

April 30, 2004

Mr. H. B. Barron
Executive Vice President
Nuclear Generation
Duke Energy Corporation
526 South Church Street
Charlotte, NC 28202

SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 - REQUEST FOR
ADDITIONAL INFORMATION (RAI) CONCERNING MIXED OXIDE LEAD
FUEL ASSEMBLIES (TAC NOS. MB7863 AND MB7864)

Dear Mr. Barron:

By letter dated February 27, 2003, Duke Energy Corporation (Duke) submitted an application for amendments to the renewed facility operating licenses for Catawba Nuclear Station, Units 1 and 2. The proposed amendments would revise the Technical Specifications to allow the use of four mixed oxide (MOX) Lead Test Assemblies (LTA) at the Catawba station. The Nuclear Regulatory Commission (NRC) staff learned on April 12, 2004, and your letter dated April 16, 2004, confirms that Duke's planned fuel cycle design that would include MOX LTAs also would include eight Westinghouse Next Generation Fuel (NGF) LTAs. This information was not reflected in the NRC staff's Safety Evaluation that was issued on April 5, 2004, and it must be considered prior to the conclusion of the NRC staff's review. We met with your staff on April 23, 2004, to discuss this issue. The NRC staff has identified several questions that require a response to support the staff's continued review. These questions are contained in the enclosed RAI.

It is anticipated that some categories of information will be obtained more productively by the conduct of an NRC staff audit of calculations and analyses at your engineering offices. We will contact your staff to arrange this audit. Please contact me on (301) 415-1493 if you have any other questions on these issues.

Sincerely,

/RA/

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

Docket Nos. 50-413 and 50-414

Enclosure: RAI

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION
ON APPLICATION FOR MIXED OXIDE (MOX) LEAD TEST ASSEMBLIES
DUKE POWER COMPANY
CATAWBA NUCLEAR STATION, UNITS 1 AND 2
DOCKET NOS. 50-413 AND 50-414

1. Duke is requested to provide supporting information for the validity of the WRB-2M critical heat flux correlation with respect to the Next Generation Fuel (NGF) design. The Nuclear Regulatory Commission (NRC) staff requests that a meeting be arranged between the NRC staff, Duke, and the (NGF fuel vendor (Westinghouse) for this purpose. It is anticipated that this meeting will include the discussion of information that is proprietary to Westinghouse. The meeting should also include a detailed discussion of the hydraulic performance of the NGF assembly and the reasoning to support what the NRC staff understands to be a Westinghouse recommendation that the assemblies are to be run with a limiting power peaking factor.
2. Duke is requested to describe calculations performed in support of specification of the exclusion zone for the NGF/MOX Lead Test Assemblies (LTAs). This should include the impact on the Robust Fuel Assemblies (RFAs) that are between the NGF and MOX LTAs.
3. Duke is requested to provide a qualitative comparison of the two methodologies used to analyze the fuel (PAD and COPENIC).
4. Duke is requested to provide the vendor design document reports prepared by Westinghouse for the RFA and NGF fuel for examination by the NRC staff.
5. Further specific requests for additional information:
 - a. What is the differential peak cladding temperature (ΔPCT) for RFA vs. NGF fuel?
 - b. What is the peaking penalty for the NGF LTAs?
 - c. What is the revised PCT for the RFA fuel?
 - d. Provide the results of the sensitivity studies performed that consider steam generator designs, power shapes and fuel cycle burnup.
6. Duke is requested to provide the NRC staff with a description of and the results of a thorough re-review of all information in the application of February 27, 2003, as supplemented, to confirm its completeness and accuracy. It is understood that Duke was referring to its plans to conduct such a review in its presentations in the meeting on April 23, 2004.

Enclosure

Catawba Nuclear Station

cc

Lee Keller, Manager
Regulatory Compliance
Duke Energy Corporation
4800 Concord Road
York, South Carolina 29745

Ms. Lisa F. Vaughn
Duke Energy Corporation
Mail Code - PB05E
422 South Church Street
P.O. Box 1244
Charlotte, North Carolina 28201-1244

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

North Carolina Municipal Power
Agency Number 1
1427 Meadowood Boulevard
P. O. Box 29513
Raleigh, North Carolina 27626

County Manager of York County
York County Courthouse
York, South Carolina 29745

Piedmont Municipal Power Agency
121 Village Drive
Greer, South Carolina 29651

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

NCEM REP Program Manager
4713 Mail Service Center
Raleigh, North Carolina 27699-4713

North Carolina Electric Membership Corp.
P. O. Box 27306
Raleigh, North Carolina 27611

Senior Resident Inspector
U. S. Nuclear Regulatory Commission
4830 Concord Road
York, South Carolina 29745

Henry Porter, Assistant Director
Division of Waste Management
Bureau of Land and Waste Management
Dept. of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Mr. R. L. Gill, Jr., Manager
Nuclear Regulatory Issues
and Industry Affairs
Duke Energy Corporation
526 South Church Street
Mail Stop EC05P
Charlotte, North Carolina 28202

Saluda River Electric
P. O. Box 929
Laurens, South Carolina 29360

Mr. Peter R. Harden, IV, Vice President
Customer Relations and Sales
Westinghouse Electric Company
6000 Fairview Road
12th Floor
Charlotte, North Carolina 28210

Mary Olson
Director of the Southeast Office
Nuclear Information and Resource Service
729 Haywood Road, 1-A
P. O. Box 7586
Asheville, North Carolina 28802

Enclosure

Catawba Nuclear Station

cc:

Mr. T. Richard Puryear
Owners Group (NCEMC)
Duke Energy Corporation
4800 Concord Road
York, South Carolina 29745

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

Diane Curran
Harmon, Curran, Spielberg &
Eisenberg, LLP
1726 M Street, N.W.
Suite 600
Washington, DC 20036

D. M. Jamil
Vice President
Catawba Nuclear Station
Duke Energy Corporation
4800 Concord Road
York, South Carolina 29745-9635