

December 1, 2000

Mr. C. Lance Terry
Senior Vice President &
Principal Nuclear Officer
TXU Electric Company
Attn: Regulatory Affairs Department
P. O. Box 1002
Glen Rose, TX 76043

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES) UNITS 1 AND 2 -
REQUEST FOR ADDITIONAL INFORMATION REGARDING STEAM
GENERATOR TUBE REPAIR USING LASER WELDED SLEEVES
(TAC NOS. MA9950 AND MA9951)

Dear Mr. Terry:

By letter dated September 6, 2000, you submitted proposed changes to the Technical Specifications (TSs) associated with steam generator repair using laser welded sleeves at CPSES Unit 1. Since the TSs are a common document for both units, the proposed changes were also submitted for CPSES Unit 2 for administrative purposes only. The proposed TSs changes, when approved, will allow installation of a laser welded tube sleeve as an alternative to plugging defective steam generator tubes. The proposed changes are needed to support the CPSES Unit 1 outage which is scheduled for the spring of 2001.

The Nuclear Regulatory Commission (NRC) staff has reviewed the information provided in the September 6, 2000, letter. In order for the NRC staff to complete the evaluation, a response to the enclosed Request for Additional Information (RAI) is required.

The contents of this RAI have been discussed with Mr. Roger Walker of your staff on November 16, 2000, and a response time frame of January 2, 2001, was agreed to. If for any reason this date becomes unreasonable, please contact me at your earliest opportunity.

Sincerely,

/RA/

David H. Jaffe, Senior Project Manager, Section 1
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-445 and 50-446

Enclosure: Request for Additional Information

cc: See next page

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Comanche Peak Steam Electric Station

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REQUEST FOR ADDITIONAL INFORMATION

REGARDING STEAM GENERATOR REPAIR USING LASER WELDED SLEEVES

TXU ELECTRIC, ET. AL.

COMANCHE PEAK STEAM ELECTRIC STATION, UNITS 1 AND 2

DOCKET NOS. 50-445 AND 50-446

I. Questions Related to Proposed Technical Specifications (TSs)

1. The proposed changes to Table 5.5-2, Steam Generator Tube Inspection, are not implemented in accordance with Section 3.0 of Electric Power Research Institute (EPRI) Steam Generator Examination Guideline, Revision 5, TR-107569-V1R5, September 1997. Specifically, EPRI recommends a 20% sample for initial sleeve inspection. In addition, the staff has approved past sleeving license amendments based on TSs that included a separated, stand-alone table specifically for sleeve inservice inspection and expansion criteria.
2. The proposed sleeve plugging limit of 43% does not correspond to any of the plugging limits shown on page 3-16 of WCAP-15090, Revision 1. Please clarify the discrepancy and confirm that the 43% plugging limit is derived using the current operating conditions in Unit 1 and not the power uprate conditions.
3. The disposition procedures for degraded sleeve(s) is not clear to the Nuclear Regulatory Commission (NRC) staff. TS 5.5.9e.1.f proposed a 43% plugging limit for the degraded sleeve. However, Section 7.6 of WCAP-13698 specifies that "...[A]ny change in the eddy current signature of the sleeve and sleeve/tube joint region will require further inspection by alternate techniques prior to acceptance. Otherwise the tube containing the sleeve in question shall be removed from service by plugging..." This implies that tubes with eddy-current indications in the sleeve region may be left in service. Discuss eddy-current probe types and qualifications for sleeve inspection and the disposition procedures for degraded sleeve(s) at Unit 1.
4. In proposed TS 5.5.9e.1.n, WCAP-15090, Revision 0, is referenced. However, in the amendment request package, WCAP-15090, Revision 1, is included. Please clarify the discrepancy in the revision number.
5. In proposed TS 5.5.9b (page 5.0-13), it is stated that "When referring to a steam generator tube, the sleeve shall be considered as part of the tube if the tube has been repaired per Specification 5.5.9e.1.n." Specification "5.5.9e.1n" should be corrected to "5.5.9e.1.n." for consistency.

Enclosure

II. Questions Related to WCAP-13698, Revision 3

1. In the spring of 2000, the NRC staff reviewed an amendment request from Kewaunee Nuclear Power Plant regarding its Westinghouse Electric Company (Westinghouse) laser welded sleeves. In that review, the staff questioned whether the weld width of the laser welded sleeves is in compliance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code. As a result of the NRC staff review, Westinghouse stated (in Reference 1) that it will revise its inspection and installation procedures for the laser welded sleeves to require that the average weld width be greater than 0.02 inch for the 7/8 inch inside diameter tubing. In Reference 2, Westinghouse stated that the field inspection procedure has been revised to verify that the average weld width of new sleeves is equal to or greater than 0.021 inch. It was NRC staff's understanding that the 0.021 inch will be applicable to the 3/4 inch diameter tubing. However, in WCAP-13698, Revision 3, it is stated that the weld width limit is 0.015 inch. Why is the weld width limit of 0.021 inch not implemented in WCAP-13698? Will the weld width limit of 0.021 inch be implemented in the sleeve acceptance criteria and installation procedures at Comanche Peak Steam Electric Station (CPSES)? Confirm how any weld having an average weld width of less than 0.021 inch will be dispositioned.
2. In Section 7.3 of WCAP-13698, it is stated that the Cecco-5/bobbin probe provides baseline examination of the sleeves and tubes. In Section 7.4 of WCAP-13698, it is stated that Cecco-5 probes have been qualified to EPRI Appendix H requirements for detection in 3/4 and 7/8 inch diameter sleeved tubing. The staff understands that most licensees use the plus point probe to inspect the sleeves. If the Cecco-5 probe is used, the staff requests the following information regarding the Cecco-5 probe: flaws in the qualification data set, noise level and signal-to-noise ratio in the qualification data set, comparison of the noise level and signal to noise expected from sleeves installed in the plant, and examination technique specifications sheet. In addition, clarify what eddy current probes will be used in the in-service inspection of sleeves in the future refueling outages?
3. In Section 7.1 of WCAP-13698, it is stated that the sleeve welds will be inspected ultrasonically to verify the minimum required weld width. In Table 6.1, it is stated that the sleeves will be inspected ultrasonically on a sample plan. Discuss the sample plan. If all sleeve welds will not be inspected ultrasonically because of the sample plan, what measures will be taken to assure the acceptability of the width and condition of all welds? What is the minimum required weld width referred to in Section 7.1?
4. In Section 7.5.3 of WCAP-13698, Westinghouse stated that other advanced examination techniques may be used to inspect the in-service sleeves as long as they can be shown to provide the same degree or greater of inspection rigor as the initial methods. Clarify (1) whether the advanced techniques would be qualified in accordance with EPRI guidelines, and (2) how the licensee would implement the advanced techniques at Comanche Peak?

III. References

1. Letter dated February 23, 2000, from Mark L. Marchi of Wisconsin Public Service Corporation to NRC Document Control Desk, Subject: Additional Information for Proposed Amendment 158, "Plugging Limit Changes for Westinghouse Mechanical Hybrid Expansion Joint Sleeves and Laser Welded Sleeves."
2. Letter dated March 23, 2000, from H. A. Sepp of Westinghouse Electric Company to NRC Document Control Desk, Subject: Laser Welded Sleeves Licensing Information.