

## PMComanchePeakPEm Resource

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**From:** Monarque, Stephen  
**Sent:** Wednesday, September 23, 2009 3:42 PM  
**To:** John.Only@luminant.com; Donald.Woodlan@luminant.com; cp34-rai-luminant@mnes-us.com; Diane Yeager; Eric.Evans@luminant.com; joseph tapia; Kazuya Hayashi; Matthew.Weeks@luminant.com; MNES RAI mailbox; Russ Bywater  
**Cc:** Magee, Michael; ComanchePeakCOL Resource  
**Subject:** Comanche Peak RCOL RAI 72 Section 2.3.4  
**Attachments:** RAI 3558 (RAI 72).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 42 calendar days of September 23, 2009.

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:** 624

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**Subject:** Comanche Peak RCOL RAI 72 Section 2.3.4  
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**Received Date:** 9/23/2009 3:42:27 PM  
**From:** Monarque, Stephen

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RAI 3558 (RAI 72).doc	34810	

**Options**

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Request for Additional Information (RAI) No. 3558

RAI # 72

9/23/2009

Comanche Peak Units 3 and 4  
Luminant Generation Company, LLC.  
Docket No. 52-034 and 52-035

SRP Section: 02.03.04 - Short Term Atmospheric Dispersion Estimates for Accident Releases  
Application Section: Short Term Atmospheric Dispersion Estimates for Accident Releases

QUESTIONS for Siting and Accident Conseq Branch (RSAC)

02.03.04-1

NUREG-0800, Standard Review Plan (SRP), Chapter 2.3.4, 'Short Term Atmospheric Dispersion Estimates for Accident Releases,' establishes criteria that the NRC staff intends to use to evaluate whether an applicant meets the NRC's regulations.

The Comanche Peak Nuclear Power Plant (CPNPP) combined license application (COLA), FSAR Section 2.3.4.2 states that a building cross-sectional area of 2500 square-meters and a building height of 69.9 meters are conservative assumptions for building wake calculations. Provide, in the COLA, FSAR, a reference to the US-APWR DCD justifying that these are conservative assumptions.

02.03.04-2

NUREG-0800, Standard Review Plan (SRP), Chapter 2.3.4, 'Short Term Atmospheric Dispersion Estimates for Accident Releases,' establishes criteria that the NRC staff intends to use to evaluate whether an applicant meets the NRC's regulations.

This question is in regards to FSAR Table 2.3-337, "Relative Concentration at Comanche Peak Nuclear Power Plant." The first two Summaries on this table provide the results for the PAVAN computer code used to determine the exclusion area boundary (EAB) and low population zone (LPZ)  $\chi/Q$  values. The third section of this table provides the Comanche Peak Maximum Accident  $\chi/Q$  values, which are used as the site characteristics provided in FSAR Table 2.0-1R.

When comparing the values listed in the third section of COLA, Table 2.3-337 with the PAVAN output file and the first two sections of the table, it appears that the  $\chi/Q$  values have been increased by a factor of 8 – 10 percent. Please provide a clarification on why the original  $\chi/Q$  values were not used for comparison with the US-APWR design certification document (DCD) Site Parameters and update the COLA, FSAR as needed.

02.03.04-3

NUREG-0800, Standard Review Plan (SRP), Chapter 2.3.4, 'Short Term Atmospheric Dispersion Estimates for Accident Releases,' establishes criteria that the NRC staff intends to use to evaluate whether an applicant meets the NRC's regulations.

The PAVAN input files provided to the staff appear to be based on a joint frequency distribution of only one year (less than 8760 meteorological entries make up the joint frequency distribution).

Please submit the PAVAN input files containing data from 2001 – 2006. Also make any necessary changes to the FSAR and subsequent site characteristics that may result from updated PAVAN runs.

02.03.04-4

Please provide an electronic copy of the ARCON96 input and output files used in FSAR Section 2.3.4, along with justification for any assumptions that were made in generating the input files.

02.03.04-5

NUREG-0800, Standard Review Plan (SRP), Chapter 2.3.4, 'Short Term Atmospheric Dispersion Estimates for Accident Releases,' establishes criteria that the NRC staff intends to use to evaluate whether an applicant meets the NRC's regulations.

At the bottom of COLA, FSAR Table 2.3-338 (Sheet 1 of 5), the lower elevation of the Control Room HVAC Intake and Class 1E Electric Room HVAC Intake is given as 14.3 meters (m) above grade. The upper elevation for these intakes is 17.1 m and 16.2 m above grade, respectively. In this same COLA, FSAR table, Sheet 4 of 5 and Sheet 5 of 5, the vertical distance between the Ground Level Containment Release Point and the Intakes is given as 32 m. Please provide clarification on the calculation of this 32 meter vertical distance.

02.03.04-6

NUREG-0800, Standard Review Plan (SRP), Chapter 2.3.4, 'Short Term Atmospheric Dispersion Estimates for Accident Releases,' establishes criteria that the NRC staff intends to use to evaluate whether an applicant meets the NRC's regulations.

The COLA FSAR Table 2.3-338 presents data on the Control Room HVAC Distances and Directions. The receptor distances and heights should be consistent with the US-APWR DCD FSAR Chapter 15, Tables 15A-18 through 15A-23. The NRC staff has found numerous discrepancies between COLA FSAR Table 2.3-338 and the US-APWR DCD tables.

Please explain the discrepancies in the height and distance from the sources to the receptors and make any necessary changes to the FSAR

02.03.04-7

The Comanche Peak Nuclear Power Plant combined license application (COLA), FSAR Table 2.3-339 and FSAR Table 2.0-1R (sheet 3 of 12) display the site characteristic control room atmospheric dispersion factors ( $\chi/Q$ ) for accident dose analysis for the time intervals of 0-2 hours, 2-8 hours, 8-24 hours, 1-4 days, and 4-30 days. However, COLA FSAR Table 2.0-1R displays the US-APWR, Rev. 1  $\chi/Q$  values for the time intervals of 0-8 hours, 8-24 hours, 1-4 days, and 4-30 days.

Provide a discussion in COLA, FSAR Section 2.3.4 explaining the discrepancy between the FSAR time intervals and the US-APWR DCD time intervals. Identify any assumptions that are included and explain why they are reasonable and conservative.