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May 15, 2006

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Subject: Duke Power Company LLC d/b/a Duke Energy  
Carolinas, LLC (Duke)  
Catawba Nuclear Station, Unit 1  
Docket Number 50-413  
Request for Relief Number 05-CN-004  
Reply to NRC Request for Additional Information  
(TAC Number MC8337)

Reference: Letter from Duke Energy Corporation to NRC,  
dated September 8, 2005

The reference letter requested NRC relief concerning limited weld examinations conducted during the Unit 1 End of Cycle 15 Refueling Outage. On April 6, 2006, the NRC provided a request for additional information to Catawba by electronic mail. This letter and its attachment provide Catawba's reply to the request for additional information. The format of the attachment is to restate the NRC question, followed by Catawba's reply.

There are no regulatory commitments contained in this letter or its attachment.

If you have any questions concerning this material, please call L.J. Rudy at (803) 831-3084.

Very truly yours

D.M. Jamil

LJR/s

Attachment

A047

Document Control Desk  
Page 2  
May 15, 2006

xc (with attachment):

W.D. Travers, Regional Administrator  
U.S. Nuclear Regulatory Commission, Region II  
Atlanta Federal Center  
61 Forsyth St., SW, Suite 23T85  
Atlanta, GA 30303

E.F. Guthrie, Senior Resident Inspector  
U.S. Nuclear Regulatory Commission  
Catawba Nuclear Station

J.F. Stang, Jr., Project Manager (addressee only)  
U.S. Nuclear Regulatory Commission  
Mail Stop 8 H4A  
Washington, D.C. 20555-0001

ATTACHMENT

REPLY TO NRC REQUEST FOR ADDITIONAL INFORMATION

Notes for Clarification on Catawba, Unit 1  
Request for Relief 05-CN-004, Revision 0  
TAC MC8337

- 1) Requests for Relief 05-CN-004, Items 3, 4, 5 and 6 cover nozzle-to-vessel welds on the pressurizer (Category B-D, Item B3.11). The licensee states the following:

"This examination was performed using procedures prepared in accordance with ASME Section V, Article 4, using personnel qualified in accordance with ASME Section XI, IWA-2300, including Appendix VII, 1995 Edition through the 1996 Addenda."

However, the licensee states that the code of record for the second ten year interval at Catawba Unit 1 is the 1989 Edition of Section XI with no addenda.

- a) Is the use of Appendix VII a typographical error, and should this be Appendix VIII? Appendix VII covers personnel training and Appendix VIII covers qualification requirements.

**Duke Reply:**

The reference to Appendix VII is not an error. Duke submitted a Request for Alternative (03-GO-007), which was approved by the NRC on March 3, 2004 allowing the use of the 1995 Edition through the 1996 Addenda for NDE personnel qualification at all Duke nuclear units. Refer to TAC numbers MB9908, MB9909, MB9911, MB9912, MB9913, and MB9914. In addition, see the further explanation in Question 1(b).

- b) Why is the licensee using the 1995 Edition through 1996 Addenda for qualifying inspection personnel on welds that are not covered under Appendix VIII? If the licensee's written practice for personnel qualification has been updated to the 1995E/1996A, has an alternative under 10 CFR 50.55a(g)(4)(iv) been approved?

**Duke Reply:**

Duke submitted a Request for Alternative (03-GO-007), which was approved by the NRC on March 3,

2004 allowing the use of the 1995 Edition through the 1996 Addenda for NDE personnel qualification at all Duke nuclear units. Refer to TAC numbers MB9908, MB9909, MB9911, MB9912, MB9913, and MB9914. The 1989 Edition of ASME Section XI, IWA-2300, requires qualification of NDE personnel in accordance with a written practice developed in accordance with SNT-TC-1A, 1984 Edition. 10 CFR 50.55a(g)(6)(ii)(C) required implementation of ASME Section XI, Appendix VIII, 1995 Edition with the 1996 Addenda. The qualification of ultrasonic examiners must meet the requirements of ANSI/ASNT CP-189, 1991 Edition, as amended by IWA-2300.

