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

August 25, 2004
NOC-AE-03001574
STI: 31639322
File No.: G25
10CFR50.55a

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

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Proposed Alternative to ASME Boiler and Pressure Vessel Code
Section XI Containment Visual Inspection Requirements
(Relief Request RR-ENG-IWE-07)

In accordance with the provisions of 10CFR50.55a(a)(3)(ii), the South Texas Project requests NRC approval of an alternative approach to the requirements of IWE-3510 of the ASME Boiler and Pressure Vessel Section XI Code, 1992 Edition. Approval will allow containment inspection to be performed consistent with the most recent Code requirements. The requested change will not present an undue risk to the public health and safety, and will provide an acceptable level of quality and safety.

The South Texas Project currently applies the requirements of the 1992 Edition of the ASME Section XI Code. The requested alternative inspection criteria are provided in the 1998 Edition. The NRC has approved the 1998 Edition of the ASME Boiler and Pressure Vessel Code Section XI, subsection IWE, for use as supplemented in 10CFR50.55a.

The South Texas Project requests Nuclear Regulatory Commission approval of this proposed change by June 30, 2005, to facilitate scheduling for subsequent inspections of the reactor containment buildings.

There are no commitments in the attached proposal.

If there are any questions, please contact either Mr. P. L. Walker at (361) 972-8392 or me at (361) 972-7030.

M. J. Berg
Manager,
Test Engineering

PLW

Attachment: Proposed Alternative to ASME Boiler and Pressure Vessel Code Section XI Containment Visual Inspection Requirements (Relief Request RR-ENG-IWE-07)

Project Manager on Behalf of the Participants in the South Texas Project

A047

cc:
(paper copy)

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-8064

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

Richard A. Ratliff
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3189

Jeffrey Cruz
U. S. Nuclear Regulatory Commission
P. O. Box 289, Mail Code: MN116
Wadsworth, TX 77483

C. M. Canady
City of Austin
Electric Utility Department
721 Barton Springs Road
Austin, TX 78704

(electronic copy)

A. H. Gutterman, Esquire
Morgan, Lewis & Bockius LLP

L. D. Blaylock
City Public Service

David H. Jaffe
U. S. Nuclear Regulatory Commission

R. L. Balcom
Texas Genco, LP

Chris Kirksey
City of Austin

C. A. Johnson
AEP Texas Central Company

Jon C. Wood
Matthews & Branscomb

SOUTH TEXAS PROJECT
UNITS 1 & 2
PROPOSED ALTERNATIVE TO ASME BOILER AND PRESSURE VESSEL CODE SECTION XI REQUIREMENTS FOR CONTAINMENT VISUAL INSPECTION (RELIEF REQUEST RR-ENG-IWE-07)

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1. **ASME Code Component Affected**

   Description: Reactor Containment Building Metallic Liner

   Function: Containment Leak-Tight Integrity

   Code Class: ASME Section XI Class MC and Metallic Liner of Class CC Components

2. **Applicable Code Edition and Addenda**

   ASME Section XI, 1992 Edition, no addenda

3. **Applicable Code Requirements**

   The South Texas Project Unit 1 and Unit 2 Reactor Containment Building liners (accessible surface areas) are inspected in accordance with paragraphs IWE-3510 of ASME Code Section XI, 1992 Edition. Under the 1992 Edition, the South Texas Project is required to perform VT-3 visual examinations of these areas at the end of each inspection interval.

   Standards for Examination Category E-A, Containment Surfaces

   IWE-3510.2 VT-3 Visual Examinations on Coated Areas

   The inspected area, when painted or coated, shall be examined for evidence of flaking, blistering, peeling, discoloration, and other signs of distress. Areas that are suspect shall be accepted by engineering evaluation or corrected by repair or replacement in accordance with IWE-3122. Supplemental examinations in accordance with IWE-3200 shall be performed when specified as a result of the engineering evaluation.

   IWE-3510.3 VT-3 Visual Examinations on Non-coated Areas

   The inspected area shall be examined for evidence of cracking, discoloration, wear, pitting, excessive corrosion, arc strikes, gouges, surface discontinuities, dents, and other signs of surface irregularities. Areas that are suspect shall be accepted by engineering evaluation or corrected by repair or replacement in accordance with IWE-3122. Supplemental examinations in accordance with IWE-3200 shall be performed when specified as a result of the engineering evaluation.

