

Mail Envelope Properties (3C974E0F.5EF : 13 : 5615)

Subject: Relief Request
Creation Date: 3/19/02 9:41AM
From: <obaidb@txu.com>

Created By: obaidb@txu.com

Recipients

nrc.gov
owf4_po.OWFN_DO
DHJ (David Jaffe)

Post Office

owf4_po.OWFN_DO

Route

nrc.gov

Files	Size	Date & Time
MESSAGE	97	03/19/02 09:41AM
T02062.doc	100352	
T02062.pdf	94715	
Mime.822	269040	

Options

Expiration Date: None
Priority: Standard
Reply Requested: No
Return Notification: None

Concealed Subject: No
Security: Standard

From: <obaidb@txu.com>
To: <DHJ@nrc.gov>
Date: 3/19/02 9:41AM
Subject: Relief Request

(See attached file: T02062.doc)(See attached file: T02062.pdf)Please let me know if you got it.

Ref: 10 CFR 50.55(a)(3)

CPSES-200200779
Log # TXX-02062
File # 10010

March 20, 2002

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NO. 50-446
UNIT 2 INSERVICE INSPECTION (ISI) REVISION TO RELIEF
REQUEST A-5 FROM 1986 EDITION OF ASME CODE, SECTION
XI, NO ADDENDA

REF: 1) TXU Energy letter from C. L. Terry to the NRC dated March 4,
2002 logged TXX-02004

Gentlemen:

The enclosure to this letter revises relief request A-5 to the ASME Code requirements for the reactor pressure vessel (RPV) examinations for use at Comanche Peak Steam Electric Station Unit 2. The revised relief request provides clarifying information requested by the NRC staff, and replaces the relief requests A-5, submitted via reference 1.

TXX-02062

Page 2 of 2

This communication contains no new licensing basis commitments regarding CPSES Units 1 and 2. If you have any questions or need additional information regarding this matter, please feel free to contact Obaid Bhatti at (254) 897-5839 or Douglas W. Snow at (254) 897-8448.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC
Its General Partner

C. L. Terry
Senior Vice President and Principal Nuclear Officer

By: _____
Roger D. Walker
Regulatory Affairs Manager

OAB/dws

Enclosure

c - E. W. Merschoff, Region IV
W. D. Johnson, Region IV
D. H. Jaffe, NRR
Resident Inspectors, CPSES
G. Bynog, TDLR

TXX-02062

Page 3 of 2

**TXU GENERATION COMPANY LP
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2
FIRST TEN-YEAR INTERVAL ISI RELIEF REQUEST NO. A-5 Rev. 2**

I. System/Component for Which Relief is Requested:

Eight Class I Reactor Pressure Vessel (RPV) Nozzle-to-Shell welds. ASME Section XI, Class 1, Examination Category B-D, Item No. B3.100 Nozzle Inside Radius Section in Reactor Pressure Vessels (RPV) welds Examined at Comanche Peak Steam Electric Station Unit 2.

a) RPV Outlet Nozzle-to-Shell Welds

RPV Nozzle-to-Shell Weld (Weld TCX—1-1100A-19IR)
RPV Nozzle-to-Shell Weld (Weld TCX—1-1100A-22IR)
RPV Nozzle-to-Shell Weld (Weld TCX—1-1100A-23IR)
RPV Nozzle-to-Shell Weld (Weld TCX—1-1100A-26IR)

b) RPV Inlet Nozzle-to Shell Welds

RPV Nozzle-to-Shell Weld (Weld TCX—1-1100A-20IR)
RPV Nozzle-to-Shell Weld (Weld TCX—1-1100A-21IR)
RPV Nozzle-to-Shell Weld (Weld TCX—1-1100A-24IR)
RPV Nozzle-to-Shell Weld (Weld TCX—1-1100A-25IR)

II. Code Requirement:

ASME Section XI Class 1, ASME Boiler and Pressure Vessel Code, Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components, 1986 Edition with no Addenda; Table IWB-2500-1, Examination Category B-D, Full Penetration Welds of Nozzles in Vessels, Code Item B3.100, Figures IWB-2500-7 (a) through (d).

III. Code Requirement from Which Relief is Requested:

Pursuant to 10 CFR 50.55a(a)(3)(i), TXU requests to implement an alternative to the Volumetric (Ultrasonic (UT)) requirements of ASME Code Section XI Table IWB-2500-1, Examination Category B-D, Item B3.100. TXU proposes to perform an enhanced visual examination.

