May 5, 1983

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

The Nuclear Regulatory Commission has issued Amendment No. 16 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 letters dated February 14, April 13, (two letters), May 3, and May 4, 1983.

The amendment changes a license condition and related Technical Specifications to permit operation of the modified Model D-3 steam generators. The amendment is effective as of its date of issuance.

A copy of the related safety evaluation supporting Amendment No. 16 to Facility Operating License NPF-12 is enclosed. Also enclosed is a copy of a related notice which has been forwarded to the Office of the Federal Register for publication.

Sincerely,

S/

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

Enclosures:
1. Amendment No. 16
2. Safety Evaluation
3. Federal Register Notice

cc w/enclosure:
See next page

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*NOTE: SEE PREVIOUS WHITE FOR CONCURRENCE

OFFICE	DL:LB #4:LA	DL:LB #4	OELD	DL:LB #4			
SURNAME	*MDuncan/hmc	*JHopkins	*SGoldberg	EAdensam			
DATE	5/03/83	5/03/83	5/04/83	5/05/83			

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

The Nuclear Regulatory Commission has issued Amendment No. 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 letters dated February 14, 1983, April 13, 1983 (two letters), and May 3, 1983.

The amendment changes a license condition and related Technical Specifications to permit operation of the modified Model D-3 steam generators. The amendment is effective as of its date of issuance.

A copy of the related safety evaluation supporting Amendment No. to Facility Operating License NPF-12 is enclosed. Also enclosed is a copy of a related notice which has been forwarded to the Office of the Federal Register for publication.

Sincerely,

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

Enclosures:
1. Amendment No.
2. Safety Evaluation
3. Federal Register Notice

cc w/enclosure:
See next page

Amend & Ff Notice only

OFFICE	LA:DL:LB#4	DL:LB#4	OELD	DL:LB#4			
SURNAME	MDuncan:kab	JHopkins	S. Cross	EAdensam			
DATE	5/3/83	5/3/83	5/4/83	5/ /83			

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

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Docket File
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JHopkins
MDuncan

May 11, 1983

Docket No. 50-395

Docketing and Service Section
Office of the Secretary of the Commission

SUBJECT: Virgil C. Summer Nuclear Station, Unit No. 1 (SOUTH CAROLINA ELECTRIC & GAS COMPANY; SOUTH CAROLINA PUBLIC SERVICE AUTHORITY)

One ~~Two~~ signed originals of the Federal Register Notice identified below ~~are~~ is enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies (12) of the Notice are enclosed for your use.

☐ Notice of Receipt of Application for Construction Permit(s) and Operating License(s).

☐ Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.

☐ Notice of Availability of Applicant's Environmental Report.

☐ Notice of Proposed Issuance of Amendment to Facility Operating License.

☐ Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.

☐ Notice of Availability of NRC Draft/Final Environmental Statement.

☐ Notice of Limited Work Authorization.

☐ Notice of Availability of Safety Evaluation Report.

☐ Notice of Issuance of Construction Permit(s).

☒ Notice of Issuance of Facility Operating License(s) ~~or~~ Amendment(s).

☐ Other: _____

Enclosure:
As Stated

Office of Nuclear Reactor Regulation

OFFICE →	DL:LB#4					
SURNAME →	MDuncan					
DATE →	5/11/83					

NRC FORM 102 (1-76)

SUMMER

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South Carolina Electric & Gas Company
P.O. Box 764 (Mail Code F-04)
Columbia, South Carolina 29218

cc: Mr. Henry Cyrus
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Winnsboro, South Carolina 29180

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Division of Administration
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Columbia, South Carolina 29201

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U.S. Environmental Proection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30308

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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. 16
License No. NPF-12

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The applications 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 February 14, April 13, (two letters), May 3, and May 4, 1983, comply 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, Facility Operating License NPF-12 is amended as follows:

   A. Change paragraph 2.C.(14) to read as follows.

      (14) Model D-3 Steam Generator (Section 5.4.2, SSER #5)

      The licensee shall conduct the inspection, testing and monitoring program as described in O. W. Dixon's letter of May 3, 1983.

