September 25, 2002

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES), UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: STEAM GENERATOR TUBE REPAIR UTILIZING LEAK TIGHT SLEEVES (TAC NOS. MB3288 AND MB3289)

Dear Mr. Terry:

The Commission has issued the enclosed Amendment No. 101 to Facility Operating License No. NPF-87 and Amendment No. 101 to Facility Operating License No. NPF-89 for CPSES, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated October 23, 2001, as supplemented by letters dated July 23, August 29, and September 6, 2002.

The amendments revise TS 5.5.9, “Steam Generator Tube Inspection Report,” to permit installation of leak-tight sleeves in the CPSES Unit 1 steam generators as an alternative to plugging defective steam generator tubes.

A copy of our related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

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

Docket Nos. 50-445 and 50-446

Enclosures:
1. Amendment No. 101 to NPF-87
2. Amendment No. 101 to NPF-89
3. Safety Evaluation

cc w/encls: See next page

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TXU GENERATION COMPANY LP

COMANCHE PEAK STEAM ELECTRIC STATION, UNIT NO. 1

DOCKET NO. 50-445

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.101
License No. NPF-87

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by TXU Generation Company LP dated October 23, 2001[1], as supplemented by letters dated July 23, August 29, and September 6, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-87 is hereby amended to read as follows:

---

[1] The application was submitted by TXU Electric, the corporate predecessor of TXU Generation Company, LP. By letter dated January 2, 2002, TXU Generation Company, LP adopted all licensing actions previously submitted to the NRC under the corporate name TXU Electric.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 101, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. TXU Generation Company LP shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: September 25, 2002

TXU GENERATION COMPANY LP

COMANCHE PEAK STEAM ELECTRIC STATION, UNIT NO. 2

DOCKET NO. 50-446

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.101
License No. NPF-89

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by TXU Generation Company LP dated October 23, 2001[1], as supplemented by letters dated July 23, August 29, and September 6, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-89 is hereby amended to read as follows:

---

[1] The application was submitted by TXU Electric, the corporate predecessor of TXU Generation Company, LP. By letter dated January 2, 2002, TXU Generation Company, LP adopted all licensing actions previously submitted to the NRC under the corporate name TXU Electric.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 101, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this license. TXU Generation Company LP shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: September 25, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 101

TO FACILITY OPERATING LICENSE NO. NPF-87

AND AMENDMENT NO. 101

TO FACILITY OPERATING LICENSE NO. NPF-89

DOCKET NOS. 50-445 AND 50-446

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
5.0-16	5.0-16
5.0-17	5.0-17
5.0-17a	5.0-17a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 101 TO

FACILITY OPERATING LICENSE NO. NPF-87

AND AMENDMENT NO. 101 TO

FACILITY OPERATING LICENSE NO. NPF-89

TXU GENERATION COMPANY LP

COMANCHE PEAK STEAM ELECTRIC STATION, UNITS 1 AND 2

DOCKET NOS. 50-445 AND 50-446

1.0 INTRODUCTION

By application dated October 23, 2001, as supplemented by letters dated July 23, August 29, and September 6, 2002 (References 1 through 4, respectively), TXU Generation Company LP (the licensee) requested changes to the Technical Specifications (TSs) for the Comanche Peak Steam Electric Station (CPSES), Units 1 and 2. The proposed changes would revise TS 5.5.9, "Steam Generator Tube Inspection Report," to permit installation of leak-tight sleeves in the CPSES Unit 1 steam generators as an alternative to plugging defective steam generator tubes.

References 2, 3, and 4 provided clarifying information that did not change the scope of the original *Federal Register* notice (66 FR 66473 dated December 26, 2001) or the original no significant hazards consideration determination.

2.0 BACKGROUND

Steam generator tubes form a part of the reactor coolant pressure boundary. After a period of use, the tubes may degrade and, thus, require repair or removal from service. Since the leak-tight sleeve would be used to repair a part of the degraded reactor coolant pressure boundary (i.e., steam generator tubes), General Design Criterion (GDC) 14 of Appendix A to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 is applicable. GDC 14 requires that the reactor coolant pressure boundary be designed, fabricated, erected, and tested so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture.

