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August 7, 2009

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station, Unit 3
Docket No: 50-287
Fourth Ten Year Inservice Inspection Interval
Request for Relief No. 08-ON-002
Request for Additional Information Response

By letter dated December 29, 2008 Duke submitted Request for Relief No. 08-ON-002 seeking relief, pursuant to 10 CFR 50.55a(g)(5)(iii), from the requirement to examine 100% of the volume specified by the ASME Boiler and Pressure Vessel Code, Section XI, 1998 Edition with 2000 Addenda (as modified by Code Case N-460).

The relief would allow Duke Energy to take credit for two (2) limited ultrasonic examinations on welds associated with various systems and components described in the request.

On July 15, 2009 Duke received a request for additional information (RAI) via mail from the NRC Staff concerning the revision Duke submitted on December 29, 2008. This submittal is to address the staff's questions posed in the RAI. The following enclosure contains the reviewer's questions, and Duke's responses to each.

If there are any questions or further information is needed you may contact Corey Gray at (864) 873-6325.

Sincerely,

Dave Baxter,
Site Vice President

Enclosure

A047
NRR

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REQUEST FOR ADDITIONAL INFORMATION

RELIEF REQUEST 08-ON-002 LIMITED WELD EXAMINATION COVERAGE

DUKE ENERGY CORPORATION

OCONEE NUCLEAR STATION, UNIT 3

DOCKET NO. 50-287

By letter dated December 29, 2008, Duke Energy Carolinas, LLC (the licensee) submitted relief request 08-ON-002 for Nuclear Regulatory Commission review and approval. Pursuant to paragraph 50.55a(g)(5)(iii) of Title 10 of the *Code of Federal Regulations*, the licensee requested relief from the volumetric coverage requirement for weld examinations specified in the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI, as modified by ASME Code Case N-460. The relief is requested for Oconee Nuclear Station Unit 3 for the remainder of the fourth 10-year in-service inspection interval scheduled to end on December 16, 2014. The request pertains to volumetric examination of the reducer-to-valve 3LP-18 weld in the low pressure injection system and the tee-to-pipe weld in the high pressure injection system. The request contains the results of the ultrasonic testing performed during the 2006 outage on the subject welds where 100 percent coverage of the required examination volume could not be achieved because of interferences from existing piping and valve geometry.

The NRC staff has determined that the following information is needed in order to complete its review of the relief request.

For the weld 3HP-365-9C:

1. Explain the angles used for shear wave examination. In particular, address the use of a 38 degree shear wave as shown on page 5 of Attachment A of the relief request.

**Response**

Procedure NDE-600, paragraph 1.1.9, requires the examiner to verify that a 45 degree beam angle can be used for the circumferential scan. In the case of weld 3HP-365-9C, which is a 4 inch nominal pipe size with an actual outside diameter of 4.5 inches and a wall thickness of 0.674 inches, the maximum useable refracted shear wave angle is 44 degrees. NDE-600, paragraph 1.1.10, requires that when the angle tangent to the inside surface is less than 45 degrees, an alternative angle must be selected to produce a 60 degree refracted angle at the inside surface of the pipe +/- 3 degrees. The 38 degree refracted angle produces a 61.5 degree beam angle at the inside surface of the pipe. This procedure has been qualified under the rules of ASME Section XI, Appendix VIII through the Performance Demonstration initiative.

2. Clarify the discrepancies in regard to the shear wave examination between the text in paragraph IV on page 5, the contents of table on page 5 of Attachment A, and the contents of the table on page 11 of Attachment A.

**Response**

The discrepancies between section IV, page 5 and Attachment A, page 5 and page 11 are due to a typographical error. Forty-five degrees was inadvertently entered in section IV for the circumferential shear wave scan instead of the 38 degrees actually used. The 38 degree angle listed on page 5 of 11 is the correct angle for this inspection per Procedure NDE-600. Since there were no physical scanning limitations, use of the 38 degree angle achieved 100% coverage for the circumferential scan directions, as was reported on page 8 of 11.