This relief is requested for the Comanche Peak Steam Electric Station Unit 2, first 10-year interval vessel examination.

Enclosure to TXX-02602

Page 4 of 3

**TXU GENERATION COMPANY LP
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2
FIRST TEN-YEAR INTERVAL ISI RELIEF REQUEST NO. A-5 Rev. 2**

IV. Basis for Relief:

Comanche Peak Unit 2 is currently required to perform inservice examinations of selected welds in accordance with the requirements of 10 CFR 50.55a, and the 1986 Edition with no Addenda of the ASME Boiler and Pressure Vessel Code, Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components. According to a NRC memorandum (Reference 1), the NRC staff indicated that an ultrasonic examination could be replaced by VT-1 visual examination for the proposed RPV nozzle inspections on the basis surveillance is maintained and VT-1 visual examination is performed.

The implementation of this relief is also expected to reduce vessel examination time by approximately 20 hours, which translates to significant reduced personnel radiation exposure and cost savings.

V. Alternate Examinations:

TXU Energy (TXU) proposes to perform a remote visual examination of the accessible surface M-N as shown in Figures IWB-2500-7(a) through (d) in lieu of the volumetric examination requirements of ASME Section XI, Table IWB-2500-1, Examination Category B-D, Item No. B3.100, a VT-1 visual examination will be performed.

Additionally, TXU proposes to perform an enhanced VT-1 (EVT) visual examination with essentially 100-percent coverage in lieu of the UT. The enhanced aspect of the examination is to use 8x magnification video equipment to examine the inner radii. The resolution sensitivity for this remote, in-vessel exam will be established using a 1-mil diameter wire.

VI. Justification for the Granting of Relief:

In a NRC memorandum (Reference 1), the NRC staff indicated that an ultrasonic examination could be replaced by VT-1 visual examination for the proposed RPV nozzle inspections on the basis surveillance is maintained and VT-1 visual examination is performed. The proposed alternative examinations will not have an impact upon the overall plant quality and safety, and the granting of relief should not jeopardize the health and safety of the public.

Enclosure to TXX-02602
Page 5 of 3

**TXU GENERATION COMPANY LP
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2
FIRST TEN-YEAR INTERVAL ISI RELIEF REQUEST NO A-5 Rev. 2**

Moreover, in NUREG-0619, the NRC staff concluded that UT of the vessel nozzle inner radius section involves complex geometries, long examination metal paths, and inherent UT beam spread, scatter, and attenuation. During the intervening years, improvements in UT technologies were introduced (e.g., computer modeling, tip diffraction, and phased array scanning), which improved the quality of the examination for this component. However, the area remains difficult to examine completely.

TXU believes that even with vessel examinations using improved NDE technology from the outside surface, the complex geometry of the RPV nozzle inner radius sections prevents complete UT coverage. Hence, TXU proposes to perform an enhanced VT-1 (EVT) visual examination with essentially 100-percent coverage in lieu of the UT. The enhanced aspect of the examination is to use 8x magnification video equipment to examine the inner radii. The resolution sensitivity for this remote, in-vessel exam will be established using a 1-mil diameter wire.

The primary degradation mode in RPV nozzles is fatigue, which produces hairline surface indications along the circumference of the nozzle at the inner radius section. Given the 1-mil resolution capability of the EVT, it is highly unlikely that the TXU would not detect such flaws using high magnification cameras that can examine 100 percent of the nozzle inner radius section surface area. TXU believes that the high resolution image from the camera in lieu of UT of the inner nozzle radius that is difficult to perform, provides adequate assurance of structural integrity. TXU will also adhere to the allowable flaw length criteria in Table IWB-3512-1 of the ASME Code, Section XI, 1986 edition, for the disposition of any linear flaws. Therefore, there is reasonable assurance that the proposed alternative will result in an acceptable level of quality and safety.

VII. Implementation Schedule:

This relief is requested for the Comanche Peak Steam Electric Station Unit 2, third period of the first 10-year interval vessel examination.

VIII Reference:

1. NRC Internal memorandum from K.R. Wichman (NRC) to W.H. Bateman (NRC) dated May 25, 2000; Subject The Third Meeting with the Industry to discuss the elimination of RPV Inner Radius Inspection (ML003718630)