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Docket No. 50-395

Mr. O. S. Bradham
Vice President, Nuclear Operations
South Carolina Electric & Gas
Company
Virgil C. Summer Nuclear Station
P. O. Box 88 (Mail Code 601)
Jenkinsville, South Carolina 29065

Dear Mr. Bradham:

SUBJECT: FACILITY OPERATION WITH VANTAGE 5 FUEL - VIRGIL C. SUMMER
NUCLEAR STATION, UNIT NO. 1 (TAC NO. 67811)

Enclosed is a copy of an Environmental Assessment and Finding of No Significant
Impact relative to the Virgil C. Summer Nuclear Station, Unit No. 1, for your
information. This assessment relates to plant operation with Vantage 5 Fuel.

This assessment has been forwarded to the Office of the Federal Register for
publication.

Sincerely,

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John J. Hayes, Jr., Project Manager
Project Directorate II-1
Division of Reactor Projects I/II

Enclosure:
Environmental Assessment

cc w/enclosure:
See next page

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South Carolina Electric & Gas Company

Virgil C. Summer Nuclear Station

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UNITED STATES NUCLEAR REGULATORY COMMISSIONSOUTH CAROLINA ELECTRIC & GAS COMPANYSOUTH CAROLINA PUBLIC SERVICE AUTHORITYVIRGIL C. SUMMER NUCLEAR STATIONDOCKET NO. 50-395ENVIRONMENTAL ASSESSMENT ANDFINDING OF NO SIGNIFICANT IMPACT

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

ENVIRONMENTAL ASSESSMENTIdentification of Proposed Action:

The proposed amendment would revise the provisions in the Technical Specifications (TS) relating to fuel enrichment.

The proposed action is in accordance with the licensee's applications dated March 8, 1988; May 20, 1988; and June 20, 1988, which were supplemented with submittals filed July 8, 1988; August 31, 1988; September 16, 1988; September 30, 1988; and October 11, 1988.

The Need for the Proposed Action:

The proposed changes are needed so that the licensee can (1) continue use of higher enrichment fuel and (2) maintain the flexibility to extend the fuel irradiation and to operate for longer fuel cycles.

Environmental Impacts of the Proposed Action:

The Commission has completed its evaluation of the proposed revisions to the Technical Specifications. The proposed revisions would permit use of fuel enriched with Uranium 235 in excess of 4 weight percent and up to 4.25 weight percent and the licensee would expect the fuel to be irradiated to levels above 33 gigawatt days per metric ton (GWD/MT), but not to exceed 60 GWD/MT. The safety considerations associated with reactor operation with higher enrichment and extended irradiation have been evaluated by the NRC staff. The staff has concluded that such changes would not adversely affect plant safety. The proposed changes have no effect on the probability of any accident. The increased burnup 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 effluents that may be released offsite. There is no significant increase in the allowable individual or cumulative occupational radiation exposure.

With regard to potential nonradiological 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 nonradiological plant effluents and have no other environmental impact.

The environmental impacts of transportation resulting from the use of higher enrichment fuel and extended irradiation are discussed in the NRC staff's assessment entitled, "NRC Assessment of the Environmental Effects of Transportation Resulting from Extended Fuel Enrichment and Irradiation," dated

July 7, 1988. This assessment was published in the August 11, 1988 Federal Register (53 FR 30355) as part of the Carolina Power & Light Co., et al., Shearon Harris Nuclear Power Plant, Unit 1, Environmental Impact Assessment and Finding of No Significant Impact for the utilization of higher enriched fuel and extended fuel irradiation and is hereby referenced for this Environmental Assessment and Finding of No Significant Impact. As indicated therein, the environmental cost contributions of the proposed increase in the fuel enrichment and irradiation limits are either unchanged or may in fact be reduced from those summarized in Table S-4, as set forth in 10 CFR 51.52(c). Therefore, the Commission concludes that there are no significant radiological or nonradiological environmental impacts associated with the proposed amendment.

Alternative to the Proposed Action:

Since the Commission concluded that there are no significant environmental effects that would result from the proposed action, any alternatives would have equal or greater environmental impacts.

The principal alternative would be to deny the requested amendment. This would not reduce environmental impacts 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 the operation of the Virgil C. Summer Nuclear Station, Unit No. 1," dated May 1981.

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 license amendment.

Based upon 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 with respect to this action, see the application for amendment and various revisions and supplemental information submitted dated March 8, 1988; May 20, 1988; June 20, 1988; July 8, 1988; August 31, 1988; September 16, 1988; September 30, 1988; and October 11, 1988, which are available for public inspection at the Commission's Public Document Room, 2120 L Street, NW, Washington, D.C. 20555 and at the Fairfield County Library, Garden and Washington Street, Winnsboro, South Carolina 29180.

Dated at Rockville, Maryland, this 24th day of October, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

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Elinor G. Adensam, Director
Project Directorate II-1
Division of Reactor Projects I/II

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