## PMComanchePeakPEm Resource

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**Cc:** ComanchePeakCOL Resource; Ward, William
**Subject:** Comanche Peak RCOL Section 3.3.2 - RAI Number 150
**Attachments:** RAI 4397 (RAI 150).doc

The NRC staff has identified that additional information is needed to continue its review of the combined license application. The NRC staff's request for additional information (RAI) is contained in the attachment. Luminant is requested to inform the NRC staff if a conference call is needed.

The response to this RAI is due within 35 calendar days of March 3, 2010.

Note: If changes are needed to the safety analysis report, the NRC staff requests that the RAI response include the proposed changes.

thanks,

Stephen Monarque
U. S. Nuclear Regulatory Commission
NRO/DNRL/NMIP
301-415-1544

**Hearing Identifier:** ComanchePeak_COL_Public
**Email Number:** 842

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**Subject:** Comanche Peak RCOL Section 3.3.2 - RAI Number 150
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**Received Date:** 3/3/2010 4:11:09 PM
**From:** Monarque, Stephen

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Request for Additional Information (RAI) No. 4397 COLA Revision 1

RAI Number 150

3/3/2010

Comanche Peak Units 3 and 4
Luminant Generation Company, LLC.
Docket No. 52-034 and 52-035
SRP Section: 03.03.02 - Tornado Loads
Application Section: 3.3.2 Tornado Loadings

QUESTIONS for Structural Engineering Branch 1 (AP1000/EPR Projects) (SEB1)

03.03.02-8

1. RAI Text

The design-basis tornado missile spectrum that is acceptable to the NRC staff is defined in Table 2 of Regulatory Guide 1.76, Rev. 1. The three types of missiles included in the spectrum are (1) a schedule 40 pipe, (2) an automobile, and (3) a solid steel sphere. According to the text in Section 3.3.2.3 of the US-APWR DCD, Revision 2, which the COL applicant incorporated into Part 2, FSAR, Revision 1 by reference,

- the Turbine Building (T/B) siding fasteners are designed to retain the siding for loading caused by extreme winds with a basic wind speed of 155 mph, but the fastener design allows for portions of the siding to be blown off in the event of a design-basis tornado, and
- the Access Building (AC/B) is not designed for a tornado and consequently it could potentially fail due to design-basis tornado loading, including loss of its siding.

Luminant is requested to provide a description of the tornado-generated missiles that could be produced by failure of the T/B and AC/B and an analysis or test data showing that these missiles are not capable of producing tornado missile impact effects that are more severe than those produced by the missiles included in the missile spectrum defined in Table 2 of Regulatory Guide 1.76, Rev. 1 for Region I.

2. NRC Staff's Concern

GDC 2 in Appendix A to Part 50 of 10 CFR requires that nuclear power plant structure, system, and components (SSCs) be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their intended safety functions. The design-basis tornado-generated missile spectrum in Table 2 of Regulatory Guide 1.76, Rev. 1 is generally acceptable to the staff for the design of nuclear power plants. However, other possible types of missiles, produced by the failure of a Seismic Category II structure or component that could adversely affect Seismic Category I structures by reducing their capability to perform their intended safety functions, should be analyzed by the COL applicant to ensure compliance with the requirements of GDC 2.

In order for the NRC staff to verify compliance with requirements in GDC-2, the COL applicant is requested to provide information about all potential tornado-generated missiles and fragments resulting from the failure of a Seismic Category II structure or component or non-seismic structures that are not designed for tornado loads that could produce tornado-generated missile impact effects more severe than those produced by the missiles included in the missile spectrum defined in Table 2 of Regulatory Guide 1.76, Rev. 1 for Region 1.

3. Applicant References:

COL FSAR, Revision 1, Section 3.3.2.3

4. Context

Structural integrity of Seismic Category I structures, which assures that SSCs important to safety are protected, and not compromised according to GDC-2 in the Appendix A to Part 50 of 10 CFR.

5. Priority/Impact

This information is essential to completing the technical review and resolving a safety issue. The review cannot be completed without the requested additional information.

6. Dependencies

Internal – There are interfaces with SRP Chapter 3.0, Sections 3.5.1.4 and 3.5.3.
External – There are no external dependencies.