



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

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

South Texas Project  
Units 1 and 2  
Docket Nos. STN 50-498, STN 50-499  
Request for Relief from ASME Boiler and Pressure Vessel Code Section XI  
Requirements of IWA-4600(a) and IWB-2200(c) for Class 1 Piping Welds  
(Relief Request RR-ENG-2-21)

In accordance with the provisions of 10CFR50.55a(a)(3)(i), the South Texas Project requests Nuclear Regulatory Commission approval of a proposed alternative that will limit application of IWA-4600(a) and IWB-2200(c) of ASME Section XI Code, 1989 Edition, for Class 1 piping welds. The South Texas Project proposes that the preservice examination requirements of IWA-4600(a) and IWB-2200(c) for Class 1 piping repair and replacement welds be applied only if the weld or its associated pipe segment is categorized as High or Medium Risk by the South Texas Project risk-informed inservice inspection program. Preservice examination requirements would not be applicable to Low Risk Class 1 repair and replacement welds. The South Texas Project believes the proposed alternative will provide an acceptable level of quality and safety.

The attached relief request includes a discussion of the basis and justification for the relief request and an implementation schedule. The South Texas Project requests Nuclear Regulatory Commission approval of this relief request by June 30, 2001.

If there are any questions, please contact either Mr. M. S. Lashley at (361) 972-7523 or me at (361) 972-7902.

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Attachment: Request for Relief from ASME Boiler and Pressure Vessel Code Section XI  
Requirements of IWA-4600(a) and IWB-2200(c) for Class 1 Piping Welds  
(Relief Request RR-ENG-2-21)

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**SOUTH TEXAS PROJECT  
UNITS 1 AND 2  
REQUEST FOR RELIEF FROM ASME BOILER AND  
PRESSURE VESSEL CODE SECTION XI REQUIREMENTS OF  
IWA-4600(a) AND IWB-2200(c) FOR CLASS 1 PIPING WELDS  
(RELIEF REQUEST RR-ENG-2-21)**

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Reference Code: ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition

A. Components for Which Exemption is Requested:

(a) Name: Piping welds categorized as "Low Risk" under the South Texas Project Risk-Informed Inservice Inspection (RI-ISI) Program

(b) Function: Pressure Boundary

(c) Class: ASME Code Class 1

B. Code Requirement from Which Relief is Requested:

IWA-4600, "Examination," Section (a) requires examination of repaired areas to establish a new preservice record.

IWB-2200, "Preservice Examination," Section (c) requires compliance with the preservice examination requirements of IWB-2200(a) for components that are replaced, added, or altered, and the attaching welds prior to resumption of service.

The South Texas Project requests relief from IWA-4600(a) and IWB-2200(c) requirements for preservice examination of Class 1 repair and replacement welds if the weld, or pipe segment containing the weld, is categorized as "Low Risk" under the South Texas Project RI-ISI program.

C. Basis for Relief from Code Requirements:

Preservice examination of repair and replacement welds should only be required for Class 1 piping welds subject to a subsequent inservice inspection examination. Low Risk Class 1 applications are not subject to inservice inspection examination. If a weld will not be selected for subsequent inservice inspection examination, the preservice examination serves no purpose.

D. Alternative Examination:

The South Texas Project proposes to limit application of IWA-4600(a) and IWB-2200(c) preservice examination requirements to those Class 1 repair and replacement piping welds categorized as High or Medium Risk under the South Texas Project RI-ISI program. The structural integrity of repair and replacement welds is verified by construction code non-destructive examinations. The South Texas Project believes the proposed alternative requirements for IWA-4600(a) and IWB-2200(c) provide an acceptable level of quality and safety.

E. Justification for Granting Relief:

IWA-4600(a) requires performance of an examination to establish a new preservice record on 100% of repaired components. IWB-2200(c) requires that preservice examinations be performed in accordance with IWB-2200(a) on all replaced, added, or altered components and attaching welds. RI-ISI methodology provides a basis for limiting the scope of inservice inspection examinations and sample expansion to those welds having a safety significance in terms of consequence and probability of failure. Similarly, the RI-ISI methodology provides the basis to limit the scope of preservice examinations of Class 1 piping welds.

South Texas Project Class 1 piping systems have been analyzed using the EPRI RI-ISI methodology. Any future piping system modifications will also be analyzed as a program maintenance requirement of the RI-ISI program. Only a sample of Class 1 piping welds categorized as High or Medium Risk are subject to inservice inspection examination under this methodology. Furthermore, any additional examinations resulting from detection of flaws in the initial weld sample will be selected from other High or Medium Risk pipe segments based on a root cause analysis. Additional examinations have value when they detect flaws or confirm the absence of flaws in safety significant (i.e., High or Medium Risk) pipe segments. Therefore, only Class 1 piping welds categorized as High or Medium Risk have a valid need for a preservice examination and should be subject to the preservice examination requirements of IWA-4600(a) and IWB-2200(c). Low Risk piping welds will not be selected for inservice inspection examination in either the initial sample or as additional examinations, and should be exempt from the preservice examination requirements of IWA-4600(a) and IWB-2200(c).

The proposed exemption of Low Risk Class 1 repair and replacement piping welds from the preservice examination requirements of IWA-4600(a) and IWB-2200(c) will not adversely affect the quality and safety of the welds or the piping systems. Preservice examinations of Low Risk Class 1 repair and replacement welds have no value as baseline inspections because the welds will not be subsequently examined under the RI-ISI program. Additionally, preservice examination of these Low Risk welds is not required to assure their structural integrity. Performance of the construction code NDE serves that

purpose. The proposed alternative preservice examination requirements (i.e., applying IWA-4600(a) and IWB-2200(c) only to Class 1 piping repair and replacement welds categorized as High or Medium Risk) will provide an acceptable level of quality and safety in accordance with 10CFR50.55a(a)(3)(i).

F. Implementation Schedule:

The South Texas Project requests Nuclear Regulatory Commission approval of this relief request by June 30, 2001.