4. **Reason for Request**

   VT-3 examination of the containment liner surfaces requires a maximum direct examination distance of four feet. This poses a hardship at the South Texas Project because, even employing the orbital bridge/polar crane located inside containment, there are areas inside containment where an examiner can not be positioned within four feet of the liner.

5. **Proposed Alternative**

   The South Texas Project proposes to apply the visual examination requirements of IWE-3510.2, ASME Code Section XI, 1998 Edition, to examinations of the Reactor Containment Building liner. These general visual examinations will replace the currently required VT-3

visual examinations as an alternative under 10CFR50.55a(a)(3)(ii). These general visual examinations are to be performed during each inspection period.

6. Basis for Use

Pursuant to 10CFR50.55a(g)(4)(iv):

> Inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in paragraph (b) of this section, subject to the limitations and modifications listed in paragraph (b) of this section, and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met.

As noted in 10CFR50.55a(b)(2)(ix), the Nuclear Regulation Commission has approved the 1998 Edition for use, subject to the enhancements of 10CFR50.55a(b)(2)(ix)(F), (G), (H), and (I). The enhancements do not apply to visual examination of the containment liner.

The VT-3 examinations of the containment liner specified in the 1992 Edition of IWE are not necessary for verification of continuing containment structural integrity. Indications of containment liner degradation found via VT-3 examination that are sufficient to require corrective measures would also be visible using general visual examinations. The requirement to perform a detailed examination on any suspect area is not changed.

The 1998 Edition has revised requirements allowing general visual examination of these areas to be performed in each inspection period in place of VT-3 visual examinations each interval. Consequently, the proposed alternative provides more frequent opportunities to identify areas of apparent degradation or failure of the containment liner.

Updating containment liner examination requirements to the 1998 Edition of Section IWE (Item E1.12 of Examination Category E-A) maintains the same level of assurance concerning the continued leak-tightness and structural integrity of metallic containment components as does compliance with the 1992 Code. The overall impact of this change is an increase in the level of quality, with no adverse effect on the results of the containment inspection program. Acceptance criteria are sufficient to ensure that an acceptable level of quality and safety is provided.

General Visual Examination

"General Visual Examination" criteria are developed from existing VT-3 procedures used to examine ASME Class 1, 2, and 3 components. General visual examination of accessible surfaces, including coated surfaces, is performed using acceptance criteria that includes blistering, chalking, checking, chipping, cracking, de-lamination, discoloration, and undercutting, which could indicate degradation to the pressure boundary integrity.

If coating is removed to perform visual examinations, the coating is reapplied under the appropriate plant coatings requirements. The containment ISI program owner is notified when degradation of the containment liner or coating is observed prior to repair/replacement activities.

Paints and coatings on the Class MC and metallic liners of Class CC component surfaces are examined in accordance with plant requirements provided in the STP Paints and Coatings Program. The paint and coatings will not necessarily be examined just prior to removal. Surface areas that do not meet the specified requirements are repaired and re-

inspected. This was approved by NRC Safety Evaluation dated November 20, 2000 (TAC Nos. MA9168 through MA9175).

Detailed Visual Examination

Examinations that detect flaws or evidence of degradation that require evaluation in accordance with the requirements of IWE-3100 may be supplemented by other examination methods and techniques to determine the character of the flaw or degradation. Visual examinations that detect surface flaws or areas that are suspect shall be supplemented by either surface or volumetric examination. The procedure qualification requirements to be applied to containment visual examination for lighting and illumination are comparable to the procedures used for VT-1 and VT-3 examinations of ASME Class 1, 2, and 3 components.

Remote Visual Examination

For IWE examinations where remote visual examination systems are to be used, those systems have a resolution capability at least equivalent to that attainable by direct visual examination. Certified personnel have demonstrated skill, demonstrated knowledge, documented training, and documented experience required to properly perform the duties of a specific job.

Augmented Examination

When required, augmented ultrasonic examinations are performed on class MC components and shell and metallic liners of class CC components. These augmented examinations are performed and accepted according to the requirements of the 1992 Edition of ASME Code Section XI, Subsection IWE.

Acceptance Criteria

Acceptance criteria define the visual acceptance and recording criteria used for the IWE visual examinations, and conditions requiring detailed visual examinations. Acceptance criteria for IWE examinations are consistent with the requirements for VT-3.

7. Duration of Proposed Alternative

The South Texas Project requests Nuclear Regulatory Commission approval of this proposed change by June 30, 2005, in order to facilitate scheduling for subsequent inspections of concrete containment structures. The proposed alternative requirement will be applicable during the current inspection interval ending September 8, 2008, for Unit 1and Unit 2.