

March 24, 1999

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

Distribution:
~~Docket File~~
PUBLIC
PD II-2 Rdg.
JZwolinski/SBlack

HBerkow ACRS
CHawes COgle, RII
DLaBarge
PGEB Branch Chief
OGC

SUBJECT: 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 - OCONEE NUCLEAR STATION,
UNITS 1, 2, AND 3 (TAC NOS. MA3829, MA3830, AND MA3831)

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 and Appendix G for the Oconee Nuclear Station, Units 1, 2, and 3. The application was submitted by letter dated October 15, 1998, as supplemented December 17, 1998, and January 11 and 21, 1999, and would allow you to apply the methodology of the American Society of Mechanical Engineers Code Case N-514 as the basis for establishing the setpoints of the low temperature overpressure protection system at all three units.

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
Project Directorate II-2
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

To receive copy of document, indicate in box: "C" = w/o encl "E" = w/encl "N" = No copy

OFFICE	PM:PDII-2	E	LA:PDII-2	E	PGEB	OGC	D:PDII-2
NAME	DLaBarge:cn		LBerry				HBerkow
DATE	3/2/99		3/2/99		3/2/99	3/23/99	3/24/99

DOCUMENT NAME: G:\OCONEE\EA3829.WPD

OFFICIAL RECORD COPY

9903290093 990324
PDR ADDCK 05000269
P PDR

FOR THE UNITED STATES



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

March 24, 1999

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

SUBJECT: 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 - OCONEE NUCLEAR STATION,
UNITS 1, 2, AND 3 (TAC NOS. MA3829, MA3830, AND MA3831)

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 and Appendix G for the Oconee Nuclear Station, Units 1, 2, and 3. The application was submitted by letter dated October 15, 1998, as supplemented December 17, 1998, and January 11 and 21, 1999, and would allow you to apply the methodology of the American Society of Mechanical Engineers Code Case N-514 as the basis for establishing the setpoints of the low temperature overpressure protection system at all three units.

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 "David E. LaBarge", is written over a horizontal line.

David E. LaBarge, Senior Project Manager
Project Directorate II-2
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

Oconee Nuclear Station

cc:

Ms. Lisa F. Vaughn
Legal Department (PBO5E)
Duke Energy Corporation
422 South Church Street
Charlotte, North Carolina 28201-1006

Anne Cottingham, Esquire
Winston and Strawn
1400 L Street, NW.
Washington, DC 20005

Mr. Rick N. Edwards
Framatome Technologies
Suite 525
1700 Rockville Pike
Rockville, Maryland 20852-1631

Manager, LIS
NUS Corporation
2650 McCormick Drive, 3rd Floor
Clearwater, Florida 34619-1035

Senior Resident Inspector
U. S. Nuclear Regulatory
Commission
7812B Rochester Highway
Seneca, South Carolina 29672

Virgil R. Autry, Director
Division of Radioactive Waste Management
Bureau of Land and Waste Management
Department of Health and Environmental
Control
2600 Bull Street
Columbia, South Carolina 29201-1708

County Supervisor of Oconee County
Walhalla, South Carolina 29621

Mr. J. E. Burchfield
Compliance Manager
Duke Energy Corporation
Oconee Nuclear Site
P. O. Box 1439
Seneca, South Carolina 29679

Ms. Karen E. Long
Assistant Attorney General
North Carolina Department of
Justice
P. O. Box 629
Raleigh, North Carolina 27602

L. A. Keller
Manager - Nuclear Regulatory
Licensing
Duke Energy Corporation
526 South Church Street
Charlotte, North Carolina 28201-1006

Mr. Richard M. Fry, Director
Division of Radiation Protection
North Carolina Department of
Environment, Health, and
Natural Resources
3825 Barrett Drive
Raleigh, North Carolina 27609-7721

Mr. Steven P. Shaver
Senior Sales Engineer
Westinghouse Electric Company
5929 Carnegie Blvd.
Suite 500
Charlotte, North Carolina 28209

Heinz Mueller (5)
Environmental Review Coordinator
345 Courtland Street, NE.
Atlanta, Georgia 30365

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 the requirements of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Section 50.60 and Appendix G to the Duke Energy Corporation (the licensee) for operation of the Oconee Nuclear Station, Units 1, 2, and 3, located in Oconee County, South Carolina.

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action:

The proposed action would exempt the licensee from the provisions in 10 CFR Part 50, Section 50.60 and 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...the pressure-temperature limits and minimum permissible temperature must be met for all conditions." Pressurized water reactor licensees have installed cold overpressure mitigation systems/low temperature overpressure protection (LTOP) systems in order to protect the RCPBs from being operated outside of the boundaries established by the P-T limit curves and to provide pressure relief of the RCPBs during low

temperature overpressurization events. The licensee is required by the Oconee Units 1, 2, and 3 Technical Specifications (TSs) 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 Units 1, 2, and 3 TSs.

