

September 23, 2005

Mr. M. R. Blevins  
Senior Vice President  
& Chief Nuclear Officer  
TXU Power  
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: CONTAINMENT SPRAY SYSTEM  
SURVEILLANCE REQUIREMENTS FOR SPRAY NOZZLES. (TAC NOS.  
MC4314 AND MC4315)

Dear Mr. Blevins:

The Commission has issued the enclosed Amendment No. 120 to Facility Operating License No. NPF-87 and Amendment No. 120 to Facility Operating License No. NPF-89 for CPSES, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications in response to your application dated September 9, 2004.

The amendments revise the current interval for surveillance requirement SR 3.6.6.8, from the current requirement of verification every 10 years, to require verification that the spray nozzles are unobstructed following a maintenance that could result in a nozzle blockage.

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/**

Mohan C. Thadani, 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. 120 to NPF-87  
2. Amendment No. 120 to NPF-89  
3. Safety Evaluation

cc w/encls: See next page

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OFFICE	PDIV-1/PM	PDIV-1/LA	OGC	PDIV-1/SC
NAME	MThadani	DBaxley	MSpencer(NLO)	DTerao
DATE	9/19/05	9/22/05	9/21/05	9/22/05

TXU GENERATION COMPANY LP  
COMANCHE PEAK STEAM ELECTRIC STATION, UNIT NO. 1  
DOCKET NO. 50-445  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 120  
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 September 9, 2004, 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. 120, 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/*

David Terao, 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 23, 2005

TXU GENERATION COMPANY LP  
COMANCHE PEAK STEAM ELECTRIC STATION, UNIT NO. 2  
DOCKET NO. 50-446  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.120  
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 September 9, 2004, 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. 120, 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/*

David Terao, 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 23, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 120

TO FACILITY OPERATING LICENSE NO. NPF-87

AND AMENDMENT NO. 120

TO FACILITY OPERATING LICENSE NO. NPF-89

DOCKET NOS. 50-445 AND 50-446

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

Insert

3.6-19

3.6-19

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 120 TO  
FACILITY OPERATING LICENSE NO. NPF-87  
AND AMENDMENT NO. 120 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 letter dated September 9, 2004 (Agency Documents Access and Management System Accession No. ML042640018), TXU Generation Company LP (the licensee) requested a revision to the Technical Specifications (TS) for the Comanche Peak Steam Electric Station (CPSES), Units 1 and 2. The requested revision will revise the testing frequency for the containment spray nozzles, as specified in TS Surveillance Requirement 3.6.6.8, from a current requirement, "once per 10 years," to a new requirement, "following maintenance that could result in nozzle blockage."

## 2.0 REGULATORY EVALUATION

The containment spray system is designed for conformance with provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix A, General Design Criterion (GDC) 38, "Containment heat removal"; GDC 39, "Inspection of containment heat removal system"; and GDC 40, "Testing of containment heat removal system." In particular, GDC 40 specifies that the containment heat removal system shall be designed for "appropriate" periodic pressure and functional testing to assure operability of the system. The proposed revision of the surveillance requirements does not impact conformance with the provisions of these GDCs. The licensee cited precedent for similar license amendments issued for the South Texas, Perry, North Anna, Calvert Cliffs, Beaver Valley, Braidwood, H. B. Robinson, Palisades, Salem, and Surry plants.

## 3.0 TECHNICAL EVALUATION

### 3.1 Introduction

The containment spray system consists of two independent trains. Four containment spray pumps are provided for each unit (two per train). These pumps are designed to provide

sufficient flow into containment during accident conditions to both cool the containment atmosphere to maintain pressure within design limits and to remove radioactive iodine. Each train is capable of providing 100 percent of the required water and sodium hydroxide flow to the spray headers that are mounted throughout the containment. Also, each train is capable of providing 100 percent of the required containment sprayed volume coverage.

The two trains of sprays are each divided into four regions in the containment and distributed to different elevations. All nozzles in the four regions are pointed at various angles and directions to ensure containment coverage assuming a single active failure. The spray nozzles are hollow-cone, with a 3/8-inch diameter orifice, and are fabricated of stainless steel. The 3/8-inch nozzle discharge orifice is sufficiently large to preclude clogging by particles that pass through the 0.115-inch mesh of the fine containment sump screens.

