



**Luminant**

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November 7, 2011

U. S. Nuclear Regulatory Commission  
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  
DOCKET NUMBERS 52-034 AND 52-035  
SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
NO. 5686 (SECTION 2.5.1)

Dear Sir:

Luminant Generation Company LLC (Luminant) submits herein a supplemental response to Request for Additional Information (RAI) No. 5686 (CP RAI #219) for the Combined License Application (COLA) for Comanche Peak Nuclear Power Plant Units 3 and 4. This RAI addresses geologic mapping of the excavations for Units 3 and 4. Luminant submitted its original response via letter TXNB-11040 dated June 6, 2011 (ML11159A037). The RAI requested that Luminant implement a license condition in Part 10 of the COLA concerning geologic mapping. Luminant proposed a regulatory commitment in lieu of a license condition, which Luminant believes is inappropriate and could result in unintended consequences.

A clarifying conference call was held with the NRC staff on October 6, 2011. During this call, the NRC staff stated that they intend to impose the license condition as stated in the question. In order to clarify the meaning of the license condition, a discussion was held concerning various terms and phrases used in the license condition. Luminant's understanding of this discussion is captured below for future reference to ensure compliance and to help avoid unintended consequences.

"Geologic mapping" is not defined in the license condition and no specific guidance documents are identified. There are some related guidance documents such as Regulatory Guide 1.132 and NUREG/CR-5738, but it is not the intent of the license condition to impose these guidance documents. "Geologic mapping" refers the standard practice used by geologists to inspect and assess excavations. The expectation is that the professionals employed by Luminant to do the mapping will understand the trade and, using their knowledge and best judgment, will execute an acceptable mapping activity. No specific requirements beyond that are included in the license condition.

The license condition uses the term "nuclear island structures." This term includes and is limited to the nuclear island structures as defined in Chapter 3 of the US-APWR Design Control Document, which is incorporated by reference in the Final Safety Analysis Report (FSAR). Similarly, other safety-related structures are those identified in Chapter 3 of the FSAR.

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"Examine and evaluate" does not mean mapping. The Luminant geologist may choose to do some limited mapping as part of the examination and evaluation, but it is not a requirement of the license condition. Luminant is expected to identify geologic features that are potentially problematic. Normal practice, based on the best judgment of the geologist, would be to document such findings, but the license condition does not require explicit documentation.

The license condition does not specify how Luminant is to notify the Director of the Office of New Reactors, or the Director's designee, once the excavation is open for examination. These are details that can be worked out later. Typically the licensee communicates on an ongoing basis with an individual at the site or assigned oversight of the construction for the NRC. The progress of the excavation would be communicated during periodic discussions with this individual. As such, the NRC staff will be aware of the status of the excavation and would be able to make the necessary arrangements to examine the site at the appropriate time. Luminant will document the notification to demonstrate compliance with the license condition.

The conditions needed to consider the excavation "open for examination by the NRC staff" were discussed and four were identified:

- The excavation should be down to the elevation upon which the structure's base-mat will be constructed,
- The excavation should be clean,
- The surface should not be altered (e.g., dental fill concrete should not be applied), and
- Luminant's geologic mapping should be at least partially complete so the NRC staff can view the available mapping documents during their examination.

Based on the NRC staff's intent to impose the license condition, Regulatory Commitment #8279 provided by Luminant on June 6, 2011 (ML11159A037) is no longer necessary and is hereby withdrawn. If at some point prior to issuance of the license, the NRC staff decides not to impose the license condition, Luminant is willing to reactivate this commitment. There are no new commitments in this letter.

Should you have any questions regarding this supplemental RAI response, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me.

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

Executed on November 7, 2011.

Sincerely,

Luminant Generation Company LLC

  
Rafael Flores

Attachment: Supplemental Response to Request for Additional Information No. 5686 (CP RAI #219)

Electronic distribution w/attachment:

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**SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**

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**Comanche Peak, Units 3 and 4**

**Luminant Generation Company LLC**

**Docket Nos. 52-034 and 52-035**

**RAI NO.: 5686 (CP RAI #219)**

**SRP SECTION: 02.05.01 - Basic Geologic and Seismic Information**

**QUESTIONS for Geosciences and Geotechnical Engineering Branch 1 (RGS1)**

**DATE OF RAI ISSUE: 5/12/2011**

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**QUESTION NO.: 02.05.02-22**

10 CFR 100.23(c) states that "geological, seismological, and engineering characteristics of a site ... must be investigated in sufficient scope and detail to permit an adequate evaluation of the proposed site ...". The requirements for data on tectonic surface deformation, non-tectonic deformation, and fault geometry and slip rates are specifically stated, and the applicant is required to investigate "all geologic and seismic factors that may affect the design and operation of the proposed nuclear power plant irrespective of whether such factors are explicitly included in this section." 10 CFR 100.23(d) also states that "geologic and seismic siting factors considered for design must include ... the potential for surface tectonic and non-tectonic deformations". 10 CFR 100.23(d)(2) specifically addresses determination of the potential for surface tectonic and nontectonic deformations. 10 CFR 100.23(d)(2) also states that "sufficient geological, seismological, and geophysical data must be provided to clearly establish whether there is a potential for surface deformation."

Regulatory Guide 1.132, 'Site Investigations for Foundations of Nuclear Power Plants,' Revision 2, October 2003 (pgs 16-16, Rev 2, October 2003) provides specific guidance under "Construction Mapping" in Section 6. This section notes that excavations for safety-related structures, and "other excavations" important for verification of subsurface conditions, "should be geologically mapped and logged in detail".

Pursuant to CFR 52.79(d)(3), Luminant is requested to implement the following license condition in COLA, Part 10. The staff has determined that this license condition for geologic mapping of safety-related excavations serves to confirm that the actual subsurface conditions are the same conditions as what is described in the FSAR and that the staff's safety findings, which are based on conditions described in the FSAR, remain valid. This information is necessary to confirm that the design will be adequate and account for any subsurface conditions that the licensee may find when excavating the hole for the foundation. This includes the possibility of the licensee taking action to improve the site in order to make the design acceptable as analyzed, depending on conditions discovered during excavation, and addresses the possibility that some undiscovered subsurface feature could render the site unacceptable.

License Condition 2.5.1-1: The licensee shall perform detailed geologic mapping of the excavations for the Comanche Peak Nuclear Power Plant, Units 3 and 4 nuclear island structures; examine and evaluate geologic features discovered in the excavations for safety-related structures other than those for the Units 3 and 4 nuclear islands; and notify the Director of the Office of New Reactors, or the Director's designee,

once excavations for the Comanche Peak Nuclear Power Plant, Units 3 and 4 safety-related structures are open for examination by the NRC staff.

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**SUPPLEMENTAL INFORMATION:**

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Impact on R-COLA

None.

Impact on S-COLA

None; this response is site-specific.

Impact on DCD

None.