

September 28, 2001

Mr. William T. Cottle  
President and Chief Executive Officer  
STP Nuclear Operating Company  
South Texas Project Electric  
Generating Station  
P. O. Box 289  
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNIT 1 AND 2 - APPROVAL OF REQUEST TO USE SELECTED PORTIONS OF THE 1995 EDITION OF ASME SECTION XI CODE THROUGH THE 1996 ADDENDA, FOR ULTRASONIC EXAMINATIONS AND QUALIFICATION OF EXAMINATION PERSONNEL, RELIEF REQUEST RR-ENG-2-22 (TAC NOS. MB1055 AND MB1056)

Dear Mr. Cottle:

By letter dated January 8, 2001, as supplemented by letter dated August 15, 2001, STP Nuclear Operating Company (STPNOC) submitted request for the approval to use selected portions of the 1995 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, through the 1996 Addenda, as alternative criteria for performing Appendix VIII-qualified ultrasonic examinations and qualification of examination personnel.

Specifically, STPNOC proposed to adopt specified portions of the 1995 Edition with 1996 Addenda of the ASME, Section XI, Subarticle IWA-2300, Appendix VII, and selected portions of Appendix I. The request is for the 10-year inservice inspection (ISI) interval at South Texas Project, Units 1 and 2.

The Nuclear Regulatory Commission (NRC) staff has reviewed the STPNOC request for the use of alternative criteria for performing ultrasonic examinations and qualification of examination personnel and finds that STPNOC's proposed alternative provides an acceptable level of quality and safety, as discussed in the enclosed Safety Evaluation.

W. Cottle

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Therefore, STPNOC proposal to use selected portions of the 1995 Edition of ASME Section XI code through the 1996 Addenda, as alternative criteria for performing ultrasonic examinations and qualification of examination personnel is approved pursuant to 10 CFR 50.55a(g)(4)(iv) and authorized pursuant to 10 CFR 50.55a(a)(3)(i), for the 10-year ISI interval at South Texas Project, Units 1 and 2.

Sincerely,

*/RA/*

Robert A. Gramm, Chief, Section 1  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-498  
50-499

Enclosure: Safety Evaluation

cc w/encl.: See next page

Therefore, STPNOC proposal to use selected portions of the 1995 Edition of ASME Section XI code through the 1996 Addenda, as alternative criteria for performing ultrasonic examinations and qualification of examination personnel is approved pursuant to 10 CFR 50.55a(g)(4)(iv) and authorized pursuant to 10 CFR 50.55a(a)(3)(i), for the 10-year ISI interval at South Texas Project, Units 1 and 2.

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Docket Nos. 50-498  
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cc w/encl.: See next page

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\*no substantive change from SE input

\*\*See previous concurrence

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUESTS FOR RELIEF FROM ASME SECTION XI REQUIREMENTS

RELIEF REQUEST RR-ENG-2-22

STP NUCLEAR OPERATING COMPANY

SOUTH TEXAS PROJECT, UNIT 1 AND 2

DOCKET NOs. 50-498 AND 50-499

1.0 INTRODUCTION

By letter dated January 8, 2001, as supplemented by letter dated August 15, 2001, STP Nuclear Operating Company (STPNOC) (the licensee) submitted request for the approval to use selected portions of the 1995 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, through the 1996 Addenda, as alternative criteria for performing Appendix VIII-qualified ultrasonic examinations and qualification of examination personnel. Specifically, STPNOC proposed to adopt specified portions of the 1995 Edition with 1996 Addenda of the ASME, Section XI, Subarticle IWA-2300, Appendix VII, and selected portions of Appendix I. The request is for the 10-year inservice inspection interval at South Texas Project, Units 1 and 2.

The inservice inspection of the ASME Boiler and Pressure Vessel Code (Code) Class 1, Class 2, Class 3, Class MC, and Class CC components is to be performed in accordance with Section XI of the ASME Code and applicable edition and addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). Section 10 CFR 50.55a(a)(3) states in part that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if the licensee demonstrates that: (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, 3, MC, and CC components (including supports) will meet the requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to

the limitations and modifications listed therein. The inservice inspection code of record for the South Texas Project , Units 1 and 2, 10-year interval is the 1989 Edition of the ASME Code for Class 1, 2, and 3 components, and the 1992 Edition for Class MC and CC components.

Pursuant to 10 CFR 50.55a(g)(4)(iv), the components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein 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.

In the *Federal Register* dated September 22, 1999, the Commission amended the *Code of Federal Regulations* (CFR), 10 CFR 50.55a, to incorporate by reference Section XI of the ASME Code, 1995 Edition through 1996 Addenda (95E/96A).