The containment spray system nozzles for both units were initially tested at five-year intervals. The surveillance interval is currently 10 years as approved in License Amendment 64 dated February 26, 1999. Airflow tests were conducted as part of pre-operational testing and for the first five-year interval. The results of each test demonstrated unobstructed flow through each nozzle. These tests confirmed that the nozzles are free from construction debris, and also from obstructions that could have occurred following startup and operations of the units.

The two potential modes of a blockage are by corrosion products and by debris (foreign material) blockage. The evaluation below addresses these blockage modes.

### 3.2 Testing Experience

NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," (May 1992) reported on a U.S. Nuclear Regulatory Commission staff review of industry experience which indicated that containment spray systems of similar design are highly reliable and not subject to plugging after testing following construction. The staff reviewed industry experience and found that, in general, once tested after construction, containment spray systems have not been subject to a blockage. The problems discovered were related to a blockage during construction, and not the result of subsequent normal operation.

The licensee indicated that the containment spray system nozzles for both CPSES units have been tested satisfactorily twice during normal operation after the completion of construction, demonstrating that the construction problems identified in NUREG-1366 do not exist at CPSES. The containment spray system piping and nozzles are stainless steel, and are not coated and therefore not subject to clogging due to coating material. Cleanliness control and foreign material exclusion practices, including post-work inspections, have ensured that system cleanliness requirements are continuing to be met.

### 3.3 Materials and Corrosion

The containment spray system header and nozzles are passive devices that are not normally exposed to fluids or debris. The system piping and nozzles are fabricated of stainless steel, which is highly resistant to corrosion. Conditions for stainless steel corrosion, i.e., stress,

temperature, and chlorides, are not present. Therefore, the nozzles are unlikely to become obstructed due to corrosion.

### 3.4 Foreign Materials Exclusion (FME)

The licensee indicated that at CPSES, the FME program is implemented by procedure STA-625, "Foreign Material Exclusion." This procedure describes the measures to be taken to ensure foreign material is not introduced into a component or system, and measures to be taken if material or tool accountability is lost. The procedure requires that when closing a system or component, an inspection is to be performed to ensure that all foreign material is removed. This requirement applies to all work and inspection activities performed on safety related systems and components. If the required FME is not maintained, a condition report is initiated requiring assessment of the circumstances and implementation of appropriate corrective actions to ensure that the spray system continues to be operable and to prevent recurrence.

The proposed SR change is supported by the existing requirement to verify system operability after system maintenance or repair. The foreign material introduced as a result of maintenance is the most likely cause of obstruction. Therefore, verification to confirm the nozzles are free of blockage following maintenance activities that could result in nozzle blockage, as in the proposed SR, is sufficient to confirm the nozzles are free of a blocking substance. The current post-maintenance testing procedure provides this verification, which requires testing of the system and components following maintenance activities as necessary to demonstrate operability. Consequently, the potential for unidentified nozzle obstruction or introduction of foreign material following maintenance is low. Also, due to the location and orientation of the spray headers and nozzles, introduction of foreign materials into the system through the nozzles is unlikely.

As a result of reviewing the licensee's request to revise the testing frequency for the containment spray nozzles from "once per 10 years" to "following maintenance that could result in nozzle blockage," and reviewing and assessing the information provided by the licensee, the NRC staff concludes that the design of the CPSES containment spray system, and the foreign materials controls instituted by the licensee, provide a reasonable assurance that the potential for nozzle obstruction is acceptably low. The foreign material controls provide protection from introduction of foreign materials into open piping during maintenance, and require post-maintenance verification of system cleanliness and freedom from a blockage. Therefore, the staff finds the proposed changes to be acceptable.

### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Texas State official was notified of the proposed issuance of the amendment. 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 a finding published October 26, 2004 (69 FR 62478). 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: R. Goel

Date: September 23, 2005

Comanche Peak Steam Electric Station

cc:

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