

PMComanchePeakPEm Resource

From: Monarque, Stephen
Sent: Tuesday, September 29, 2009 9:45 PM
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Cc: ComanchePeakCOL Resource; Reyes, Ruth
Subject: Comanche Peak RCOLA Chapter 19 - RAI # 93
Attachments: RAI 3729 (RAI 93).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 36 calendar days of September 29, 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
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Request for Additional Information (RAI) No. 3729

RAI # 93

9/29/2009

Comanche Peak Units 3 and 4
Luminant Generation Company, LLC.
Docket No. 52-034 and 52-035
SRP Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation
Application Section: 19.1.5.1.1

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

19-8

To have confidence that the applicant's probabilistic risk assessment (PRA) and severe accident evaluation results and insights are adequate, the NRC staff must determine that the scope, level of detail, and technical adequacy of the design-specific and plant-specific PRA are appropriate for the combined license application (COLA), as well as for any identified uses of risk information and proposed risk-informed applications.

In Section 19.1.5.1.1 of the combined license application (COLA) FSAR it is stated, "Seismic fragility will be re-evaluated considering the site-specific designs before the first fuel load. Seismic fragilities of the structures are developed using the methodology in [EPRI TR-103959, 'Methodology for Developing Seismic Fragilities']."

Site-specific design considerations should be addressed at the time of COL application. Re-evaluation is appropriate (after construction and prior to initial fuel loading) to confirm that the as-built condition is consistent with the licensed design.

In order for the NRC staff to draw any conclusion related to the application of the seismic margin analysis (SMA) methodology, as applicable to the site-specific features of the COLA, please provide the following information:

1. The reference cited in the FSAR was published in 1994. More recent guidance has been issued (e.g., EPRI TR-1002988, "Seismic Fragility Application Guide," and EPRI TR-1002989, "Seismic Probabilistic Risk Assessment Implementation Guide"). Please indicate whether you intend to revise the FSAR to incorporate references that are more recent.
2. The most important site-specific safety-related structure consists of mechanical draft cooling towers (CWT) for each proposed unit. The CWTs provide the ultimate heat sink as well as provide cooling for normal plant operation. The CWTs need make-up water, which is supplied through a long pipe tunnel that potentially introduces a non-seismic interface. Consequently, these factors can affect seismic capacity of the CWTs and associated pumping equipment and control systems. Please supplement the FSAR to provide relevant discussion of these conditions.
3. The CWTs have backfill on the side opposite to the nuclear island. The backfill slopes down to a retaining wall which is non-seismic. However, a seismic failure of the retaining wall can affect the seismic capacity of the CWTs. The

NRC staff requests the applicant describe (in the FSAR) the extent to which seismically driven common failure of the CWTs (the non-seismic intake pipes could be severed and create a large leak path, or the pumping equipment or the cooling fans may fail) are considered in the assessment of seismic capacity.