

January 3, 2005

Mr. Jeffery B. Archie
Vice President, Nuclear Plant Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88
Jenkinsville, South Carolina 29065

SUBJECT: V. C. SUMMER NUCLEAR STATION LEAD TEST ASSEMBLY
ENVIRONMENTAL ASSESSMENT (TAC NO. MC4462)

Dear Mr. Archie:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for exemption dated September 3, 2004, as supplemented by letter dated November 11, 2004. The proposed exemption would allow operation with up to four lead test assemblies containing fuel rods with Optimized ZIRLO™ and several different developmental clad alloys in the core.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Karen R. Cotton, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-395

Enclosure: Environmental Assessment

cc w/encl: See next page

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Distribution: See next page

ADAMS ACCESSION NUMBER: ML043510239

NRR-042

OFFICE	PDII-1/PM	PDII-2LA	RLEP/SC (A)	OGC	PDII-1/SC
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DATE	1/3/05	1/3/05	12/20/04	12/27/04	1/3/05

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ENVIRONMENTAL ASSESSMENT (TAC NO. MC4462)

Dated: January 3, 2004

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UNITED STATES NUCLEAR REGULATORY COMMISSIONSOUTH CAROLINA ELECTRIC & GAS COMPANYDOCKET NO. 50-395VIRGIL C. SUMMER NUCLEAR STATIONENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an exemption from Title 10 of the *Code of Federal Regulations*, Part 50, Sections 50.44, and 50.46 and Appendix K, for the Renewed Facility Operating License No. NPF-12, issued to South Carolina Electric & Gas Company (the licensee), for operation of the Virgil C. Summer Nuclear Station (VSNS), located in Fairfield County, South Carolina. Therefore, as required by 10 CFR 51.21, the NRC has performed an environmental assessment as described in this notice and has made a finding of no significant impact.

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action:

The proposed action would allow operation with up to four lead test assemblies (LTAs) containing fuel rods with Optimized ZIRLO™ and several different developmental clad alloys in the core.

The proposed action is in accordance with the licensee's application dated September 3, 2004, as supplemented by letter dated November 11, 2004.

The Need for the Proposed Action:

The proposed exemption is needed because the NRC regulations identified above specifically refer to light-water reactors containing fuel consisting of uranium oxide pellets

enclosed in zircaloy or ZIRLO tubes. A new zirconium-based alloy cladding has been developed, which is not the same chemical composition as zircaloy or ZIRLO. Therefore, the licensee needs an exemption to insert up to four assemblies containing the new fuel cladding material into the VSNS reactor core for test during operation.

Environmental Impacts of the Proposed Action:

The NRC has completed its safety evaluation of the proposed action and concluded that it will not present an undue risk to the public health and safety. The safety evaluation performed by Westinghouse, upon which the licensee is relying, demonstrates that the predicted chemical, mechanical and material performance of the Advance zirconium-based cladding is within that approved for Zircaloy-4 or ZIRLO under all anticipated operational occurrences and postulated accidents. Furthermore, the LTAs will be placed in nonlimiting core locations. In the unlikely event that cladding failures were to occur in the LTAs, environmental impact would be minimal and is bounded by previous environmental impact statements.

The details of the NRC staff's safety evaluation will be provided as an enclosure to the letter to the licensee granting the exemption.

The proposed action will not significantly increase the probability or consequences of accidents, no changes are being made in the types of effluents that may be released off site. There is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not have a potential to affect any historic sites. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

The action does not involve the use of any different resources than those previously considered in the Final Environmental Statement for the VSNS, NUREG-0719, dated May 1981.

Agencies and Persons Consulted:

In accordance with its stated policy, on December 15, 2004, the staff consulted with the South Carolina State official, Henry Porter of the South Carolina Department of Health and Environmental Control, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee’s letter dated September 3, 2004, as supplemented by letter dated November 11, 2004. Documents may be examined, and/or copied for a fee, at the NRC’s Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not

have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or 301-415-4737, or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this 3rd day of January 2005.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Karen R. Cotton, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Mr. Jeffrey B. Archie
South Carolina Electric & Gas Company

VIRGIL C. SUMMER NUCLEAR STATION

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