

July 20, 2006

Mr. Dhiaa Jamil  
Vice President  
Catawba Nuclear Station  
Duke Power Company LLC  
4800 Concord Road  
York, SC 29745

SUBJECT: CATAWBA NUCLEAR STATION, UNIT 2, REQUEST FOR USE OF LATER  
EDITION AND ADDENDA OF THE ASME CODE (TAC NO. MC8258)

Dear Mr. Jamil:

By letter dated September 1, 2005, Duke Power Company LLC submitted a request to use certain paragraphs and related portions of the 1998 edition of the American Society of Mechanical Engineers (ASME), *Boiler and Pressure Vessel Code* (Code), with the 1999 and 2000 addenda of the Code at Catawba Nuclear Station, Unit 2 (Catawba 2). The request is for the remainder of the second 10-year inservice inspection (ISI) interval at Catawba 2, scheduled to end on August 19, 2006.

The enclosed Safety Evaluation (SE) contains the Nuclear Regulatory Commission (NRC) staff's evaluation and conclusions. Based on the information provided in the request, the NRC staff has determined that the identified portions of the 1998 edition with the 1999 and 2000 addenda will provide an acceptable level of quality and safety in lieu of the requirements in the 1989 edition, with one exception, as stated in the SE.

Therefore, the NRC staff approves the use of the later code editions and addenda in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.55a(g)(4)(iv) for the second 10-year ISI interval at Catawba 2.

Sincerely,

/RA/

Evangelos C. Marinos, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-414

Enclosure:  
Safety Evaluation

cc w/encl: See next page

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cc:

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

Ms. Lisa F. Vaughn  
Duke Energy Corporation  
526 South Church Street  
P. O. Box 1006  
Mail Code EC07H  
Charlotte, North Carolina 28201-1006

North Carolina Municipal Power  
Agency Number 1  
1427 Meadowwood 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

Mr. 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.D. Hart, 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

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

Catawba Nuclear Station, Units 1 & 2

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cc:

Division of Radiation Protection  
NC Dept. of Environment, Health,  
and Natural Resources  
3825 Barrett Drive  
Raleigh, North Carolina 27609-7721

Mr. Henry Barron  
Group Vice President, Nuclear Generation  
and Chief Nuclear Officer  
P.O. Box 1006-EC07H  
Charlotte, NC 28201-1006

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
INSERVICE INSPECTION PROGRAM  
REQUEST FOR USE OF LATER EDITION AND ADDENDA OF THE ASME CODE  
CATAWBA NUCLEAR STATION, UNIT 2  
DUKE POWER COMPANY LLC  
DOCKET NO. 50-414

1.0 INTRODUCTION

By letter dated September 1, 2005, Duke Power Company LLC (Duke), the licensee, submitted a request to use certain paragraphs and related portions of the 1998 edition with the 1999 and the 2000 addenda of Section XI of the American Society of Mechanical Engineers (ASME), *Boiler and Pressure Vessel Code* (ASME Code), at Catawba Nuclear Station, Unit 2 (Catawba 2). The inservice inspection (ISI) Code of record for Catawba 2 for the second 10-year ISI interval is the ASME Code, Section XI, 1989 edition, no addenda. The request is for the remainder of the second 10-year ISI interval at Catawba 2, scheduled to end on August 19, 2006.

2.0 REGULATORY EVALUATION

The ISI of the ASME Code Class 1, 2, and 3 components is to be performed in accordance with Section XI, "*Rules for Inservice Inspection of Nuclear Power Plant Components*," and applicable edition and addenda as required by Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.55a(g), except when specific relief has been granted by the Nuclear Regulatory Commission (NRC) pursuant to, 10 CFR 50.55a(g)(6)(i). Section 50.55a(a)(3) states in part that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if the applicant demonstrates that: (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) will meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in ASME Code, Section XI, to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The ISI Code of Record for Catawba 2 for the second 10-year ISI interval is the ASME Code, Section XI, 1989 edition, no addenda.

Enclosure

Section 10 CFR 50.55a(g)(4)(iv), states that the inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in Section 50.55a(b), subject to the limitations and modifications listed therein and NRC approval. Portions of the editions or addendum may be used provided that all related requirements of the respective editions and addenda are met.

### 3.0 TECHNICAL EVALUATION

#### 3.1. System/Component(s) for which Relief is Requested

Class 1, 2, and 3 components and component supports required to be examined during the remainder of the second 10-year ISI interval, scheduled to end on August 19, 2006.

#### 3.2. Applicable Code Requirements

ASME Code of record for the second 10-year ISI interval is the 1989 edition with no addenda of Section XI.

#### 3.3 Licensee's Request

Pursuant to 10 CFR 50.55a(g)(4)(iv), the licensee requests approval to use selected portions of the ASME Code, Section XI, 1998 edition with the 1999 and 2000 addenda, in lieu of the 1989 edition, for the remainder of the Catawba 2 second 10-year ISI interval (Class 1, 2, and 3 components and component supports), currently scheduled to end on August 19, 2006.

#### 3.4 Proposed Subsequent Portions of the ASME Code and Related Requirements

Catawba 2 proposes using the requirements of certain paragraphs and related portions of the 1998 edition with the 1999 and 2000 addenda of Section XI of the ASME Code.

