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NUCLEAR REGULATORY COMMISSION

SOUTH CAROLINA ELECTRIC & GAS COMPANY

DOCKET NO. 50-395

[NRC-2010-0077]

VIRGIL C. SUMMER NUCLEAR STATION

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of an exemption from Title 10 of the *Code of Federal Regulations*, (10 CFR), Section 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," and 10 CFR 50, Appendix K, "ECCS Evaluation Models," for the Renewed Facility Operating License No. NPF-12, issued to South Carolina Electric & Gas Company (SCE&G, the licensee), for operation of the Virgil C. Summer Nuclear Station (VCSNS), located in Fairfield County, South Carolina. In accordance with the requirements of 10 CFR Part 51, the NRC has prepared an Environmental Assessment (EA) in support of this exemption. Based on the EA, the NRC has concluded that a Finding of No Significant Impact (FONSI) is appropriate.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would allow SCE&G to use Optimized ZIRLO™, an advanced alloy fuel cladding material for pressurized-water reactors. The proposed action is in accordance with the licensee's application dated June 9, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML091620072).

The Need for the Proposed Action:

The proposed action is needed so that SCE&G can use Optimized ZIRLO™, an advanced alloy for fuel rod cladding and other assembly structural components at the VCSNS.

Section 50.46 of 10 CFR and 10 CFR Part 50, Appendix K, make no provisions for use of fuel rods clad in a material other than zircaloy or ZIRLO™. Since the chemical composition of the Optimized ZIRLO™ alloy differs from the specifications for zircaloy or ZIRLO™, a plant-specific exemption is required to allow the use of the Optimized ZIRLO™ alloy as a cladding material or in other assembly structural components at the VCSNS.

Environmental Impacts of the Proposed Action:

The NRC has completed its environmental assessment of the proposed exemption. The staff has concluded that the proposed action to approve the use of an additional fuel rod cladding material would not would not significantly affect plant safety and would not have a significant adverse effect on the probability of an accident occurring.

The proposed action would not result in an increased radiological hazard beyond those previously analyzed in the Final Environmental Statement for the Virgil C. Summer Nuclear Station, Unit No. 1, NUREG-0719, dated May 1981 (ADAMS Accession No. ML072750234) and the Generic Environmental Impact Statement for License Renewal of Nuclear Plants, NUREG-1437, Supplement 15, dated February 2004 (ADAMS Accession No. ML040540718). There will be no change to radioactive effluents that affect radiation exposures to plant workers and members of the public. Therefore, no changes or different types of radiological impacts are expected as a result of the proposed exemption.

The proposed action does not result in changes to land use or water use, or result in changes to the quality or quantity of non-radiological effluents. No changes to the National Pollution Discharge Elimination System permit are needed. No effects on the aquatic or terrestrial habitat in the vicinity of the plant, or to threatened, endangered, or protected species

under the Endangered Species Act, or impacts to essential fish habitat covered by the Magnuson-Steven's Act are expected. There are no impacts to the air or ambient air quality.

There are no impacts to historical and cultural resources. There would be no impact to socioeconomic resources. Therefore, no changes to or different types of non-radiological environmental impacts are expected as a result of the proposed exemption.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action. The NRC staff's safety evaluation will be provided in the exemption that will be issued as part of the letter to the licensee approving the exemption to the regulation, if granted.

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 request 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 considered in the Final Environmental Statement for the Virgil C. Summer Nuclear Station, Unit No. 1, NUREG-0719, dated May 1981 (ADAMS Accession No. ML072750234) and the Generic Environmental Impact Statement for License Renewal of Nuclear Plants, NUREG-1437, Supplement 15, dated February 2004 (ADAMS Accession No. ML040540718).

Agencies and Persons Consulted:

In accordance with its stated policy, on January 11, 2010, the staff consulted with the South Carolina State official, Susan Jenkins 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.

FURTHER INFORMATION

Documents related to this action, including the application for an exemption and license amendment and supporting documentation, are available electronically at the NRC's Electronic Reading Room at *http://www.nrc.gov/reading-rm/adams.html*. From this site, you can access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The ADAMS accession number for the document related to this notice, "License Amendment Request for Use of Optimized Zirlo™ Fuel Rod Cladding," dated June 9, 2009, is ML091620072. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737 or by email to *pdr.resource@nrc.gov*.

The document may also be viewed electronically on the public computers located at the NRC's Public Document Room (PDR), O 1 F21, One White Flint North, 11555 Rockville Pike Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee.

Dated at Rockville, Maryland, this 24th day of February, 2010.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert E. Martin, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation