

**From:** Boska, John  
**Sent:** Wednesday, August 08, 2012 1:06 PM  
**To:** Alter, Kent R  
**Cc:** 'Gray, Corey A'  
**Subject:** Oconee Units 2 and 3, NRC Request for Additional Information on Relief Request 11-ON-002, ME8433 and ME 8434

**Importance:** High

By letter dated February 29, 2012 (Agencywide Documents Access and Management System (ADAMS), Accession No. ML 12066A175), Duke Energy Carolinas, LLC (the licensee), submitted Request for Relief 11-ON-002 from the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components for Oconee Nuclear Station, Units 2 and 3 (ON, Units 2 and 3). The request for relief applies to the fourth 10-year inservice inspection (ISI) interval, in which the licensee adopted the 1998 Edition through the 2000 Addenda of ASME Code Section XI as the Code of Record.

Title 10 of the Code of Federal Regulations (10 CFR) 50.55a(g)(5)(iii), states in part that, that licensees may determine that conformance with certain ASME Code requirements is impractical and that the licensee shall notify the Commission and submit information in support of the determination. Determination of impracticality in accordance with this section must be based on the demonstrated limitations experience when attempting to comply with the code requirements during the inservice inspection interval for which the request is being submitted. Requests for relief made in accordance with this section must be submitted to the Nuclear Regulatory Commission (NRC) no later than 12 months after the expiration of the initial 120-month inspection interval or subsequent 120-month inspection interval for which relief is sought.

10 CFR 50.55a(g)(6)(i) states that, "the Commission will evaluate determinations under paragraph (g)(5) of this section that code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility."

In accordance with 10 CFR 50.55a(g)(5)(iii), the licensee has submitted the subject request for relief for limited examinations in multiple ASME Code Examination Categories. The ASME Code requires that 100 percent of the examination volumes, or surface areas, as described in Tables IWB-2500 and IWC-2500 be performed during each interval. The licensee stated that examination of 100 percent of the ASME Code-required volumes, or surface areas, are impractical to obtain at ON, Units 2 and 3.

The NRC staff has reviewed the information submitted by the licensee, and determined the following information is required to complete the evaluation. The questions are found below. On August 7, 2012, the Duke staff indicated that a response to the request for additional information would be provided within 45 days of the date of this email.

## 2. REQUEST FOR ADDITIONAL INFORMATION

2.1 Request for Relief 11-ON-002, Part A, ASME Code, Section XI, Examination Category B-B, Item B2.51, Pressure Retaining Welds in Vessels Other than Reactor Vessels (ON, Unit 3)

2.1.1 The Letdown Cooler Inlet Channel Body-to-Chemical Connector Welds N32389-3 WJ-32 and N32389-3 WJ-35 required preservice examination.

Briefly describe nondestructive examinations that were performed on the subject welds during the replacement process, including examinations for construction code acceptance and/or preservice inspection in accordance with ASME Code Section XI. Please state whether any indications, discovered as a result of ASME Code-required construction and/or preservice examinations, could interfere with inservice ultrasonic (UT) examinations of the subject welds.

2.1.2 The examination data sheets show a check mark next to "Yes" under indication, but there was no mention of these indications in the written description.

State what type, size, and how many indications were detected, as a result of ASME Code-required examination, and how these indications have been dispositioned.

2.2 Request for Relief 11-ON-002, Part B, ASME Code, Section XI, Examination Category B-D, Items B3.110 and B3.150, Full Penetration Welded Nozzles in Vessels (ON, Units 2 and 3)

2.2.1 For the pressurizer (PZR) heater belt and upper shell-to-sampling nozzle welds (Item B3.110), the licensee stated in section X.4 (where X is a specific relief request section number) that the "scanning requirements described in ASME Code, Section V, Article 4, T-441.1.2(a), T-441.1.3, T-441.1.4, T-441.1.5, and T-441.1.6 could not be met." Besides not meeting the ASME Code, Section XI volumetric code coverage, specifically describe which, if any, other requirements could not be met under ASME Code, Section V, Article 4.

2.2.2 For some of the ASME Code, Section XI, Examination Category B-D welds, there was conflicting information presented in the written descriptions and the examination data. Section X.7 (where X is a specific relief request section number) of the written description stated "acceptable results" and the examination data sheets had a check mark next to "Reject" under results, even when there was a check mark next to "No" indications found. In other cases, the examination data had a check mark next to "No" for indications and "Accept" under results. Clarify the inconsistencies as noted above.

State whether any indications were discovered as a result of ASME Code-required examinations. If any, state what type, size, and how many indications were detected, as a result of ASME Code-required examination, and how these indications have been dispositioned.

2.2.3 In the Impracticality of Compliance section for all ASME Code, Examination Category B-D welds, the limitations are described as "...not allowing scanning from Surface 2."

Provide a description of Surface 2 for each of the subject welds and the obstructions that prevent examination of Surface 2 for each of the subject welds.

2.2.4 The Letdown Cooler Outlet Nozzle-to-Channel Body Welds N32389-3 WJ-33 and N32389-3 WJ-36 required preservice examination.

Briefly describe the nondestructive examinations that were performed on the subject welds during the replacement process, including examinations for construction code acceptance and/or preservice inspection in accordance with ASME Code, Section XI.

State whether or not any indications were discovered as a result of ASME Code-required construction and/or preservice examinations. If any, describe how these indications would interfere with inservice UT examinations of the subject welds.

2.3 Request for Relief 11-ON-002, Part C, ASME Code, Section XI, Examination Category B-J, Item B9.11, Pressure Retaining Welds in Piping (ON, Units 2 and 3)

2.3.1 For Pipe-to-Valve 2LP-1 Weld 2-53A-10-3, the licensee did not provide a description of the limitation causing impracticality of performing the examination. The license only provided a burden statement for modifications required to perform the ASME Code-required examination volume. Provide a description of the limitation causing the impracticality of performing the ASME Code examination of 100 percent of the weld volume for Pipe-to-Valve 2LP-1 Weld 2-53A-10-3.

a) Include detailed descriptions (written and/or sketches, as necessary) of the interferences to the applied nondestructive examination (NDE) techniques.

b) As applicable, describe NDE equipment (UT scanning apparatus), details of the listed obstructions (size, shape, proximity to the weld, etc.) to demonstrate accessibility limitations, and discuss whether or not any approved ASME Code, Section XI, Appendix VIII alternative methods or advanced technologies will be employed to maximize ASME Code coverage during the next 10-year ISI interval.

2.3.2 State whether a full surface examination was performed on each of the Reactor Coolant Pump (RCP) Casing Nozzle-to-Safe End Welds 3-PIA2-8, 3-PIB1-8, and 3-PDB1-1 and state whether any indications were discovered as a result of the surface examinations on each of the welds. If any, state what type, size, and how many indications were detected, as a result of ASME Code-required examination, and how these indications have been dispositioned.

2.3.3 For some ASME Code, Section XI, Category B-J welds, there was conflicting information presented in the written descriptions and the examination data. Section X.7 (where X is a specific relief request section number) of the written description stated "acceptable results" and the examination data sheets had a check mark next to "Reject" under results even when there was a check mark next to "No" indications found. In other cases the examination data had a check mark next to "No" for indications and "Accept" under results. State whether or not any indications were discovered as a result of ASME Code-required examination. If any, state what type, size, and how many indications were detected, as a result of ASME Code-required examination, and how these indications have been dispositioned.

2.3.4 The RCP 2B1 Casing Nozzle-to-Safe End Weld 2PIB1-8 and Pipe-to-Valve 2LP-1 Weld 2-53A-10-3 appear to be preservice examinations from the provided data sheets (Attachment A, Pages 17 through 30) but the written descriptions and Table 1 of the licensee's submittal dated February 29, 2012 indicate this is an inservice examination. Please clarify what type of examination was performed for the subject welds.