ASME Code Section XI subparagraphs for which use of a later Edition/Addenda is Requested	Portions of 1998 Edition with the 1999 and 2000 Addenda to be Used	Related Requirements of the 1998 Edition with the 1999 and 2000 Addenda to be Met
IWA-2210	IWA-2210 (Note 1)	Section V: Article 9 Section XI: Table IWA-2210-1, IWA-5240
N/A (Note 2)	IWA-2216	Section V: Article 9
IWA-2220	IWA-2220 (Note 3)	Section V: Articles 6 and 7 Section XI: Appendix IV
IWA-2230	IWA-2230 (Note 4)	Section V: Articles 2 and 8 Section XI: Appendix I

ASME Code Section XI subparagraphs for which use of a later Edition/Addenda is Requested	Portions of 1998 Edition with the 1999 and 2000 Addenda to be Used	Related Requirements of the 1998 Edition with the 1999 and 2000 Addenda to be Met
IWA-2300	IWA-2300 (Note 5)	Section XI: IWA-1600 Appendix VI Appendix VII
N/A	IWC-1223	No related requirements
Table IWC-2500-1 Examination Category C-C, Item C3.20	Table IWC-2500-1 Examination Category C-C, Item C3.20	See Note 6

#### Notes

1. Included in the scope of this request are IWA-2211, IWA-2212, IWA-2213, and IWA-2215.
2. IWA-2216 of the 1989 edition shall continue to be used, as well as IWA-2216 of the 1998 edition with the 1999 and 2000 addenda.
3. Included in the scope of this request all paragraphs of IWA-2220.
4. Included in the scope of this request are all paragraphs of IWA-2230, except for IWA-2234.
5. Included in the scope of this request are all paragraphs of IWA-2300.
6. The later Code edition and addenda require fewer welded attachments to be examined. Because the number of completed examinations performed using the 1989 edition have exceeded the number required using the later edition and addenda, no more welded attachments are required to be examined. As such, there are no related requirements to be met.

#### 4.0 EVALUATION

The licensee's ISI ASME Code of record is the 1989 edition with no addenda. The licensee's proposed use of portions of subsequent edition and addenda to the ASME Code, Section XI that is incorporated by reference in 10 CFR 50.55a(b)(2) subject to any modifications and limitations is in accordance with 10 CFR 50.55a(g)(4)(iv). The NRC staff's review has focused on whether the related requirements of the respective code and addenda are being met and any modifications and limitations apply.

Subsubarticle IWA-2210 including paragraphs IWA-2211, IWA-2212, IWA-2213, and IWA-2215 of the 1998 edition with the 1999 addenda provide acceptable requirements for performing visual examinations. The licensee identified the related requirements of the 1998 edition with the 1999 and 2000 addenda that will be met. The NRC staff finds this acceptable.

The proposed later edition and addenda provide guidance for performing remote visual examinations in paragraph IWA-2216. Paragraph IWA-2216 in the 1989 edition addresses cleaning for visual examinations. Therefore, the licensee will use IWA-2216 of the 1989 edition in addition to IWA-2216 of the 1998 edition with the 1999 and 2000 addenda. The NRC staff finds this acceptable.



Subsubarticle IWA-2220 Surface Examination, including paragraphs IWA-2221, IWA-2222, and IWA-2223 of the 1998 Edition with the 1999 addenda provide acceptable requirements for performing surface examinations. The licensee identified the related requirements of the 1998 edition with the 1999 and 2000 addenda that will be met. The NRC staff finds this acceptable.

Subsubarticle IWA-2230, Volumetric Examination, including paragraphs IWA-2232 and IWA-2233 of the 1998 edition with the 1999 addenda provide acceptable requirements for performing volumetric examinations. The licensee identified the related requirements of the 1998 edition with the 1999 and 2000 addenda that will be met. The NRC staff finds this acceptable.

The licensee requests the use of all paragraphs in subarticle IWA-2300, Qualifications of Nondestructive Examination Personnel, of the 1998 edition with the 1999 and 2000 addenda of Section XI. Included in this subarticle are paragraphs IWA-2314(a) and (b). As required by the modifications and limitations in 10 CFR 50.55a(b)(2)(xviii), "Certification of NDE personnel," Level I and II nondestructive examination personnel shall be recertified on a 3-year interval in lieu of the 5-year interval specified in IWA-2314(a) and (b) of the 1998 edition with the 1999 and 2000 addenda. The modification and limitations in 10 CFR 50.55a(b)(2)(xviii) must be followed. The use of the other paragraphs in Subarticle IWA-2300 are acceptable.

IWC-1223, "Inaccessible Welds," of the 1998 edition with the 1999 addenda defines inaccessible welds that are exempt from examination. The NRC staff finds the use of the definition in IWC-1223 acceptable.

Table IWC-2500-1, Examination Category, C-C, Item C3.20, Welded Attachments of Piping. The 1989 edition of the ASME Code, Section XI required the examination of integrally welded attachments in piping of those components required to be examined under Examination Categories C-F and C-G. The 1998 edition with the 1999 addenda requires that selected samples of welded attachments be examined each inspection interval. The 1998 edition with the 1999 addenda requires fewer integrally welded attachments for piping to be inspected. The NRC staff has approved the use of this later addition with no modification or limitations. The NRC staff finds the use of the subject portion of the later edition and addenda acceptable.

## 5.0 CONCLUSION

Based on the NRC staff's review and comparison of the ASME Section XI Codes, the NRC staff finds that the identified portions of the 1998 edition with the 1999 and 2000 addenda will provide an acceptable level of quality and safety in lieu of the requirements in the 1989 edition, with one exception. The modification and limitation of 10 CFR 50.55a(b)(2)(xviii) must be followed in lieu of paragraphs IWA-2314(a) and (b). As required by the modifications and limitations in 10 CFR 50.55a(b)(2)(xviii), "Certification of NDE personnel," Level I and II nondestructive examination personnel shall be recertified on a 3-year interval in lieu of the 5-year interval specified in IWA-2314(a) and (b) of the 1998 edition with the 1999 and 2000 addenda. The NRC staff authorizes the alternative with this noted exception for the remainder of the second 10-year ISI interval at Catawba Unit 2.

Principal Contributor: A. Keim

Date: July 20, 2006