

January 9, 2002

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES), UNIT 1 -
RE: SECOND 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 REQUESTS B-1 AND C-1 (TAC NO. MB2305)

Dear Mr. Terry:

By letter dated June 25, 2001, as supplemented by letter dated November 30, 2001, TXU Generation Company LP (the licensee) submitted requests B-1 and C-1 for relief from ASME Code requirements for the second 10-year ISI interval for CPSES, Unit 1.

The U. S. Nuclear Regulatory Commission (NRC) staff concludes that it would be impractical for the licensee to obtain Code-required volumetric coverage of the welds listed under Requests for Relief B-1 and C-1 and that the volumetric coverage obtained provides reasonable assurance of structural integrity. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted for the second 10-year ISI interval at CPSES, Unit 1. The granting of relief is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

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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DATE	01/02/02	01/02/02	12/13/01	01/09/02	01/09/02

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SECOND 10-YEAR INSERVICE INSPECTION INTERVAL

REQUEST FOR RELIEF

TXU GENERATION COMPANY LP

COMANCHE PEAK STEAM ELECTRIC STATION, UNIT 1

DOCKET NO. 50-445

1.0 INTRODUCTION

The Inservice Inspection (ISI) of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Class 1, Class 2, and Class 3 components is to be performed in accordance with Section XI of the ASME Code and applicable edition and addenda as required by Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(g), except where specific relief has been granted by the U. S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.55a(g)(6)(i). In part, 10 CFR 50.55a(a)(3) states that alternatives to the requirements of 10 CFR 50.55a(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, and 3 components (including supports) will meet the requirements, except the design and access provisions and the preservice examination 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) twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The ISI code of record for Comanche Peak Steam Electric Station (CPSES), Unit 1, second 10-year ISI interval is the 1986 Edition of Section XI of the ASME Code.

By letter dated June 25, 2001, as supplemented by letter dated November 30, 2001, TXU Generation Company LP (licensee) requested relief from performing complete ultrasonic examinations of the volume defined by Figure IWB-2500-7(b) for Category B-D, Item No. B3.110 welds (Relief Request B-1), and relief from performing volumetric examination of 100% of the weld length as described in Table IWC-2500-1 for an Examination Category C-A, Item No. C1.10 weld (Relief Request C-1).

2.0 ISI PROGRAM REQUEST FOR RELIEF NO. B-1, ULTRASONIC EXAMINATION OF CODE VOLUME FOR EXAMINATION CATEGORY B-D, ITEM NO. B3.110 WELDS

2.1 Code Requirements for which Relief is Requested (as stated):

“1986 edition of ASME code, Section XI, no addenda, Table IWB-2500-1, Examination Category B-D, Item No. B3.110 requires complete ultrasonic examinations of the volume defined by Figure IWB-2500-7(b).”

2.2 Licensee’s Proposed Alternative to Code (as stated):

“No alternate examinations are proposed in lieu of the Ultrasonic examinations conducted for the subject welds.”

2.3 Licensee’s Basis for Relief (as stated):

“Complete examination of the volume defined by Figure IWB-2500-7(b) is impractical for the subject welds because of the geometrics of the examination volume for these welds. The specific examination area geometries for the five nozzle to vessel welds preclude the complete examinations of the volume required by Figure IWB-2500-7(b) (i.e., the nozzle curvature of the surface prohibited the beam from reaching the entire volume to be examined). Approximately 26% of the weld volume for TBX-1-2100-12, -13, -14, -15, and -16; spray, safety, and relief nozzle to vessel welds, did not receive the full code required coverage. Refer to pages 3 through 10 [of the licensee's June 25, 2001, application, as supplemented by letter dated November 30, 2001,] for the weld locations and the examination area configurations.

Full circumferential scans were obtained for all of the subject welds and the required base metal areas. Best effort examinations were performed in the axial scan directions and consisted of two separate beam angles. Axial scan coverage of 93% for the weld was achieved in at least one beam path direction with two different angles for each of the spray, safety, and relief nozzle to vessel welds. Axial scan coverage of 96% was achieved in at least one beam path direction with one beam angle for each of the spray, safety, and relief nozzle to vessel welds. There were no recordable indications identified by the best effort examinations. Additionally, an inner radius examination was performed on all the subject nozzles. Although this examination is not intended to examine the weld area, the inner radius examination included the area that was not covered by the Code required examination.”

2.4 Evaluation

It is stated in 10 CFR 50.55a(g)(4) that throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2 and Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of editions of the ASME Code and Addenda that become effective subsequent to editions specified in 10 CFR 50.55a(g)(2) and (g)(3) and that are incorporated by reference in 10 CFR 50.55a(b), to the extent practical within the limitations of design, geometry and materials of construction of the components.