If these examinations were pre-service examinations, briefly describe nondestructive examinations that were performed on the subject welds during the replacement process, including examinations for construction code acceptance and/or preservice inspection in accordance with ASME Code Section XI.

State whether any indications, were discovered as a result of ASME Code-required construction and/or preservice examinations, that could interfere with inservice UT examinations of the subject welds.

In addition, Attachment A, pages 17 and 25, indicate that greater than 90 percent coverage was obtained, but in Attachment A, pages 19 and 27, the data sheets state that less than 90 percent coverage was obtained. Please explain why the data sheets provided contain conflicting information, and clarify or correct this information. If greater than 90 percent coverage was actually obtained for these welds, relief is not required and the licensee should formally withdraw these welds from this request for relief.

2.4 Request for Relief 11-ON-002, Part D, ASME Code, Section XI, Examination Category C-F-1, Items C5.11 and C5.21, Pressure Retaining Welds in Austenitic Stainless Steel or High Alloy Piping (ON, Units 2 and 3)

2.4.1 For ON, Unit 2, the licensee did not provide a description of the limitation(s) for each of the subject welds. The license only provided a burden statement for modifications required to perform the ASME Code-required examination volume. Provide a description of the limitations causing the impracticality of performing the ASME Code examination of 100 percent of the weld volume for the subject welds.

- a) Include detailed descriptions (written and/or sketches, as necessary) of the interferences to the applied NDE techniques.
- b) As applicable, describe NDE equipment (UT scanning apparatus), details of the listed obstructions (size, shape, proximity to the weld, etc.) to demonstrate accessibility limitations, and discuss whether or not any approved ASME Code, Section XI, Appendix VIII alternative methods or advanced technologies will be employed to maximize ASME Code coverage during the next 10-year ISI Interval.

2.4.2 Some of the ASME Code, Section XI, Examination Category C-F-1 welds had conflicting information presented in the written descriptions and the examination data. Section X.7 (where X is a specific relief request section number) of the written description stated "acceptable results" and the examination data sheets had a check mark next to "Reject" under results even when there was a check mark next to "No" indications found. In other cases the examination data had a check mark next to "Yes" for indication and "Reject" under results and there was no mention in the written description of any indications being detected or what was done to correct for any unacceptable indications.

Clarify the above conflicting information presented in the written descriptions and the examination data in Section X.7 whether or not any indications were discovered as a result of ASME Code-required examination. If any, state what type, size, and how many indications were detected, as a result of ASME Code-required examination, and how these indications have been dispositioned.

2.4.3 State whether a full surface examination was performed on the Valve 3HP027-to-Elbow Weld 3HP-365-40 and Pipe-to-Reducer Weld 3HP-498-14, and state whether any indications were discovered as a result of the surface examinations on each of the welds.

2.4.4 The Pipe-to-Elbow Weld 2LP-189-14 appears to be a preservice examination from the provided data sheets (Attachment A, Pages 47 through 53 of the licensee's submittal dated

February 29, 2012) but the written descriptions and Table 1 of the licensee's submittal dated February 29, 2012, indicate this is an inservice examination. Clarify the type of examination that was performed for the subject weld.

If this examination was a preservice examination, briefly describe the NDE that were performed during the replacement process, including examinations for construction code acceptance and/or preservice inspection in accordance with ASME Code, Section XI.

State whether any indications discovered as a result of ASME Code-required construction and/or preservice examinations, could interfere with inservice UT examinations of the subject welds.

In addition, Attachment A, page 47 of the licensee's submittal dated February 29, 2012, indicates that greater than 90 percent coverage was obtained, but in Attachment A, page 49, of the licensee's submittal data sheets state that less than 90 percent coverage was obtained. Clarify why the data sheets provided contain conflicting information. If greater than 90 percent coverage was obtained for these welds, relief is not required and the licensee should formally withdraw these welds from this request for relief.

John Boska  
Oconee Project Manager, NRR/DORL  
U.S. Nuclear Regulatory Commission  
301-415-2901  
email: [john.boska@nrc.gov](mailto:john.boska@nrc.gov)