

July 23, 1999

Mr. W. R. McCollum, Jr.  
Vice President, Oconee Site  
Duke Energy Corporation  
P. O. Box 1439  
Seneca, SC 29679

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SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 RE: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR AN EXEMPTION FROM THE REQUIREMENTS OF 10 CFR PART 50, SECTION 50.60 AND APPENDIX G (TAC NOS. MA5473, MA5474, AND MA5475)

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 the requirements of Title 10 of the Code of Federal Regulations, Part 50, Section 50.60(a) for the Oconee Nuclear Station, Units 1, 2, and 3. The application for exemption was contained in your submittal dated May 11, 1999, for the application at the Oconee Nuclear Station Units 1, 2, and 3, of the methodology contained in the American Society of Mechanical Engineers (ASME) Code Cases N-514 (as an alternate methodology for determining the low temperature overpressure protection system enable temperature), N-588 (for determining the reactor vessel pressure-temperature limits derived from postulating a circumferentially-oriented reference flaw in a circumferential weld), and N-626 (as an alternate reference fracture toughness for reactor vessel materials for use in determining the pressure-temperature limits). Note that the designation for Code Case N-626 has been changed to N-640 by the ASME code committee. During its review of your submittal, the staff determined that no exemption of Code Case N-514 was needed.

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

Sincerely,

ORIGINAL SIGNED BY:

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: As stated

cc w/encl: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 23, 1999

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Vice President, Oconee Site  
Duke Energy Corporation  
P. O. Box 1439  
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The environmental assessment has been forwarded to the Office of the Federal Register for publication.

Sincerely,

A handwritten signature in black ink, appearing to read "D. LaBarge".

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: As stated

cc w/encl: See next page

Oconee Nuclear Station

cc:

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UNITED STATES NUCLEAR REGULATORY COMMISSIONDUKE ENERGY CORPORATIONDOCKET NOS. 50-269, 50-270, AND 50-287OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3ENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an exemption from certain requirements of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Section 50.60(a) to the Duke Energy Corporation (the licensee) for operation of the Oconee Nuclear Station, Units 1, 2, and 3, located in Seneca, Oconee County, South Carolina.

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action:

The proposed action would exempt the licensee from certain provisions of 10 CFR Part 50, Section 50.60(a) and 10 CFR Part 50, Appendix G. The NRC has established requirements in 10 CFR Part 50 to protect the integrity of the reactor coolant pressure boundary (RCPB) in nuclear power plants. As part of these requirements, 10 CFR Part 50, Appendix G requires that pressure-temperature (P-T) limits be established for reactor pressure vessels (RPVs) during normal operating and hydrostatic or leak rate testing conditions. Specifically, 10 CFR Part 50, Appendix G states that "[t]he appropriate requirements...on pressure-temperature limits and minimum permissible temperature must be met for all conditions." Appendix G of 10 CFR Part 50 specifies that the requirements for these limits are the American Society of Mechanical Engineers (ASME) Code, Section XI, Appendix G limits.

Pressurized water reactor licensees have installed cold overpressure mitigation systems/low temperature overpressure protection (LTOP) systems in order to protect the RCPB from being operated outside of the boundaries established by the P-T limit curves and to provide pressure relief on the RCPB during low temperature overpressurization events. The licensee is required by the Oconee Units 1, 2, and 3 Technical Specifications (TS) to update and submit the changes to its LTOP setpoints whenever the licensee is requesting approval for amendments to the P-T limit curves in the Oconee Unit 1, 2, and 3 TS.

Therefore, in order to address provisions of amendments to the TS P-T limits and LTOP curves, the licensee requested in its submittal dated May 11, 1999, that the staff exempt Oconee Units 1, 2, and 3 from application of specific requirements of 10 CFR Part 50, Section 50.60(a) and 10 CFR Part 50, Appendix G, and substitute use of three ASME Code Cases as follows:

1. N-514 as an alternate methodology for determining the low temperature overpressure protection system enable temperature,
2. N-588 for determining the reactor vessel P-T limits derived from postulating a circumferentially-oriented reference flaw in a circumferential weld, and
3. N-626 as an alternate reference fracture toughness for reactor vessel materials for use in determining the P-T limits. (As a result of recent ASME code committee action, the designation for Code Case N-626 was changed to N-640. Therefore, Code Case N-640 will be discussed below rather than Code Case N-626, the designation referenced in the submittal.)

The proposed action is in accordance with the licensee's application for exemption contained in a submittal dated May 11, 1999, and is needed to support the TS amendments that are contained in the same submittal and are being processed separately. The proposed amendments will revise the P-T limits of TS 3.4.3 for Oconee Units 1, 2, and 3 related to the

heatup, cooldown, and inservice test limitations for the Reactor Coolant System of each unit to a maximum of 33 Effective Full Power Years (EFPY). It will also revise TS 3.4.12, Low Temperature Overpressure Protection System, to reflect the revised P-T limits of the reactor vessels.

#### The Need for the Proposed Action

During staff review of this submittal, the staff determined that granting of an exemption for the use of Code Case N-514 was not necessary.

ASME Code Case N-588 and Code Case N-626 (which is now Code Case N-640) are needed to revise the method used to determine the RCS P-T limits, since continued use of the present curves unnecessarily restricts the P-T operating window. Application of the code cases will, therefore, relax the LTOP operating window and reduce potential challenges to the reactor coolant system power operated relief valves. In addition, the present restrictions require that, under certain low temperature conditions, only one reactor coolant pump in a reactor coolant loop may be operated. The licensee has found from experience that the effect of this restriction is degradation of the reactor coolant pump impellers from cavitation sustained when either one pump or one pump in each loop is operating. Application of the Code Cases will allow operation of two reactor coolant pumps in a single loop, which will eliminate this condition.

In the associated exemption, the staff has determined that, pursuant to 10 CFR 50.12(a)(2)(ii), the underlying purpose of the regulation will continue to be served by the implementation of these Code Cases.

#### Environmental Impacts of the Proposed Action:

The Commission has completed its evaluation of the proposed action and concludes that the exemption described above would provide an adequate margin of safety against brittle failure of the Oconee Units 1, 2, and 3 reactor vessels.

The proposed action will not increase the probability or consequences of accidents, no changes are being made in the types or amounts of any effluents that may be released offsite, and 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 environmental impacts, the proposed action does not involve any historic sites. It does not affect nonradiological plant effluents and has no other environmental impacts. Therefore, there are no significant nonradiological impacts associated with the proposed action.

Accordingly, the Commission 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, dated March 1972.

Agencies and Persons Consulted:

In accordance with its stated policy, on July 15, 1999, the staff consulted with the South Carolina State official, Mr. Virgil Autry of the Division of Radioactive 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.

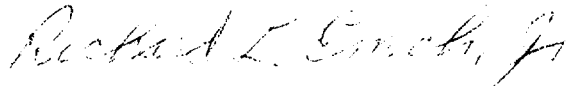
FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission 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 May 11, 1999, which is available for public inspection at the Commission's Public Document Room, The Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Oconee County Library, 501 West South Street, Walhalla, South Carolina.

Dated at Rockville, Maryland, this 23rd day of July 1999.

FOR THE NUCLEAR REGULATORY COMMISSION



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