To satisfy GDC 14, the leak-tight sleeve is required to meet the specifications of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code). The sleeve is qualified for service in accordance with IWA-4000 in Section XI of the ASME Code. In addition, Section XI references Section III of the ASME Code for component design specifications, which governs the steam generator tube design and is applicable to the design

of the leak-tight sleeve. The sleeve is analyzed to appropriate Section III criteria for structural integrity considering design, operating, and accident loading conditions. The resulting stresses in the leak-tight sleeve and sleeve wall thickness must satisfy corresponding Section III allowable stresses. The welding of the leak-tight sleeve must satisfy the qualification standard for welding procedures, welders, and welding operators in Section IX of the ASME Code.

Regulatory Guide (RG) 1.121, "Bases for Plugging Degraded PWR [Pressurized Water Reactor] Steam Generator Tubes," provides guidance for determining minimum tube wall thickness beyond which the degraded tube should be plugged (i.e., plugging limits). After the sleeve is installed, it becomes part of the tube; therefore, RG 1.121 applies to the development of the sleeve plugging limits.

The use of the leak-tight sleeves changes the operational and post-accident behavior of the steam generators since they decrease both flow and heat transfer through the tube. In the past, when a steam generator tube had become sufficiently degraded, a steam generator tube plug was inserted in the tube to completely remove the tube from service. The effect of steam generator tube plugs was reflected in the accident analysis and the licensee assumed how many (or what fraction) of steam generator tubes are plugged. This fraction of plugged tubes is commonly referred to as the accident analysis tube plugging limit. Since sleeving does not completely remove a steam generator tube from service, it would be too conservative to count a sleeved tube as a plugged tube for the purpose of determining the total number of plugged tubes. The use of steam generator tube sleeves can be reflected in the accident analysis by determining the number of sleeves that have the same hydraulic effect; that is, the "hydraulic equivalency" of a single steam generator tube plug.

3.0 EVALUATION

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's application, as supplemented, to determine if the proposed use of the leak-tight steam generator tube sleeves results in an acceptable nuclear steam supply system (NSSS) pressure boundary as described in Section 3.1 herein. In addition, the NRC staff has reviewed the licensee's proposed hydraulic equivalency for the leak-tight sleeves to assure that the use of the sleeves is properly reflected in the accident analysis.

3.1 Evaluation of the Reactor Coolant Pressure Boundary

The licensee's proposed sleeve repair methodology, the leak-tight sleeve, is documented in Westinghouse Electric Company (Westinghouse) Topical Report, CEN-630-P, Revision 2 (Reference 5). The sleeve discussed in this topical report can be installed in Combustion Engineering and Westinghouse steam generators that use 3/4-inch outside diameter tubing. CPSES Unit 1 has Westinghouse steam generators with 3/4-inch diameter tubing. The staff has reviewed the following areas of the sleeve repair method: design, material selection, structural integrity, sleeve acceptance inspections, corrosion tests, and sleeve plugging limit. These topics are discussed below.

3.1.1 Design

The steam generator tube sleeve is a segment of a smaller-diameter tube that is inserted into and attached to the region of the degraded area of the tube. The sleeve is attached to the tube by various methods. The Westinghouse leak-tight sleeve is welded to the parent tube by autogenous gas-tungsten arc welding. The leak-tight sleeve can be grouped into two types of designs: the expansion/roll transition zone (ETZ) sleeve and the tube support plate (TSP) sleeve. The ETZ sleeve repairs the degraded region at the top of the tubesheet and it covers a certain length above and below the top of the tubesheet, spanning the expansion transition. One type of ETZ sleeve is welded to the parent tube at the upper and lower end of the sleeve. The other type of ETZ sleeve is welded to the tube at the upper end and hard rolled at the lower end to the tube in the tubesheet.

The TSP sleeve is used to repair degradation located in the free span or the tube support plate intersections. Both the upper and lower end of a TSP sleeve are welded to the parent tube.

The automatic autogenous gas-tungsten arc welding was qualified and demonstrated by full scale mock-ups in the laboratory in accordance with the specifications of the ASME Code, Section IX.

