TXU Power

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Ref: 10 CFR 50.55a(g)(5)(iii)

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March 31, 2006

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NO. 50-445
RELIEF REQUEST A-6 TO THE UNIT 1 INSERVICE INSPECTION (ISI) PROGRAM PLAN FROM THE 1998 EDITION OF ASME CODE, SECTION XI, THROUGH 2000 ADDENDA (INTERVAL START DATE - AUGUST 13, 2000, SECOND INTERVAL)

TXU Generation Company LP (hereafter TXU Power) has determined that certain inspection requirements of ASME Section XI provide an acceptable level of quality and safety and is requesting relief pursuant to 10 CFR 50.55(a)35)(i).

TXU Power desires to utilize Digital Radiography (DR) during the 2007 refueling outage for Comanche Peak Steam Electric Station (CPSES) Unit 1. During this outage, the following major components will be replaced:

Four (4) steam generators
Reactor vessel closure head

These replacements require that Class 1 and Class 2 piping be severed. They will be restored in accordance with the requirements of The American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code (BPVC) Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components" (ASME Section XI, 1998 Edition through 2000 Addenda).

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Additionally, the containment liner boundary will also be breached with a temporary alternate access opening to allow the removal and insertion of these major components. ASME Section XI will also control the restoration of the containment liner boundary.

In each case, the ASME Section XI Code requires that construction codes be selected to control the preparation, welding, examination, testing, and acceptance of the new components into the plant's systems, and the restoration of the containment liner boundary.

The radiographic examinations of all but the containment liner will be performed to the requirements of ASME Section III, 1974 Edition, with Summer 1974 addenda. The containment liner radiographic examinations will be performed to the requirements of ASME-ACI 359 April 1973 Edition. These code editions and addenda are the original construction code requirements for the identified components.

The extent of examination (and re-examination), and the acceptance of the results will be governed by the applicable construction code; also governed by these codes is the actual technique for performance of the radiographic examination.

TXU Power proposes as an alternative to the technique requirements of these construction codes that the performance of the radiographic examination be in accordance with ASME, BPVC, Section V, Article 2, Mandatory Appendix VIII, "Radiography Using Phosphor Imaging Plate," published as part of the 2004 Edition with 2005 Addenda. Personnel qualifications will be updated with additional training in the principles and application of DR. This will include the interpretation of the radiographic image as it will be presented in the digital format. This alternative will not apply to the fabrication of the major components. All off site fabrication of the major components will be accomplished by use of film radiography.

TXU Power is confident that DR, using phosphor imaging plates, will produce radiographic documentation that provide the acceptable level of quality and safety required by 10 CFR 50.55a(a)(3)(i). This assurance is based on not only the acceptance of the technology by ASME, which now allows DR for its applications, but also by the acceptance of the technology by the American Welding Society and the American Petroleum Institute.

This communication contains no new licensing basis commitments regarding Comanche Peak Steam Electric Station (CPSES) Unit 1.

TXU Power requests approval of this relief request by September 30, 2006. The approval date was selected to time to update procedures prior to the 12th refueling outage for Unit 1, scheduled to start in February of 2007. If you have any questions or need additional information regarding this matter, please feel free to contact Jack Hicks at (254) 897-6725.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC
Its General Partner

Mike Blevins

By: Fred W. Madden
Director, Regulatory Affairs

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Attachment

c - B. S. Mallet, Region IV
M. C. Thadani, NRR
Resident Inspectors, CPSES
T. Parks, Chief Inspector, TDLR

TXU Power
Comanche Peak Steam Electric Station (CPSES), Unit 1
Second 10-Year Interval
Relief Request A-6

Proposed Alternative in Accordance with 10 CFR 50.55(a)(3)(i)
Alternative Provides Acceptable Level of Quality and Safety

I. ASME Code Components Affected:

This request for relief is applicable, in part, to the following Class 1, Class 2, and Class CC components in the following systems:

Component	Class	Category
Reactor Coolant Piping System	1	B-J
Main Steam Piping System	2	C-F-2
Feedwater Piping System	2	C-F-2
Auxiliary Feedwater Piping System	2	C-F-2
Containment Liner	CC	E-A

This request for relief is applicable to the above identified piping systems at connections between (1) the safe ends of the steam generators and the piping; and (2) pipe-to-pipe connections or pipe-to-elbow connections within each system. This request is also applicable to the weld or welds restoring the containment liner boundary. In addition to the components listed above, the welds in other Class 1 and Class 2 piping systems may need restoration in support of these activities as well as other work planned for the CPSES 2007 refueling outage. This request is also applicable to these components.

