



# Luminant

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November 4, 2008

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555  
ATTN: David B. Matthews, Director  
Division of New Reactor Licensing

**SUBJECT:** COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4  
RESOLUTION OF DOCKETING ISSUES REGARDING FSAR SUBSECTIONS 2.5.4 AND  
6.4.4 AND THE EMERGENCY PLAN  
PROJECT NO. 0754

Dear Sir:

Luminant Generation Company LLC (Luminant) submits this resolution of docketing issues for Comanche Peak Nuclear Power Plant (CPNPP), Units 3 and 4. The issues were raised by NRC reviewers conducting the acceptance review of the CPNPP Units 3 and 4 Combined License (COL) application and Luminant has discussed them with the NRC in conference calls over the last few weeks. Luminant is confident that this resolution provides the NRC with adequate information to determine that the COL application is acceptable regarding these issues. These resolutions supplement the CPNPP Units 3 and 4 COL application.

Please address any correspondence relating to this resolution to Don Woodlan, Manager, Nuclear Regulatory Affairs, P.O. Box 1002, 6322 North FM 56, Glen Rose, TX 76043. You may also contact Mr. Woodlan directly at 254-897-6887 or by email at [Donald.Woodlan@luminant.com](mailto:Donald.Woodlan@luminant.com).

I state under penalty of perjury that the foregoing is true and correct.

Executed on November 4, 2008.

Sincerely,

Luminant Generation Company LLC

M. L. Lucas

DOT9  
KRO  
Sensi Review  
Complete per PM  
ENCL 1 = Public ENCL 2 = Sensitive/  
Security

Attachment - Resolution of Docketing Issues

- Enclosures -
1. CD containing TXUT-001-FSAR-2.5-CALC-003, TXUT-001-FSAR-2.5-CALC-004, TXUT-001-FSAR-2.5-CALC-009, TXUT-001-PR-005, and TXUT-001-PR-007
  2. CD containing requested Emergency Plan annexes

c - See attached

## ATTACHMENT

### RESOLUTION OF DOCKETING ISSUES

#### FSAR Subsection 2.5.4

**Issue 1** – The FSAR provides static and dynamic bearing capacity and factors of safety results and states that the dynamic and static bearing capacities have factors of safety of 1.5 and 10, respectively, but no detailed descriptions of calculations are provided to indicate how these determinations were made. (Reg. Guide 1.206 C.I.2.5.4.10 Static Stability)

**Issue 2** – The methods used for settlement calculations were addressed in the FSAR, but no detailed descriptions and calculations were provided to indicate how values were obtained. (Reg. Guide 1.206 C.I.2.5.4.10 Static Stability)

**Issue 4** - The applicant did not provide soil investigation boring logs data. (Reg. Guide 1.206 C.I.2.5.1.2 Site Geology; Reg. Guide 1.132: DETAILED SITE INVESTIGATIONS; 4.5 Logs of Subsurface Investigations)

#### Resolution

A CD is enclosed with this letter that contains the following documents to address the three issues above:

Settlement and Bearing Capacity Calculation (TXUT-001-FSAR-2.5-CALC-009)  
Engineering Stratigraphy Calculation (TXUT-001-FSAR-2.5-CALC-004)  
Boring Log Data Report (TXUT-001-PR-005)  
Dynamic Profile Report (TXUT-001-PR-007)  
Shallow Velocity Profile Development Slope Method Calculation  
(TXUT-001-FSAR-2.5-CALC-003)

**Issue 3** - Liquefaction was addressed, but detailed calculations proving that it will not be anticipated at the site or within the engineered compacted fill was not included. (Reg. Guide 1.206 C.I.2.5.4.8 Liquefaction Potential)

#### Resolution

Luminant will change FSAR Subsection 2.5.4.8 to include the following information in a future revision of the COLA.

The foundation base mats of all seismic category I and II structures are founded on a limestone layer (engineering Layer C), with the exception of seismic category I duct banks that are embedded in compacted fill adjacent to the nuclear island.

