

PMComanchePeakPEm Resource

From: Monarque, Stephen
Sent: Thursday, September 03, 2009 3:45 PM
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Cc: ComanchePeakCOL Resource; Kallan, Paul
Subject: Comanche Peak RCOL Section 2.2.3 RAI # 31
Attachments: RAI 2844 (RAI 31).doc

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

The response to this RAI is due within 42 calendar days of September 3, 2009.

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

thank you,

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

Hearing Identifier: ComanchePeak_COL_Public
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Options

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Request for Additional Information (RAI) No. 2844

RAI # 31

9/3/2009

Comanche Peak Units 3 and 4
Luminant Generation Company, LLC.
Docket No. 52-034 and 52-035
SRP Section: 02.02.03 - Evaluation of Potential Accidents
Application Section: 2.2.3

QUESTIONS for Siting and Accident Conseq Branch (RSAC)

02.02.03-1

RG 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)," (June 2007) provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. The dimethylamine and hydrazine stored in tanks that are approximately 300 feet from Comanche Peak Nuclear Power Plant, Units 3 and 4 are considered in the toxic chemical evaluation in FSAR Section 2.2.3.1.3 (Table 2.2-214); however, these chemicals have not been considered as a potential hazard from a potential explosion. Since these chemicals are flammable and hazardous; provide a discussion of the on-site explosion hazard from these chemicals in Section 2.2.3.1.1.3.

02.02.03-2

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. A number of scenarios provided in FSAR Section 2.2.3.1.3, were analyzed using the area locations of hazardous atmospheres (ALOHA) analytical tool. Provide a discussion of the Sunoco Crude oil pipeline explosion scenario using the ALOHA model or other analysis.

02.02.03-3

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. Provide the basis for and the release duration that was used (at the gas release rate of 15.6 million cu.ft./day) for the analysis (i.e., the ALOHA model) of gas wells in FSAR Section 2.2.3.1.2.4 to calculate the gas concentration at the control room intake (at a distance of 1.2 mi.).

02.02.03-4

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. The chlorine hazard was provided as a bounding analysis in Section 2.2.3.1.3.2.1, FSAR Table 2.2-214, of the assessment of toxic chemicals that may affect control room habitability; however, the hazard was only evaluated from mobile sources. The IDLH value (i.e., limiting concentration assessed for immediate danger to life and health) for chlorine is 10 ppm. For ethylene oxide and propylene oxide (which are two of the chemicals considered in the evaluation of explosion scenarios), the IDLH values are 800 and 400 ppm, respectively. The quantities and behavior of these chemicals may be different from chlorine. Provide the rationale for the total chlorine quantity (42,500 lb.) and behavior as the bounding analysis for considering the effects of a tanker explosion on control room habitability.

02.02.03-5

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. In selecting the chemical species, locations and quantities, the rationale for selection and for quantities have not been described in sufficient detail in FSAR Section 2.2.3.1.3.2 and FSAR Table 2.2-214. Provide a discussion of the methods and rationale for selection of the chemical species and quantities. In addition, the amount of sulfuric acid given in FSAR Table 2.2-214 (19,159 lb.) used for CPNPP Units 1 and 2 is different from the amount of sulfuric acid given in FSAR Table 2.2-209 (168,000 lb.); provide a clarification or, if appropriate, a reconciliation between these amounts.

02.02.03-6

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. In the analysis of control room habitability, the HABIT analytical tool was used. There are intermediate calculated values that are useful in performing the NRC Staff's confirmatory evaluation. Provide the calculated control room intake concentration of toxic chemicals analyzed with EXTRAN module of HABIT to compare against the respective IDLH value (immediate danger to life and health) and the calculated concentration in the control room analyzed with the CHEM module of HABIT.