



TXU Power
Comanche Peak Steam
Electric Station
P. O. Box 1002 (E01)
Glen Rose, TX 76043
Tel: 254 897 5209
Fax: 254 897 6652
mike.blevins@txu.com

Mike Blevins
Senior Vice President &
Chief Nuclear Officer

Ref: 10 CFR 50.55a

CPSES-200602072
Log # TXX-06173

November 1, 2006

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

**SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
UNIT 2, DOCKET NO. 50-446
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION,
2RF08 STEAM GENERATOR TUBE INSERVICE INSPECTION
REPORT - TAC NO. MC6952**

REF: 1) TXU Power letter, logged TXX-06026, from Mike Blevins to the
U. S. Nuclear Regulatory Commission; dated February 7, 2006.

Dear Sir or Madam:

By means of the letter in Reference 1, TXU Generation Company LP (TXU Power) previously submitted the Technical Specification 5.6.10.b twelve month report of the results of the steam generator tube inservice inspection completed during the eighth refueling outage of CPSES Unit 2 (2RF08).

Based upon questions provided by Mr. Mohan Thadani of the NRC in an email dated August 15, 2006, TXU Power hereby provides the following additional information regarding the report of Reference 1. Attachment 1 to this letter contains the NRC questions and TXU Power's response immediately following each question.

This communication contains no new licensing basis commitments concerning CPSES Unit 1.

A047

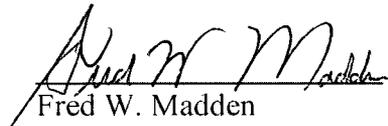
TXX-06173
Page 2 of 2

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,
Its General Partner

Mike Blevins

By: 
Fred W. Madden
Director, Oversight and Regulatory Affairs

RJK

Attachment

c - B. S. Mallett, Region IV
M. C. Thadani, NRR
Resident Inspectors, CPSES

TXU POWER
COMANCHE PEAK STEAM ELECTRIC STATION

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
2RF08 STEAM GENERATOR TUBE INSPECTIONS
TAC No. MC6952

DOCKET No. 50-446

Question 1:

Were all foreign objects identified by The Foreign Object Search and Retrieval Program or by eddy current inspections removed from the steam generators? If not, discuss what analyses were performed to ensure these potential loose parts do not compromise tube integrity for the period of time between inspections.

TXU Power response:

Not all foreign objects identified by the Foreign Object Search and Retrieval (FOSAR) Program or by eddy current were removed. Foreign objects not removed were evaluated for impact on tube integrity. Results of the evaluation justified operation for at least two cycles.

A number of foreign objects were reported from FOSAR. FOSAR in 2RF08 was extensive, especially in the accessible areas of baffle plate B. FOSAR on baffle plate B has been performed in past outages, but never to this extent. All foreign objects, even very small ones, were logged. As a result, approximately one hundred objects were identified in each Steam Generator (SG). These objects have accumulated over the previous eight cycles of plant operation. A preliminary evaluation of the parts was performed to assess the potential impact to tube degradation and to prioritize them for retrieval. This evaluation took into consideration the shape, size and estimated material composition of the parts, as well as the local flow conditions where the parts were located. The parts were classified as high, medium or low priority for retrieval. High priority implied uncertainty as to what the result would be from an evaluation of acceptability for leaving the part in service for two cycles of operation if it could not be retrieved. The medium classification implied reasonable success in justifying leaving the part in the SG for two cycles. The low priority list consisted of parts that had a high confidence of acceptability for leaving in service.

Significant effort was expended in retrieving as many of the parts as possible. These efforts were guided by results of the preliminary evaluation in terms of the specific parts on which to focus attention (high and medium priority). Consequently, this process was very successful in retrieving most of the parts considered to be of high and medium priority for retrieval, as well as some that were classified as low priority. A final engineering evaluation of the parts remaining in the SGs concluded that there is no threat to tube integrity from these parts for at least two full cycles of operation.

A number of potential loose parts (PLP) indications were reported at the top of the tubesheet in the hot leg (HTS) and/or over baffle plates B, D and H in the cold leg (C2, C3 and C6) in all steam generators. All PLP locations accessible to FOSAR were video inspected and any objects found were either retrieved or disposed of, on the basis of an engineering evaluation.

Question 2:

Of the eight tubes plugged during the 2RF08 outage due to the presence of single volumetric indication (SVI), two of the tubes (SG2-16-79 and SG4-27-74) displayed SVIs within in the freespan region between two hot-leg tube support plates. The remaining six tubes (SG1-5-111, SG3-6-33, SG3-7-33, SG3-48-40, SG3-48-41, and SG4-24-89) displayed SVIs at the support structure intersections (C1, C6, C2 and H8). What is the cause of each of these indications, including the two freespan indications? If any of the indications are loose parts related, were the subject loose parts visually identified and retrieved? If not, were the subject tubes stabilized? Also, please clarify whether tube SG3-R6-C80, which was plugged during 2RF06, has been stabilized.

