

November 30, 2001

Mr. C. Lance Terry
TXU Electric
Senior Vice President & Principal Nuclear Officer
Attn: Regulatory Affairs Department
P. O. Box 1002
Glen Rose, TX 76043

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES), UNIT 1 -
RE: FIRST 10-YEAR INSERVICE INSPECTION (ISI) INTERVAL REQUEST
FOR RELIEF FROM THE REQUIREMENTS OF THE AMERICAN SOCIETY OF
MECHANICAL ENGINEERS (ASME) BOILER AND PRESSURE VESSEL CODE
(CODE) CONCERNING RELIEF REQUEST E-2 (ELECTRICAL PENETRATION)
(TAC NO. MB3321)

Dear Mr. Terry:

By letter dated September 10, 2001, TXU Electric (the licensee) requested relief from ASME Code requirements for the first 10-year ISI interval for CPSES, Unit 1. The licensee requested relief from the ISI requirements for Electrical Penetrations (Relief Request E-2).

The U. S. Nuclear Regulatory Commission (NRC) staff concludes that compliance with the Code requirements would result in hardship without a compensating increase in the level of quality and safety, and that the licensee's commitment to examine radiant energy shield (RES)-covered areas, if conditions exist in accessible areas that would indicate degradation could have extended into RES-covered areas, will provide reasonable assurance of containment integrity. Therefore, the licensee's proposed relief is authorized pursuant to Section 50.55a(a)(3)(ii) of Title 10 of the *Code of Federal Regulations*, for the first 10-year ISI interval at CPSES, Unit 1.

The NRC staff's safety evaluation is enclosed.

Sincerely,

/RA/

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

Docket No. 50-445

Enclosure: Safety Evaluation

cc w/encl: See next page

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Robert A. Gramm, Chief, Section 1
Project Directorate IV & Decommissioning
Division of Licensing Project Management
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**No legal objection

Accession No. ML013230120

*With comment to resolution of timeliness issue

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FIRST 10-YEAR INSERVICE INSPECTION INTERVAL

REQUEST FOR RELIEF

TXU ELECTRIC

COMANCHE PEAK STEAM ELECTRIC STATION, UNIT 1

DOCKET NO. 50-445

1.0 INTRODUCTION

By letter dated September 10, 2001, TXU Electric (the licensee) requested relief from the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (the Code) for the first 10-year inservice inspection (ISI) interval for the Comanche Peak Steam Electric Station (CPSES), Unit 1. The licensee requested relief from the ISI requirements for Electrical Penetrations (Relief Request E-2).

2.0 BACKGROUND

ISI of the ASME Code Class 1, 2 and 3 components shall be performed in accordance with Section XI of the ASME Code and applicable addenda as required by Section 50.55a(g) of Title 10 of the *Code of Federal Regulations* (10 CFR 50.55a(g)), except where specific written relief has been granted by the U. S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.55a(g)(6)(i). The regulation at 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (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.

With regard to Relief Request E-2, in Federal Register Notice No. 154, Volume 61, dated August 8, 1996, the NRC announced an amendment to its regulation at 10 CFR Part 50.55a (rule). The rule incorporated by reference the 1992 edition, with 1992 addenda, of Subsections IWE and IWL of Section XI of the ASME Code. Subsections IWE and IWL provide the requirements for ISI of Class CC (concrete containments) and Class MC (metallic containments), including integral attachments of MC and metallic liners of Class CC components of light-water cooled power plants. The effective date for the amended rule was September 9, 1996, and it required the licensees to incorporate the new requirements into their ISI plans and complete the first containment inspection by September 9, 2001. However, a licensee may submit a request for relief or propose an alternative to one or more requirements of the regulation pursuant to 10 CFR 50.55a(g)(6) or 10 CFR 50.55a(a)(3), respectively.

ENCLOSURE

The regulation at 10 CFR 50.55a(g)(6)(ii)(B)(1) states that the inservice examinations specified for the first period of the first inspection interval in Subsection IWE of the 1992 Edition, with the 1992 Addenda as modified in 10 CFR 50.55a(b)(2)(ix), must serve the same purpose for operating plants as the preservice examination specified for plants not yet in operation. The regulation at 10 CFR 50.55a(g)(6)(ii)(B)(2) allows licensees to implement the inservice examinations which correspond to the number of years of operation which are specified in Subsection IWL of the 1992 Edition with the 1992 Addenda as modified in 10 CFR 50.55a(b)(2)(viii), and will serve the same purpose for operating plants as the preservice examination specified for plants not yet in operation. The licensee developed its containment ISI program using Subsection IWE/IWL of the 1998 Edition of the Code, as authorized by the NRC staff in its Safety Evaluation dated July 23, 1999.

