

August 9, 1994

Docket No. 50-395

Mr. John L. Skolds  
Senior Vice President, Nuclear Operations  
South Carolina Electric & Gas Company  
Virgil C. Summer Nuclear Station  
Post Office Box 88  
Jenkinsville, South Carolina 29065

Dear Mr. Skolds:

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT -  
INCREASE IN FUEL ENRICHMENT - VIRGIL C. SUMMER NUCLEAR STATION,  
UNIT NO. 1 (TAC NO. 88452)

Enclosed is a copy of an "Environmental Assessment and Finding of No Significant Impact" for your information. This Environmental Assessment relates to your application dated December 13, 1993, as supplemented February 2, 1994, and March 11, 1994.

This Environmental Assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

Original Signed by:

George F. Wunder, Project Manager  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosure:  
Environmental Assessment

cc w/enclosure:  
See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in cursive script, appearing to read "George F. Wunder", is written over a horizontal line.

George F. Wunder, Project Manager  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosure:  
Environmental Assessment

cc w/enclosure:  
See next page

Mr. John L. Skolds  
South Carolina Electric & Gas Company

Virgil C. Summer Nuclear Station

cc:

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Nuclear Licensing & Operating Experience  
South Carolina Electric & Gas Company  
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Jenkinsville, South Carolina 29065

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Docket File

NRC & Local PDRs

PD II-1 Reading File

S. Varga

G. Lainas

D. Matthews

P. Anderson

G. Wunder

OGC

E. Jordan

ACRS (10)

OPA

E. Mershoff, Region II

EPA (5)

cc: Plant Service List

UNITED STATES NUCLEAR REGULATORY COMMISSION  
SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SOUTH CAROLINA PUBLIC SERVICE AUTHORITY  
VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1  
DOCKET NO. 50-395

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. NPF-12 issued to South Carolina Electric & Gas Company (the licensee) for operation of the Virgil C. Summer Nuclear Station, Unit No. 1, located in Fairfield County, South Carolina.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action

The proposed amendment would include provisions in Technical Specifications (TS) 3/4.9.12, Spent Fuel Assembly Storage; 5.3, Reactor Core; and 5.6, Fuel Storage; that would allow for the use and subsequent storage of fuel with an initial enrichment to 5.0 weight percent (w/o) Uranium-235 (U-235) and with a final burnup of up to 48000 megawatt days per metric ton uranium (MWD/MTU). The proposed action is in accordance with the licensee's application for amendment dated December 13, 1993, as supplemented February 2, 1994, and March 11, 1994.

The Need for the Proposed Action

The proposed changes are needed so that the licensee can use higher fuel enrichment and extended irradiation to allow for longer fuel cycles.

### Environmental Impacts of the Proposed Action

The Commission has completed its evaluation of the proposed revisions to the TS. The proposed revisions would permit use of fuel enriched to a nominal 5.0 w/o U-235. The safety considerations associated with reactor operation with higher enrichment and extended irradiation have been evaluated by the staff. The staff has concluded that such changes would not adversely affect plant safety. The proposed changes have no adverse effect on the probability of any accident. The higher enrichment with fuel burnup to 48000 MWD/MTU may slightly change the mix of fission products that might be released in the event of a serious accident but such small changes would not significantly affect the consequences of serious accidents. No changes are being made in the types or amounts of any radiological effluent that may be released off site. There is no significant increase in the allowable individual or cumulative occupational radiation exposure.

With regard to potential non-radiological impacts of reactor operation with higher enrichment and extended irradiation, the proposed changes to the TS involve systems located within the restricted area as defined in 10 CFR Part 20. They do not affect non-radiological plant effluent and have no other environmental impact.

The potential environmental impacts of transportation of more highly enriched and more highly irradiated fuel were published and discussed in the staff assessment entitled "NRC Assessment of the Environmental Effects of Transportation Resulting from Extended Fuel Enrichment and Irradiation," dated July 7, 1988, and published in the FEDERAL REGISTER on August 11, 1988 (53 FR 30355) in connection with the Shearon Harris Nuclear Power Plant, Unit 1, Environmental Assessment and Finding of No Significant Impact. As indicated therein, the environmental cost contribution of the proposed increase in the

fuel enrichment and irradiation limits is either unchanged or less than that given in Table S-4 of 10 CFR 51.52(c). These findings are applicable to this amendment for Virgil C. Summer Nuclear Station, Unit No. 1. The Commission has concluded, therefore, that there are no significant radiological or non-radiological environmental impacts associated with the proposed amendment.

#### Alternative to the Proposed Action

Since the Commission has concluded that there are no significant environmental effects from the proposed action, any other alternative would have equal or greater environmental impacts and need not be evaluated.

The principal alternative would be to deny the requested amendment. This would not reduce the environmental impact of plant operation and would result in reduced operational flexibility.

#### Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Final Environmental Statement related to operation of the Virgil C. Summer Nuclear Station, Unit No. 1.

#### Agencies and Persons Consulted

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

#### FINDING OF NO SIGNIFICANT IMPACT

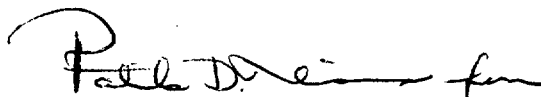
The Commission has determined not to prepare an environmental impact statement for the proposed amendment. Based on the foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details on this action, see the application for amendment dated December 13, 1993, as supplemented February 2, 1994, and March 11, 1994, which are available for public inspection at the Commission's Public Document

Room, 2120 L Street, N.W., Washington, D.C. and at the Fairfield County  
Library, Garden & Washington Streets, Winnsboro, S.C., 29180.

Dated at Rockville, Maryland, this 9th day of August, 1994.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "David B. Matthews", with a stylized flourish at the end.

David B. Matthews, Director  
Project Directorate II-1  
Division of Reactor Projects - I\II  
Office of Nuclear Reactor Regulation