## 2.0 CODE REQUIREMENTS FOR THE LICENSEE

The licensee's ISI Code of record for ultrasonic testing (UT) examinations is the 1989 Edition of the ASME Code, Section XI for Class 1, 2, and 3 components, and the 1992 Edition for Class MC and CC components. The selected portions of Section XI pertaining to this request are Subarticle IWA-2300, "Qualifications of Nondestructive Examination Personnel," Appendix VII, "Qualification of Nondestructive Examination Personnel for Ultrasonic Examinations," and Appendix I, Paragraph I-2100, "Vessel Welds Greater Than 2-in. In Thickness," Paragraph I-2200 "Vessel Welds Less Than or Equal to 2-in. In Thickness and all Piping Welds," and Paragraph I-2300, "Bolts and Studs" that are affected by the implementation of Appendix VIII. For UT examinations of selected components, the licensee is required to implement the 1995 Edition with 1996 Addenda of Section XI of the Code, Appendix VIII supplements according to the implementation schedule in 10 CFR 50.55a(g)(6)(ii)(C).

## 3.0 LICENSEE'S PROPOSED ALTERNATIVE TO CODE

The South Texas Project will implement Appendix VIII in accordance with the schedule required by 10 CFR 50.55a(g)(6)(ii)(C) and as modified by 10 CFR 50.55a(b)(2)(xiv) through (xvi). References to 10 CFR 50.55a are to the version of this regulation as published in the *Code of Federal Regulations* as of the transmittal date of this letter.

Pursuant to 10 CFR 50.55a(g)(4)(iv), the licensee proposed to use selected portions of the 1995 Edition with 1996 Addenda of the Code, Section XI in lieu of those of the 1989 and 1992 Editions. The selected portions of Section XI pertaining to this request are listed in the attached Table. They are Appendix I, Subparagraph I-2110(a), "... Reactor Vessels Greater Than 2 in. In Thickness ...," Appendix I, Paragraph I-2220, "Welds in Piping," and Appendix I, Paragraph I-2300, "Bolts and Studs," Appendix VII, "Qualification of Nondestructive Examination Personnel for Ultrasonic Examinations," and Subarticle IWA-2300, "Qualifications of Nondestructive Examination Personnel."

"The South Texas Project will apply these 95A96 qualification and certification requirements to NDE personnel who perform Section XI preservice and inservice examinations during the

second inspection interval except for the preservice examinations of the tubing and of the shell and nozzle welds of Unit 2 replacement steam generators currently being fabricated in Europe. Existing contractual arrangement for preservice examinations in the fabricator's shop, including NDE methodology and NDE personnel qualification and certification requirements, are based on the 1989 Edition of Section XI Code."

"All other requirements of the 1989 Edition of Section XI of the Code remain unchanged except as may be modified by (endorsed) code cases or other (approved) relief requests specified in the inservice inspection program." The request is for the 10-year inspection interval at Units 1 and 2."

The licensee proposes to use the requirements of IWA-2300 (95E/96A) for qualification of nondestructive examination personnel as an alternative to the requirements of the 1989 Edition or the 1992 Edition of IWA-2300. Through 10 CFR 50.55a(g)(4)(iv), licensees are allowed to use portions of editions or addenda incorporated by reference in 10 CFR 50.55a(b)(2) provided that all related requirements of the respective editions or addenda are met. In this case, the related requirements of the 95E/96A of IWA-2300 are contained in Appendix VII. In its submittal, the licensee states that the requirements of Appendix VII will be implemented. Therefore, the licensee's request to use the IWA-2300 (95E/96A) for qualification of nondestructive examination personnel for ISI of Class 1, 2, 3, MC, and CC components meets the requirements of 10 CFR 50.55a(g)(4)(iv).

#### 4.0 LICENSEE'S BASIS FOR REQUESTING RELIEF

The South Texas Project's ISI Code of record is the 1989 Edition for Class 1, 2, and 3 components, and the 1992 Edition for Class MC and CC components. Section 10 CFR 50.55a(g)(6)(ii)(C) requires compliance with the supplements to Appendix VIII of the 1995 Edition with 1996 Addenda of Section XI of the Code according to a specified schedule. Appendix VIII is not in the 1989 Edition of Code. The 1989 Edition of the Code is not consistent and compatible with Appendix VIII, Appendix I, Appendix VII, or IWA-2300. Therefore, the implementation of specified portions of the 1995 Edition with 1996 Addenda of Section XI of the Code, Appendix I, Appendix VII, and IWA-2300 will provide the necessary consistency and compatibility for the implementation of Appendix VIII.

