TXU Electric
Comanche Peak
Steam Electric Station
P.O. Box 1002
Glen Rose, TX 76043
Tel: 254 897 8920
Fax: 254 897 6652
lterry1@txu.com

C. Lance Terry
Senior Vice President & Principal Nuclear Officer

Ref: 10CFR50.90

CPSES-200102497
Log # TXX-01164
File # 00236

October 25, 2001

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
LICENSE AMENDMENT REQUEST (LAR) 01-011
REVISION TO TECHNICAL SPECIFICATION (TS)
TS 4.2.1, "FUEL ASSEMBLIES"

Gentlemen:

Pursuant to 10CFR50.90, TXU Electric hereby requests an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) by incorporating the attached change into the CPSES Unit 1 and 2 Technical Specifications. This change request applies to Units 1 and 2.

The proposed change will revise TS 4.2.1 entitled "Fuel Assemblies." TXU Electric intends to include eight "lead test" fuel assemblies in the Unit 2, Cycle 7 core load. The lead test fuel assemblies are of the Westinghouse 17X17 OFA (Optimized Fuel Assembly) design using fuel cladding made of a zirconium based alloy known commercially as ZIRLO™.

D029

Presently, TS 4.2.1 specifies "Zircaloy" as an acceptable clad material, but does not specifically identify ZIRLO™ as an acceptable clad material. This proposed change clarifies TS 4.2.1 to permit ZIRLO™ clad lead test fuel assemblies to be used.

Attachment 1 is the required affidavit. Attachment 2 provides a detailed description of the proposed changes, a safety analysis of the proposed changes, TXU Electric's determination that the proposed changes do not involve a significant hazard consideration, a regulatory analysis of the proposed changes and an environmental evaluation. Attachment 3 provides the affected Technical Specification pages marked-up to reflect the proposed changes. Attachment 4 provides retyped Technical Specification pages which incorporate the requested changes.

TXU Electric requests approval of the proposed License Amendment by March 1, 2002, to be implemented within 60 days of the issuance of the license amendment. The approval date was selected to allow for installation of the lead test fuel assemblies in the next Unit 2 refueling outage and is required to enter MODE 4 following the refueling of Unit 2.

In accordance with 10CFR50.91(b), TXU Electric is providing the State of Texas with a copy of this proposed amendment.

This communication contains no new or revised commitments.

Should you have any questions, please contact Mr. J. D. Seawright at (254) 897-0140.

Sincerely,

C. L. Terry

By: Roger D. Walker

Roger D. Walker
Regulatory Affairs Manager

JDS/js

Attachments
1. Affidavit
2. Description and Assessment
3. Markup of Technical Specifications pages
4. Retyped Technical Specification Pages

c - E. W. Merschoff, Region IV
C. E. Johnson, Region IV
D. H. Jaffe, NRR
Resident Inspectors, CPSES

Mr. Authur C. Tate
Bureau of Radiation Control
Texas Department of Public Health
1100 West 49th Street
Austin, Texas 78704

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)		
	)		
TXU Electric	)	Docket Nos.	50-445
	)		50-446
(Comanche Peak Steam Electric Station,	)	License Nos.	NPF-87
Units 1 & 2)	)		NPF-89

AFFIDAVIT

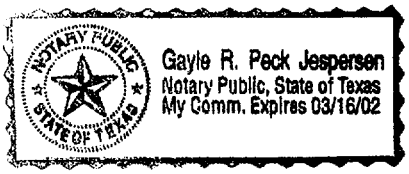
Roger D. Walker being duly sworn, hereby deposes and says that he is Regulatory Affairs Manager of TXU Electric, the licensee herein; that he is duly authorized to sign and file with the Nuclear Regulatory Commission this License Amendment Request 01-011; that he is familiar with the content thereof; 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

STATE OF TEXAS)
)
COUNTY OF)
Somervell

Subscribed and sworn to before me, on this 25th day of October, 2001.

