



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

April 16, 1984

Docket No. 50-395

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. 23 to Facility Operating
License NPF-12 Virgil C. Summer Nuclear Station,
Unit No. 1

The Nuclear Regulatory Commission has issued Amendment No. 23 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 November 16, 1983, and supplemented January 6 and 25, 1984.

The amendment changes the Technical Specifications by adding a limiting condition for operation concerning feedwater isolation valve (FWIV) operability and adding surveillance requirements for FWIVs.

A copy of the related safety evaluation supporting Amendment No. 23 to Facility Operating License NPF-12 is enclosed.

Sincerely,

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

Enclosures:

1. Amendment No. 23
2. Safety Evaluation

cc w/enclosure:
See next page

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April 16, 1984

AMENDMENT NO. 23 TO FACILITY OPERATING LICENSE NO. NPF-12 - Virgil C. Summer Unit 1

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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. 23
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 November 16, 1983, and supplemented January 6 and 25, 1984, 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. 23, 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.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor G. Adensam

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

Enclosure:
Technical Specification Changes

Date of Issuance: April 16, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 23

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>
VIII	VII
3/4 7-9a	
B3/4 7-3	B3/4 7-4

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT	
Containment Integrity.....	3/4 6-1
Containment Leakage.....	3/4 6-2
Containment Air Locks.....	3/4 6-4
Internal Pressure.....	3/4 6-6
Air Temperature.....	3/4 6-7
Containment Structural Integrity.....	3/4 6-8
Containment Ventilation System.....	3/4 6-11
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS	
Reactor Building Spray System.....	3/4 6-12
Spray Additive System.....	3/4 6-13
Reactor Building Cooling System.....	3/4 6-14
3/4 6.3 PARTICULATE IODINE CLEANUP SYSTEM.....	3/4 6-15
3/4.6.4 CONTAINMENT ISOLATION VALVES.....	3/4 6-17
3/4.6.5 COMBUSTIBLE GAS CONTROL	
Hydrogen Monitors.....	3/4 6-21
Electric Hydrogen Recombiners.....	3/4 6-22

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 TURBINE CYCLE	
Safety Valves.....	3/4 7-1
Emergency Feedwater System.....	3/4 7-4
Condensate Storage Tank.....	3/4 7-6
Activity.....	3/4 7-7
Main Steam Line Isolation Valves.....	3/4 7-9
Feedwater Isolation Valves.....	3/4 7-9a
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	3/4 7-10
3/4.7.3 COMPONENT COOLING WATER SYSTEM.....	3/4 7-11
3/4.7.4 SERVICE WATER SYSTEM.....	3/4 7-12
3/4.7.5 ULTIMATE HEAT SINK	3/4 7-13
3/4.7.6 CONTROL ROOM NORMAL AND EMERGENCY AIR HANDLING SYSTEM....	3/4 7-14
3/4.7.7 SNUBBERS.....	3/4 7-16
3/4.7.8 SEALED SOURCE CONTAMINATION.....	3/4 7-23
3/4.7.9 FIRE SUPPRESSION SYSTEMS	
Fire Suppression Water System.....	3/4 7-25
Spray and/or Sprinkler Systems.....	3/4 7-28
CO ₂ System.....	3/4 7-30
Fire Hose Stations.....	3/4 7-31
Yard Fire Hydrants and Hydrant Hose Houses.....	3/4 7-33
3/4.7.10 FIRE RATED ASSEMBLIES.....	3/4 7-35
3/4.7.11 AREA TEMPERATURE MONITORING.....	3/4 7-37

PLANT SYSTEMS

FEEDWATER ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 Each feedwater isolation valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3

ACTION:

MODE 1 With one feedwater isolation valve inoperable but open, POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 72 hours;

Otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

MODES 2 and 3 With one feedwater isolation valve inoperable, subsequent operation in MODES 2 or 3 may proceed provided:

- a. The isolation valve is maintained closed.
- b. The provisions of Specification 3.0.4 are not applicable.

Otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.6 Each feedwater isolation valve shall be demonstrated OPERABLE by verifying full closure within 5 seconds when tested pursuant to Specification 4.0.5.