#### 5.0 STAFF EVALUATION

Prior to the 1989 Addenda of the Code, Appendix VIII did not exist and the Code requirements for UT were contained in Subparagraph IWA-2232 or Appendix I. In the 1989 Addenda, the Code published Appendix VIII, and with the 1990 addenda, Appendix I was revised to reference Appendix VIII for specific examinations. As a result of the relationship between Appendix VIII and Appendix I, the application of Appendix VIII to the 1989 Edition and earlier editions of the code is not clear. The licensee has proposed a means of integrating the examination requirements of their ISI Code of record with the qualification requirements of the 1995 Edition with 1996 Addenda of the Code, as modified by 10 CFR 50.55a(b)(2)(xiv) through (xvi) and according to the implementations dates of 10 CFR 50.55a(g)(6)(ii)(C). A comparison between the 1989 Edition and the applicable portions of 1995 Edition with 1996 Addenda of the Code is presented in the attached Table.

Section 10 CFR 50.55a(g)(4)(iv) allows licensees to use portions of editions or addenda incorporated by reference in 10 CFR 50.55a(b)(2) provided all related requirements of the respective editions and addenda are met. The 1995 Edition with 1996 Addenda is referenced in 10 CFR 50.55a(b)(2) and the comparisons in the attached Table show the related requirements to the respective editions and addenda.

Therefore, the licensee's request to use the 1995 Edition with 1996 Addenda of the Code, Section XI, Subarticle IWA-2300; Section XI, Appendix VII; and Section XI, Appendix I, Paragraphs I-2110(a), I-2220, and I-2300 in lieu of the 1989 or 1992 Editions of the Code, Section XI, Subarticle IWA-2300; Section XI, Appendix VII; and Section XI, Appendix I, Paragraphs I-2100, I-2220, and I-2300 provide an acceptable level of quality and safety and, is acceptable.

## 6.0 CONCLUSION

On the basis of the evaluation above, STPNOC proposal to use selected portions of the 1995 Edition of ASME Section XI code through the 1996 Addenda, as alternative criteria for performing ultrasonic examinations and qualification of examination personnel is approved pursuant to 10 CFR 50.55a(g)(4)(iv) and authorized pursuant to 10 CFR 50.55a(a)(3)(i), for the 10-year ISI interval at South Texas Project, Units 1 and 2.

Attachment: Table

Principal Contributors: Don Naujock and M. Kotzalas

Date: September 28, 2001

**Table**

**Comparison of ISI Code of record requirements, the proposed alternative, related requirements, and the application of the alternative.**

| <b>Code of Record<br/>1989 Edition of the<br/>Code</b>   | <b>Proposed Alternative<br/>Selected Portions in 1995/96<br/>Addenda of the Code</b>  | <b>Application of Alternative</b>  |
|--|---|--|
| IWA-2300,<br>"Qualifications of<br>Nondestructive<br>Examination Personnel"                                      | IWA-2300, "Qualifications of<br>Nondestructive Examination<br>Personnel"  | Applies to all nondestructive<br>examination personnel   |
| Appendix I, I-2100,<br>"Vessel Welds Greater<br>Than 2 in. In Thickness"   | Appendix I, I-2110(a), (Reactor<br>Vessels) UT examinations procedures,<br>equipment, and personnel used to<br>detect and size flaws in reactor<br>vessels greater than 2 in. in thickness<br>shall be qualified by performance<br>demonstration in accordance with<br>Appendix VIII... | Applies to Appendix VIII with<br>supplements according to the<br>examination and<br>implementation criteria in 10<br>CFR 50.55a(b)(2)(xiv) through<br>(xvi) and 10 CFR<br>50.55a(g)(6)(ii)(C).                               |
| Appendix I, I-2220,<br>"Vessel Welds Less<br>Than or Equal to 2 in. In<br>Thickness and all Piping<br>Welds"     | Appendix I, I-2220, "Welds in Piping"   | Applies to Appendix VIII with<br>supplements according to the<br>examination and<br>implementation criteria in 10<br>CFR 50.55a(b)(2)(xiv) through<br>(xvi) and 10 CFR<br>50.55a(g)(6)(ii)(C).                               |
| Appendix I, I-2300, "Bolts<br>and Studs"   | Appendix I, I-2300, "Bolts and Studs"   | Applies to Appendix VIII,<br>Supplement 8, Bolt and Stud<br>Qualifications according to the<br>examination and<br>implementation criteria in 10<br>CFR 50.55a(b)(2)(xiv) through<br>(xvi) and 10 CFR<br>50.55a(g)(6)(ii)(C). |
| Appendix VII,<br>"Qualification of<br>Nondestructive<br>Examination Personnel<br>for Ultrasonic<br>Examinations" | Appendix VII, "Qualification of<br>Nondestructive Examination<br>Personnel for Ultrasonic<br>Examinations"  | Applies to all ultrasonic<br>examination personnel   |
| Required by:<br>10 CFR<br>50.55a(g)(6)(ii)(C)  | Appendix VIII, "Performance<br>demonstration for Ultrasonic<br>Examination Systems" with<br>implemented supplements   | Applies to Appendix VIII with<br>supplements   |

South Texas, Units 1 & 2

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