Duke operates seven nuclear units, six of which were using the 1989 Edition and one (McGuire Unit 1) which was using the 1995 Edition with the 1996 Addenda. This entailed the preparation and implementation of numerous certification requirements, some of which were in conflict. In lieu of maintaining redundant and possibly conflicting programs, Duke proposed the alternative of using a single program for NDE personnel qualification based on the requirements of CP-189, 1991 Edition, as amended by IWA-2300 of the 1995 Edition with the 1996 Addenda.

- c) Finally, is the licensee using the 1995E/1996A of ASME section V, Article 4 for these nozzle-to-vessel welds? If so, has this been approved by NRC in accordance with 10 CFR 50.55a(g)(4)(iv)?

**Duke Reply:**

The ultrasonic procedure used to examine nozzle to vessel welds was in accordance with ASME Section V, Article 4, 1989 Edition with no addenda.

- 2) Request for Relief 05-CN-004, Item 7 covers dissimilar metal welds on the RPV primary outlet nozzle-to-safe end (Examination Category B-F, Items B5.10 and B5.130, as listed by the licensee).
  - a) It is not clear from the sketches provided by the licensee that weld 1NC23-01 is a dissimilar metal weld. This weld appears to be a wrought stainless steel (safe end) to stainless steel (piping) weld.

Please confirm this configuration. If this is indeed a safe end to pipe weld, this should be Examination Category B-J, Item B9.11 (see discussion below).

**Duke Reply:**

Note that there are two (2) welds within close proximity to each other at this and similar Reactor Vessel Loop locations. There is a B-F weld of wrought stainless steel safe-end to cast stainless steel weld and a carbon steel vessel nozzle to wrought stainless steel safe-end.

During the Catawba 1st Interval ISI Plan development process, the decision was made to take a conservative approach in evaluating the configuration of the Reactor Vessel Nozzle SS Safe End to Centrifugally Cast SS Piping Welds as dissimilar metal welds. This same conservative approach was applied to the 2nd Interval during ISI Plan development. Consequently, Duke included these welds in Examination Category B-F, Pressure Retaining Dissimilar Metal Welds as part of Item Number B5.130, Dissimilar Metal Piping Butt Welds NPS 4 or Larger, which required a surface and a volumetric examination once per interval per ASME Section XI, 1989 Code, no addenda. Had Duke chosen to consider this configuration to be similar metal, these welds would have been included in the total population of Examination Category B-J, Pressure Retaining Welds In Piping, which only requires a 25% sample of the total number of circumferential butt welds.

The more conservative approach taken by Duke required Catawba to perform automated ultrasonic and liquid penetrant examinations on all eight (8) of the Reactor Vessel Nozzle Safe End to Pipe Welds during the 2nd Interval as opposed to only examining a 25% sample.

- b) The Examination Category B-F, Item B5.130 does not exist in ASME Code 1989 Edition, and later Editions/Addenda. Item B5.130 was originally for dissimilar metal piping welds, as listed in the 1983 Edition, and has since been deleted from Examination Category B-F. These welds are now

being handled under Examination Category B-J, Item B9.11. Please confirm that the ISI Program Plan at Catawba, Unit 1 has been adequately updated to the 1989 Edition, and that no other discrepancies exist.

**Duke Reply:**

The 1989 ASME Section XI, no addenda was the Code of record for the 2nd Ten Year Inspection Interval for Catawba Unit 1. Examination Category B-F, Table IWB-2500-1, Item Number B5.130 pertains to Piping NPS 4 or Larger Dissimilar Metal Butt Welds. Weld ID. 1NC23-01 was considered (as described in response to Question 2(a) above) as a dissimilar metal weld. This weld is a wrought stainless steel (safe end) to stainless steel (piping) weld, and was included in the ISI Plan as a B5.130 Item Number.

- c) The licensee's submittal (Adobe PDF file) is missing Page 3 of 3 in Attachment G, which should help explain the coverage for these welds. Please submit this page.

**Duke Reply:**

The missing page is provided herein.