As a result, to approve its amendments to the TS P-T limit curves, the licensee requested in its submittal dated October 15, 1998, that the staff exempt Oconee Units 1, 2, and 3 from the application of specific requirements of 10 CFR Part 50, Section 50.60 and Appendix G and substitute use of the American Society of Mechanical Engineers (ASME) Code Case N-514, "Low Temperature Overpressure Protection Section XI, Division 1." This would permit setting the pressure setpoint of the facility's LTOP such that the P-T limits required by 10 CFR Part 50, Appendix G could be exceeded by 10 percent during a low temperature pressure transient. The submittal was supplemented by letters dated December 15, 1998, and January 11 and 21, 1999.

The Need for the Proposed Action:

The licensee has noted in its submittal of October 15, 1998, that the underlying purpose of the regulations is to establish limits to protect the RPVs from brittle failure during low temperature operation and that the LTOP provides a physical means of protecting these limits. As a means of determining the LTOP enable temperature, the licensee proposed to use the ASME Code Case N-514 to permit setting the pressure setpoint of the facility's LTOP such that the P-T limits required by 10 CFR Part 50, Appendix G could be exceeded by 10 percent during a low temperature pressure transient. The use of this Code Case in lieu of 10 CFR Part 50, Appendix G requires approval of an exemption.

The Reactor Coolant System P-T operating window at low temperatures is defined by the LTOP setpoint. Implementation of an LTOP setpoint without the additional margin of 10 percent allowed by ASME Code Case N-514 would restrict the P-T operating window and would

potentially result in undesired actuation of the LTOP system. This constitutes an unnecessary burden that can be alleviated by the application of the Code Case and reduce the potential for an undesired lift of the LTOP valve.

The licensee proposed that establishing the LTOP pressure setpoints in accordance with the provisions in Code Case N-514 would provide an acceptable level of safety against overpressurization events of the Oconee RPVs and that reactor vessel pressure would not exceed 110 percent of the P-T limit allowables, which would still provide an acceptable level of safety and mitigate the potential for an inadvertent actuation of the LTOP. The Code Case dictates that when the LTOP system is enabled, the peak pressure resulting from an LTOP design-basis transient will not exceed 110 percent of the pressure limits established by the P-T limit curves for the plant, as required by 10 CFR Part 50, Appendix G, and by Appendix G to the Code. The Code Case also requires that the LTOP system be enabled at a temperature of 200 °F, or at a temperature value equivalent to the sum of the limiting adjusted reference temperature (ART) + 50 °F, whichever is greater.

The staff has previously found for several other nuclear power plants that Code Case N-514 provides an "acceptable level of safety" based on the amount of conservatism that has been explicitly incorporated into the methodologies for generating P-T limit curves, as prescribed in 10 CFR Part 50, Appendix G; Appendix G to the Code; and Regulatory Guide (RG) 1.99, Rev. 2. The conservatism includes: (1) a safety factor of 2 on the pressure stresses; (2) a margin factor applied to the calculation of ART values in accordance with the methodology of RG 1.99, Rev. 2; (3) an assumed ¼ thickness flaw with a 6:1 aspect ratio; and (4) a limiting material toughness based on dynamic crack arrest data.

The staff agrees that an exemption would be required to approve the use of Code Case N-514 in lieu of 10 CFR Part 50, Appendix G. The staff examined the licensee's rationale to support the exemption request and agrees that the use of Code Case N-514 would also meet

the underlying intent of these regulations. Based upon a consideration of the conservatism that is explicitly incorporated into the methodologies of 10 CFR Part 50, Appendix G; Appendix G of the Code; and RG 1.99, Rev. 2, the staff concluded that permitting the LTOP setpoints to be established at the level specified in the Code Case (e.g., less than or equal to 110 percent of the limit defined by the P-T limit curves) would provide an adequate margin of safety against brittle failure of the RPVs. This is also consistent with the determination that the staff has reached for other licensees under similar conditions based on the same considerations.

Therefore, the staff concludes that requesting the exemption under the special circumstances of 10 CFR 50.12(a)(2)(ii) is appropriate and that the methodology of Code Case N-514 may be used to establish the LTOP setpoints for the Oconee Units 1, 2, and 3 reactor coolant system.

Environmental Impacts of the Proposed Action:

The Commission has completed its evaluation of the proposed action and concludes that exemption from the requirements of 10 CFR Part 50, Section 50.60 and Appendix G, to permit the LTOP setpoints to be established in accordance with the Code Case (e.g., at a level less than or equal to 110 percent of the limit defined by the P-T limit curves), 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 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 resources not previously considered in the "Final Environmental Statement Related to the Operation of the Oconee Nuclear Station, Units 1, 2, and 3," dated March 1972.

Agencies and Persons Consulted:

In accordance with its stated policy, on February 24, 1999, the staff consulted with the South Carolina State official, Henry Porter 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

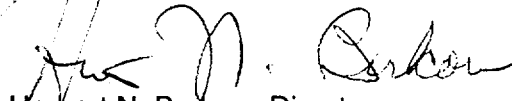
On the basis of the environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated October 15, 1998, as supplemented December 15, 1998, and January 11 and 21, 1999, which are 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 Broad Street, Walhalla, South Carolina.

Dated at Rockville, Maryland, this 24th day of March 1999.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "Herbert N. Berkow", is written over the printed name.

Herbert N. Berkow, Director
Project Directorate II-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation