Nuclear Operating Company
South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

November 11, 2009
NOC-AE-09002483
File No.: G25
10 CFR 50.55a

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2746

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, 50-499
Revised Request for Relief from ASME Section XI Requirements for
Ultrasonic Examination of the Reactor Pressure Vessel
Shell-to-Flange Weld (RR-ENG-2-53) (TAC Nos. ME2329/ME2330)

Reference: Correspondence from Marco Ruvalcaba to NRC Document Control Desk, "Request for Relief from ASME Section XI Requirements for Ultrasonic Examination of the Reactor Pressure Vessel Shell-to-Flange Weld (RR-ENG-2-53)," dated September 23, 2009 (NOC-AE-09002467) (ML092720458)

In accordance with the provisions of 10 CFR 50.55a(a)(3)(i), STP Nuclear Operating Company (STPNOC) submitted an alternative to the requirements of ASME Section XI applicable to ultrasonic examination of the Reactor Pressure Vessel (RPV) shell-to-flange weld (referenced above). This revised application incorporates responses to questions posed by the NRC staff reviewers. Revised sections are indicated in the margin. These changes are consistent with the application as verbally approved by the NRC.

The applicable code, ASME Section XI 1995 Edition 1996 Addenda, Appendix I, Article I-2110(b), requires ultrasonic examination of the RPV shell-to-flange weld in accordance with ASME Section V, Article 4. This alternative allows the RPV shell-to-flange weld examination to be performed with procedures, equipment, and personnel qualified to the Performance Demonstration Initiative requirements of ASME Section XI 1995 Edition through 1996 Addenda, Appendix VIII, Supplements 4 and 6, as modified by 10 CFR 50.55a.

There are no commitments included with this request.

If there are any questions, please contact either Mr. P. L. Walker at (361) 972-8392 or me at (361) 972-7904.

Marco Ruvalcaba
Manager,
Testing and Programs Engineering

PLW
Attachment: Revised Request for Relief from ASME Section XI Requirements to Perform Ultrasonic Examination of the Reactor Pressure Vessel Shell-to-Flange Weld (RR-ENG-2-53)

STI: 32564392

A047
NRR

cc:
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SOUTH TEXAS PROJECT
UNITS 1 AND 2

Revised Request for Relief from ASME Section XI Requirements for Ultrasonic Examination of the Reactor Pressure Vessel Shell-to-Flange Weld (RR-ENG-2-53)

1. Reference Code

The current South Texas Project (STP) Code of Record is ASME Section XI 1989 No Addenda. The current inspection interval for STP is the second inspection interval. Relief Request RR-ENG-2-22 was approved on September 28, 2001, for application of selected sections (Appendix I, Appendix VIII, and IWA-2300) of the 1995 Edition through the 1996 Addenda as alternative criteria for performing ultrasonic examinations and qualification of examination personnel to Performance Demonstration Initiative (PDI) requirements.

2. Affected Components

Reactor Pressure Vessel (RPV) shell-to-flange weld RPV1-101-121 (ASME Section XI Table IWB-2500-1, Examination Category B-A, Item B1.30)

3. Code Requirement for Which Alternative is Proposed

ASME Section XI 1989 Edition IWA-2232 requires that ultrasonic (UT) examinations be conducted in accordance with Appendix I. By NRC safety evaluation dated September 28, 2001 (ML012710500), the STP Nuclear Operating Company (STPNOC) is approved to apply ASME Section XI 1995 Edition 1996 Addenda as alternative criteria for performing Appendix VIII-qualified ultrasonic examinations and qualification of examination personnel. 1995 Edition 1996 Addenda, Appendix I, Article I-2110(b) requires that UT examination of the Reactor Vessel shell-to-flange weld be performed in accordance with ASME Section V, Article 4. STPNOC proposes an alternative to Appendix I for RPV shell-to-flange weld examination.

4. Basis for Relief from Code Requirements

ASME Section V, Article 4, applies a prescriptive-based process for qualifying UT procedures and performing examinations. The prescriptive-based process has been replaced by performance-based methods implemented by ASME Section XI, 1995 Edition 1996 Addenda, Appendix VIII, Supplements 4 and 6. 10 CFR 50.55a requires performance-based methods for examination of RPV shell welds.

Although not the Code edition currently applicable to the South Texas Project, ASME Section XI, 2004 Edition 2005 Addenda, Appendix I, Article I-2600(a) states that for components to which Appendix VIII is not applicable [Article I-2110(b)], examination procedures, personnel, and equipment qualified in accordance with Appendix VIII may be applied. Industry experience has shown that the Appendix VIII PDI approach has demonstrated that for detection and characterization of flaws in the RPV, the UT examination techniques equal or surpass the requirements of the ASME Code, Section V, Article 4 UT examination requirements.

5. Proposed Alternative

The proposed alternative, as verbally approved for application to the RPV shell-to-flange weld, is in accordance with the performance-based methods of ASME Section XI 1995

Edition 1996 Addenda, Appendix VIII, Supplements 4 and 6, as modified by 10 CFR 50.55a.

6. Justification for Approving Alternative

The Appendix VIII PDI has demonstrated that, for detection and characterization of flaws in the RPV, UT examination techniques equal or surpass those of ASME Code Section V, Article 4. Therefore, use of the proposed alternative will provide an acceptable level of quality and safety. This justification is based on review of NRC safety evaluations issued for alternatives proposed for RPV shell-to-flange weld examinations submitted by:

- Seabrook Station Unit 1 (April 7, 2009) (ML090690557)
- Donald C. Cook Nuclear Plant (May 22, 2009) (ML083570013)

7. Implementation Schedule:

The alternative RPV shell-to-flange weld examination requirements as described above are to be applied in both the Unit 1 and Unit 2 current 10-year inservice inspection intervals. The intervals end September 25, 2010, for Unit 1, and October 19, 2010, for Unit 2. The Unit 1 alternative examination has been completed, and the Unit 2 alternative examination will be performed during the refueling outage scheduled for March 2010.