective device test setpoint criteria. The long time test setpoint for reactor coolant pump B is listed as 3690 amps. This is a typographical error and is being changed to the correct setpoint of 3960 amps shown by reactor coolant pumps A and C.

An additional change corrects the numbering of the limiting condition for operation on page 3/4 4-5 to 3.4.1.4.1. The final change corrects the spelling of a word (ALTERATIONS) on page 3/4 9-9.

We have reviewed each of the above changes that the licensee has proposed and find them acceptable. These changes are administrative in nature and are consistent with the design that was reviewed and approved by the staff during the operating license review.

One requested change to correct typographical errors in Figure 6.2-2 is not being made, because the errors were deleted subsequent to the request by Amendment 18 issued October 31, 1983.

III. ENVIRONMENTAL CONSIDERATION

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an

action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

IV. CONCLUSION

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (48 FR 43145) on September 21, 1983, 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: Jon B. Hopkins, Licensing Branch No. 4, DL

Dated: December 23, 1983