Gayle R. Peck Jespersen
Notary Public



ATTACHMENT 2 to TXX-01164

DESCRIPTION AND ASSESSMENT

LICENSEE'S EVALUATION

1.0 INTRODUCTION

Proposed change LAR 01-011 is a request to revise Technical Specifications (TS) 4.2.1, "Fuel Assemblies" for Comanche Peak Steam Electric Station (CPSES) Units 1 and 2. Presently, TS 4.2.1 specifies Zircaloy but does not identify ZIRLO™ as an acceptable clad material for use in the reactor core. Although the use of cladding material that is different in some respect from that used for the remainder of the fuel in the core is not precluded for lead test assemblies, the use of ZIRLO™ is not specifically stipulated. Furthermore, TS 4.2.1 allows "a limited number of lead test assemblies... to be placed in nonlimiting core regions." The purpose of this amendment is to make it clear that a limited number of lead test fuel assemblies with ZIRLO™ cladding is allowed at CPSES by Technical Specifications in non-limiting core regions.

2.0 DESCRIPTION OF PROPOSED AMENDMENT

The proposed change would revise TS 4.2.1 to allow the use of a limited number of lead test fuel assemblies which specifically utilize a zirconium alloy commercially known as ZIRLO™.

TXU Electric is beginning the transition from the use of Framatome ANP supplied fuel assemblies to Westinghouse supplied assemblies in the two CPSES units, beginning with the Unit 1 Cycle 10 core reload. The purpose of this lead test effort is to gain experience at CPSES with the use of current generation Westinghouse fuel assemblies by inserting eight lead test fuel assemblies in the CPSES Unit 2, Cycle 7 core. These lead test fuel assemblies are of the Westinghouse OFA (Optimized Fuel Assembly) design which has been fully licensed and in use at other nuclear plants, including CPSES, but is of a cladding material design (ZIRLO™) which has not yet been used at CPSES. TXU Electric is not presently requesting NRC approval for a complete reload of ZIRLO™ clad fuel at CPSES; however, TXU Electric does plan to pursue approval of ZIRLO™ clad fuel for future reloads. Appropriate analyses of limiting design basis accidents and transients required to support any subsequent request for the use of ZIRLO™ fuel assemblies would be included at that time.

3.0 BACKGROUND

Westinghouse Topical Report, WCAP-12610-P-A, "Vantage + Fuel Assembly Reference Core Report," dated July, 1991, (Westinghouse Proprietary) describes the fuel rod design bases, criteria, and models which are affected by the use of ZIRLO™ cladding. The topical report (WCAP-12610-P-A) is applicable to 17x17 fuel arrays with fuel rod outside diameters of 0.360" to 0.422", which bounds the 17x17 OFA fuel rod diameter. This report (WCAP-12610-P-A) has been previously reviewed and approved by the NRC.

ZIRLO™ is similar in chemical composition, physical properties, and mechanical properties to the Zircaloy-4 cladding material current in use at CPSES, but exhibits improved corrosion performance and dimensional stability. Fuel assemblies manufactured with ZIRLO™ meet the same design bases requirements as fuel assemblies manufactured with Zircaloy-4 cladding, and the regulatory requirements of 10CFR50.46 are applicable to either materials. ZIRLO™ has already received extensive irradiation experience in PWR plants similar in design to CPSES. In fact, ZIRLO™ has virtually replaced Zircaloy-4 in current domestic orders for Westinghouse fuel. No concerns have been identified pertaining to reactor operation with a core comprised of fuel assemblies containing either Zircaloy-4 or ZIRLO™ clad fuel rods.

TXU Electric's licensing methodologies for the ECCS analyses explicitly include Zircaloy-4 fuel cladding materials. These methodologies have been approved by the NRC and previously applied to Zircaloy-4 fuel assemblies provided by Framatome ANP as well as Westinghouse. Analyses using versions of TXU's ECCS evaluation models, modified to include ZIRLO™ material properties, have shown that with the use of the ZIRLO™ fuel cladding material, the 10CFR50.46 acceptance limits continue to be met; in fact, sensitivity studies have shown the use of ZIRLO™ to have essentially no effect on any analytical result. Also, due to the material similarities of Zircaloy-4 and ZIRLO™, the use of ZIRLO™ in lead test assemblies will not affect the ability of TXU nuclear design models and analytical methods to accurately describe the neutronic behavior of the core.

