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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 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, standalone table specifically for sleeve inservice inspection and expansion criteria.

   Response:

   The proposed changes are being implemented in accordance with the EPRI Steam Generator Examination Guideline, Revision 5, TR-107569-V1R5. TXU Electric has committed to perform Steam Generator Tube Inspection under the auspices of NEI 97-06 “Steam Generator Program Guidelines,” which refers to the aforementioned guideline. This guideline recommends a 20% sample and as such implementing procedures (site specific) will include these recommendations or the most current recommendations in the guideline at the time of implementation of the program.

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. Clarify the discrepancy. Also, confirm that the 43% plugging limit is derived using the current operating conditions in Unit 1 and not the power uprate conditions.

   Response:

The staff is correct that 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. A more conservative value was chosen by TXU Electric which is 43%. Actual recommendation proposed by WCAP-15090 Revision 1 is 44%. Additionally, 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 NRC staff. TS 5.5.9.e.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 Comanche Peak Unit 1.

   Response:

   The proposed TS 5.5.9.e.1.f, is for "Plugging or Repair Limit" while the proposed TS 5.5.9.e.1.n, refers to tube serviceability and the methodology for tube repair prescribed via WCAP-13698, Revision 3. Hence, the methodology defined in WCAP-13698, Revision 3, will be adhered to.

4. In proposed TS 5.5.9.e.1.n, WCAP-15090, Revision 0, is referenced. However, in the amendment request package, WCAP-15090, Revision 1, is included. Clarify the discrepancy in the revision number.

   Response:

   This appears to be a typographical error and will be corrected, the correct revision is WCAP-15090, Revision 1, nonetheless, WCAP-15090, Revision 0 is also correct because the only changes that were made in revision 1 are for the power uprating, which is [currently] only applicable to CPSES Unit 2. A revised page with the corrected version will be attached to the forthcoming supplemental response.

5. In proposed TS 5.5.9.b (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 5.5.9.e.1.n." Specification "5.5.9.e.1.n" should be corrected to "5.5.9.e.1.n." for consistency.

Response:

A revised page with the corrected version will be attached to the forthcoming supplemental response.

II. Questions Related to WCAP-13698, Revision

In the spring of 2000, the NRC staff reviewed an amendment request from Kewaunee regarding its 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 (ASME 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 and greater than 0.021 inch. It was staffs 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. (1) Why is the weld width limit of 0.021 inch not implemented in WCAP-13698? (2) Will the weld width limit of 0.021 inch be implemented in the sleeve acceptance criteria and installation procedures at Comanche Peak? (3) Confirm how any weld having an average weld width of less than 0.021 inch will be dispositioned.

Response:

Responses to the specific questions are as follows:

1) WCAP-13698, Revision 3, was issued in July 1998, whereas the staff requested additional information in spring of 2000. Revision 3 is the current revision.
2) Yes, the weld width limit of 0.021 inch will be implemented at Comanche Peak Unit 1 via the site specific procedures.
3) Any welds determined to have an average width of less than 0.021 inch will be subjected to an engineering disposition process.

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 Electric Power Research Institute (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 (ETSS). In addition, clarify what eddy current probes will be used in the in-service inspection of sleeves in the future refueling outages?

Response:

TXU Electric will not use Cecco-5 probe, and will use plus point probe to inspect the sleeves. TXU Electric may use other probes as they become available in the future provided that they comply with EPRI Appendix H qualification requirements.

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. (1) Discuss the sample plan. (2) 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? (3) What is the minimum required weld width referred to in Section 7.1?

Response:

TXU Electric will perform 100% inspection, at this time no sampling plan is being discussed at CPSES. With respect to weld width limit will be 0.021 inch.

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. (1) Clarify whether the advanced techniques would be qualified in accordance with EPRI guidelines, and (2) how would the licensee implement the advanced techniques at Comanche Peak?

Response:

Responses to the specific questions are as follows:

1) The advanced techniques will be qualified in accordance with EPRI appendix H requirements, and
2) These techniques will be incorporated and implemented via the approved site procedures, and under the auspices of 10CFR50.59 process if applicable.

Ill. 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 15$, "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.