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The licensee shall not make any major modifications to this program unless prior NRC approval is received.

Major modifications are defined as:

a. Elimination of any identified testing, inspection or monitoring,

b. Changes in the frequency of performing the identified testing, inspection or monitoring, and

c. Reduction in the scope of any of the identified testing, inspection or monitoring.

3. The license is further amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment. 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. 16 , 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.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Darrell G. Eisenhut, Director
Division of Licensing

Enclosure:
Technical Specification
Changes

Date of Issuance: May 5, 1983

OFFICE	LA:DL:LB #4	DL:LB #4	OELD	DL:LB #4	AD:L:DL	DIR:DL	
SURNAME	MDuncan/hmc	JHopkins		EAdensam	TNovak	DEisenhut	
DATE	5/3/83	5/3/83	5/4/83	5/5/83	5/5/83	5/5/83	

ATTACHMENT TO LICENSE AMENDMENT NO. 16

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 page is identified by Amendment number and contains a vertical line indicating the area of change.

Amended Page
3/4 6-20
3/4 6-20a

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
A. PHASE "A" ISOLATION (Continued)		
31. 9312A-SS	Sampling Line Supply Return From Radiation Monitor	40
32. 9312B-SS	Sampling Line Return Return From Radiation Monitor	40
33. 9339-SS	Sample Return Line To PRT	40
34. 9341-SS	Sample Return Line To PRT	40
35. 9356A-SS	Sampling Line From Pressurizer	40
36. 9356B-SS	Sampling Line From Pressurizer	40
37. 9357-SS	Sampling Line From Pressurizer	40
38. 9364B-SS	Sampling Lines From Reactor Coolant Loop B	40
39. 9365B-SS	Sampling Lines From Reactor Coolant Loop B	40
40. 9364C-SS	Sampling Lines From Reactor Coolant Loop C	40
41. 9365C-SS	Sampling Lines From Reactor Coolant Loop C	40
42. 9387-SS	Sampling Line From Accumulators	40
43. 9398A-SS # (3)	Sampling Line From Steam Generator A Blowdown	40
44. 9398B-SS # (3)	Sampling Line From Steam Generator B Blowdown	40
45. 9398C-SS # (3)	Sampling Line From Steam Generator C Blowdown	40
46. 7126-WL	Reactor Coolant Drain Tank Vent Header	40
47. 7150-WL	Reactor Coolant Drain Tank Vent Header	40
48. 1003-WL	Reactor Coolant Drain Tank Discharge To Waste	40
49. 7136-WL	Reactor Coolant Drain Tank Discharge To Waste	40
50. 1678A-FW #	Steam Generator A Reverse Flush	40
51. 1678B-FW #	Steam Generator B Reverse Flush	40
52. 1678C-FW #	Steam Generator C Reverse Flush	40
B. PHASE "B" ISOLATION		
1. 9568-CC	Component Cooling To R. C. Pumps Bearings	60
2. 9600-CC	Component Cooling To R. C. Pumps	60
3. 9605-C	Component Cooling From R. C. Pumps Bearings	60
4. 9606-CC	Component Cooling From R. C. Pumps Bearings	60
5. 1633A-FW #	Chemical Feed Line To Feedwater Loop A	60
6. 1633B-FW #	Chemical Feed Line To Feedwater Loop B	60
7. 1633C-FW #	Chemical Feed Line To Feedwater Loop C	60

