



TXU Power  
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REF: 10 CFR 50.55a(f)(5)(iii)

CPSES-200402548  
Log # TXX-04199

November 30, 2004

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)  
DOCKET NOS. 50-445 AND 50-446  
RELIEF REQUEST P-1 TO THE UNIT 1/UNIT 2  
INSERVICE TESTING PLAN FOR PUMPS AND VALVES  
(ASME OM CODE 1998 EDITION, 1999 AND 2000 ADDENDA;  
INTERVAL START DATE: AUGUST 3, 2004, SECOND INTERVAL)

Gentlemen:

Pursuant to 10CFR50.55a(3)(i), TXU Generation Company LP (TXU Power) hereby requests NRC approval of the attached relief request. The relief from ASME OM Code 1998 Edition, 1999 and 2000 Addenda, is being requested for the testing of the Safeguards Building Sump Pumps at CPSES.

The details of the 10 CFR 50.55a (f)(5)(iii) request are attached.

A member of the STARS (Strategic Teaming and Resource Sharing) Alliance

Callaway • Comanche Peak • Diablo Canyon • Palo Verde • South Texas Project • Wolf Creek

*Previously processed  
with out Authors  
signature under  
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This communication contains no new licensing basis commitments regarding CPSES.


TXU Power requests approval of this relief request by June 30, 2005. The approval date was administratively selected to allow for NRC review. If you have any questions regarding this request, please contact Jack Hicks at (254) 897-6725.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,  
Its General Partner

Mike Blevins  
Senior Vice President and Chief Nuclear Officer

By:   
\_\_\_\_\_  
Mitch L. Lucas  
Vice President, Nuclear Engineering

JCH  
Attachment

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

**TXU POWER  
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1  
ASME SECTION XI INSERVICE TESTING PROGRAM  
RELIEF REQUEST P-1**

**I. ASME System/Component(s) Affected:**

System: Vents & Drains

The Vents and Drains system monitors and collects all floor drains, equipment drains, and certain valve leakoffs throughout the plant and directs them to their predetermined destination for waste processing, disposal, or recycling.

Components Affected: Safeguards Building Sump Pumps

The Safeguards Building sump pumps are classified active pumps, the pumps are required to mitigate the consequences of assumed continuous system leakage (1 gpm) and a flange or mechanical seal passive failure (of 50 gpm) from flooding the Engineered Safety Featured (ESF) equipment. In addition, the sump level instrumentation, in combination with pump operation, is required to provide positive indication of ESF system leakage outside containment.

Pump Number(s)

CP1-WPAPSS-01	CP1-WPAPSS-02
CP1-WPAPSS-03	CP1-WPAPSS-04
CP2-WPAPSS-01	CP2-WPAPSS-02
CP2-WPAPSS-03	CP2-WPAPSS-04

ASME Code Class 3

**II. Applicable Code Edition and Addenda:**

ASME OM Code 1998 Edition, 1999 and 2000 Addenda

**III. Applicable Code Requirement:**

ASME OM Code 1998 Edition, 1999 and 2000 Addenda.

ISTB-5121 Group A Test Procedures.

The test parameters shown in Table ISTB-3000-1 shall be determined and recorded.

ISTB-5100 (a) Duration of Tests.

For the group A test , after pump conditions are stable as the system permits, each pump shall be run at least two minutes.

**TXU POWER  
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ASME SECTION XI INSERVICE TESTING PROGRAM  
RELIEF REQUEST P-1**

**IV. Reason for Request:**

The Safeguards Building Sump Pumps are required to detect and mitigate passive failures in the Emergency Core Cooling System (ECCS) and Containment Spray (CT) System post-LOCA and to prevent flooding of the safety related system.

There is no recirculation line from the discharge header of the pumps back to the sumps. This creates some unique problems. Without a recirculation line on each pump discharge, there is only one way to maintain a constant differential pressure across the pump as required by ASME OM Code 1998 Edition, 1999 and 2000 Addenda, ISTB-5121, Group A Test Procedure. That way is to dead-head the pump, setting the reference flow at 0 gpm, and calculating the differential pressure through a series of height measurements and gage readings. The height measurements are measured at multiple Safeguards Building levels (approximately 20 feet). This test has proven to be very difficult and equipment history shows that testing the pumps in a dead-head condition may be causing equipment reliability problems.

To meet the design basis requirements for these pumps, a test should require that the pump start on the proper level switch actuation, determine that the pump is capable of delivering a minimum of 50 gpm to the Waste Holdup Tank, and that velocity-based vibration readings are satisfactory. Differential pressure does not specifically need to be taken to show adequate pump performance. Differential pressure measurement creates additional radiation exposure to personnel (ALARA) and potential equipment damage due to dead-heading the pump. Pumping 50 gpm or more to the Waste Holdup Tank demonstrates that adequate head was developed to overcome system resistance.

These pumps alert the operator of potential leakage in the Safeguards Building and mitigate the consequences of the leakage. To meet the requirements of OM Part 6, the pumps must be dead-headed for extended periods. The test, as currently performed at Comanche Peak Steam Electric Station takes over 12 people to run on a potentially contaminated system. Moreover, the test procedure takes approximately 12 hours to perform.

With the adoption of the 1989 ASME Boiler & Pressure Vessel Code Section XI (which endorsed the OM Part 6 & 10) and continuing in later Code Editions predictive maintenance techniques fundamentally changed. Prior to this code, hydraulic performance (pressure, differential pressure, and flow) was the primary tool for detecting pump performance degradation. Currently, velocity-based vibration has proven to be much more sensitive to detecting degradation.

**TXU POWER  
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**V. Proposed Alternative and Basis for Use:**

For the purpose of accomplishing Safeguards Building Sump Pump testing, the following requirements will apply:

1. The pumps shall be tested in accordance with ISTB-5121 with the exception of measuring differential pressure as required Table ISTB-3000-1, Inservice Test Procedures. Repeatable differential pressure conditions will be achieved by filling the sump up and pumping it to the Waste Holdup Tank while recording flow and vibration.
2. The pumps shall be tested in accordance with ISTB-5121 with the exception of waiting at least 2 minutes of pump run time for conditions to stabilize prior to recording test parameters (see ISTB-5100 (a) Duration of Tests). The sump will be pumped down rapidly by one pump, and suction pressure will vary as sump level changes; therefore, the purpose of the stabilization time is not applicable in this case.

Setting one hydraulic parameter (flow or differential pressure) at a reference point and measuring the other now serves to set the pump of a consistent "reference point" on the pump curve so that vibration data can be comparable from test to test. The same reference point can be (continued) achieved by filling up the sump to the same approximate level and pumping it to the same destination each time. Flow and vibration readings would be just as consistent (valid) as setting a reference differential pressure and recording the data. This is done in less time, generating less waste, using less personnel and obtaining inservice test data without dead-heading the pump.

A baseline reference will be established for flow and vibration; Alert and Required Action Limits will be set and maintained as specified by ASME OM Code ISTB, 1998 Edition, 1999 and 2000 Addenda. This alternative provides an acceptable level of quality and safety.

**VI. Duration of Proposed Alternative:**

CPSES Unit 1/Unit 2 Inservice Testing Plan For Pumps And Valves, Second Interval.