



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

April 29, 2008
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10 CFR 50.55a

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Unit 1
Docket Nos. STN 50-498
Unit 1 Weld Overlay Examination Results
(RR-ENG-2-43) (TAC No. MD1414-1423)

Reference: Letter from Brandon Jenewein, STPNOC, to NRC Document Control Desk, "Examination Results of a Pressurizer Nozzle Safe-End Weld Overlay (RR-ENG-2-43) (TAC Nos. MD1414-1423)," dated November 1, 2006

Pursuant to 10 CFR 50.55a(a)(3)(i), STP Nuclear Operating Company (STPNOC) requested approval to use an alternative to the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI for the structural weld overlays on the South Texas Project Unit 1 and Unit 2 pressurizer spray, relief, safety and surge nozzle safe-ends. Ultrasonic examination of the weld overlays was to be performed to support NRC approval of the STPNOC request. STPNOC completed the ultrasonic examination for the South Texas Project Unit 1 pressurizer nozzle safe-end weld overlays on April 16, 2008, during the recent Unit 1 refueling outage (1RE14). A summary of the ultrasonic examination results for the Unit 1 pressurizer spray, relief, and safety nozzle safe ends is attached. The Unit 1 pressurizer surge nozzle was examined in October 2006 (1RE13) and the results were reported as referenced above.

No repairs to the overlay material and/or base metal were required or performed.

There are no commitments in this submittal.

If there are any questions, please contact either Mr. Philip Walker at (361) 972-8392 or me at (361) 972-7431.

Brandon Jenewein
Manager,
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PLW

Attachment: Summary of Ultrasonic Examination Results for 1RE14

STI: 32305584

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NCR

cc:
(paper copy)

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**South Texas Project
Unit 1
Summary of Ultrasonic Examination Results for 1RE14**

Ultrasonic Examination Procedure

The weld overlay examinations were performed using Structural Integrity Associates procedure SI-UT-126, Revision 3, Procedure for the Phased Array Ultrasonic Examination of Weld Overlaid Similar and Dissimilar Metal Welds. The procedure and the examiners who applied the procedure are qualified through the Performance Demonstrative Initiative (PDI) Program at the Electric Power Research Institute Non-Destructive Examination Center.

Examination Regions: Weld Overlay Material, Outer 25% Dissimilar Metal Weld and Adjacent Base Material, and Outer 25% Safe End-to-Pipe Weld & Adjacent Base Material

Axial Examination Angles: 0° through 84°

Circumferential Examination Angles: 0° through 67°

The examination gain was adjusted to maintain the procedure-specified baseline noise level from 5% to 20% of full screen height. The lower range of examination angles detected responses from the inside surface of the component which were useful for monitoring search unit contact / coupling effectiveness during the examination.

Spray Nozzle N2 Weld Overlay Examination

Component Identification: PZR-1-N2-SE-WOL

Examination Summary: Examination of the required volumes in the weld overlay and underlying upper 25% of the base material found no flaw indications. A small axial indication (length 0.7", through-wall dimension 0.16") in the underlying base metal was recorded at the inside diameter surface near the austenitic metal weld (Safe End-to-Pipe). The location is outside the scope of the weld overlay process. The indication is acceptable as evaluated to the criteria of ASME Section XI Code Case N-504-2, Appendix Q, and Table IWB-3514-2.

99.6% coverage of the Code-required volume was achieved for the weld overlay for the dissimilar metal weld (Safe End-to-Nozzle). 100% coverage of the Code-required volume was achieved for the weld overlay for the austenitic metal weld (Safe End-to-Pipe); the limitation is due to the nozzle configuration relative to the weld overlay.

Safety Nozzle N3 Weld Overlay Examination

Component Identification: PZR-1-N3-SE-WOL

Examination Summary: Examination of the required volumes in the weld overlay identified two laminar indications in the weld overlay volume for the austenitic weld (Safe End-to-Elbow). The laminar indications were evaluated to the requirements of ASME Section XI Code Case N-504-2, Appendix Q, and Tables IWB-3514-3 and IWB-3514-2 and found to be acceptable. No flaw indications were found in the underlying upper 25% of the base material.

100% coverage of the Code-required volume was achieved.

Relief Nozzle N4A Weld Overlay Examination

Component Identification: PZR-1-N4A-SE-WOL

Examination Summary: Examination of the required volumes in the weld overlay and underlying upper 25% of the base material found no flaw indications.

100% coverage of the Code-required volume was achieved.

Safety Nozzle N4B Weld Overlay Examination

Component Identification: PZR-1-N4B-SE-WOL

Examination Summary: Examination of the required volumes in the weld overlay and underlying upper 25% of the base material found no flaw indications.

100% coverage of the Code-required volume was achieved.

Safety Nozzle N4C Weld Overlay Examination

Component Identification: PZR-1-N4C-SE-WOL

Examination Summary: Examination of the required volumes in the weld overlay and underlying upper 25% of the base material found no flaw indications.

100% coverage of the Code-required volume was achieved.