3.0 EVALUATION OF RELIEF REQUEST E-2

Relief from Requirement for Visual Examination of 100 percent of the Containment Surface Areas as Described in Table IWE-2500-1, Examination Category E-A, Item No. E1.11

The items for which relief is requested:

Electrical Penetration Nos.:

E-0006, E-0009, E-0015, E-0018, E-0029, E-0039, E-0040, E-0056, and E-0060

Code Requirement:

ASME Section XI, 1998 Edition, Table IWE-2500-1, Examination Category E-A, Item No. E1.11, requires a general visual inspection of 100 percent of the accessible containment surfaces once each inspection period during the interval.

Licensee's Proposed Alternative:

The licensee has proposed no alternative examination.

Licensee's Basis for Relief (as stated):

"The surfaces of these 9 electrical penetrations are covered with radiant energy shield (RES) material which precludes the general visual examination of the surface required by Table IWE-2500-1, Examination Category E-A, Item No. E1.11. This RES material is designed for post fire safe shutdown protection. RES is made from a custom sewn ceramic fiber blanket in a fireproof fabric envelope which is banded in place and is not designed for removal and reinstallation. The construction of the RES is such that, if damaged, the fibrous material can create excessive waste, and will require additional attention to prevent sump clogging. The metal containment liner surfaces, including all mechanical penetrations and the remaining 66 electrical penetrations are not covered and are accessible for the required examination. An evaluation of these covered penetrations will be performed and the RES will be removed if conditions exist in accessible areas that could indicate degradation could also exist or could have extended into the RES covered areas. This relief is being requested for 9 electrical penetration[s] which are all of stainless steel construction and represent less than 1 percent of the total IWE metal containment surface area. More than 90 percent of the containment

surface area has been examined to date. The previously examined mechanical penetration assemblies and the containment liner are of carbon steel construction and are more susceptible to corrosion type damage mechanisms. No matters of concern with respect to any damage mechanism were identified. TXU Electric has adequate confidence that these stainless steel surfaces are not susceptible to the damage mechanisms that may affect the carbon steel surfaces. Therefore, there are no additional safety benefits in examining these penetration surfaces.

A total of 1100 man-hours will be required to perform this activity. The radiation exposure is expected to exceed 3.5 man-Rem. The extensive craft and radiation protection support for scaffolding, RES material removal, repair or replacement of damaged RES material, and RES material reinstallation that would be required if the RES wrapping on these 9 electrical penetrations is removed would not be compensated for by an increase in the level of plant quality and safety."

Evaluation:

In a letter dated July 23, 1999, the NRC staff authorized the licensee's alternative to use the ASME Section XI, 1998 Edition, for containment ISI as supplemented by the licensee's commitments in the submittal.

IWE-2500, Table IWE-2500-1, Examination Category E-A, Item E1.11 requires a general visual examination of 100 percent of the accessible surface areas be completed once each inspection period during the interval. The licensee has requested relief from examining 9 electrical penetrations which are currently covered with a RES material that precludes examination without removal, and is used for post fire safe shutdown protection of the 9 penetrations. The licensee has examined greater than 90 percent of the accessible containment surfaces, which include mechanical and electrical penetrations, and no significant degradation was identified. In addition, the licensee has committed to remove the RES material and examine the electrical penetrations if conditions exist in accessible areas that indicate degradation may have extended into the RES-covered areas. Consequently, the examination of more than 90 percent of accessible containment surfaces without finding any significant indications, in conjunction with the licensee's commitment to general visual examination of RES-covered areas if conditions are present in accessible areas that would indicate degradation may have extended into the RES-covered areas, provides reasonable assurance that containment integrity will be maintained.

4.0 CONCLUSIONS

The NRC staff concludes that compliance with the Code's requirements for the subject 9 electrical penetrations would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety, and the licensee's commitment to examine RES-covered areas if conditions exist in accessible areas that would indicate degradation could have extended into the RES-covered areas will provide reasonable assurance of containment integrity. Therefore, the proposed relief is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) for the first 10-year ISI interval at CPSES, Unit 1.

Principal Contributor: D. Jaffe

Date: November 30, 2001

Comanche Peak Steam Electric Station

cc:

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