The original construction codes for the identified components are as follows:

Component	Construction Code
Shop fabrication of Reactor Coolant System (RCS) Loop Piping	1977 edition, including up to the Summer 1979 Addenda
Installation of Reactor Coolant Piping	ASME III, 1974 Ed. through Summer 75
Class 1 piping (Non-RCS) and Class 2 piping	ASME III, 1974 Ed. through Summer 74
Containment Liner	ASME - ACI 359 April 1973

TXU Power
Comanche Peak Steam Electric Station (CPSES), Unit 1
Second 10-Year Interval (Continued)
Relief Request A-6

Proposed Alternative in Accordance with 10 CFR 50.55(a)(3)(i)
Alternative Provides Acceptable Level of Quality and Safety

II. Applicable Code Edition and Addenda:

Class 1 and Class 2 Piping Systems	ASME Section XI, 1998 Edition through the 2000 Addenda
Containment Liner	ASME Section XI, 1998 Edition through the 2000 Addenda

III. Applicable Code Requirement:

TXU Power will replace the Comanche Peak Steam Electric Stations (CPSES) Unit 1 steam generators and reactor vessel closure head during the 2007 refueling outage.

ASME Section XI, Subsection IWA-4150 require that the Owner (TXU Power) identify a construction code for the installation of these components, as well as for the restoration of the containment pressure boundary that will be breached in order to allow TXU Power moving the components into containment. The construction codes require, in part, radiographic examination of certain piping welds in the reactor coolant system, certain welds in the other Class 1 and 2 piping systems, and the weld(s) reestablishing the containment pressure boundary. This is a requirement to use film radiographic technology.

TXU Power is requesting permission to perform digital radiography (DR) using phosphor imaging plates (PIP) as an alternative to the use of film. This is an alternative to the requirements of ASME Section XI, 1998 Edition through 2000 Addenda, Subsection IWA-4150. TXU Power is proposing the alternative only for the capture and display of the radiographic images. Other than additional training for examiners in the principles and processes of DR, the elements of the radiographic examination process will remain unchanged.

TXU Power
Comanche Peak Steam Electric Station (CPSES), Unit 1
Second 10-Year Interval (Continued)
Relief Request A-6

Proposed Alternative in Accordance with 10 CFR 50.55(a)(3)(i)
Alternative Provides Acceptable Level of Quality and Safety

IV. Reason for Request:

Radiograph examination is an intrusive process that challenges the radiological controls of the plant with another radiation source. This results in additional personnel exposure and adds cost to the accomplishment of work. Because the PIPs are more responsive than traditional film to the radiation used in the radiographic examination process, DR significantly mitigates these two disadvantages. The exposure times for DR are reduced compared to when typical film radiation sources are used. The exclusion zones required for DR can be reduced, because DR may obtain satisfactory results with "weaker" radiation sources such as Selenium 75. Reduction in the potential for exposure results because of the increased "dynamic range" of DR. "Dynamic range" is the range of receptor exposure over which an image and contrast will be formed; this property of DR decreases the potential need for additional images because of unacceptable exposures.

V. Proposed Alternative and Basis for Use:

TXU Power is proposing an alternative to the film radiographic techniques used to meet the requirements of the construction Codes that the radiographic image be obtained on a phosphor imaging plate and presented for assessment by a digital image acquisition and display system in accordance with American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code (BPVC), Section V, Article 2, Mandatory Appendix VIII, "Radiography Using Phosphor Imaging Plate," as published in 2004 Edition with 2005 Addenda. Personnel qualifications will be updated in accordance with the primary construction code that will be governing the performance of the radiographic examinations, i.e., ASME Section III, 1992 Edition with no addenda. This will include the interpretation of the radiographic image as it will be presented in the digital format. No other changes to the radiographic examination process are proposed. The extent of examination (and re-examination) and the acceptance criteria will remain the same. As with film radiography, the examination procedures will need to successfully demonstrate the ability to obtain the required sensitivity based upon appropriate image quality indicators.

TXU Power
Comanche Peak Steam Electric Station (CPSES), Unit 1
Second 10-Year Interval (Continued)
Relief Request A-6

Proposed Alternative in Accordance with 10 CFR 50.55(a)(3)(i)
Alternative Provides Acceptable Level of Quality and Safety

TXU Power, is confident that DR, using phosphor imaging plates, will produce radiographic images that provide the acceptable level of quality and safety required by 10 CFR 50.55a (a) (3) (i). This confidence is based on not only the acceptance of the technology by ASME, which now allows DR for its applications, but also by the acceptance of the technology by the American Welding Society and the American Petroleum Institute. Moreover, this confidence will be proven by demonstrations that must satisfy the requirements of the ASME Code for resolution of image quality indicators over the applicable thickness ranges. This, of course, is the same deciding test that allows the use of film radiographic techniques.

VI. Duration of Proposed Alternative:

This alternative will be applicable to radiographic examinations performed as part of the CPSES Unit 1 2007 Refueling Outage for steam generator and reactor vessel closure head replacement.