

November 30, 2004

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Duke Energy
Oconee Nuclear Station, Unit 2
Docket Nos. 50-270
Third Ten Year Inservice Inspection Interval
Requests for Relief No. 04-ON-014

Pursuant to 10 CFR 50.55a(a)(3)(i), attached is a Request for Relief to use an alternative to the requirements of ASME Boiler and Pressure Vessel Code Section XI, Appendix I, 1995 Edition through the 1996 Addenda.

Request for Relief 04-ON-014 is to allow Duke Energy to examine specific welds in accordance with ASME Section XI, Appendix I and Appendix III, 1989 Edition with no addenda, as an alternative rather than meet the requirements of Appendix VIII, 1995 Edition through the 1996 Addenda, Supplements 2 and 3 (as invoked by 10 CFR 50.55a(g)(6)(ii)(C)).

The welds specified in the attached request were inspected during Oconee Unit 2 refueling outage 2EOC19 which ended on 11/23/02. At the time of the examinations, necessary provisions to meet the 1995 Edition requirements were still under development for the subject weld configurations and were not available for use.

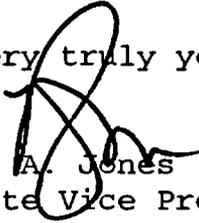
Therefore, Duke Energy requests that the NRC grant relief as authorized under 10 CFR 50.55a(a)(3)(i).

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If there are any questions or further information is needed
you may contact R. P. Todd at, (864) 885-3418.

Very truly yours,



R. A. Jones
Site Vice President

Attachment

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Request for Relief

04-ON-013

Alternative to use
Appendix I and Appendix III, 1989 Edition
Versus
Appendix VIII, 1995 Edition
During
2EOC 19

**Duke Energy Corporation
OCONEE UNIT 2
REQUEST FOR RELIEF No. 04-ON-014**

Pursuant to 10 CFR 50.55a(3)(i), Duke Energy Corporation proposes an alternative to the requirements of ASME Section XI, Appendix I, 1995 Edition through the 1996 Addenda.

I ASME Code Component (s) Affected:

Class 1, Category B-J, Pressure Retaining Welds in Piping

Item Number	Weld Number	Identification
B09.011.011	2-53A-8-63	Core Flood Safe End to Pipe at 0°
B09.011.013	2-53A-8-64	Core Flood Safe End to Pipe at 180°
B09.011.019	2-PHA-1	Outlet Nozzle to Pipe Z axis
B09.011.021	2-PHB-1	Outlet Nozzle to Pipe X axis
B09.011.032	2-PDA1-8	Inlet Nozzle to Pipe Z-W axis
B09.011.033	2-PDA2-8	Inlet Nozzle to Pipe Y-Z axis
B09.011.034	2-PDB1-8	Inlet Nozzle to Pipe W-X axis
B09.011.035	2-PDB2-8	Inlet Nozzle to Pipe Z-Y axis

II Applicable Code Edition and Addenda:

ASME Section XI, 1989 Edition with no addenda is the Code of record for Oconee Unit 2. ASME Section XI, 1995 Edition through the 1996 Addenda is used for the implementation of Appendix VIII.

III Applicable Code Requirement:

ASME Code, Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components, 1995 Edition with 1996 Addenda, Appendix I, requires that austenitic and ferritic welds be examined using personnel, procedures and equipment qualified to the requirements of Appendix VIII, Supplements 2, and 3.

10CFR 50.55a(g)(6)(ii)(C) requires that Supplements 2 and 3 to Appendix VIII of Section XI, Division 1, 1995 Edition with the 1996 Addenda of the ASME Boiler and Pressure Vessel Code must be implemented by May 22, 2000.

IV Reason for Request:

Relief is requested from use of Section XI, Appendix VIII Supplements 2 and 3 requirements for welds examined from the inside surface. These examinations were performed during the third inspection interval that was completed on 9/9/04.

V Proposed Alternative and Basis for Use:

Ultrasonic examination of the piping welds listed in Section I were performed from the inside surface using automated equipment in accordance with the requirements of ASME Section XI, Appendix I and Appendix III, 1989 Edition with no addenda.

The concept of personnel performance demonstrations for ultrasonic examination qualifications was introduced to the nuclear industry in the 1989 Edition, 1989 Addenda, of Section XI. The Performance Demonstration Initiative (PDI) was formed in 1991 to implement the requirements of Appendix VIII. Qualifications for piping examinations from the outside surface were initiated in 1994. These demonstrations have not included dissimilar metal welds or examinations from the pipe inside surface.

When the PDI proposed an alternative implementation schedule, the inside surface examinations of Category B-J welds performed from the inside surface were not considered during the public comment period. Qualification specimens for the one or two B-J welds past the RPV nozzle were not available at the time the examinations were performed for Oconee Unit 2. Specimens that existed prior to November 2002 were not suitable for an inside qualification. For example, the existing flaws are visible from the inside surface, only outside access was considered when designing the specimens and therefore the required geometric and limited scanning surface conditions were not appropriate and, since this qualification requires a population of large diameter heavy wall specimens, the qualification specimen sets available at the time did not contain the required flaw orientations and distributions. Additionally, implementation issues such as the requirement that the specimen inside surface be concealed from the candidate (Supplement 2, paragraph 2.0) must be addressed. The design, fabrication, and acquisition of specimens; development of the appropriate protocol and implementation procedures; "finger printing" the specimens, development procedures, and personnel training were not in place prior to the performance of the examinations.

It was the intention of PDI to complete the piping qualifications that are performed from the inside surface, in conjunction with the nozzle to shell and dissimilar metal (DSM) welds. All these examinations are normally performed using the RPV examination device. A Supplement 10 (DSM weld) program was developed and qualification testing began by the effective rule date of November 22, 2002. This implementation date provided adequate time to prepare samples, protocols and procedures for the spring 2003 outages but not the fall 2002.

The outside surfaces of the subject welds could have been made accessible for UT examination at a high cost in personnel exposure. Approximately 40 man-hours would be required to prepare each weld for examination. The preparation would involve removing the refueling canal seal plate, shielding bricks, shielding supports and insulation. The radiation dose rate in the nozzle areas was estimated to be 0.51 R/hr. An alternative approach was to enter from the bottom of the vessel and build a scaffold approximately 30 feet high to reach the nozzles. This effort would require approximately 80 man-hours, 40 in a 0.51 R/hr radiation field and another 40 in a 1-2 R/hr field at the bottom of the reactor pressure vessel. The total anticipated exposure was 80-140 Man/Rem. Shielding is considered impractical in this area. The dose information noted in this paragraph was the reason Relief Request ONS-001 that was submitted to perform UT from the ID surface in lieu of performing the OD surface

examinations for the Core Flood Nozzle to safe end welds. Relief Request ONS-001 was approved by SER dated 11-15-1995 (TAC # M88484, M88485, and M88486).

VI Duration of Proposed Alternative:

Duke Energy Corporation examined the welds identified in Section I during the 10-year reactor vessel examinations for the fall 2002 Oconee Unit 2 outage that ended on 11/23/02.

VII Precedents:

This request for alternative is similar to that submitted by PSEG Nuclear LLC for Salem Nuclear Generating Station Unit 1 on April 26, 2001 (TAC NO. MB1236).

Sponsored By: James J. McGrade III Date: 11-16-04

Approved By: R. Kevin Rhyme Date: 11/16/04