3.1.2 Materials of Construction

The leak-tight sleeve material, thermally treated (TT) Alloy 690, is a nickel-iron-chromium alloy. Alloy 690 is an ASME Code-approved material, specified in ASME SB-163, and is incorporated in the ASME Code Case N-20-3. The staff has determined that the use of Alloy 690 TT material is an improvement over the mill-annealed Alloy 600 material used in the parent tube in the CPSES, Unit 1, steam generators. Corrosion tests conducted under Electric Power Research Institute (EPRI) sponsorship confirmed that Alloy 690 TT resists corrosion better than mill-annealed Alloy 600. The staff finds Alloy 690 TT material acceptable on the basis of the laboratory corrosion tests and industry operating experience. In addition, Alloy 690 satisfies the guidelines in RG 1.85, “Materials Code Case Acceptability -- ASME Section III, Division 1,” Revision 24, dated July 1986.

3.1.3 Structural Integrity

Westinghouse performed a structural analysis of the sleeve-tube assembly in accordance with the ASME Code, Section III, and 10 CFR Part 50, Appendix B. Westinghouse demonstrated that the leak-tight sleeve satisfies the safety margins in the ASME Code and the requirements in NRC regulations under various loading conditions, including design, normal operations, and postulated accidents.

To qualify the leak-tight sleeve design, Westinghouse performed various mechanical tests on the mock-up sleeve-tube assembly. These tests included axial, collapse, burst, and thermal cycling loads. Loads were applied until failure or, in the case of cyclic loading, until the number of cycles exceeded the expected number of cycles for the plant. The tests demonstrated that the sleeve-tube assembly satisfies the ASME Code Section III allowables for all licensing design conditions.

The staff questioned whether the loading conditions imposed on the steam generator tubes at CPSES, Unit 1, are bounded by the loading conditions used in the design and qualification of the leak-tight sleeve, as shown in Reference 1. In Reference 3, the licensee stated that the loading conditions used in the design and qualification tests bound the operating conditions in CPSES, Unit 1, as shown in the Westinghouse letter report, CSE-01-023 (Reference 6). The staff concludes that the structural integrity of the sleeve will be maintained because the staff has confirmed that the design and qualification loads of the sleeve bound the operating conditions of the CPSES, Unit 1, steam generators.

3.1.4 Sleeve Acceptance Inspections

The licensee of a domestic nuclear plant detected eddy current test (ET) indications in the weld joints of that plant's leak-tight sleeves during its refueling outage in 1996. The weld defects were caused by entrapped oxides and/or weld shrinkage within the sleeve-to-tube weld. The cause of these weld defects was traced to inadequate tube cleaning. Although the defects did not significantly impair the structural integrity (strength) of the welds and did not cause leakage, they did increase the probability of leakage.

To minimize potential weld defects, Westinghouse has improved the tube cleaning specifications as a part of the sleeving installation procedures. In Reference 5, Westinghouse specifies that prior to installing a leak-tight sleeve, the inner surface of the parent tube at the desired weld location should be cleaned of service-induced oxides using motorized wire brushes.

In addition, Westinghouse specifies three visual inspections to ensure the integrity of the welds. The first visual inspection is performed after the brush cleaning of the inside surface of the tube that will be repaired. Westinghouse specifies that the visual inspection for cleanliness of all repaired tubes is to be performed as an interim measure until sufficient field experience is gained to consider adoption of statistical sampling for visual inspection in the future. The staff concludes that this interim measure shall apply until licensees determine, in accordance with 10 CFR 50.59 and based on vendor's recommendations, that there is sufficient field experience to support a statistically based sampling plan for visual inspection.

The second visual inspection, which Westinghouse suggests as optional, is performed after the weld is made. This visual inspection is conducted as a VT-1 inspection in accordance with Section XI of the ASME Code and should also be performed for the re-welds. The third visual inspection, which Westinghouse specifies as non-optional, is a VT-1 inspection performed on the lower weld of the full depth tubesheet sleeve.

In the mid-1990's, the licensee of another domestic nuclear plant visually detected weld zone indications in the sleeves which were not detected by either ET or ultrasonic testing (UT) during installation of the welded sleeves. To correct the problem, Westinghouse has revised the UT procedure which has been incorporated in Reference 5. Westinghouse has also improved its ET by specifying the use of the Plus Point probe for the baseline and acceptance inspection. Westinghouse has qualified the Plus Point probe for sleeve inspections in accordance with the EPRI Steam Generator Examination Guidelines.

