Log # TXX-96020
File # 10035
905.4 (clo)
Ref. # 10CFR50.54(f)
GL 95-03

C. Lance Terry
Group Vice President

January 18, 1996

U. S. Nuclear Regulatory Commission
Attn.: Document Control Desk
Washington, DC 20555-0001

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446 UNITS 1 AND 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION ON CPSES
RESPONSE TO GENERIC LETTER 95-03, "CIRCUMFERENTIAL
CRACKING OF STEAM GENERATOR TUBES"
(TAC NOS. M92233 AND M92234)

REF:
1) Generic Letter 95-03, "Circumferential Cracking of Steam Generator Tubes," dated April 28, 1995
2) TU Electric letter logged TXX-95169, from C. L. Terry to the NRC, dated June 27, 1995
3) NRC Letter from Timothy J. Polich to C. Lance Terry, dated December 15, 1995

Gentlemen:

On April 28, 1995, the NRC issued Generic Letter 95-03, "Circumferential cracking of Steam Generator Tubes" (Reference 1). TU Electric submitted a response to the Generic Letter via Reference 2. The NRC subsequently issued a Request for Additional Information (Reference 3) regarding TU Electric's response (Reference 2). Attachment 2 to this letter provides TU Electric's response to the NRC's Request for Additional Information.

Pursuant to Section 182a of the Atomic Energy Act of 1954, as amended, and 10 CFR 50.54(f), TU Electric is submitting this response to a Request for Additional Information under affirmation (Attachment 1) to the requested information as stated in Reference 1 (Requirement for Affidavit) and Reference 3 (Request for Additional Information). The response is provided in Attachment 2.

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If you have any questions, please contact Carl B. Corbin at (214) 812-8859.

Sincerely,

C. L. Terry

C. L. Terry

By: Roger D. Walker
Roger D. Walker
Regulatory Affairs Manager

CBC/cbc
Attachments

c - Mr. L. J. Callan, Region IV
Resident Inspectors, CPSES (2)
Mr. T. J. Polich, NRR

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Texas Utilities Electric Company	)	Docket Nos. 50-445
	)	and 50-446
(Comanche Peak Steam Electric	)	
Station, Units 1 & 2)	)	

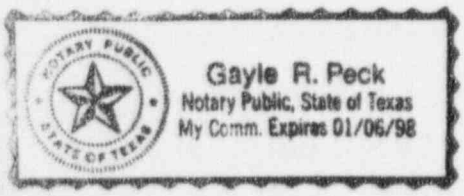
AFFIDAVIT

Roger D. Walker being duly sworn, hereby deposes and says that he is the Regulatory Affairs Manager, Nuclear Production of TU Electric, the licensee herein; that he is duly authorized to sign and file with the Nuclear Regulatory Commission this Response to Request for Additional Information on TU Electric's Response to Generic Letter 95-03, "Circumferential Cracking of Steam Generator Tubes"; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.

Roger D. Walker
Regulatory Affairs Manager,
Nuclear Production

STATE OF TEXAS)
)
COUNTY OF DALLAS)

Subscribed and sworn to before me, on this 18th day of January, 1996.



Notary Public

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION ON CPSES
RESPONSE TO GENERIC LETTER 95-03, "CIRCUMFERENTIAL
CRACKING OF STEAM GENERATOR TUBES"
(TAC NOS. 92233 AND M92234)

NRC RAI # 1:

For the examinations to be performed during your next inspection at Units 1 and 2, you indicated that supplemental techniques will be used for these inspections. Please clarify what techniques will be used for these inspections. Please clarify what techniques will be used (e.g., a probe qualified per industry guidelines for circumferential crack detection, etc.).

TU Electric Response to RAI # 1:

Supplemental techniques are defined as those eddy current probes that have been demonstrated (in accordance with Appendix H of the EPRI document NP-6201) to be capable of identifying defects in regions of tubes not conducive to detection by bobbin-coil.

NRC RAI # 2:

Clarify the inspections performed in the U-bend region of Row 1 and 2 tubes during your prior inspections at Units 1 (i.e., March 1995) and 2 (October 1994).

