

# UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 11, 2009

Mr. Rafael Flores
Senior Vice President and
Chief Nuclear Officer
Luminant Generation Company LLC
P.O. Box 1002
Glen Hope, TX 76043

SUBJECT:

COMANCHE PEAK STEAM ELECTRIC STATION, UNIT 2 - REQUEST FOR ADDITIONAL INFORMATION REGARDING STEAM GENERATOR TUBE INSERVICE INSPECTIONS DURING THE TENTH REFUELING OUTAGE

(TAC NO. ME0123)

Dear Mr. Flores:

By letter dated September 18, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082690600), Luminant Generation Company LLC (the licensee), submitted a summary of the results of the steam generator tube inspections performed at Comanche Peak Steam Electric Station, Unit 2, during the tenth refueling outage (2RF10).

The U.S. Nuclear Regulatory Commission staff has reviewed the information provided in the application and determined that additional information is needed in order to complete its evaluation. The request for additional information (RAI) is provided in the enclosure to this letter and was discussed with Mr. Jim Barnette of Luminant Generation Company LLC on March 10, 2009. Mr. Barnette agreed that the RAI response will be provided within 30 days from the date of this letter.

If you have any questions, please contact me at 301-415-3016.

Sincerely,

Balwant K. Singal, Senior Project Manager

Plant Licensing Branch IV

Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation

Balwat Klingel

Docket No. 50-446

Enclosure: As stated

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## REQUEST FOR ADDITIONAL INFORMATION

#### STEAM GENERATOR TUBE INSERVICE INSPECTION REPORT

#### TENTH REFUELING OUTAGE (2RF10)

# COMPANCHE PEAK STEAM ELECTRIC STATION, UNIT 2

#### **DOCKET NO. 50-446**

By letter dated September 18, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082690600), Luminant Generation Company, LLC (the licensee), submitted a summary of the results of the 2008 steam generator (SG) tube inspections performed at Comanche Peak Steam Electric Station (CPSES), Unit 2, during the tenth refueling outage (2RF10).

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information provided in the licensee's letter dated September 18, 2008, and determined that the following additional information is needed in order to complete its evaluation.

- 1. It appears that the next SG tube inspections at CPSES, Unit 2, will not occur until after two operating cycles. It also appears that axial and circumferential indications were found near the tube end and that eddy current could not clearly resolve whether the flaws are cracks. Please confirm that an inspection is planned for next refueling outage or in 24 effective full power months (EFPMs) (whichever is less) since Technical Specification 5.5.9.2.d.3 requires that, if crack indications are found in any SG tube, then the next inspection for each SG for the degradation mechanism that caused the crack indication shall not exceed 24 EFPMs or one refueling outage (whichever is less). If definitive information, such as from examination of a pulled tube, diagnostic non-destructive testing, or engineering evaluation, indicates that a crack-like indication is not associated with a crack(s), then the indication need not be treated as a crack.
- 2. Please provide the results of the tube plug inspections and the scope and results of your upper bundle inspection in SG 3 (e.g., was any degradation observed, were the tube support openings clear of deposits, etc.).
- 3. Section 2.1.1 of the submittal referenced Table A-1; however, the NRC staff was unable to locate Table A-1 in the submittal. Please provide a copy of Table A-1.
- 4. The submittal indicated tubes that possibly have elevated residual stress were included in the full length bobbin inspection and top of tube sheet +Point probe. If any of these tubes were in lower row tubes, please discuss the extent to which the U-bend regions of these tubes were inspected with a +Point probe. In addition, please clarify the reason for inspecting the U-bend region of approximately 46 tubes above row 2 on the hot leg and 13 tubes above row 2 on the cold leg.

- 5. Please discuss whether any of the 13 tubes plugged due to axial and circumferential indications exhibited an eddy current offset indicative of elevated residual stress.
- 6. In Table 2-6, please clarify whether the rough metal strip (refer to object numbers EC 1-01, 1-02, and 1-03) is near the tube in row 8, column 3 or row 8, column 4.
- 7. Please clarify what is meant by right and left tube crevice (refer to object numbers 3-001 and 3-002 in Table 2-6).
- 8. For the indications near the tube end, the submittal appears to conclude that the tube would not burst. Please confirm that these tubes have adequate margin for resisting pullout from the tube sheet.
- 9. An assessment is provided indicating that CPSES, Unit 2 met condition monitoring limits for various degradation mechanisms. This assessment appeared to be based primarily on the as-found results. Please confirm that the potential for and severity of degradation in the non-inspected tubes was also assessed and the basis for the conclusion that these tubes had retained adequate integrity (and will continue to retain integrity until the next inspection).
- 10. Please provide a list of the location, orientation, and sizes of the service-induced indications. The submittal appears to be lacking in information regarding wear indications at the anti-vibration bars.
- 11. Please confirm that the only service-induced flaws detected during the 2008 inspections were tube-end indications, wear at the anti-vibration bars, wear at the tube supports, and wear attributed to loose parts.
- 12. The submittal indicated that cracking of the cold-leg tube ends is not expected to exhibit significant cracking until cracking on the hot-leg is extensive. Please clarify this statement. Indications (presumably cracking) have been observed at the cold-leg tube ends in at least one unit.
- 13. Please confirm that the operational assessment for tube wear due to loose parts also included the change in operating conditions as a result of the planned power uprate. If it did not, please discuss the plans to confirm that tube integrity will be maintained under the stretch power uprate conditions.
- 14. Several tubes were plugged in column 33 as a result of wear from a loose part. The submittal indicated the wear rate derived from the plugged tubes is small. Please clarify. Were these plugged tubes, deplugged, inspected, and then replugged to determine the wear rate? Are the tubes located at row 8, column 33 and row 9, column 33 stabilized? Please clarify which probes were used to inspect the tubes adjacent to the plugged tubes in column 33.

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/RA/

Balwant K. Singal, Senior Project Manager Plant Licensing Branch IV Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation

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