Table IWB-2500-1, Item B3.110, Nozzle to Vessel Welds, indicates the examination volume in Figure IWB-2500-7(b). The licensee was unable to obtain the volumetric coverage of 100% of the volume due to the limitation caused by the geometry/configuration of the nozzle outside radius to the weld. To achieve the examination requirements would require modifications to the plant, which would be a significant burden on the licensee. Therefore, the Code-required examinations are impractical. The licensee obtained 74% through 96% volumetric coverage, which is sufficient to detect any existing patterns of degradation. No recordable indications were identified. In addition, the welds are subject to the pressure testing requirements of ASME Code Section XI.

Additional information provided by the licensee shows that a 1 ½ vee ultrasonic examination was not feasible because the inside diameter cladding does not allow the ultrasonic test (UT) sound wave to bounce back, and the geometry of the pipe interferes in the path of the transducer. The licensee's best efforts of examination coverage provide reasonable assurance of the structural integrity of the welds and the pressure boundary.

2.5 Conclusion

Based on the discussion above, the staff concludes that it would be impractical for the licensee to obtain the Code-required volumetric coverage of the welds listed under Request for Relief B-1, and that the volumetric coverage obtained provides reasonable assurance of structural integrity. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted for the second 10-year ISI interval at CPSES, Unit 1. The granting of relief is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

3.0 ISI PROGRAM REQUEST FOR RELIEF NO. C-1, ULTRASONIC EXAMINATION OF CODE VOLUME FOR EXAMINATION CATEGORY C-A, ITEM NO. C1.10 WELDS

3.1 Code Requirements for which Relief is Requested (as stated):

"Section XI, Table IWC-2500-1, Examination Category C-A, Item No. C1.10 requires complete ultrasonic examination of the volume defined by Figure IWC-2500-1."

3.2 Licensee's Proposed Alternative to Code (as stated):

"No alternate examinations are proposed in lieu of the Ultrasonic examinations conducted for the subject weld."

3.3 Licensee's Basis for Relief (as stated):

"The specific examination area geometries of the RHR HX1 shell to flange weld preclude the complete examination of the volume required by Figure IWC-2500-1. Approximately 42% of the weld volume for weld TBX-2-1120-2 did not receive the full code required coverage. Refer to pages 3 through 6 [of the licensee's June 25, 2001, application] for the weld location and the examination area configurations.

Best effort examinations were performed and consisted of two separate beam angles. One circumferential scan in both directions and two axial scans, one sided only, were obtained for the subject weld and the required base metal areas. Limitations were caused by closeness of the inlet and outlet nozzles, the closeness of the welded supports, and the closeness of the flange to the exam volume of the subject weld that precluded obtaining the full coverage of the weld volume as defined in Figure IWC-2500-1. There were no recordable indications identified by the best effort examinations.”

The licensee further stated that “[t]he subject weld was examined to the maximum extent possible and yielded no indications. There is no anticipated impact upon the overall plant quality and safety resulting from granting this relief request. Likewise, there is no change in radiological exposure resulting from granting this relief request.”

3.4 Evaluation

It is stated in 10 CFR 50.55a(g)(4) that throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2 and Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of editions of the ASME Code and Addenda that become effective subsequent to editions specified in 10 CFR 50.55a(g)(2) and (g)(3) and that are incorporated by reference in 10 CFR 50.55a(b), to the extent practical within the limitations of design, geometry and materials of construction of the components.

Table IWC-2500-1, Category C-A, Item C1.10, indicates the examination volume in Figure IWC-2500-1. The licensee was unable to obtain the volumetric coverage of 100% of the volume due to the limitation caused by nearby structural discontinuities such as inlet and outlet nozzles, welded supports, and flanges to the exam volume of the weld. To achieve the Code coverage requirements would require modifications to the plant, which would be a significant burden on the licensee. Therefore, the Code coverage requirements are impractical. The licensee obtained approximately 42% volumetric coverage, which is sufficient to detect any existing patterns of degradation. No recordable indications were identified. In addition, the welds are subject to the pressure testing requirements of ASME Code Section XI. The licensee’s best efforts of examination coverage provide reasonable assurance of the structural integrity of the welds and the pressure boundary.

3.5 Conclusion

Based on the discussion above, the staff concludes that it would be impractical for the licensee to obtain Code-required volumetric coverage of the welds listed under Request for Relief C-1, and that the volumetric coverage obtained provides reasonable assurance of structural integrity. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted for the second 10-year ISI interval at CPSES, Unit 1. The granting of relief is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

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Date: January 9, 2002

Comanche Peak Steam Electric Station

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