



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

November 21, 2000
NOC-AE-00000958
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
Response to Request for Additional Information:
Request for Relief from Requirements for Examination of
Concrete Surfaces and Tendon Anchorage Areas
(Relief Request RR-ENG-IWL-02)

Reference: 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), T. J. Jordan to NRC Document Control Desk, dated August 1, 2000 (NOC-AE-00000875)

In accordance with the provisions of 10CFR50.55a(a)(3)(ii), the South Texas Project submitted the referenced request for 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 requested 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.

Attached is the response to NRC staff reviewer questions regarding the referenced relief request.

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
Manager,
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PLW

Attachment: Response to Request for Additional Information: Request for Relief from Requirements for Examination of Concrete Surfaces and Tendon Anchorage Areas (Relief Request RR-ENG-IWL-02)

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**SOUTH TEXAS PROJECT
UNITS 1 AND 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION:
REQUEST FOR RELIEF FROM REQUIREMENTS FOR EXAMINATION OF
CONCRETE SURFACES AND TENDON ANCHORAGE AREAS
(RELIEF REQUEST RR-ENG-IWL-02)**

1. **What acceptance criteria will be used for the general and detailed visual examination of concrete surfaces and the detailed visual examination of anchorage hardware?**

External Concrete surface

The acceptance criteria will remain the same as currently identified in Technical Specification 4.6.1.6.3 which states:

The exterior surface of the containment(s) should be visually examined to detect areas of large spall, severe scaling, D-cracking in an area of 25 sq. ft. or more, other surface deterioration or disintegration, or significant grease leakage, each of which can be considered as evidence of abnormal degradation of structural integrity of the containment(s).

This is very similar to the second-tier criteria specified in ACI 349.3R, Section 5.2. The general visual examination will be performed to identify areas as described above. If any deterioration is identified, a detailed visual examination will be performed which will include but not be limited to size, depth, location, and description of degradation. The Responsible Engineer will evaluate the results of the inspection to determine if they are acceptable or if the concrete surface is in need of repair pursuant to the requirements of IWL-3211 and IWL-3212.

ACI 201.1R and ACI 349.3R will be used as guides to aid inspection personnel in identifying and reporting areas of degradation.

Anchorage Hardware

The acceptance criteria for the anchorage hardware will follow the requirements of IWL-3221.3. The anchorage hardware is acceptable if :

- (a) there is no evidence of cracking in anchor heads, shims, or bearing plates;
- (b) there is no evidence of active corrosion;
- (c) broken or unseated wires, broken stands, and detached buttonheads were documented and accepted during a preservice examination or during a previous inservice examination; and
- (d) Cracks in the concrete adjacent to the bearing plates do not exceed 0.01 inch in width.

2. What training will examination personnel undergo (i.e., ANSI N45.2.6 and site specific)?

Qualification of personnel performing IWE examinations meets the requirements specified in ANSI/ASNT CP-189 and SNT-TC-1A. The inspection and evaluation procedures used to perform inspections are reviewed and approved by NDE Level III personnel. Site-specific training using EPRI training material is used to certify examination personnel for performance of concrete inspections.

3. What type of illumination and distance criteria will be used for direct and remote examinations so that the examiners can detect the concrete structure degradations that require engineering evaluations (as per ACI 349-3R)?

10CFR50.55a(b)(2)(ix)(B) requires the following for examination of metal containments and the liners of concrete containments:

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.

The IWL examiners will follow the same requirements as specified in Subsection IWE which will be performed by an examiner with visual acuity sufficient to detect evidence of concrete deterioration and distress, such as defined in ACI 201.1, to support performance of engineering evaluations per ACI 349-3R.