

January 17, 2002

Mr. M. S. Tuckman
Executive Vice-President
Nuclear Generation
Duke Energy Corporation
PO Box 1006
Charlotte, NC 28201-1006

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2, AND CATAWBA NUCLEAR
STATION, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION (LRA)

Dear Mr. Tuckman:

By letter dated June 14, 2001, Duke Energy Corporation (Duke) submitted for Nuclear Regulatory Commission (NRC) review an application, pursuant to 10 CFR Part 54, to renew the operating licenses for the McGuire Nuclear Station, Units 1 and 2, and Catawba Nuclear Station, Units 1 and 2. The NRC staff is reviewing the information contained in this license renewal application and has identified, in the enclosure, areas where additional information is needed to complete its review. Specifically, the enclosed request for additional information (RAI) is from the following sections of the LRA:

Section 2.5, Scoping and Screening Results: Electrical and Instrumentation and Controls
Section 3.6, Aging Management of Electrical and Instrumentation and Controls
Appendix B, B.3.19, Inaccessible Non-EQ Medium-voltage Cables Aging Management Program

Please provide a schedule by letter, or electronic mail for the submittal of your response within 30 days of the receipt of this letter. Additionally, the staff would be willing to meet with Duke prior to the submittal of the response to clarify the staff's request for additional information.

Sincerely,

/RA/

Rani L. Franovich, Project Manager
License Renewal and Environmental Impacts Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos. 50-369, 50-370, 50-413 and 50-414

Enclosure: As stated

cc w/encl: See next page

Mr. M. S. Tuckman
Executive Vice-President
Nuclear Generation
Duke Energy Corporation
PO Box 1006
Charlotte, NC 28201-1006

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2, AND CATAWBA NUCLEAR
STATION, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION

Dear Mr. Tuckman:

By letter dated June 14, 2001, Duke Energy Corporation (Duke) submitted for Nuclear Regulatory Commission (NRC) review an application, pursuant to 10 CFR Part 54, to renew the operating licenses for the McGuire Nuclear Station, Units 1 and 2, and Catawba Nuclear Station, Units 1 and 2. The NRC staff is reviewing the information contained in this license renewal application and has identified, in the enclosure, areas where additional information is needed to complete its review. Specifically, the enclosed request for additional information (RAI) is from Section 3.6, "Aging Management of Electrical and Instrumentation and Controls."

Section 2.5, Scoping and Screening Results: Electrical and Instrumentation and Controls
Section 3.6, Aging Management of Electrical and Instrumentation and Controls
Appendix B, B.3.19, Inaccessible Non-EQ Medium-voltage Cables Aging Management Program

Please provide a schedule by letter, or electronic mail for the submittal of your response within 30 days of the receipt of this letter. Additionally, the staff would be willing to meet with Duke prior to the submittal of the response to provide clarification of the staff's request for additional information.

Sincerely,

/RA/

Rani L. Franovich, Project Manager
License Renewal and Environmental Impacts Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos. 50-369, 50-370, 50-413 and 50-414

Enclosures: As stated

cc w/encl: See next page

DISTRIBUTION:

See next page

*See previous concurrence

Document Name: C:\Program Files\Adobe\Acrobat 4.0\PDF Output\Duke RAI - Electrical.wpd

OFFICE	PM:RLEP:DRIP	LA:DRIP	SC:RLEP:DRIP	BC:RLEP:DRIP
NAME	RFranovich	EGHylton	PTKuo	CIGrimes
DATE	01/15/2002	01/15/2002	01/17/2002	01/17/2002

OFFICIAL RECORD COPY

DISTRIBUTION:

HARD COPY

RLSB RF

E. Hylton

E-MAIL:

PUBLIC

J. Johnson

W. Borchardt

D. Matthews

C. Carpenter

C. Grimes

B. Zalcman

J. Strosnider (RidsNrrDe)

E. Imbro

G. Bagchi

K. Manoly

W. Bateman

J. Calvo

C. Holden

P. Shemanski

S. Rosenberg

G. Holahan

B. Boger

D. Thatcher

G. Galletti

B. Thomas

J. Moore

R. Weisman

M. Mayfield

A. Murphy

W. McDowell

S. Droggitis

N. Dudley

RLEP Staff

R. Martin

C. Patel

C. Julian (RII)

R. Haag (RII)

A. Fernandez (OGC)

J. Wilson

M. Khanna

C. Munson

R. Elliott

D. Nguyen

McGuire & Catawba Nuclear Stations, Units 1 and 2

Mr. Gary Gilbert
Regulatory Compliance Manager
Duke Energy Corporation
4800 Concord Road
York, South Carolina 29745

Ms. Lisa F. Vaughn
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

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

Ms. Elaine Wathen, Lead REP Planner
Division of Emergency Management
116 West Jones Street
Raleigh, North Carolina 27603-1335

Mr. Robert L. Gill, Jr.
Duke Energy Corporation
Mail Stop EC-12R
P. O. Box 1006
Charlotte, North Carolina 28201-1006

Mr. Alan Nelson
Nuclear Energy Institute
1776 I Street, N.W., Suite 400
Washington, DC 20006-3708

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

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

Mr. Virgil R. Autry, Director
Dept of Health and Envir Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Mr. C. Jeffrey Thomas
Manager - Nuclear Regulatory Licensing
Duke Energy Corporation
526 South Church Street
Charlotte, North Carolina 28201-1006

Mr. L. A. Keller
Duke Energy Corporation
526 South Church Street
Charlotte, North Carolina 28201-1006

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

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

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

Mr. Richard M. Fry, Director
North Carolina Dept of Env, Health, and
Natural Resources
3825 Barrett Drive
Raleigh, North Carolina 27609-7721

County Manager of
Mecklenburg County
720 East Fourth Street
Charlotte, North Carolina 28202

Michael T. Cash
Regulatory Compliance Manager
Duke Energy Corporation

McGuire Nuclear Site
12700 Hagers Ferry Road
Huntersville, North Carolina 28078

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
12700 Hagers Ferry Road
Huntersville, North Carolina 28078

Dr. John M. Barry
Mecklenburg County
Department of Environmental Protection
700 N. Tryon Street
Charlotte, North Carolina 28202

Mr. Gregory D. Robison
Duke Energy Corporation
Mail Stop EC-12R
526 S. Church Street
Charlotte, NC 28201-1006

Mary Olson
Nuclear Information & Resource Service
Southeast Office
P.O. Box 7586
Asheville, North Carolina 28802

Paul Gunter
Nuclear Information & Resource Service
1424 16th Street NW, Suite 404
Washington, DC 20036

Lou Zeller
Blue Ridge Environmental Defense League
P.O. Box 88
Glendale Springs, North Carolina 28629

Don Moniak
Blue Ridge Environmental Defense League
Aiken Office
P.O. Box 3487
Aiken, South Carolina 29802-3487

Request for Additional Information (RAI)
McGuire Nuclear Station, Units 1 and 2, and
Catawba Nuclear Station, Units 1 and 2

2.5 Scoping and Screening Results: Electrical and Instrumentation and Controls

- RAI 2.5-1 Section 2.5 of the LRA indicates that the switchyard systems (i.e., switchyard bus, transmission conductors, and high-voltage insulators) do not meet any of the scoping criteria of §54.4(a). §54.4(a)(3) requires all systems, structures, and components to be included in the scope of license renewal that are relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with the Commission's regulations for station blackout (§50.63). §50.63(a)(1) requires that the nuclear power plant be able to recover from a station blackout. Clarify why switchyard systems are not relied on in safety analyses or plant evaluations to perform a function in the recovery from a station blackout. Also clarify why these offsite system components do not meet the scoping criteria of §54.4(a)(1), §54.4(a)(2) or §54.4(a)(3).
- RAI 2.5-2 Section 2.5 of the LRA indicates that the Unit Main Power System and Nonsegregated-Phase bus in the 6.9 kV Normal Auxiliary Power System were found not to meet any of the scoping criteria of §54.4(a). Clarify why the Unit Main Power System and the Nonsegregated-Phase bus in the 6.9 kV Normal Auxiliary Power System are not relied on in safety analyses or plant evaluations to perform a function in the recovery from a station blackout. Also clarify why these offsite system components do not meet the scoping criteria of §54.4(a)(1), §54.4(a)(2) or §54.4(a)(3).
- RAI 2.5-3 Section 2.5 of the LRA indicates that non-insulated ground conductors were found not to meet any of the scoping criteria of §54.4(a). Non-insulated ground conductors provide safety-related electrical systems with the capability to withstand transient conditions (e.g., electrical faults). Clarify why this function does not meet the scoping criteria of §54.4(a)(1) and §54.4(a)(2).