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
C. REACTOR BUILDING PURGE SUPPLY AND EXHAUST ISOLATION		
1. 0001A-AH	Reactor Building Purge Supply	5
2. 0001B-AH	Reactor Building Purge Supply	5
3. 0002A-AH	Reactor Building Purge Exhaust	5
4. 0002B-AH	Reactor Building Purge Exhaust	5
5. 6056-HR	Alternate Reactor Building Purge Supply Line	5
6. 6057-HR	Alternate Reactor Building Purge Supply Line	5
7. 6066-HR	Alternate Reactor Building Purge Exhaust Line	5
8. 6067-HR	Alternate Reactor Building Purge Exhaust Line	5
D. MANUAL (1)		
1. 8767-DN	Demineralized Water Line	N/A
2. 8768-DN	Demineralized Water Line	N/A
3. 6772-FS	Fire Service Hose Reel Supply	N/A
4. 6773-FS	Fire Service Hose Reel Supply	N/A
5. 2679-IA	Breathing Air Supply Line	N/A
6. 2680-IA	Breathing Air Supply Line	N/A
7. 6587-NG	Nitrogen Supply To Steam Generators	N/A
8. 8090A-RC	Dead Weight Tester	N/A
9. 8090B-RC	Dead Weight Tester	N/A
10. 2912-SA	Reactor Building Service Air	N/A
11. 6671-SF	Refueling Cavity Drain Line	N/A
12. 6672-SF	Refueling Cavity Drain Line	N/A
13. 6697-SF	Refueling Cavity Fill Line	N/A
14. 6698-SF	Refueling Cavity Fill Line	N/A
15. 7135-WL	Reactor Coolant Drain Tank Discharge To Waste	N/A
E. REMOTE MANUAL (2)		
1. 9602-CC	Component Cooling To R. C. Pumps	N/A
2. 8102A-CS	Seal Injection To Reactor Coolant Pump A	N/A
3. 8102B-CS	Seal Injection To Reactor Coolant Pump B	N/A
4. 8102C-CS	Seal Injection To Reactor Coolant Pump C	N/A

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 16 TO FACILITY OPERATING LICENSE NPF-12

SOUTH CAROLINA ELECTRIC & GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

I. INTRODUCTION

By letters dated February 14, April 13, (two letters), May 3, and May 4, 1983, South Carolina Electric and Gas Company submitted specific actions and surveillance programs relative to the V. C. Summer Nuclear Station Model D3 steam generator modification. The proposed surveillance and monitoring program is based on the recommendations made by the Design Review Panel (DRP) in their January 1983 report, "D2/D3 Steam Generator Design Modification." The staff evaluation (NUREG-0966, March 1983) of the DRP report concluded that the modification of the D2/D3 steam generators is acceptable and that the modified steam generators can be operated at 100% of their design capacity.

The DRP identified three specific items to be addressed by each of the utility owners installing the proposed preheater modifications. These items are as follows:

1. Provisions should be made for initial monitoring of inlet pressure oscillations;

2. Plant-specific provisions for assuring feedwater flow and/or feedwater temperature restrictions are met should be described, where applicable;

3. Inservice inspection, eddy current testing and tube vibration monitoring programs and schedules should be described, where applicable.

The means by which each of the above items will be implemented are described in the licensee's submittals.

II. DISCUSSION

A. Feedwater System Changes

The V. C. Summer steam generators are provided with separate inlet connections for main feedwater and auxiliary feedwater piping. The auxiliary feedwater system (AFWS) is used to provide makeup to the steam generators during plant startup until steam generator flow requirements approach the

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AFWS design capability. At this stage of plant warmup, the main feedwater system is actuated. When main feedwater is introduced into the lower main feedwater inlet nozzles, the colder water that has stagnated downstream of the main feedwater isolation valve is injected into the steam generator. Westinghouse has calculated that the ensuing thermal transient could result in an overstressed condition of the modification inlet distribution manifold bolts. The licensee proposed modifications to the main feedwater system to prevent excessive thermal stresses in the distribution manifold bolts.

In order to eliminate the cold feedwater transient on the manifold bolts, the licensee has provided a reverse flushing scheme from the steam generator back to the feedwater isolation valve and forward flushing up to the feedwater isolation valve. This will assure a minimum feedwater temperature of 200°F as recommended by Westinghouse for no minimum flow rate restriction. Backflow (reverse) flushing and forward flushing of the main feedwater lines will be performed during plant warmup when the AFWS is being used for steam generator makeup prior to opening of the main feedwater isolation valve. Hot effluent from the steam generator will preheat the main feedwater inlet piping up to the main feedwater isolation valve outside containment. Backflow will continue until the main feedwater piping is adequately preheated as determined by temperature indicators provided inboard of the containment isolation valve. Two new sections of feedwater piping will be added to permit the backflow to be directed to the steam generator blowdown system and the forward flow to be directed to the deaerator during plant warmup. These new sections of piping will be interconnected with the existing main feedwater line for each steam generator. The new piping sections will be located in the intermediate building (essential portion) adjacent to the reactor building with a section (nonessential portion) located in the turbine building.