TU Electric Response to RAI # 2:

For inspection programs performed to date only bobbin-coil examination have been performed in the U-bend region of rows 1 and 2. This inspection technique was considered appropriate as 1) cracking has been minimal in this region of similar steam generators, and 2) Unit 1 steam generator row 1 and 2 U-bends were heat treated prior to operation for stress relief; and Unit 2 tubes are thermally treated Alloy 600 material.

NRC RAI # 3:

In your response, you indicated that dents exceeding 5.0 volts at the lowest hot leg support plate will be examined. Provide the procedure used for sizing the dents (i.e., 2.75 volts peak-to-peak on 4-20% through-wall ASME holes at 550/130 mix). If the procedure is identical to the procedure for the voltage-based repair criteria, a detailed description is not necessary.

It was indicated that the sample plan for dents may be limited to the lowest tube support plate. A large dent at an upper tube support plate may be more significant in terms of corrosion susceptibility as a result of higher stresses than a small dent at a lower tube support plate even though the temperature is lower at the upper tube support plate. Given this, discuss the basis for the proposed sample strategy given that cracking depends on many factors including temperature and stress levels.

Clarify the inspections performed at dented locations in Unit 1 during your prior inspection (i.e., March 1995). For example, did the 6% of the first hot-leg tube support plate intersections include dented intersections or was the sample randomly chosen?

Clarify the inspections performed at dented locations in Unit 2 during your prior inspection (i.e., October 1994).

TU Electric Response to RAI # 3:

The procedure currently used to size dents at CPSES is to establish a 2.75 volt peak-to-peak response from the four 20% flat bottom holes of an ASME standard. This is accomplished on the channel which mixes the 550 and 130 kHz signals.

The determination to inspect dents only at the lowest hot leg support plate was made with all factors (e.g. temperature, stress levels, previous examination results) considered. The magnitude of the voltage response from dents at the lowest hot leg support plate is generally representative of the voltage response from dents at other support plates. There are some dents which have voltage responses in which the dents at the lowest support plate are not representative (i.e. significantly higher). However, other than one dent at the fifth hot leg support in Unit 1, all the other dents (Units 1 and 2) are either at the top support plate or on the cold leg. Due to the location of these dents along the tube length and the fact that CPSES has had no previous experience with stress corrosion degradation, it is determined that examining the dents at the lowest tube support plate provides adequate sampling.

CPSES has included tubes with dented intersections during each of the previous inspections in both Units 1 and 2. These tubes with dents have been included unless they were determined to be stable. Stability was determined to be achieved if two (2) consecutive examinations revealed essentially the same signal response. These tubes were subjected to full length bobbin-coil examination. No supplemental examinations (e.g. MRPC) have been previously applied at these intersections.

NRC RAI # 4:

Clarify whether the expansion criteria in Unit 2 will include expanding the sample to all four steam generators.

TU Electric Response to RAI # 4:

Upon detection of circumferential cracking the inspection program will be expanded to include the area along the tube length where the cracking was detected in each tube in all four steam generators.

NRC RAI # 5:

During the Maine Yankee outage in July/August 1994, several weaknesses were identified in their eddy current program as detailed in NRC Information Notice 94-88, "Inservice Inspection Deficiencies Result in Severely Degraded

Steam Generator Tubes". In Information Notice 94-88, the staff observed that several circumferential indications could be traced back to earlier inspections when the data was reanalyzed using terrain plots. These terrain plots had not been generated as part of the original field analysis for these tubes. For the rotating pancake coil (RPC) examinations performed at your plant at locations susceptible to circumferential cracking during the previous inspection (i.e., previous inspection per your Generic Letter 95-03 response), discuss the extent to which terrain plots were used to analyze the eddy current data. If terrain plots were not routinely used at locations susceptible to circumferential cracking, discuss whether or not the RPC eddy current data has been reanalyzed using terrain mapping of the data. If terrain plots were not routinely used during the outage and your data has not been reanalyzed with terrain mapping of the data, discuss your basis for not reanalyzing your previous RPC data in light of the findings at Maine Yankee.

Discuss whether terrain plots will be used to analyze the RPC eddy current data at locations susceptible to circumferential cracking during your next steam generator tube inspection (i.e., the next inspection per your Generic Letter 95-03 response).

TU Electric Response to RAI # 5 :

In accordance with the CPSES Steam Generator Analysis Guideline all rotating pancake frequencies and coils are reviewed in both the lissajous and C-scan (terrain plots) modes.