**Additional Information Relative to Request for Relief 05-CN-004:**

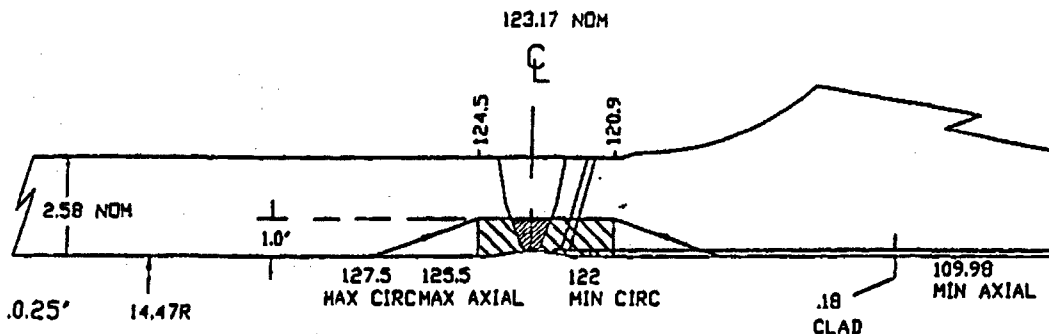
The original submittal dated September 8, 2005 contained a discussion of leakage detection capability. (Refer to Section VIII. Justification for Granting Relief, Paragraphs I, J, K, and L.) These paragraphs referenced the Containment Atmosphere Particulate Radioactivity (EMF 38) Monitoring System as being required by plant Technical Specifications and available to the operator for detecting airborne radiological activity. Duke wishes to clarify that the EMF 38 monitor is presently considered inoperable as a result of a sensitivity issue. This issue is presently being resolved via a license amendment request submitted to the NRC on July 27, 2005 and supplemented on May 4, 2006. Refer to these letters if further information is desired concerning this issue.

Westinghouse Proprietary Class 2C

DETECTION

INCREMENT:

AXIAL - .97" OR .025"  
CIRC - 0.080"



0° PROFILE BOUNDARY USING OUTRIGGER  
PROFILE TRANSDUCER ON THE DETECTION SLED

OUTLET SAFE END WELDS

22° 1RPV-W15-SE  
(B05.010.005)  
(B05.010.005A)  
INC24-01  
(B05.130.009)  
(B05.130.009A)

158° 1RPV-W16-SE  
(B05.010.006)  
(B05.010.006A)  
INC22-01  
(B05.130.001)  
(B05.130.001A)

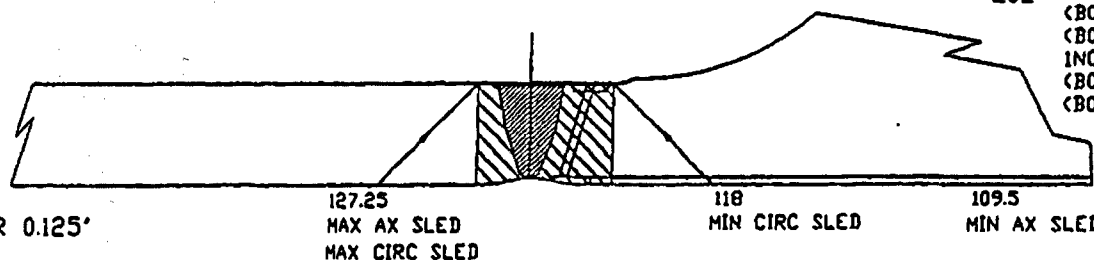
202° 1RPV-W17-SE  
(B05.010.007)  
(B05.010.007A)  
INC25-01  
(B05.130.013)  
(B05.130.013A)

338° 1-RPV-W18-SE  
(B05.010.008)  
(B05.010.008A)  
INC23-01  
(B05.130.005)  
(B05.130.005A)

SIZING

INCREMENT:

AXIAL - 0.49" OR 0.125"  
CIRC - 0.080"



0° PROFILE BOUNDARY USING OUTRIGGER  
PROFILE TRANSDUCER ON THE AX SIZING SLED

CATAWBA 1 DCP

WesDyne International

SHEET  
TITLE OUTLET SAFE END DETECTION AND SIZING

EXAMINATION PROGRAM PLAN 2005

ALL DIMENSIONS IN INCHES  
UNLESS OTHERWISE NOTED SHEET 12 OF 21