

December 5, 2012

APPLICANT: LUMINANT GENERATION COMPANY, LLC.

FACILITY: UNITED STATES - ADVANCED PRESSURIZED WATER REACTOR (US-APWR) DESIGN CERTIFICATION REVIEW

SUBJECT: SUMMARY OF THE OCTOBER 11, 2012, PUBLIC MEETING WITH LUMINANT GENERATION COMPANY, LLC. REGARDING HYDROLOGY GROUND WATER LEVEL, CHAPTER 2, SECTION 2.4, "SAFETY REVIEW OF THE COMANCHE PEAK NUCLEAR POWER PLANT COMBINED LICENSE APPLICATION," AND TO PROVIDE ADDITIONAL INFORMATION THE APPLICANT NEEDS TO SUPPLEMENT ITS APPLICATION.

On October 11, 2012, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC), and representatives of Luminant Generation Company, LLC. (Luminant). This meeting was related to the Combined License Application for Comanche Peak Nuclear Power Plant (CPNPP), Units 3 and 4. The meeting was held at the NRC Headquarters located in Rockville, Maryland. A public meeting notice was issued on September 19, 2012, and was documented in the Agencywide Documents Access and Management System (ADAMS) under accession number ML122610639.

The purpose of this meeting was for Luminant to present the current status of groundwater modeling at CPNPP to the NRC staff for discussion. The need for this modeling was identified during the review of the final safety analysis report, and was documented in ADAMS ML12286A172. This modeling is being conducted to (a) examine whether the maximum groundwater level will be less than the maximum groundwater level site parameter specified in the United States - Advanced Pressurized Water Reactor (US-APWR) plant design, and (b) provide a possible basis for modeling groundwater transport of radionuclides from hypothetical accidental releases. Surface water issues were not discussed.

Luminant has resumed monitoring of groundwater to provide additional information that will be of value for the modeling. Monitoring was conducted on August 17, 2012, and September 12, 2012, and will be continued in October 2012, and December 2012. Groundwater levels in wells completed in the regolith are consistent with levels observed in 2006-2008. They appear to represent actual groundwater levels. The same is true for some of the shallow bedrock wells. Levels in other shallow bedrock wells, and in all of the deep bedrock wells, have risen significantly since 2006 - 2008. However, groundwater levels in these wells changed little from August 2012, to September 2012, and Luminant takes this as evidence that they now represent actual groundwater levels. The staff prefers to wait for additional measurements before drawing this conclusion. Luminant also noted that groundwater levels indicate hydraulic gradients that are vertically downward.

Luminant has developed a conceptual model of groundwater at the site. Freely-recoverable groundwater occurs primarily in regolith, soil, and fill materials overlying consolidated limestone.

It is available to a lesser degree in fractured limestone in the upper, weathered portion of the Glen Rose Formation. Deeper limestone and shale bedrock has very low hydraulic conductivity, and transmits little groundwater. Excavations extend into this deeper bedrock.

Luminant states that the modeling is progressing well. Some minor details are still being added, but the main modeling work is completed. The model is not in its final form, but has reached the point where its main features can be discussed meaningfully.

The groundwater model is implemented using MODFLOW with the GMS visual interface. This includes a 3D visualization of the excavation geometry of excavations, and construction and water levels of wells. The model has three layers. Recharge rates are assigned according to the hydrologic soil group at the surface of layer 1.

Luminant has begun making model runs to test model sensitivity to variations in input parameters. Results are preliminary, and detailed model results were not presented. Luminant states, however, that preliminary results indicate that the maximum simulated groundwater level is less than the maximum groundwater level site parameter for the US-APWR plant design (the maximum permissible groundwater level in locations significant to safety). Luminant concludes from the modeling that the engineered fill is sufficiently permeable that groundwater will drain into the fill from surrounding bedrock, and the fill will drain away this groundwater so it will not rise to an unacceptable level.

During discussion, the staff emphasized the need to produce a bounding analysis of groundwater level, not only a simulation that represents the best estimate of what groundwater level will be. The bounding analysis represents the worst physically reasonable conditions. The staff questioned whether representing the model boundary along Squaw Creek Reservoir as a constant head of 775 ft is satisfactory. This is the conservation pool elevation, and the reservoir is generally maintained close to that level, but the actual reservoir level could fluctuate because of extreme events such as hurricanes. Luminant stated that it would examine the sensitivity of the model to this boundary condition value.

Please direct any inquiries to Tarun Roy at 301-415-0493, or via email at Tarun.Roy@nrc.gov.

/RA/

Tarun Roy, Project Manager
Licensing Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-034 and 52-035

Enclosure:
List of Attendees

cc w/Enclosure: See next page

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DATE	11/30/2012	12/2/2012	11/28/2012	12/5/2012

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List of Attendees

Public Meeting with Luminant Regarding GWL Hydrology Chapter 2, Section 2.4 Safety Review
of the CPNPP Combined License Application Held on October 11, 2012

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Mark McBride	NRC/NRO/DSER
Steve Monarque	NRC/NRO/DNRL
Amy Snyder	NRC/NRO/DNRL
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Deborah Jenez	MNES
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John Conly	Luminant
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Todd Evans	Luminant
Bob Reible	Luminant
James Beach	LBG-Gayton
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Enclosure

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(Revised 10/02/2012)

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