The reverse flush line penetrates the containment, thereby necessitating the installation of an isolation valve with a Phase "A" isolation signal to conform to General Design Criterion (GDC) 57. The change to the Technical Specifications involves adding the reverse flush line isolation valves (1678A-FW, 1678B-FW, and 1678C-FW) to Table 3.6-1 (Containment Isolation Valves).

The staff has evaluated the proposed change to the Technical Specifications and finds it acceptable since the isolation valves satisfy the requirements of GDC 57.

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The piping and valves in the intermediate building are safety-related, seismic Category I, Quality Group B and protected from natural phenomena, including tornado missiles. Redundant safety-related (seismic Category I) valves are provided between the essential and nonessential portions of the forward flow piping section. The safety-related portion of the piping is located in seismic Category I, flood, and tornado protected structures. Thus, the requirements of General Design Criterion 2, "Design Basis for Protection Against Natural Phenomena," and the guidelines of Regulatory Guide 1.29, "Seismic Classification," Positions C.1 and C.2 are satisfied.

The safety-related portion is separated from the effects of internally generated missiles. As indicated in the May 4, 1983 letter, the licensee has performed an evaluation of the above feedwater piping modification against the high energy pipe break methodology as indicated in the present FSAR which was previously approved by the staff. This analysis did include any additional pipe break locations and the effects of pipe whip, jet impingements, flooding, environmental effects, and reaction forces on safety-related equipment in the area and will ensure protection of required safety-related equipment. Thus, the requirements of General Design Criterion 4, "Environmental and Missile Design Bases," are satisfied.

The feedwater system is not required to transfer heat under accident conditions and, therefore, the requirements of General Design Criteria 45, "Inspection of Cooling Water Systems," and 46, "Testing of Cooling Water Systems," are not applicable.

Redundant isolation valves receive signals to close from corresponding control trains to isolate the backflow and forward flow feedwater lines on automatic start of the emergency feedwater system. Therefore, adequate emergency feedwater flow is provided in the event of a single failure for accidents previously analyzed. Thus, the requirements of General Design Criterion 44, "Cooling Water," are satisfied with respect to this feedwater modification.

Based on the above, the staff concludes that the modifications to the feedwater system meet the requirements of General Design Criteria 2, 4, and 44 with respect to protection against natural phenomena, missile and environmental effects, and assuring feedwater isolation for proper functioning of the emergency feedwater during accident conditions, meets the guidelines of Regulatory Guide 1.29, Positions C.1 and C.2 with respect to its seismic classification, and meets the applicable acceptance criteria of SRP Section 10.4.7, and is, therefore, acceptable.

B. Monitoring Program

In the DRP evaluation report the DRP recommended that each utility develop inspection, testing, and monitoring programs specific to their plant(s). These programs are designed to verify the hydraulic performance of the modification and give early indication of any structural problems with the manifold. The DRP's recommended surveillance program included visual inspection of the manifold assembly and baseline ECT of the affected first five rows of tubes in the preheater sections after manifold installation and visual and ECT after a 6 month full power operational period.

1) Visual Inspection

The visual inspections proposed by South Carolina Electric and Gas Company follow the DRP's recommendations. The visual inspections are intended to provide an early indication of any unexpected loss of structural integrity. Therefore, a visual inspection of the accessible areas of the modified components will be performed. Inspection access will be through the radiography port in the feedwater piping upstream of the steam generator nozzle. The inspection will be performed using a fiber optics boroscope and will be recorded by videotape or still photographs for future reference. Specific items to be inspected include bolts and welds for erosion, fretting wear, corrosion and cracking. The results of the subsequent inspection will be compared with the as-built condition of the manifold. Any questionable or unusual visual indications will be evaluated to determine the need for corrective action. If corrective action is required, a report detailing the problem and the corrective action will be submitted to the NRC staff prior to subsequent power operation. The visual inspection described above will be performed following reassembly of the feedwater piping after modification installation and whenever a scheduled Technical Specification eddy current test inspection is performed. The staff finds the visual inspection program to be acceptable.