The fill materials placed within the excavated areas around Units 3 and 4 and in the north-facing fill slopes are not considered prone to liquefaction for the following reasons:

- All fill material consists of engineered compacted fill with a minimum relative compaction of 95 percent (ASTM D1557). The corrected/normalized standard

penetration test N-Values are expected to be higher than 30 blows per foot, which is outside the range considered susceptible to soil liquefaction.

- The engineered compacted fill materials are not in a saturated state. The permanent groundwater table is well below the engineered compacted fill materials.
- To minimize any potential for buildup of hydrostatic pressures within the engineered compacted fill, adequate drainage is provided for all below-grade structures and retaining walls, and at the base of all fill slopes.
- The site is an area of very low seismicity. The results of the ground motion and site response analyses indicate that the peak ground acceleration (PGA) ranges between 0.045g and 0.07g.

Thus, the engineered compacted fill does not meet the conditions stated in RG 1.206 or RG 1.198 that would cause suspicion of a potential for liquefaction, and no liquefaction analysis is necessary. Even in the unlikely event that the engineered compacted fill became completely saturated, the soil density is too high and the site PGA range is too low to suspect a potential for liquefaction.

#### **FSAR Subsection 6.4.4**

The US-APWR DCD is written for a single unit. For a two-unit US-APWR plant, what is the radiological impact of an accident in one unit on the control room habitability of the second unit? Further, on the Comanche Peak site with two existing reactors, what is the radiological impact of an accident in CPNPP Unit 1 or Unit 2 on the control room of either new US-APWR unit?

#### **Resolution**

Luminant will change FSAR Subsection 6.4.4.1 to include the following information in a future revision of the COLA.

The impact of a post-accident release on the maximum control room dose for the same US-APWR unit at Comanche Peak has been evaluated and addressed in the DCD. The DCD analysis credits operation of the main control room HVAC system in the pressurization mode. The dose to the control room operators at an adjacent US-APWR unit due to a radiological release from the other US-APWR unit is bounded by the dose to control room operators in the affected unit. While it is possible that the other US-APWR unit may be downwind in an unfavorable location, the dose at the downwind unit would be bounded by what has already been evaluated for a single US-APWR unit in the DCD. In addition, because the shortest distance between existing Comanche Peak Unit 1 or Unit 2 and US-APWR Unit 3 or Unit 4 is several times the separation between Unit 3 and Unit 4, the dose to either US-APWR unit control room from either existing operating unit would be bounded by a release at the same US-APWR unit. Simultaneous post-accident radiological releases from multiple units at a single site are not considered to be credible.

### **COLA Part 5, Emergency Plan**

During the course of our acceptance review of the Comanche Peak COLA, FEMA has identified additional information that it needs in order to complete its acceptance review of the Emergency Plan. Please provide the information listed below from the Hood and Somerville County Plans. We are requesting that six DVDs be provided.

#### **Somerville and Hood County Plans**

Basic Plan, Annex B (to include appendices) Communications

Basic Plan, Annex D Radiological Protection

Basic Plan, Annex I Public Information

Basic Plan, Annex M Resource Management

Basic Plan, Annex N Direction and Control

#### **Somerville County**

Annex W, Attachment 2, Manual of Operating Procedures, Appendix 8, Attachment R - Texas Disaster Act

Annex W, Attachment 2, Manual of Operating Procedures, Appendix 8, Attachment S - Letters of Agreement

#### **Hood County**

Annex W, Attachment 2, Manual of Operating Procedures, Appendix 9, Attachment R - Texas Disaster Act

Annex W, Attachment 2, Manual of Operating Procedures, Appendix 9, Attachment S - Letters of Agreement

#### **Resolution**

One CD containing the requested information is enclosed with this letter. Five additional copies of the CD have been delivered separately to the Project Manager.

c- [Without enclosures]

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