



**Duke Power**  
526 South Church St. EC07H  
Charlotte, NC 28202  
P. O. Box 1006 EC07H  
Charlotte, NC 28201-1006  
(704) 382-2200 OFFICE  
(704) 382-4360 FAX

**M. S. Tuckman**  
*Executive Vice President*  
*Nuclear Generation*

September 25, 2001

U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

ATTENTION: Document Control Desk

SUBJECT: Duke Energy Corporation

Oconee Nuclear Station - Units 1, 2, & 3  
Docket Nos. 50-269, 50-270, and 50-287

McGuire Nuclear Station - Units 1 & 2  
Docket Nos. 50-369 and 50-370

Catawba Nuclear Station - Units 1 & 2  
Docket Nos. 50-413 and 50-414

Request to use an Alternative to the ASME Boiler and  
Pressure Vessel Code, Section XI in accordance with 10  
CFR 50.55a (a) (3) (i).  
Duke Energy Corporation Serial Number 01-GO-003

Pursuant to 10 CFR 50.55a(a)(3)(i), Duke Energy Corporation requests the use of an alternative to the requirements of the ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWE, 1992 Edition with the 1992 Addenda for Oconee Nuclear Station, Units 1, 2 and 3; McGuire Nuclear Station, Units 1 and 2; and Catawba Nuclear Station, Units 1 and 2.

This request is to allow the use of an alternative to the visual examination requirements for coatings on metal containments and metallic liners of concrete containments, as specified in The ASME Boiler and Pressure Vessel Code, Section XI, 1992 Edition with the 1992 Addenda, IWE-2200(g) and IWE-2500(b).

Duke Energy Corporation has determined that the proposed alternative will provide an acceptable, or improved, level of quality and safety for all coated surfaces of metal containments and metallic shell and penetration liners of concrete containments.

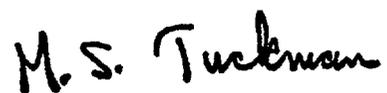
A047

Nuclear Regulatory Commission  
September 25, 2001  
Page 2

A detailed description of this proposed alternative, including a background discussion and justification is included as an attachment to this letter. Duke Energy Corporation is asking that the NRC review and approve this request by March 31, 2002 in order to allow implementation of the proposed alternative prior to scheduled refueling outages occurring in the year 2002.

Questions regarding this request should be directed to J. S. Warren at (704)382-4986.

Very truly yours,

A handwritten signature in black ink that reads "M. S. Tuckman". The signature is written in a cursive style with a large, prominent "M" and "S".

M. S. Tuckman

MST/JSW

Attachment:  
Duke Energy Corporation  
Request for Alternative, Serial Number 01-GO-003

Nuclear Regulatory Commission  
September 25, 2001  
Page 3

xc w/Attachment:

L. A. Reyes  
U.S. Nuclear Regulatory Commission  
Regional Administrator, Region II  
Atlanta Federal Center  
61 Forsyth St., SW, Suite 23T85  
Atlanta, GA 30303

L. N. Olshan (Addressee Only)  
NRC Senior Project Manager (ONS)  
U.S. Nuclear Regulatory Commission  
Mail Stop O-8 H12  
Washington, DC 20555-0001

C. P. Patel (Addressee Only)  
NRC Senior Project Manager (CNS)  
U. S. Nuclear Regulatory Commission  
Mail Stop O-8 H12  
Washington, DC 20555-0001

R. E. Martin (Addressee Only)  
NRC Senior Project Manager (MNS)  
U. S. Nuclear Regulatory Commission  
Mail Stop O-8 H12  
Washington, DC 20555-0001

M. E. Shannon  
Senior Resident Inspector (ONS)  
U. S. Nuclear Regulatory Commission  
Oconee Nuclear Site

D. J. Roberts  
Senior Resident Inspector (CNS)  
U. S. Nuclear Regulatory Commission  
Catawba Nuclear Site

S. M. Shaeffer  
Senior Resident Inspector (MNS)  
U. S. Nuclear Regulatory Commission  
McGuire Nuclear Site

Nuclear Regulatory Commission  
September 25, 2001  
Page 4

bxc w/att: R. Branch  
J. W. Bryant  
C. J. Thomas  
J. H. Coleman  
T. J. Coleman  
D. E. DeMart  
M. J. Ferlisi  
G. D. Gilbert  
T. E. Hawkins  
R. V. Hester  
R. D. Klein (McGuire ANII)  
R. N. McGill (Catawba ANII)  
K. W. Miller, Jr.  
H. O. NekooAsl  
K. E. Nicholson  
L. E. Nicholson  
T. K. Pasour (2)  
L. J. Rudy  
W. E. Shaban  
C. T. Smith (Oconee ANII)  
R. P. Todd  
L. M. Waggoner  
J. N. Warren, Jr.  
J. S. Warren  
NRIA File/ELL (EC050)  
ONS Master File ON03DM  
MNS Master File MG01DM  
CNS Master File CN04DM