3.6 Aging management of Electrical and Instrumentation and Controls

- RAI 3.6.1-1 Exposure of electrical cables to localized environments caused by heat or radiation can result in reduced insulation resistance (IR). Reduced IR causes an increase in leakage currents between conductors and from individual conductors to ground. A reduction in IR is a concern for circuits with sensitive, low-level signals such as radiation monitoring and nuclear instrumentation since it may contribute to inaccuracies in instrument loop. The applicant states that the Non-EQ Insulated Cables and Connections Aging Management Program includes non-EQ cables used in low-level signal application that are sensitive to reduction in insulation resistance such as radiation monitoring and nuclear instrumentation. Further, the applicant states that the accessible non-EQ insulated cables installed in reactor buildings, auxiliary buildings and turbine building are visually inspected for cables jacket surface anomalies such as embrittlement, discoloration, cracking or surface contamination. Visual inspection may not be sufficient to detect aging degradation from heat and radiation in the instrumentation circuits with sensitive, low-level signal. Because low level signal instrumentation circuits may operate with signals that are normally in the

milliamp range or less, they can be affected by extremely low levels of leakage current. These low levels of leakage current may affect instrument loop accuracy before the adverse localized environment that caused them produces changes that are visually detectable. Routine calibration test performed as part of the plant surveillance test program can be used to identify the potential existence of this aging degradation. Provide a description of your plant calibration test program that will be relied upon as the aging management activity used to detect this aging degradation in sensitive, low level signal circuits, or provide the technical basis for excluding it.

B.3.19 Inaccessible Non-EQ Medium-voltage Cables Aging Management Program

- B.3.19-1 Periodic actions are taken to prevent cable from being exposed to significant moisture, such as inspecting for water collection in cable manholes and conduit, and draining water. These actions are considered as preventive actions. Section B.3.19 of the LRA under topic heading "Preventive Actions" indicates no preventive actions are required as part of the Inaccessible Non-EQ Medium-Voltage Cables Aging Management Program (AMP). Explain why no preventive actions are required as part of the AMP.
- B.3.19-2 Section B.3.19 of the LRA under topic heading "Scope" defines significant moisture as exposure to long-term (over a long period such as a few years), continuous standing water. Similar words are used in Section 3.6.2 of the LRA. The Oconee LRA defined significant moisture as exposure to moisture that lasts more than a few days. Explain why exposure to moisture over more than a few days, and up to a few years, is not significant.

Division of Regulatory Improvement Programs
COVER PAGE

DATE: January 14, 2002

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF
THE CATAWBA NUCLEAR STATION, UNITS 1 AND 2, AND MCGUIRE
NUCLEAR STATION, UNITS 1 AND 2, LICENSE RENEWAL
APPLICATION

ORIGINATOR: Rani Franovich

SECRETARY: S. Chey

●●●DRIP ROUTING LIST●●●		
	NAME	DATE
1.	R. Franovich	/ /02
2.	E. Hylton	
3.	P. T. Kuo	/ /02
4.	C. Grimes	/ /02

DOCUMENT NAME: C:\Program Files\Adobe\Acrobat 4.0\PDF Output\Duke RAI -
Electrical.wpd

ADAMS ACCESSION NUMBER: **ML** DATE ENTERED: / /02

FORM 665 ATTACHED and filled out: **YES NO**

COMMITMENT FORM ATTACHED: **YES NO**