TXU Power response:

As noted, SG2-R16C79 and SG4-R27C74 had single volumetric indications (SVI) in the free span region between two support plates. In addition to these two tubes, SG4-R24C89 also had similar indication in the free span, though this indication was closer to the support plate (H8+0.76") than the other two. All three of these indications suggest lap signals observed in other steam generators, including Comanche Peak Unit 1. In all cases, historical review of the bobbin signals showed no change from prior inspections. No contribution from loose parts is evident in these indications.

SG1-R5C111 had an SVI within the support plate. This indication suggested a pit-like defect. It was not suggestive of tube wear type defect geometry. Therefore, neither wear due to support plate interaction, nor wear from a loose object could have caused this indication. The maximum indicated depth by +Point™ is 22% throughwall. The bobbin signal from this location has remained unchanged from 1994. This signal is attributed to a manufacturing anomaly rather than in-service degradation.

Indications in SG3-R6C33, SG3-R7C33, SG3-R48C40, and SG3-R48C41 were due to loose parts wear. In the case of SG3-R6C33 and SG3-R7C33, the indications were at baffle plate H (C6 by eddy current terminology). This location provides no access for video inspection or retrieval; hence neither video confirmation of the loose part, nor its retrieval was possible. Two adjacent tubes in this column, SG3-R8C33 and SG3-R9C33 were plugged during 2RF06 (April 2002) due to loose parts wear at baffle plate H. Hence it is judged the loose part is gradually migrating toward the middle of the bundle along this column. Baffle plate H has a cutout at the outer rows of tubes and hence the direction of lateral flow above this plate is from the outer rows toward the inner rows. This is consistent with the hypothesis that the loose part is migrating in this direction. Since the loose part was not retrieved, these tubes (SG3-R6C33 and SG3-R7C33) were stabilized in the cold leg prior to plugging during 2RF08. Indications of foreign objects wear in SG3-R48C40 and SG3-R48C41 were at baffle plate B (C2 by eddy current terminology). The 2RF08 video inspection covered the area of interest and no loose part was observed at or near this location. It is concluded that the loose part has migrated away from this location. No objects were found for several rows inward along the flow direction. It is very likely the object may have broken up, allowing it to migrate far from the given location where tube defects were observed. Since the object is no longer in place, continued tube wear will not occur at this location. Hence these tubes (SG3-R48C40 and SG3-R48C41) were not stabilized prior to plugging.

Records from the 2RF06 outage indicate the tube SG3-R6C80, which was plugged during that outage, was not stabilized.

Question 3:

During the 2RF08 outage, one tube (SG1-4-109) with an indication denoted as "RRT" was plugged according to the table in the February 14, 2006, report. Please discuss the cause of this restriction. Was there any change in the degree of restriction compared to earlier inspections, and if so, what is the cause of the change?

TXU Power response:

Historically, this tube has always exhibited restriction during eddy current inspections. In prior inspections, it required repeated attempts to pass eddy current probes through the tube at this location. There was no change during the current inspection and the bobbin inspection of this tube during 2RF08 did not show any I-code indications. SG1-R4-C109 was plugged by administrative decision due to the difficulty, both in 2RF08 and historically, in allowing a probe to pass. The support plates in the Unit 2 steam generators are made of stainless steel and hence there is no corrosion of the support plate leading to denting. The restriction in this tube is therefore attributable to steam generator fabrication.

Question 4:

Please confirm the absence of crack-like indications during the 2RF08 tube inspections.

TXU Power response:

No crack-like indications were found in any tube during 2RF08 Steam Generator inspections.

Question 5:

Degradation of the waterbox cap plate region has been reported at the Byron 2 Model DT steam generators (Reference: ADAMS Accession No. ML042260202). What actions have been taken to address the potential for similar problems at Comanche Peak 2?

TXU Power response:

Video inspection of the water box was performed in each of the Unit 2 steam generators prior to 2RF08. These video inspection tapes were reviewed prior to 2RF08 to assess if cut outs were made in the water box cap plates in these steam generators. Review of the video tapes was conclusive for Unit 2 Steam Generators (SGs) 1, 2 and 4 that cut outs in the cap plate do not exist. Unit 2 SG-3's historical video was less than conclusive. Video inspection of SG-3's water box in 2RF08 concluded cut outs in the cap plate do not exist, just as in the other three Unit 2 Steam Generators.