



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

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File No.: G09.16  
10CFR50.55a

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 for Examination of Concrete Surfaces and Tendon Anchorage Areas  
(Relief Request RR-ENG-IWL-02)

In accordance with the provisions of 10CFR50.55a(a)(3)(ii), the South Texas Project requests partial relief from the requirements of IWL-2500 of ASME Section XI Code for examination of concrete surfaces and tendon anchorage areas. IWL-2510 requires that Class CC concrete surface areas receive a VT-3C visual examination and that selected (suspect) areas receive a VT-1C examination. Also, IWL-2524.1 requires a VT-1 visual examination of the tendon anchorage hardware and surrounding concrete. The South Texas Project requests relief from these requirements because compliance with the examination requirements as currently stated would be a hardship without a compensating increase in the level of quality and safety.

The attached relief request provides a discussion of the basis and justification for the relief request as well as an implementation schedule. A generic submittal for this change (Relief Request No. RR-CISI-3) was prepared by EPRI and approved by the Nuclear Regulatory Commission.

The South Texas Project requests Nuclear Regulatory Commission review and approval of this relief request by September 1, 2000.

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

  
T. J. Jordan  
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PLW

Attachment: Request for Relief from ASME Boiler and Pressure Vessel Code Section XI Requirements for Examination of Concrete Surfaces and Tendon Anchorage Areas (Relief Request RR-ENG-IWL-02)

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Attention: Document Control Desk  
Washington, D.C. 20555-0001

**SOUTH TEXAS PROJECT  
UNITS 1 AND 2  
REQUEST FOR RELIEF FROM ASME BOILER AND PRESSURE  
VESSEL CODE SECTION XI REQUIREMENTS FOR EXAMINATION OF  
CONCRETE SURFACES AND TENDON ANCHORAGE AREAS  
(RELIEF REQUEST RR-ENG-IWL-02)**

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Reference Code: ASME Boiler and Pressure Vessel Code Section XI, Subsection IWL, 1992  
Edition with the 1992 Addenda

A. Components for Which Exemption is Requested:

- (a) Name: Concrete Containment
- (b) Function: Encloses the reactor vessel, pressurizer, steam generators, reactor coolant pumps, and portions of the Engineered Safety Feature systems and protects the Reactor Coolant System from site environmental conditions. The Containment also limits the release of radioactive fission products to the environment in the event of a Loss-of-Coolant Accident, in addition to providing biological shielding for both normal and accident conditions.
- (c) Class: ASME Code Class CC

B. Code Requirements from Which Relief is Requested:

**IWL-2510(1)**

Concrete surface areas, including coated areas, except those exempted, shall be VT-3C visual examined for evidence of conditions indicative of damage or degradation, such as defined in ACI 201.1 R-68, in accordance with IWL-2310(b). Selected areas, such as those that indicate suspect conditions, shall receive a VT-1C examination in accordance with IWL-2310(a).

**IWL-2524.1**

A VT-1 visual examination shall be performed on the tendon anchorage hardware, including bearing plates, anchorheads, wedges, buttonheads, shims, and the concrete extending outward a distance of two feet from the edge of the bearing plate. Table IWA-2210-1, "Visual Examinations," lists the maximum direct examination distance and minimum illumination levels for VT-1 and VT-3 examinations. Per IWL-2310(a) and (b), these values are the same as those for VT-1C and VT-3C examinations.

C. Basis for Relief from Code Requirements:

Because of the physical size and layout of the South Texas Project concrete containment structures, direct visual examination of the concrete containment surface and anchor assemblies requires extensive use of scaffolding and rigging for compliance with the direct examination distance and minimum illumination requirements of Table IWA-2210-1 for VT-1, VT-1C and VT-3C visual examinations. Consequently, compliance with the maximum direct examination distance and minimum illumination requirements specified in IWA-2210 would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

D. Alternate Examination(s):

**IWL-2510**

A general visual examination of concrete surfaces is the proposed alternate to the VT-3C examination specified by IWL-2510. The general visual examination shall be performed in sufficient detail to identify areas of concrete damage or degradation, as defined in ACI 201.1.

For suspect areas, a detailed visual examination and evaluation of examination results will be performed in lieu of a VT-1C examination. Note that L1.12 of Table IWL-2500-1 of the 1998 edition applies a general visual examination. However, the South Texas Project understands that this is in error and was intended to require a detailed visual examination for suspect areas.

**IWL-2524.1**

Detailed visual examination of anchorage hardware and surrounding concrete is proposed as an alternative to the VT-1 examination specified by IWL-2524.1. Findings under IWL-2524.1(a), (b), and (c) are documented.

E. Justification for Granting Relief:

**IWL-2510**

10CFR50.55a(b)(2)(ix)(B) states:

When performing remotely the visual examinations required by Subsection IWE, the maximum direct examination distance specified in Table IWA-2210-1 may be extended and the minimum illumination requirements specified in Table IWA-2210-1 may be decreased provided that the conditions or indications for which the visual examination is performed can be detected at the chosen distance and illumination.

This position can also be applied to visual inspections required by Subsection IWL so that the examination criteria are kept consistent with those of Subsection IWE.

Revision of the visual examination requirements will be consistent with the updated Subsection IWL criteria. The 1998 Edition of the ASME Section XI Code revises the 1992 Edition for Table IWL-2500-1. The requirements for Visual, VT-3C examinations for Item No. L1.11 (All Accessible Surface Areas) and Visual, VT-1C examinations for Item No. L1.12 (Suspect Areas) have been replaced with "general visual examination."

#### **IWL-2524.1**

IWL-2524.1 requires VT-1 visual examination for degradation of tendon anchorage hardware and surrounding concrete. Detailed visual examination of the tendon hardware and concrete in lieu of VT-1 is expected to produce the same quality inspection results.

Revision of the visual examination requirements will be consistent with the updated Subsection IWL criteria. The 1998 Edition of the ASME Section XI Code revises the 1992 Edition for Table IWL-2500-1. The requirement for Visual, VT-1, and VT-1C examinations in Table IWL-2500-1 for Item No. L2.30 (Anchorage Hardware and Surrounding Concrete) has been replaced with a "detailed visual examination."

#### **Conclusion**

The alternate general visual examination of the concrete containment structure and the detailed visual examination of the tendon anchorage hardware and concrete will provide an equivalent level of quality and safety by ensuring that the conditions or indications for which the visual examination is performed can be detected at the chosen distance and illumination.

#### **F. Implementation Schedule:**

The South Texas Project requests Nuclear Regulatory Commission review and approval by September 1, 2000, to implement this relief request beginning in the first IWL inspection interval.