The licensee has committed to perform the above sleeve inspections as discussed in Section 3.3 of this safety evaluation. The staff finds the licensee's sleeve inspection program acceptable because it follows the inspections specified in Reference 5.

3.1.5 Corrosion Tests

Westinghouse has performed a number of bench and autoclave tests to evaluate the corrosion resistance of the welded sleeve-tube joint. The corrosion tests were conducted to determine the corrosion resistance of the Alloy 690 sleeve to various effects, including the mechanical expansion, weld residual stresses, the weld condition, and the weld heat-affected zone. Westinghouse performed accelerated corrosion tests on actual sleeve samples whose inside surface and outside surface were subjected to corrosive solutions. The corrosion tests showed that Alloy 690 TT material performs significantly better than Alloy 600 material in terms of corrosion resistance. The staff concludes that Alloy 690 leak-tight sleeves have a relatively high resistance to corrosion compared to the original mill annealed Alloy 600 tubing and are suitable for tube repair.

3.1.6 Sleeve Plugging Limit

The sleeve plugging limit (not to be confused with the steam generator tube plugging limit) is defined as the depth of imperfections in the sleeve at or beyond which the sleeved tube shall be removed from service. The sleeve plugging limit is based on the minimum acceptable sleeve wall thickness to maintain its structural integrity. RG 1.121 and the ASME Code, Section III provide guidance on the derivation of the plugging limits. In Reference 5, the percentage of the allowed sleeve degradation due to structural considerations is 48% for the Combustion Engineering plants and 50.7% for the Westinghouse plants, such as CPSES, Unit 1. In addition to the structural considerations for the plugging limit, RG 1.121 also addresses the need to account for an allowance for the nondestructive examination (NDE) uncertainty and postulated growth of degradation in calculating the sleeve plugging limit. Considering the above allowances, the licensee proposed a plugging limit of 20% of the sleeve wall thickness. The staff concludes that the proposed plugging limit of 20% of the sleeve wall thickness is acceptable because it meets the ASME Code and RG 1.121.

3.1.7 Conclusions Regarding Leak-Tight Sleeves

On the basis of the acceptability of the information submitted by the licensee, the staff concludes that the leak-tight sleeve repair method is acceptable for use to repair degraded and defective steam generator tubes in CPSES, Unit 1, because the sleeve design satisfies GDC 14, RG 1.121, and the ASME Code.

3.2 Effect of the Leak-Tight Sleeves on the Accident Analysis

Steam generator tubes with indications of degradation in excess of allowable limits must be removed from service or repaired. Typically, tubes are plugged to remove them from service and tubes are repaired by installing sleeves that cover the degraded tube sections.

Plugging steam generator tubes decreases the steam generator primary side flow and heat transfer areas and, consequently, increases both the resistance to primary side flow and the primary to secondary resistance to heat transfer. The increased resistance, in turn, causes a

decrease in reactor coolant system (RCS) flow rate and an increase in the RCS-to-steam generator secondary side temperature difference for the same core thermal power level. These changes affect NSSS operational characteristics, the design basis analyses, and the licensing basis. Licensees typically address the potential impact by assuming some fraction of the steam generator tube is plugged in each of the steam generators and then re-establishing the licensing (and accident analysis) bases via new analyses to establish that a stated "plugging limit" is bounding with respect to the analyzed configurations. Once a plugging limit is established, a licensee may operate with any fraction of tubes plugged subject to not exceeding the established limit.

Operationally, plugged steam generator tubes may restrict operational flexibility and, if enough steam generator tubes are plugged, will limit core thermal power. Consequently, steam generator tubes are often repaired by “sleeving,” the process of inserting one or more smaller diameter tubes inside the original steam generator tube. Sleeving allows the original steam generator tube to remain in service and, although there is an impact on resistance to primary side flow and to heat transfer, the impact is less than would result from plugging the original steam generator tube. Licensees typically evaluate the effect of sleeving by determining the number of sleeved steam generator tubes equivalent to one plugged steam generator tube. Since the equivalent number of steam generator tubes varies with the number, location, type, and size of the sleeves; with the location of the sleeve in the steam generator tube; with plant operational characteristics; and with postulated accident conditions, a different equivalency may result for different conditions. Consequently, a bounding value must be established for purposes of evaluating whether the established steam generator plugging limit is met.