## NRC CORRESPONDENCE RECORD OF REVIEW

**Applicable Site(s)** Oconee, McGuire, and Catawba Nuclear Stations  
**Submittal Title/Subject** Request to use an Alternative to the ASME Boiler and Pressure Vessel Code, Section XI in accordance with 10 CFR 50.55a (a) (3) (i), Duke Energy Corporation Serial Number 01-GO-003.  
**Scheduled Submittal Date** N/A (September 30, 2001 Target) Mandatory? N (Y/N)  
**Regulatory Compliance Submittal Lead** J. S. Warren  
 (Name)  
**Technical Lead/Contributor** M. J. Ferlisi **Division/Section** NGO/Civil Engineering  
 (Name)

Reviewer	Name	Comments? (Y/N)	Resolved? (Y/N)
Lead Technical Reviewer	L. M. Waggoner	Y	Y
Lead Technical Mgr.	D. E. DeMart	N	N/A
Regulatory Compliance Submittal Lead	J. S. Warren	Y	Y
Compliance Mgr. (Oconee)	R. P. Todd	N	N/A
Compliance Mgr. (McGuire)	No Concurrence Provided	N	N/A
Compliance Mgr. (Catawba)	Larry Rudy	N	N/A
Affected Group/Div Mgr. (Oconee)	Robert Heineck	N	N/A
Safety Assurance Mgr.	<i>J. J. ...</i>	✓	
Independ. Tech. Reviewer (ONS)	T. J. Coleman	N	N/A
Independ. Tech. Reviewer (CNS)	T. E. Hawkins	N	N/A
Independ. Tech. Reviewer (MNS)	K. W. Miller, Jr.	N	N/A
Independ. Tech. Reviewer (CNS)	H. O. NekooAsl	Y	Y
Independ. Tech. Reviewer (ONS)	J. A. Burns	N	N/A
Independ. Tech. Reviewer (MNS)	W. E. Shaban	N	N/A
Cross-Discipline Reviewer (MNS)	G. E. Wilson	N	N/A
Cross-Discipline Reviewer (CNS)	P. C. Cheek	N	N/A
Cross-Discipline Reviewer (ONS)	M. E. Cromer	N	N/A
Commitment Coordinator	N/A	N/A	N/A
Other Knowledgeable Person(s)	M. R. Wilder	Y	Y
PORC, NSRB Review per NSD 221	N/A	N/A	N/A

CONCURRENCE ON CONTENT, INCLUDING COMMITMENTS, HAS BEEN RECEIVED BY THE LISTED REVIEWERS AND COMMENTS HAVE BEEN RESOLVED. THIS SUBMITTAL IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.

**Submittal Technical Lead** *M. J. Ferlisi* **Date** 9-25-01  
 (Signature)

THIS SUBMITTAL HAS BEEN PREPARED ACCORDING TO GUIDELINES IN NSD 227, APPENDIX B. THIS SUBMITTAL IS READY TO BE SENT TO THE NRC.

**Regulatory Compliance (or NRIA) Lead** *J. S. Warren* **Date** 9-25-01  
 (Signature)

ATTACHMENT

DUKE ENERGY CORPORATION

Oconee Nuclear Station Units 1, 2 and 3  
McGuire Nuclear Station Units 1 and 2  
Catawba Nuclear Station Units 1 and 2

Request For Alternative to the Requirements of the ASME Boiler  
and Pressure Vessel Code, Section XI  
Serial Number 01-GO-003  
Page 1 of 6

**System/Component(s) for Which Relief is Requested**

Metal containments and metallic shell and penetration liners of concrete containments.

**Applicable Code Edition and Addenda for Oconee, McGuire, and Catawba Nuclear Stations**

ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWE, 1992 Edition with the 1992 Addenda.

**Description of Code Requirement(s) for Which an Alternative is Requested**

1. IWE-2200(g) requires that "When paint or coatings are reapplied, the condition of the new paint or coating shall be documented in the preservice examination records."
2. IWE-2500(b) requires that "When paint or coatings are to be removed, the paint or coatings shall be visually examined in accordance with Table IWE-2500-1 prior to removal."

An alternative to the above requirements is requested.

**Basis for Relief**

Duke Energy Corporation interprets IWE-2200(g) to require that a preservice visual examination be performed following reapplication of paint or coatings on containment metallic surfaces. Our procedures currently require a VT-3 visual examination in accordance with Table IWE-2500-1, Category E-A to satisfy this Code requirement when coatings are reapplied to base metal surfaces. The purpose of this examination is to document that the condition of the recoated surface meets the acceptance standards of IWE-3500.

Duke procedures currently require a VT-3 visual examination in accordance with Table IWE-2500-1, Category E-A to satisfy the requirements of IWE-2500(b) when paint or coatings removal will result in the exposure of base metal. The purpose of this examination is to document the condition of the coated surface prior to removing coatings to perform maintenance or

repair/replacement activities, and to ensure that the condition of the base metal is acceptable.

The above visual examinations are performed by certified examiners, and all visual examinations are documented and maintained as QA Records as required by IWA-6210(b).

Duke believes that the proposed alternatives to IWE-2200(g) and IWE-2500(b) will satisfy the purposes stated above for the Code visual examinations. In addition, the proposed alternatives will have the following benefit:

For Service Level II containment coatings, the proposed alternative will require inspections to be performed during appropriate points in the coatings application process which will help to ensure the quality of the coating system. These inspections are not currently required.