2) Eddy Current Inspection

The primary method for assessing the effectiveness of the steam generator modification in reducing the rate of tube wear will be multifrequency eddy current testing (ECT) using a wear scar standard. The same ECT methods will be used for testing after modification installation that were used in previous ECT examinations to allow comparison of results. The first five rows (45 to 49) will be examined.

The above inspection will be performed after completion of the modification on each steam generator. This inspection will serve as the baseline inspection for the modified steam generator. A second ECT examination will be performed after the initial period of operation. This second examination will include the Technical Specification 3% random sample inspection and the same tubes examined during the initial examination. Subsequent examinations will be in accordance with Technical Specifications plus an additional 240 tubes total in the preheater sections of all steam generators. The staff finds the ECT program to be acceptable.

3) Tube Vibration Monitoring

Tube vibration monitoring, using presently installed accelerometers (if operable) will be conducted at power levels of approximately 0%, 30%, 50%, 65%, 75%, 90% and 100% during the initial power ascension to 100% power and at approximately 100% power after approximately three effective full power months of operation following modification completion. The staff finds the tube vibration monitoring program to be acceptable.

4) Loose Parts Monitoring

The DRP's recommended surveillance program did not include the use of loose parts monitoring as one means of assuring the continued structural integrity of the installed manifold. V. C. Summer has an installed loose parts detection system (LPDS). This system includes a sensor on the lower head of each steam generator, which would be used to detect loose parts from the manifold.

Technical Specifications require that daily channel checks, monthly operational tests and 18 month calibrations be performed on the LPDS. Further, the Technical Specifications require that the LPDS be operable. A report must be submitted to NRC if any channel is inoperable for more than thirty days.

With the above Technical Specification requirements, there is sufficient assurance that the LPDS will be operable and a loose manifold could be detected.

5) Inlet Pressure Monitoring

In Section 5.2.13 of its report, the DRP recommended that the pressure oscillations in the feedline be initially monitored throughout the design operating flow range. To accomplish this the licensee has proposed the following pressure monitoring program.

Pressure transducers for detection of feedwater pressure pulsations will be installed in each feedwater line adjacent to the steam generator feedwater nozzle. To verify that the plant specific feedwater system performance corresponds to the analysis assumptions, the feedwater inlet nozzle pressure oscillations will be monitored throughout the design operating flow ranges during the power escalation period following installation of the preheater modification. Monitoring will be performed during subsequent periods if necessary to obtain additional or missed data.

Feedwater pump alignment changes will be made during power escalation. Transients due to changes in feedwater pump alignment represent the most significant transients on feedwater pressure oscillation. As such, all significant pressure variations which could affect the fatigue usage factors of the critical manifold bolts and welds will be monitored. The staff finds the inlet pressure monitoring program acceptable.

The analysis by Westinghouse for steady state pressure fluctuation resulted in the development of curves of allowable peak-to-peak pressure oscillations versus frequency. These were developed for critical modification components most subject to this loading and are based on limiting the oscillating pressure stresses at any frequency to the endurance limit for the material.

Acceptance criteria for this test will be established to verify that plant measurements fall within the bounding values used by Westinghouse in the analysis of the manifold.

