

March 17, 2000

Mr. W. R. McCollum, Jr.  
Vice President, Oconee Site  
Duke Energy Corporation  
7800 Rochester Highway  
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2 AND 3 RE: ENVIRONMENTAL  
ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR AN  
EXEMPTION FROM FUEL CLADDING REQUIREMENTS (TAC NOS. MA6466,  
MA6467, AND MA6468)

Dear Mr. McCollum:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for an exemption from certain requirements of Title 10 of the *Code of Federal Regulations* contained in 10 CFR 50.44, 10 CFR 50.46, and Appendix K of 10 CFR Part 50. This action is in response to your application dated September 15, 1999, to allow the use of Framatome Cogema Fuels "M5" advanced alloy as a fuel rod cladding material at the Oconee Nuclear Station, Units 1, 2, and 3. This exemption is necessary since the chemical composition of M5 differs from the Zircaloy and ZIRLO cladding material specified in the regulations.

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

Sincerely,

*/RA/*

David E. LaBarge, Senior Project Manager, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, and 50-287

Enclosure: Environmental Assessment

cc w/encl: See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSION

DUKE ENERGY CORPORATION

DOCKET NOS. 50-269, 50-270, AND 50-287

OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an exemption from certain requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.44, 10 CFR 50.46, and 10 CFR Part 50, Appendix K to the Duke Energy Corporation (the licensee/Duke) for operation of the Oconee Nuclear Station, Units 1, 2, and 3, Facility Operating License Nos. DPR-38, DPR-47, and DPR-55, respectively, located in Oconee County, Seneca, South Carolina.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would exempt the licensee from certain requirements of 10 CFR 50.44, 10 CFR 50.46, and Appendix K of 10 CFR Part 50 to allow the use of Framatome Cogema Fuels (FCF) "M5" advanced alloy as a fuel rod cladding material.

The proposed action is in accordance with the licensee's application for an exemption dated September 15, 1999.

The Need for the Proposed Action:

The proposed action is needed to allow the use of Framatome Cogema Fuels (FCF) "M5" advanced alloy as a fuel rod cladding material. The exemption is necessary since the chemical composition of M5 differs from the Zircaloy and ZIRLO cladding material specified in

the regulations. The M5 alloy is a proprietary zirconium-based alloy, composed primarily of zirconium and niobium, that has demonstrated superior corrosion resistance and reduced irradiation growth relative to both standard and low-tin Zircaloy. Since the chemical composition of the M5 alloy differs from the specifications for Zircaloy or ZIRLO, an exemption is required for the use of the M5 alloy as a fuel cladding material at Oconee. The regulations set forth in 10 CFR 50.44, 10 CFR 50.46 and Appendix K to 10 CFR Part 50 contain acceptance and analytical criteria regarding the light water nuclear reactor system performance during and following a postulated loss-of-coolant accident. These regulations specify the use of only two types of fuel cladding material, Zircaloy and ZIRLO.

Environmental Impacts of the Proposed Action:

The proposed action to implement the exemption described above is designed to enhance fuel rod performance characteristics over that of Zircaloy or ZIRLO clad fuel rods. The proposed action does not exempt the licensee from complying with the acceptance and analytical criteria of 10 CFR 50.44, 10 CFR 50.46 and Appendix K to 10 CFR Part 50 applicable to the M5 alloy cladding. The exemption solely allows the criteria set forth in these regulations to apply to the M5 cladding material. The staff has concluded that the proposed action will not significantly increase the probability or consequences of accidents, there are no changes being made in the types of any effluents that may be released offsite, and there is no significant increase in occupational or public radiation exposure because this exemption will not change the criteria set forth in the present regulations, since the M5-clad fuel has been shown by the licensee to be capable of meeting this criteria. Therefore, the Commission concludes that there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological environmental impacts, the proposed action does not involve 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.

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:

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for the Oconee Nuclear Station, Units 1, 2, and 3.

Agencies and Persons Consulted:

In accordance with its stated policy, on March 14, 2000, the staff consulted with the South Carolina State official, Mr. Virgil L. Autry of the Division of Radiological Waste Management, Bureau of Land and Waste Management, 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 15, 1999, which is available for public inspection at the Commission's Public Document Room, The Gelman Building, 2120 L Street, NW., Washington, DC. Publically available records are accessible electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov> (the Electronic Reading Room).

Dated at Rockville, Maryland, this 17<sup>th</sup> day of March 2000.

FOR THE NUCLEAR REGULATORY COMMISSION

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Richard L. Emch, Jr., Section Chief, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Oconee Nuclear Station

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