



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

November 2, 2010

Mr. M.J. Ajluni  
Nuclear Licensing Director  
Southern Nuclear Operating Company  
P.O. Box 1295  
Bin – 038  
Birmingham, AL 35201-1295

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNIT 2, ENVIRONMENTAL  
ASSESSMENT AND FINDING NO SIGNIFICANT IMPACT (TAC NO. ME3946)

Dear Mr. Ajluni:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application dated May 12, 2010. This Environmental Assessment relates to the proposed exemption for the cladding material specified in Section 50.46 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Acceptance criteria for emergency core cooling systems [ECCS] for light-water nuclear power reactors," and Appendix K to 10 CFR Part 50, "ECCS Evaluation Models" to allow the use of GNF-Ziron (GNF – Global Nuclear Fuel) fuel rod cladding material in future core reloads for the Edwin I. Hatch, Unit 2.

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

Sincerely,

A handwritten signature in black ink, reading "Robert E. Martin", is positioned above the typed name and title.

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

Docket No. 50-366

Enclosure:  
Environmental Assessment

cc w/encl: Distribution via Listserv

NUCLEAR REGULATORY COMMISSION  
SOUTHERN NUCLEAR OPERATING COMPANY INC.  
DOCKET NO. 50-366  
EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2  
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-5, issued to Southern Nuclear Company (SNC, the licensee), for operation of the Edwin I. Hatch Nuclear Plant (HNP), Unit 2, located in Appling County, Georgia. 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 SNC to use GNF-Ziron (GNF – Global Nuclear Fuel), an advanced alloy fuel cladding material for boiling-water reactors which is similar in composition to Zircaloy-2, but contains slightly higher iron content than specified in American Society for Testing and Materials B350 (ASTM B350). The proposed action is in accordance with the licensee's application dated May 12, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101340739).

The Need for the Proposed Action:

The proposed action is needed so that SNC can use GNF-Ziron an advanced alloy for fuel rod cladding and other assembly structural components at the HNP.

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 GNF-Ziron alloy differs from the specifications for zircaloy or ZIRLO™, a plant-specific exemption is required to allow the use of the GNF-Ziron alloy as a cladding material or in other assembly structural components at the HNP.

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 use GNF-Ziron fuel rod cladding material 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 Safety Analysis Report. There will be no change to radioactive effluents that affect radiation exposures to plant workers and members of the public. No changes will be made to plant buildings or the site property. 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 noticeable effect on socioeconomic conditions in the region. Therefore, no changes to or different types of non-radiological environmental impacts are expected as a result of the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action. The details of 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 exemption 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 Edwin I. Hatch Nuclear Plant, Unit No. 2, dated 1978 and the Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Edwin I, Hatch Nuclear Plant, Units 1 and 2 – Final Report (NUREG-1437, Supplement 4) dated May 2001 (ADAMS Accession No. ML011420057)

Agencies and Persons Consulted:

In accordance with its stated policy, on October 25, 2010, the staff consulted with the Georgia State official, Mr. Jim Hardeman of the Department of Natural Resources, 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, "Edwin I. Hatch, Unit 2 Proposed Exemption from Fuel Cladding Material Requirements in 10CFR 50.46 and 10 CFR Appendix K," dated May 12, 2010, including non-proprietary publically available versions of its enclosures, is ML101340739. 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](mailto: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 2nd day of November 2010

FOR THE NUCLEAR REGULATORY COMMISSION

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

November 2, 2010

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Sincerely,

**/RA/**

Robert E. Martin, Senior Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
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Environmental Assessment

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ADAMS ACCESSION NO: ML102460077

OFFICE	DORL/LPL/2-1	DORL/LPL/2-1	RERB/BC	OGC	DORL/LPL/2-1
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DATE	09/08/10	09/08/10	09/10/10	09/29/10	11/02/10

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