C. Radiological Considerations - ALARA Guidelines

The staff has evaluated the Utility Design Review Panel's radiological assessment of the radiation protection measures established by Westinghouse for the Westinghouse Preheat Steam Generator D2/D3 Design Modification, including those measures intended to ensure that doses will be maintained as low as is reasonably achievable (ALARA). Our assessment is based on the Design Review Panel's (DRP) utilization of the criteria outlined in Regulatory Guide 8.8, "Information Relevant to Ensuring that Occupational Exposures at Nuclear Power Stations Will Be As Low As Is Reasonably Achievable" in the DRP's radiological assessment of the design modification, and their assessments, primarily those provided in Sections 4.4, "Radiological Considerations," Section 5.5, "Radiological Considerations/ALARA," and Section 6.0, "Summary of the January 1983 DRP Evaluation Report." Information provided in other

sections was also considered where it contributed to our assessment of the ALARA features of design, planning, installation, maintenance, and inspection. We have additionally evaluated information specific to the V. C. Summer radiation protection/ALARA program which has previously been submitted in the V. C. Summer Final Safety Analysis Report (FSAR). This has been evaluated and found acceptable by the staff in the V. C. Summer Safety Evaluation Report (NUREG-0717).

Westinghouse has provided information regarding their D2/D3 Design Modification Program in submittals dated December 1982. Additional information has been provided by Westinghouse to the DRP during visits to Westinghouse facilities and to the DRP and staff during DRP meetings.

The DRP reviewed those actions described by Westinghouse to assure that adequate radiological protection will be provided for workers involved in the modification task, including those measures to be implemented to assure that doses to the workers and the public are ALARA, and has found them to be consistent with Regulatory Guide 8.8. On this basis, the DRP concluded that adequate consideration has been given to ALARA matters, and that the modification is acceptable from a radiological standpoint. The staff concurs in this conclusion based on the following:

(1) The personnel on the DRP performing the radiological assessment were well-qualified professionals in radiation protection;

(2) The criteria used by the DRP to conduct their review were the same as those used by the staff, namely Regulatory Guide 8.8;

(3) The Westinghouse Design Modification Package was reviewed for completeness by the NRC staff and was found to be comprehensive and detailed enough for a thorough radiological assessment; and

(4) The DRP Report adequately addresses the key considerations outlined in Regulatory Guide 8.8, providing succinct examples of those actions and measures Westinghouse has planned to provide for radiological protection of workers and achieve ALARA doses during performance of the modification.

Westinghouse's proposed D2/D3 Design Modification Program provides for radiation protection/ALARA measures throughout the design and preparation stage, the performance of the modification, and during post-modification

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recovery and operations. The V. C. Summer radiation protection/ALARA program has those features essential for compatibility with the Westinghouse design modification program, and contains radiation protection/ALARA elements designed to ensure adequate radiological protection for workers and promote ALARA doses on tasks associated with the modification. These proposed measures are consistent with 10 CFR 20.1(c) and Regulatory Guide 8.8, and are therefore, acceptable to the NRC staff for the planned modifications.

The licensee will perform a summary radiological assessment of the task, as is recommended in C.3.c of Regulatory Guide 8.8, to enable the staff to evaluate the radiological results of the modification and determine if additional or different radiological controls need to be considered. This should include the following:

(1) The collective occupational dose estimate shall be updated weekly. If the updated estimate exceeds the person-rem estimate by more than 10%, the licensee shall provide a revised estimate, including the reasons for such changes, to the NRC within 15 days of determination.

(2) A final report shall be provided to the NRC within 60 days after completion of the repair. This report will include:

   (a) a summary of the occupational dose received by major task, and

   (b) a comparison of estimated doses with the doses actually received.

By letter dated May 3, 1983, the licensee committed to provide a final report to the NRC concerning the radiological dose received during the modification effort including a summary of the occupational dose received by major task and a comparison of estimated doses with the doses actually received. The staff finds this acceptable.

III. EVALUATION

The staff has reviewed the V. C. Summer modification to the preheater sections of the steam generators including the feedwater system changes, monitoring program, and radiological considerations. Based on this review, the staff finds that appropriate surveillance measures and remedial action plans have been implemented by the licensee with respect to the Model D3 steam generator tube failure problem. Therefore, the staff finds that the modification of the V. C. Summer steam generators is acceptable and that the modified steam generator can be operated at 100% of their design capacity.

IV. 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.

V. CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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: J. B. Hopkins, Licensing Branch No. 4, DL
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L. Frank, Materials Engineering Branch, DE
R. Serbu, Radiological Assessment Branch, DSI
J. Wermiel, Auxiliary Systems Branch, DSI
P. Hearn, Containment Systems Branch, DSI

Dated: May 5, 1983

*NOTE: SEE PREVIOUS WHITE FOR CONCURRENCE

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SURNAME	JHopkins/hmc	WButler	RBosnak	EAdensam			
DATE	5/03/83	5/03/83	5/03/83	5/5/83			

III. EVALUATION

The staff has reviewed the V. C. Summer modification to the preheater sections of the steam generators including the feedwater system changes, monitoring program, and radiological considerations. Based on this review, the staff finds that appropriate surveillance measures and remedial action plans have been implemented by the licensee with respect to the Model D3 steam generator tube failure problem. Therefore, the staff finds that the modification of the V. C. Summer steam generators is acceptable and that the modified steam generator can be operated at 100% of their design capacity.

IV. 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.

V. CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

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5/3/83	5/3/83	5/3/83	5/ /83

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-395

VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1

NOTICE OF ISSUANCE OF AMENDMENT TO

FACILITY OPERATING LICENSE NO. NPF-12

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 16 to Facility Operating License No. NPF-12, issued to South Carolina Electric & Gas Company and South Carolina Public Service Authority (the licensees) for the Virgil C. Summer Nuclear Station, Unit No. 1 (the facility) located in Fairfield County, South Carolina. The amendment changes a license condition and the related Technical Specifications to permit operation of the modified Model D-3 steam generator. The license amendment is effective as of its date of issuance.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

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PDR ADOCK 05000395
P PDR

OFFICE ▶							
SURNAME ▶							
DATE ▶							

For further details with respect to this action, see (1) South Carolina Electric & Gas Company letters, dated February 14, April 13, (two letters), May 3, and May 4, 1983, (2) Amendment No. 16 to Facility Operating License No. NPF-12 with Appendix A Technical Specifications page change, and (3) the Commission's related Safety Evaluation.

All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. 20555 and the Fairfield County Library, Garden and Washington Streets, Winnsboro, South Carolina 29180. A copy of Amendment No. 16 may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 5th day of May 1983.

FOR THE NUCLEAR REGULATORY COMMISSION

/s/

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

*NOTE: SEE PREVIOUS WHITE FOR CONCURRENCE

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DATE	5/03/83	5/03/83	5/04/83	5/5/83			

For further details with respect to this action, see (1) South Carolina Electric & Gas Company letters, dated February 14, 1983, April 13, 1983 (two letters), and May 3, 1983, (2) Amendment No. to Facility Operating License No. NPF-12 with Appendix A Technical Specifications page change, and (3) the Commission's related Safety Evaluation.

All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. 20555 and the Fairfield County Library, Garden and Washington Streets, Winnsboro, South Carolina 29180. A copy of Amendment No. may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this day of

FOR THE NUCLEAR REGULATORY COMMISSION

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

Amendment Notice only

OK, Joe Gray is satisfied. 5/5/83

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May 5, 1983

AMENDMENT NO. 16 TO FACILITY OPERATING LICENSE NPF-12 - Virgil C. Summer Unit 1

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May 11, 1983

Docket No. 50-395

Docketing and Service Section
Office of the Secretary of the Commission

SUBJECT: **Virgil C. Summer Nuclear Station, Unit No. 1 (WOUTH CAROLINA ELECTRIC & GAS COMPANY; SOUTH CAROLINA PUBLIC SERVICE AUTHORITY)**

One ~~Two~~ signed originals of the Federal Register Notice identified below ~~are~~ is enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies (12) of the Notice are enclosed for your use.

☐ Notice of Receipt of Application for Construction Permit(s) and Operating License(s).

☐ Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.

☐ Notice of Availability of Applicant's Environmental Report.

☐ Notice of Proposed Issuance of Amendment to Facility Operating License.

☐ Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.

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☐ Notice of Availability of Safety Evaluation Report.

☐ Notice of Issuance of Construction Permit(s).

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☐ Other: _____

Office of Nuclear Reactor Regulation

Enclosure:
As Stated

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DATE →	5/11/83					

NRC FORM 102 (1-76)