The licensee previously requested and received license amendments to apply laser-welded sleeves. The licensee’s letter dated December 4, 2001 (Reference 7), and the staff’s reply dated December 14, 2001 (Reference 8), enclosed a staff-revised, redacted safety evaluation in which the staff summarized its review of the licensee’s request regarding hydraulic equivalency of laser-welded sleeves to plugged steam generator tubes. The review included evaluation of analyses, a computer program, and comparisons to test data. Typically, the staff would expect hydraulic calculations to agree with test information, with an error of less than about 20%. The presented information often exhibited a significantly larger deviation that was not explained, with the predicted pressure drops larger than the test information; a difference in the conservative direction. Further, there were unexplained anomalies in the test results and the depth of the analyses was incomplete. Consequently, the staff chose to accept a clearly conservative hydraulic equivalency determination it believed would more than compensate for the irregularities.

3.2.1 Evaluation of Hydraulic Equivalency

Since the leak-tight sleeve design is similar to the laser-welded design, the staff limited its review to an evaluation of design and modeling differences, and the effect of these differences on hydraulic equivalence. Differences that influence hydraulic behavior modeling include the following[2]:

[2]Based upon information from References 2 and 3, and Westinghouse Topical Report WCAP-13698, Revision 3 (Reference 9).

Design	Laser-welded	Leak-tight
Diameter transition modeling	Sudden contractions and expansions	Gradual contractions and expansions between expanded and un-expanded sleeve regions
Number of expanded regions	Two	Two
Length, inches	Ranges between 12 and 36	17.5 and 9
Entrance region	Stepped expansion of sleeve into tube with sleeve end fully expanded into tube	Single expansion of sleeve into tube 0.5 inches after sleeve entrance
Exit region	Single expansion of sleeve into tube a short distance from sleeve exit or expansion of sleeve into tube at sleeve exit, depending upon design	Single expansion of sleeve into tube 0.75 inches before sleeve exit

As indicated, the laser-welded analyses were based on assuming sudden expansions and contractions in transitions between un-expanded and expanded sleeve sections. The tests identified in Reference 6 were analyzed with the same assumptions. Assuming gradual expansions and contractions would reduce the observed conservatism in test analyses when compared to test data and would reduce predicted pressure drop in sleeved steam generator tubes. Since the laser analyses were based on more conservative modeling than would result from more accurately modeling the expansions and contractions, the staff continues to accept the Reference 9, Table 3-8 values accepted in the previous staff review.[3]

Each sleeve design has two expanded regions. Since the laser-welded sleeve was analyzed for sudden expansions and contractions, the modeling was inherently conservative, and the staff's conclusions regarding changes in diameter for the laser-welded sleeve may be applied to the leak-tight sleeve.

Laser-welded sleeve designs as short as 12 inches were included in the staff's consideration when it concluded that 30-inch sleeve results were acceptable for sleeves less than 30 inches in length. Since the effect of diminishing length is expected to decrease overall pressure drop, the staff's previous conclusions will also apply to a 9-inch length.

The laser-welded sleeve, with a fully expanded entrance, will have a lower entrance-region pressure drop than that of the leak-tight sleeve due to the latter having an expansion 0.5 inches past the entrance. The leak-tight sleeve entrance is, in effect, a tube end protruding into a larger area. However, the annulus between the sleeve and tube is small, and the staff judges there is little difference between this configuration and one in which the annulus is considered

[3]Reference 7 provides a complete discussion of the staff's rationale pertaining to the accepted hydraulic equivalency.

as a solid. This leads to a realistic modeling identical to the sharp-edge modeling used in the laser-welded sleeve modeling, consistent with the staff's review of the laser-welded sleeve. The staff concludes any physical and modeling differences between the entrance regions of the two sleeve designs are sufficiently small that the staff's laser-welded sleeve conclusions are applicable to the leak-tight sleeve design. Examination of the exit regions leads to the same conclusion.

3.2.2 Conclusions Regarding Hydraulic Equivalency

The hydraulic equivalency values approved by the staff in Reference 6, and identified in WCAP-15090, Revision 1, Table 3-8 for 36-inch hot leg, 30-inch hot leg, and 30-inch hot leg and cold leg (combined), are acceptable for the leak-tight sleeves and may also be used for shorter leak-tight sleeves.

