

May 31, 2002

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES), UNITS 1 AND 2 -
ISSUANCE OF AMENDMENTS RE: EXTENSION OF THE SURVEILLANCE
INTERVAL FOR WESTINGHOUSE ELECTRIC COMPANY (WESTINGHOUSE)
TYPE AR RELAYS (TAC NOS. MB2810 AND MB2812)

Dear Mr. Terry:

The Commission has issued the enclosed Amendment No. 96 to Facility Operating License No. NPF-87 and Amendment No. 96 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 August 24, 2001, as supplemented by letter dated April 15, 2002.

The amendments extend the surveillance test interval from "92 days" to "18 months" for Westinghouse Type AR relays with alternating current coils used as Solid State Protection System slave relays, in Surveillance Requirement (SR) 3.3.2.6 and auxiliary (i.e., interposing) relays in the containment ventilation isolation system in SR 3.3.6.5.

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 by M Webb for/

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. 96 to NPF-87
2. Amendment No. 96 to NPF-89
3. Safety Evaluation

cc w/encls: See next page

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cc w/encls: See next page

Package: ML021750266
Tech Spec Pages: ML021620014

** See prior concurrence

Accession No.: ML021290305

*Safety Evaluation Input via memo dated April 23, 2002

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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. 96
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 August 24, 2001, as supplemented by letter dated April 15, 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:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 96 , 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 by M K Webb for/

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: May 31, 2002

TXU GENERATION COMPANY LP

COMANCHE PEAK STEAM ELECTRIC STATION, UNIT NO. 2

DOCKET NO. 50-446

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 96
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 August 24, 2001, as supplemented by letter dated April 15, 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:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 96 , 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 by M K Webb for/

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: May 31, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 96

TO FACILITY OPERATING LICENSE NO. NPF-87

AND AMENDMENT NO. 96

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.

<u>Remove</u>	<u>Insert</u>
3.3-27	3.3-27
3.3-50	3.3-50

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 96 TO

FACILITY OPERATING LICENSE NO. NPF-87

AND AMENDMENT NO. 96 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 August 24, 2001, as supplemented by letter dated April 15, 2002, TXU Generation Company LP (the licensee) requested changes to the Technical Specifications for the Comanche Peak Steam Electric Station (CPSES), Units 1 and 2. The proposed changes would extend the surveillance test interval from "92 days" to "18 months" for Westinghouse Electric Company (Westinghouse) Type AR relays with alternating current (ac) coils used as Solid State Protection System (SSPS) slave relays, in Surveillance Requirement (SR) 3.3.2.6, and auxiliary (i.e., interposing) relays in the containment ventilation isolation (CVI) system in SR 3.3.6.5.

The supplemental letter dated April 15, 2002, did not change the U.S. Nuclear Regulatory Commission (NRC) staff's proposed no significant hazards consideration determination (published on October 17, 2001, 66 FR 52804) or expand the application beyond the scope of the *Federal Register* notice.

2.0 BACKGROUND

At the present time, SR 3.3.2.6 and SR 3.3.6.5 require that slave relays be tested every 92 days. To justify the test interval extension to 18 months for Westinghouse type AR relays, the licensee referenced generic Westinghouse Topical Report WCAP-13877, Revision 2, "Reliability Assessment of Westinghouse Type AR Relays Used As SSPS Slave Relays," and Westinghouse Topical Report WCAP-13900, Revision 0, "Extension of Slave Relay Surveillance Test Interval." By letters dated May 31, 1996, and July 12, 2000, the NRC staff accepted Revision 0 of WCAP-13900 and Revision 2 of WCAP-13877, respectively.

Based on the NRC staff's safety evaluation reports to the Westinghouse Owners Group, which found the above topical reports acceptable, each licensee that references these topical reports is required to address the following plant-specific items:

- (1) Confirm the applicability of the WCAP-13877 analyses to the given plant.
- (2) Ensure that the contact loading analysis for the Westinghouse Type AR relays has been performed to determine the acceptability of the relays.
- (3) Determine the qualified life for the Type AR relays based on plant-specific environmental conditions.
- (4) Establish a program to evaluate the adequacy of the proposed test interval if two or more AR relays fail in a 12-month period.

3.0 EVALUATION

In its submittals the licensee addressed each of the above plant-specific items. The NRC staff's evaluation for these plant-specific items is discussed below.

- (1) In its letter dated August 24, 2001, the licensee confirmed the applicability of WCAP-13877 to CPSES, Units 1 and 2. The NRC staff has reviewed the submittal and concludes that the licensee has adequately addressed the applicability of WCAP-13877 to CPSES with regard to plant-specific item (1) for Westinghouse Type AR relays with ac coils. However, the NRC staff concludes that the licensee has not provided sufficient basis to include the Type ARD (i.e., direct current (dc) coils) in the August 24, 2001, application. Following discussions with the licensee, the April 15, 2002, supplement was submitted withdrawing the proposed change to the surveillance requirements for the Westinghouse Type ARD relays (i.e., with dc coils). On the basis of the foregoing, the staff concludes that the licensee has adequately addressed the applicability of WCAP-13877 to CPSES with regard to plant-specific item (1) for Westinghouse Type AR relays with ac coils.
- (2) The licensee has performed a contact loading analysis for all Westinghouse Type AR relays used as SSPS slave and auxiliary relays at CPSES. The purpose of the analysis was to verify that all contacts are properly applied and all published contact ratings are adequate for the applied loads, thereby ensuring that they can perform their safeguards functions. The initial evaluation indicated that five loads exceeded the published contact ratings. For these five loads, the licensee performed additional tests and analyses.