### **Description of Proposed Alternative**

In lieu of the requirements of IWE-2200(g) and IWE-2500(b), the following alternatives are proposed.

#### **1. Service Level I Coatings on Interior Surfaces of Metal Containments and Metallic Shell and Penetration Liners of Concrete Containments**

- 1.1 Prior to performing coatings maintenance, the coated surface shall be evaluated if conditions exist that could indicate potential damage to, or unacceptable degradation of, the base metal.
- 1.2 Inspection of surface preparation and coatings application shall be performed in accordance with the requirements of the Duke Energy Corporation Service Level I Coatings Program.

#### **2. Service Level II Coatings on Exterior Surfaces of Metal Containments and Metallic Shell and Penetration Liners of Concrete Containments**

- 2.1 Prior to performing coatings maintenance, the coated surface shall be evaluated if conditions exist that could indicate potential damage to, or unacceptable degradation of, the base metal.

- 2.2 Inspection of surface preparation and coatings application shall be performed in accordance with requirements of the Duke Energy Corporation Nuclear Coating Program, which shall be revised as necessary to incorporate requirements for these inspections commensurate with those specified for Service Level I.

**Justification for the Granting use of Proposed Alternative**

U.S. Nuclear Regulatory Commission Regulatory Guide 1.54, Revision 1, Regulatory Position C.2 defines Service Level I and II protective coatings as follows:

"Service Level I coatings are used in areas inside the reactor containment where the coating failure could adversely affect the operation of post-accident fluid systems and thereby impair safe shutdown."

"Service Level II coatings are used in areas where coatings failure could impair, but not prevent, normal operating performance. The functions of Service Level 2 coatings are to provide corrosion protection and decontaminability in those areas outside the reactor containment that are subject to radiation exposure and radionuclide contamination. Service Level II coatings are not safety-related."

The definitions of Service Level I and II coatings described above apply to coatings used on interior surfaces (Level I) and exterior surfaces (Level II) of metal containments at McGuire and Catawba Nuclear Stations, and to metallic shell and penetration liners of concrete containments at Oconee Nuclear Station.

Requirements for surface preparation, application, and inspection of Service Level I coatings at Oconee, McGuire, and Catawba Nuclear Stations are controlled by Duke Energy Corporation's Nuclear Coating Program. A description of this program is documented in Duke Power's Letter dated November 11, 1998, "Response to Generic Letter 98-04: Potential for Degradation of the Emergency Core Cooling System and the Containment Spray System After a Loss-of-Coolant Accident Because of Construction and Protective Coating Deficiencies and Foreign Material in Containment".

Service Level I coatings are considered nuclear safety-related and require inspection during procurement, receipt, surface preparation, and coatings application. These inspections,

performed by qualified and certified personnel, help to ensure that Service Level I coatings are applied in a manner that will ensure their successful performance.

Service Level II coatings are not safety-related and do not currently require inspections similar to those for Service Level I. However, the alternative addressed in 2.2 above will require that inspections identical to those for surface preparation and coatings application for Service Level I be implemented for all Service Level II coatings applied to metal containments and metallic shell and penetration liners of concrete containments. These inspections shall be performed by personnel that are qualified and certified to the same standards as those required for Service Level I coatings.

The proposed alternative contains additional requirements to ensure that the condition of suspect areas is addressed prior to removal of coatings for maintenance or repair/replacement activities. Duke Energy Corporation's Nuclear Coating Program shall be revised as necessary to incorporate these requirements. Evaluation of these suspect areas shall be performed by quality assurance personnel or Engineering.

Visual, VT-3 examinations performed in accordance with IWE-2000(g) after reapplication of paint or coatings can verify only that the final condition of the reapplied coatings is acceptable. These examinations cannot determine whether surface preparation and application of prime and/or intermediate coatings was performed satisfactorily. These examinations alone cannot provide assurance that reapplied coatings will perform acceptably over time, nor can they determine the acceptability of the condition of the base metal beneath the reapplied coatings. An inspection performed by a qualified coatings inspector in accordance with a documented, effective inspection program can provide this assurance and provide an improved level of quality and safety of coated containment surfaces. Our Coatings Program, which provides this assurance for Service Level I coatings will, if modified, provide a similar level of assurance for Service Level II coatings on containment exterior surfaces.

### **The Quality and Safety Provided by the Proposed Alternative**

The proposed alternative is sufficient to ensure that the condition of the base metal is acceptable prior to performing coatings maintenance, that the reapplied coatings are compatible with the existing coatings system, and that the condition of

recoated surfaces meets the acceptance standards of IWE-3500. Therefore, the inspections performed in accordance with the proposed alternatives will result in an equivalent, or improved, level of quality and safety.

**Duration of the Proposed Alternative**

The proposed alternative is requested for use during the first 120 month Inservice Inspection Interval for IWE. This inspection interval ends September 9, 2008 for Oconee, McGuire, and Catawba Nuclear Stations.

Originated By:   
Date: 9-25-01

Approved By:   
Date: 9/25/01