PMComanchePeakPEm Resource

From: Monarque, Stephen
Sent: Thursday, February 18, 2010 4:00 PM
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Cc: ComanchePeakCOL Resource; Magee, Michael
Subject: Comanche Peak RCOL Chapter 2.4.1 - RAI Number 138
Attachments: RAI 4308 (RAI 138).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 February 19, 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
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From: Monarque, Stephen

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Request for Additional Information (RAI) No. 4308 COL Revision 1

RAI Number 138

2/18/2010

Comanche Peak Units 3 and 4
Luminant Generation Company, LLC.
Docket No. 52-034 and 52-035
SRP Section: 02.04.01 - Hydrologic Description
Application Section: FSAR Section 2.4

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.04.01-6

NUREG-0800, Standard Review Plan (SRP), Section 2.4.1, 'Hydrologic Description,' establishes criteria that Staff intends to use to evaluate whether an Applicant meets the NRC's regulations.

By letter dated October 1, 2009, the NRC staff issued RAI 3663 (RAI 101) Question No. 14240 (02.04.01-1), where the applicant was asked “provide a description of the process followed to determine how the proposed plant interfaces with the hydrosphere, including determinations of the hydrologic causal mechanisms that may require special plant design basis, current and future surface water uses by Comanche Peak Nuclear Power Plant (CPNPP), Units 3 and 4 and other users, conceptual models used to establish bounding hydrologic conditions, and conceptual models used to quantify uncertainty in hydrological processes and conditions at the site. “

The applicant responded in document CP-200901564-Log No TXNB-09067 (ML093230705), dated November 13, 2009. In its response, the applicant stated that it had interpreted the NRC staff’s remarks during an October 16, 2009 conference call to mean that the staff was not interested in the applicant’s “plan or approach” to the determination of hydrosphere-plant interface or hydrologic causal mechanisms. Additionally, the applicant stated that during this conference call the NRC staff did not request a summary of the applicant’s administrative approach or plan.

The NRC staff reviewed the Comanche Peak Updated Tracking Report, Revision 4 of the FSAR, dated September 2, 2009 and referenced in the applicant’s response. The NRC staff determined that the applicant has provided additional detail and descriptions of basin hydrology and geomorphology. The staff noted that the quantitative hydrologic data and information are sufficient, but still lack the conceptual and logical linkage necessary to make safety determination. It is the organization of this information and data, with the addition of conceptual model and causal mechanism definitions, into a concise and sequenced scoping discussion that are absent in the FSAR and needed to satisfy the requirements stipulated in this RAI.

In order to make its safety determination, the NRC staff requests a description that provides assurance that the process followed to determine the interaction of the proposed plant with the hydrosphere and hydrologic causal mechanisms was captured in a conceptual and logical analysis, and that the applicant had acquired a clear understanding of the processes involved. This description of process and analysis

should include, a hydrologic description for the proposed CPNPP Units 3 and 4, a clear presentation of a conceptual model for Brazos basin hydrology (which incorporates water balance and throughput), the causal mechanisms for water quantity and quality within the basin that may have impact on the performance of the proposed plant, description and analysis of the potential impacts of those causal mechanism on the safety of the proposed units and site, and criteria for limiting the temporal, spatial, and causal mechanism scope of the hydrologic safety analysis.

This is supplemental RAI 2.4.1-00-S.

02.04.01-7

NUREG-0800, Standard Review Plan (SRP), Section 2.4.1, Hydrologic Description,' establishes criteria that Staff intends to use to evaluate whether an Applicant meets the NRC's regulations.

By letter dated October 1, 2009, the NRC staff issued RAI 3663 (RAI 101) Question Number 14244 (02.04.01-5), where the applicant was asked “Provide a description of all existing and proposed reservoirs within the Brazos River Basin and discuss their significance in terms of the design basis flood analysis.”

The applicant responded in document CP-200901564-Log No TXNB-09067 (ML093230705), dated November 13, 2009, indicating that the metric used to classify existing reservoirs for inclusion were the distance from the Brazos-Paluxy confluence and storage volume. The response noted that the proposed South Bend Reservoir would have more than twice the storage of the Hubbard Creek Dam and be closer to the Brazos-Paluxy confluence than existing reservoirs included in the dam break analysis. The applicant, in its response, cited water quality issues, permitting challenges and the omission of the project from Brazos G water planning as reasons for omitting the South Bend project from the dam break analysis.

The NRC staff noted that water needs, permitting challenges, and likelihood of development are all subject to change, given the potential serious impact that development of the South Bend project would have on the flooding scenario.

The NRC staff also noted that the two water storage reservoir metrics (distance form the Brazos-Paluxy confluence and storage volume) are not inherent indicators of the impact of dam failure on the safety of the plant site.

In order to make its safety determination, the NRC staff requests the following information.

1. The applicant revise the dam break analysis to include failure of a dam impounding the South Bend reservoir.

2. The FSAR should include description of how (meaning the physical mechanisms) water storage reservoir metrics impact plant safety from flooding and how the quantitative thresholds for the metrics (for example, greater than 150 miles upstream or greater than 100,00 acre-feet of storage) establish the analysis as bounding conservative in terms of the design basis flood.

This is supplemental RAI 2.4.1-04-S.