Because the TXU Electric ECCS evaluation model changes to incorporate ZIRLO™ material properties must be approved by the NRC prior to use, TXU Electric proposes to restrict the placement of the lead test assemblies to locations that are non-limiting with respect to the ECCS analyses. As a result of this restriction, the conclusions of the non-LOCA transient analyses will not be affected by the use of ZIRLO™ in lead test assemblies. Finally, because ZIRLO™ is in wide use throughout the industry, TXU Electric does not anticipate any issues of significance to arise based on the performance of the ZIRLO™ cladding material. Per the above and because the lead test assemblies are to be located in non-limiting core locations, no explicit ECCS evaluations with the ZIRLO™ cladding are required for the lead test assemblies.

4.0 REGULATORY REQUIREMENTS & GUIDANCE

10 CFR §§ 50.44, 50.46, and Part 50 Appendix K are applicable to fuel with ZIRLO™ cladding. The material properties of zircaloy and ZIRLO™ are similar. WCAP-12610-P-A, "Vantage + Fuel Assembly Reference Core Report," dated July, 1991, (Westinghouse Proprietary), which has been previously reviewed and approved by the NRC, describes the fuel rod design bases, criteria, and models which are affected by the use of ZIRLO™ material.

5.0 TECHNICAL ANALYSIS

The NRC safety evaluation process for fuel designs, including the cladding material, ensures that fuel designs are evaluated for their effect on reactor operation and are concluded to be safe. Such an evaluation incorporates the effect of the fuel assembly as a whole, including its cladding. Thus, cladding approved by the NRC (WCAP-12610-P-A) as part of a fuel assembly design is safe for use as part of a lead test assembly program. The requested amendment affects only fuel assemblies designated as lead test assemblies.

6.0 REGULATORY ANALYSIS

Restricted placement in the reactor core of lead test assemblies with ZIRLO™ clad material creates sufficient margin to ensure that use of these lead test assemblies remain within existing design basis and operating limits. Accordingly, the acceptance criteria described in 10CFR50.46, (b)(1) through (b)(5) will be met.

Thus, inclusion in the CPSES Unit 2 reactor core of lead test assemblies of a design approved by the NRC is consistent with existing design basis accident and transient assumptions, preserves the effectiveness of accident mitigation systems, preserves currently licensed dose consequences and, hence, does not involve an unreviewed safety question.

In conclusion, based on the considerations discussed above, (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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

TXU Electric has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10CFR50.92, "Issuance of amendment," as discussed below:

1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   Changing the technical specifications within limits of the bounding accident analyses cannot change the probability of an accident previously evaluated, nor will it increase radiological consequences predicted by the analyses of record. Controlling the use of lead

test assemblies according to limitations approved by the NRC constrains fuel performance within limits bounded by existing design basis accident and transient analyses.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

Inclusion in the reactor core of lead test assemblies according to limitations set by the NRC for lead test assemblies and of a design approved by the NRC ensures that their effect on core performance remains within existing design limits. Use of fuel assemblies whose design has been previously approved by the NRC as lead test assemblies is consistent with current plant design bases, does not adversely affect any fission product barrier, and does not alter the safety function of safety significant systems, structures and components or their roles in accident prevention or mitigation. Currently licensed design basis accident and transient analyses of record remain valid.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Do the proposed changes involve a significant reduction in a margin of safety?

Response: No

The proposed change does not alter the manner in which Safety Limits, Limiting Safety System Setpoints, or Limiting Conditions for Operation are determined. This proposed clarification of TS 4.2.1 is bounded by existing limits on reactor operation. It leaves current limitations for use of lead test assemblies in place, conforms to plant design bases, is consistent with current safety analyses, and limits actual plant operation within analyzed and licensed boundaries.