Type AR relays are capable of millions of operations at the published contact ratings. At CPSES, however, these five relays are estimated to experience only hundreds of operations. The licensee contracted with Nuclear Logistics, Inc., of Fort Worth, Texas, to test the Type AR relay contacts, switching the actual devices switched in the plant for a minimum of 1,000 cycles, which is more than three times the estimated number of cycles that any of these relays experience during the life of the plant. None failed during the test. The contractor also monitored the potentials across the closed contacts during the testing and found that they did not vary. This provides evidence that the contacts did not deteriorate appreciably during the testing. Thus, the analysis indicated

that the Type AR slave relay contacts are adequate for the actual applications and that they will not be subject to long-term degradation and reduced service life, which could result from contact overloading. Having reviewed the test plan (TP-032009-1, Revision 5, "Test Plan for ARD & AR Relays, TXU-CPSES" [undated]) and test report (TR-032009-1, Revision 1, "Test Report for ARD & AR Relays, TXU-CPSES" [undated]), the NRC staff concludes that the Type AR relay contacts are adequate to operate at the five plant-specific loads at CPSES.

On the basis of the foregoing evaluations, tests, and analyses, the NRC staff concludes that the licensee has adequately addressed the NRC staff's concern with regard to plant-specific item (2).

- (3) Based on the Westinghouse aging assessment and the variability in relay service life because of the range of potential plant-specific environments, the staff requires each licensee referencing WCAP-13900 and WCAP-13877 to establish the service life of Type AR relays for its plant.

In its letter dated August 4, 2001, the licensee detailed its calculations and analyses to establish the service life of Type AR relays for the plant-specific environments in the CVI systems at CPSES Units 1 and 2. For normally de-energized relays, the calculations show a service life far in excess of 40 years, which confirms the results calculated in WCAP-13877 for de-energized relays. Therefore, the CPSES service life for normally de-energized relays in the CVI systems at CPSES, Units 1 and 2, is 40 years.

The Train A K731 relay is the only normally-energized relay in the CVI systems at CPSES. The most conservative calculation for this relay showed a service life of 23.4 years. In Section 8.3.2, WCAP-13877 recommends that calculations based on the Arrhenius equation be limited to 20 years. The licensee, therefore, recommends that the Train A K731 relay be replaced after 20 years of service. However, if the single normally energized relay fails before 20 years of service, the service life should be reevaluated if the failure mechanism involves the end-of-life binding of the relay as a result of material degradation of the coil bobbin.

The staff has reviewed the licensee's calculations and analyses, and accepts the licensee's findings with regard to the qualified life for the Type AR relays based on the plant-specific environmental conditions. On this basis, the staff concludes that the licensee has adequately addressed the staff's concern with regard to plant-specific item (3).

- (4) In its letter dated August 4, 2001, the licensee stated that the Maintenance Rule program provides instructions for initiation, analysis, retrieval, trending, and periodic reporting of data relative to performance indicators for plant systems and components. The program includes guidance for trending and reporting repetitive preventable failures of functions within the scope of the Maintenance Rule. It also includes performance of cause determinations for failure to meet performance criteria and for repetitive failures. The functions performed by the slave and auxiliary relays have been included in the scope of this program.

In the August 24, 2001, application, the licensee made the following new commitments, which will be completed as noted: (1) in Commitment No. 27240, the licensee stated that, "All normally energized Westinghouse Type AR relays used as SSPS slave or auxiliary relays that are subject to the requirements of Technical Specifications 3.3.2 and 3.3.6 will be replaced after twenty (20) years of service life." and (2) in Commitment No. 27241, the licensee stated that, "If any normally energized type AR relay used as SSPS slave or auxiliary relay fails before twenty (20) years of service, the service life will be reevaluated if the failure mechanism involves the end of life relay binding due to material degradation of the coil bobbin." The Commitment Numbers are used by the licensee for internal tracking of CPSES commitments. The NRC also concludes, with regard to the commitments noted above that the licensee's administrative programs are adequate to control the effects of relay aging.

On the basis of the foregoing, the staff concludes that the licensee has established a program to evaluate the adequacy of the proposed test interval if two or more AR relays fail in a 12-month period and, therefore, has addressed the staff's concern with regard to plant-specific item (4). The NRC also concludes, with regard to the commitments noted above, that the licensee's administrative programs are adequate to control the effects of relay aging.

The NRC staff has determined that the generic analyses contained in WCAP-13877, Revision 2, and WCAP-13900, Revision 0, are applicable to CPSES, Units 1 and 2, and the licensee has adequately addressed the staff's plant-specific concerns. Therefore, the proposed test interval extension from 92 days to 18 months for Westinghouse Type AR relays with ac coils contained in proposed SRs 3.3.2.6 and 3.3.6.5 is acceptable. This test interval extension does not apply to Westinghouse Type ARD relays with dc coils.

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 52804, published October 17, 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.

Principal Contributor: K. Mortensen

Date: May 31, 2002

Comanche Peak Steam Electric Station

cc:

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