PLANT SYSTEMS

BASES

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES

The OPERABILITY of the main steam line isolation valves ensures that no more than one steam generator will blowdown in the event of a steam line rupture. This restriction is required to 1) minimize the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and 2) limit the pressure rise within the reactor building in the event the steam line rupture occurs within the reactor building. The OPERABILITY of the main steam isolation valves within the closure times of the surveillance requirements are consistent with the assumptions used in the accident analyses.

3/4.7.1.6 FEEDWATER ISOLATION VALVES

The OPERABILITY of the Feedwater Isolation Valves serves to (1) limit the effects of a Steam Line rupture by minimizing the positive reactivity effects of the Reactor Coolant System Cooldown associated with the blowdown, and (2) limit the pressure rise within the reactor building in the event of a Steam Line or Feedwater Line rupture within the reactor building.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on the average impact values of the steam generator material at 10°F and are sufficient to prevent brittle fracture.

3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the component cooling water system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident analyses.

3/4.7.4 SERVICE WATER SYSTEM

The OPERABILITY of the service water system ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits.

3/4.7.5 ULTIMATE HEAT SINK

The limitations on the ultimate heat sink level and temperature ensure that sufficient cooling capacity is available to either 1) provide normal cooldown of the facility, or 2) to mitigate the effects of accident conditions within acceptable limits.

PLANT SYSTEMS

BASES

ULTIMATE HEAT SINK (Continued)

The limitations on minimum water level and maximum temperature are based on providing a 30 day cooling water supply to safety related equipment without exceeding their design basis temperature and is consistent with the recommendations of Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Plants", March 1974.

3/4.7.6 CONTROL ROOM NORMAL AND EMERGENCY AIR HANDLING SYSTEM

The OPERABILITY of the control room ventilation system ensures that 1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2) the control room will remain habitable for operations personnel during and following all credible accident conditions. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criteria 19 of Appendix "A", 10 CFR 50.

3/4.7.7 SNUBBERS

All snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety-related systems is maintained during and following a seismic or other event initiating dynamic loads. Snubbers excluded from this inspection program are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed, would have no adverse effect on any safety-related system.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2 kip, 10 kip and 100 kip capacity manufactured by company "A" are of the same type. The same design mechanical snubber manufactured by company "B" for the purposes of this specification would be of a different type, as would hydraulic snubbers from either manufacturer.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 23 TO FACILITY OPERATING LICENSE NPF-12

SOUTH CAROLINA ELECTRIC & GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

I. INTRODUCTION

By letter dated November 16, 1983, South Carolina Electric and Gas Company (SCE&G) requested adding to Technical Specifications, requirements for Feedwater Isolation Valves. SCE&G supplied additional information relating to this request by letters dated January 6, 1984, and January 25, 1984.

II. EVALUATION

Rapid isolation of main feedwater is required to prevent an overpower transient after a main steam line break and to limit the pressure rise within the reactor building in the event of a main steam line or main feedwater line rupture within the reactor building. For this reason fast closing isolation valves were installed in the Virgil C. Summer main feedwater system. However, present Technical Specifications do not address these valves and would therefore allow these isolation valves to be locked in the open position for an indefinite period of time. This would nullify their function. To ensure that the main feedwater isolation valves are not locked open for an indefinite period of time and that they are indeed operable to perform their function, an additional Technical Specification is needed.

It is imperative that these valves be open and operable during power operation (Mode 1) so feedwater will always be available. However, since main feedwater is not necessarily needed when the reactor is not producing power, all of these valves need not be open in Modes 2 and 3. To fulfill their safety function, these valves should automatically close within 5 seconds after receiving a safety signal to close. The attached Technical Specifications incorporate the above requirements on the operability of Main Feedwater Isolation Valves 1611A, 1611B, and 1611C and are, therefore, acceptable.

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

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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 (49 FR 3354) on January 26, 1984, 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 Contributors: Jon B. Hopkins, Licensing Branch No. 4, DL
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Dated: April 16, 1984