Therefore the proposed change does not involve a reduction in a margin of safety.

Based on the above evaluations, TXU Electric concludes that the proposed amendment(s) present no significant hazards consideration under the standards set forth in 10CFR50.92(c) and, accordingly, a finding of "no significant hazards consideration" is justified.

8.0 ENVIRONMENTAL CONSIDERATION

TXU Electric has determined that the proposed amendment would change requirements with respect to the installation or use of a facility component located within the restricted area, as defined in 10CFR20, or would change an inspection or surveillance requirement. TXU Electric has evaluated the proposed changes and has determined that the changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amount of effluent that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10CFR51.22 (c)(9). Therefore, pursuant to 10CFR51.22 (b), an environmental assessment of the proposed change is not required.

9.0. PRECEDENTS

The NRC staff has previously reviewed and approved similar changes to the TS at Kewaunee Nuclear Power Plant. The bulk of the technical and regulatory issues for the present request are similar to those previously reviewed in the Kewaunee Safety Evaluation regarding the use of Westinghouse ZIRLO™ clad material in lead test assemblies. Details of prior staff evaluation for Kewaunee Nuclear Power Plant TS changes regarding use of Westinghouse ZIRLO™ fuel may be found in the staff safety evaluations for docket number 50-305, dated August 13, 2001.

10.0. REFERENCES

10.1 Letter from A. C. Thadani (NRC) to S. R Tritch (Westinghouse), "Acceptance for Referencing of Topical Report WCAP-12610-P-A, 'VANTAGE+ Fuel Assembly Reference Core Report,'"(TAC NO. 77258), dated July 1,1991

10.2 NRC Safety Evaluation Report (SER) and PNL Technical Evaluation Report (TER) on Topical Report WCAP-12610-P-A and Appendices A through E, July 1, 1991

ATTACHMENT 3 to TXX-01164

MARKUP OF TECHNICAL SPECIFICATION PAGE

Page 4.0-1

4.0 DESIGN FEATURES

4.1 Site Location

The site area is approximately 7,700 acres located in Somervell County in North Central Texas. Squaw Creek Reservoir (SCR), established for station cooling, extends into Hood County. The site is situated along Squaw Creek, a tributary of the Paluxy River, which is a tributary of the Brazos River. The site is over 30 miles southwest of the nearest portion of Fort Worth and approximately 4.5 miles north-northwest of Glen Rose, the nearest community.

4.2 Reactor Core

4.2.1 Fuel Assemblies

The reactor shall contain 193 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy clad fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO_2) as fuel material. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing *or that contain Westinghouse ZIRLO™ fuel rod cladding* may be placed in non-limiting core regions.

4.2.2 Control Rod Assemblies

The reactor core shall contain 53 control rod assemblies. The control material shall be silver-indium-cadmium as approved by the NRC.

(continued)

ATTACHMENT 4 to TXX-01164

RETYPED TECHNICAL SPECIFICATION PAGE

Page 4.0-1

4.0 DESIGN FEATURES

4.1 Site Location

The site area is approximately 7,700 acres located in Somervell County in North Central Texas. Squaw Creek Reservoir (SCR), established for station cooling, extends into Hood County. The site is situated along Squaw Creek, a tributary of the Paluxy River, which is a tributary of the Brazos River. The site is over 30 miles southwest of the nearest portion of Fort Worth and approximately 4.5 miles north-northwest of Glen Rose, the nearest community.

4.2 Reactor Core

4.2.1 Fuel Assemblies

The reactor shall contain 193 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy clad fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO_2) as fuel material. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing or that contain Westinghouse ZIRLO™ fuel rod cladding may be placed in non-limiting core regions.

4.2.2 Control Rod Assemblies

The reactor core shall contain 53 control rod assemblies. The control material shall be silver-indium-cadmium as approved by the NRC.

(continued)