3.3 Commitments

As described in References 2 and 3, the licensee has established the following commitments associated with the proposed use of leak-tight sleeves.

Commitment Number 27267----The licensee will visually inspect 100% of the inside surface of the tube that will be sleeved until such time that control is demonstrated to assure cleaning effectiveness; after that time, a sample program may be used. The weld preparation procedures are currently in revision. The commitment will be implemented prior to 1RF09 (Unit 1 Refueling Outage 9).

Commitment Number 27268----Prior to UT inspection of steam generator tubes, a visual (VT-1) inspection will be required by CPSES procedures for detection of incomplete welds, blow holes, and weld splatter geometric irregularities in the welds. This requirement will be implemented prior to 1RF09.

Commitment Number 27269----Plus Point probe will be used in the inservice inspection for the sleeved tubes. This requirement will be implemented prior to 1RF09.

Commitment Number 27271----The licensee will use the hydraulic equivalency for the leak-tight sleeves in Reference 4 of the licensee's September 6, 2002, supplement and identified in WCAP-15090, Revision 1, Table 3-8 for 36-inch hot leg, 30-inch hot leg, and 30-inch hot leg and cold leg (combined). These values will also be used for sleeves shorter than 30 inches.

The NRC staff finds that controls for the implementation and subsequent evaluation of the proposed changes to the above regulatory commitments are best provided by the licensee's administrative processes, including the commitment management program. The above regulatory commitments do not warrant the creation of regulatory requirements (that changes in certain items require prior NRC approval). The NRC staff notes that pending industry and regulatory guidance on 10 CFR 50.71(e) may require that some information be included in a future update of the of the CPSES Updated Final Safety Analysis Report.

3.4 Proposed Technical Specification Changes

The licensee proposed the following changes to TS 5.5.9 of the CPSES, Units 1 and 2, TSs:

- TS 5.5.9.e.1.f would be revised by adding the following statement: "...The plugging limit for Leak Tight Sleeves is equal to 20% of the nominal wall thickness."

- TS 5.5.9.e.1.n would be changed to incorporate CEN-630-P, Revision 2, dated June 1997, as an acceptable reference for a methodology for repair of Unit 1 steam generator tubes.

- TS 5.5.9.e.2 would be changed to incorporate a reference to TS Table 5.5-3, "Steam Generator Repaired Tube Inspection for Unit 1 Only," in the TS.

The NRC staff finds that the proposed changes to the TSs are acceptable, since use of leak-tight sleeves has been found to be an acceptable repair for CPSES, Unit 1, steam generator tubes.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Texas State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (66 FR 66473 published December 26, 2001). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Terry, C. L., “Comanche Peak Steam Electric Station (CPSES), Docket Nos. 50-445 and 50-446, License Amendment Request (LAR) 01-012, Steam Generator Tube Repair Using Leak Tight Sleeves,” Letter to NRC from TXU Electric, CPSES-200102509, October 23 , 2001.

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Principal Contributor: W. Lyon
J. Tsao

Date: September 25, 2002

cc:

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P. O. Box 2159
Glen Rose, TX 76403-2159

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

Mr. Roger D. Walker
Regulatory Affairs Manager
TXU Generation Company LP
P. O. Box 1002
Glen Rose, TX 76043

George L. Edgar, Esq.
Morgan, Lewis & Bockius
1800 M Street, N.W.
Washington, DC 20036-5869

County Judge
P. O. Box 851
Glen Rose, TX 76043

Environmental and Natural
Resources Policy Director
Office of the Governor
P. O. Box 12428
Austin, TX 78711-3189

Mr. Richard A. Ratliff, Chief
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3189

Mr. Brian Almon
Public Utility Commission
William B. Travis Building
P. O. Box 13326
1701 North Congress Avenue
Austin, TX 78701-3326

Ms. Susan M. Jablonski
Office of Permitting, Remediation
and Registration
Texas Commission on Environmental
Quality
MC-122
P. O. Box 13087
Austin, TX 78711-3087

G. R. Bynog, Program Manager/
Chief Inspector
Texas Department of Licensing
and Regulation
Boiler Division
P. O. Box 12157, Capitol Station
Austin, TX 78711