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November 28, 2011

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
ATTN: David B. Matthews, Director
Division of New Reactor Licensing

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNITS 3 AND 4
DOCKET NUMBERS 52-034 AND 52-035
SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION NO. 4314 (SECTION 2.4.12)

Dear Sir:

As a result of several conference calls with the NRC staff, Luminant Generation Company LLC (Luminant) submits herein supplemental information for the response to Request for Additional Information (RAI) No. 4314 (CP RAI #147) for the Combined License Application for Comanche Peak Nuclear Power Plant Units 3 and 4. The supplemental information addresses the properties of the engineered fill and cap materials.

Should you have any questions regarding the supplemental information, please contact Don Woodlan (254-897-6887, Donald.Woodlan@luminant.com) or me.

There are no commitments in this letter.

I state under penalty of perjury that the foregoing is true and correct.

Executed on November 28, 2011.

Sincerely,

Luminant Generation Company LLC

Donald R. Woodlan for

Rafael Flores

Attachment: Supplemental Response to Request for Additional Information No. 4314 (CP RAI #147)

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NRO

Electronic distribution w/attachment:

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SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Comanche Peak, Units 3 and 4

Luminant Generation Company LLC

Docket Nos. 52-034 and 52-035

RAI NO.: 4314 (CP RAI #147)

SRP SECTION: 02.04.12 - Groundwater

QUESTIONS for Hydrologic Engineering Branch (RHEB)

DATE OF RAI ISSUE: 2/26/2010

QUESTION NO.: 02.04.12-9

NUREG-0800, Standard Review Plan (SRP), Chapter 2.4.12, 'Groundwater,' establishes criteria that staff intends to use to evaluate whether an applicant meets the NRC's regulations.

By letter dated October 2, 2009, the NRC staff issued RAI ID 3672 (RAI No. 114) Question Number 14267 (02.04.12-2), in which the NRC staff asked "The CPNPP Units 1 and 2 FSAR states that alterations related to construction increased groundwater levels onsite. In order to understand the effect of construction of Units 3 and 4 on the hydrologic characteristics of the subsurface, plausible groundwater pathways, and site groundwater levels, Luminant is requested to provide a detailed description of the location and extent of planned construction activities including: excavation of regolith/undifferentiated fill and bedrock, the placement of engineered fill and the addition of engineered features (such as drainage ditches, parking lots, roads, etc.). Additionally, please evaluate and discuss the impact of these changes on site hydrologic processes such as infiltration, surface runoff, groundwater levels, hydraulic gradients and flow paths."

The applicant responded in document CP-200901564-Log No TXNB-09067-(ML093230704) executed on November 13, 2009. The NRC staff has reviewed the response and has determined that additional information is needed in order to complete its review.

The staff acknowledges that the additional information provided in the response partially satisfies the information need with regard to the post-construction site conditions. However, the information provided did not incorporate adequate description of the location and extent of planned construction activities including: excavation of regolith, undifferentiated fill and bedrock, the placement of engineered fill and the addition of engineered features (such as drainage ditches, subsurface drains, parking lots, roads, etc.)

The NRC staff provides the following examples that demonstrate some of the inadequacies in the description and level of details provided within the response.

1) The applicant stated that there will not be any shallow groundwater at the site after construction is completed because the A and B zones will be removed and the surface water drainage system will be designed to prevent subsurface infiltration and preclude buildup near plant foundations. However, these statements are not sufficient to illustrate that the system will function as designed and to establish a

maximum operational groundwater level and ensure compliance with the US-APWR design parameter groundwater level. In fact, Section 2.4.13 of the FSAR for Units 1 and 2 states that construction activities actually created areas where water levels were elevated due the placement of permeable fill materials. The data and evaluations presented are not adequate and of sufficient detail to show that this will not occur at the Units 3 and 4 site. For example, Figures 2.4.12-213 and 2.4.12-214 show new fill around many of the new structures but it is not clear how and if this new fill will be drained and what post-construction groundwater and surface water conditions (flow and levels) will be like.

2) The water level hydrographs from B-zone monitoring wells MW1201b (middle of Unit 4) and MW1207b (just north of Unit 3) have water level elevations of over 830 ft. The screened interval for these wells extends to elevations of 808 ft and 803 ft, respectively, which is well below the 822 ft site grade. This suggests that at least some portion of the water bearing B-zone could remain after the site grading is completed. The applicant has stated that it will all be removed.

In order to make its safety determination based on adequate characterization of the site that depicts the post-construction scenario adequately, the NRC staff requests that the applicant provide the following information.

1) A qualitative description of the construction related impacts that could affect site hydrology including maps at a legible scale, sufficiently detailed engineering design information on drainage systems and a description of conservative measurements or estimates of hydrologic parameters. This information should be of sufficient detail to support an analysis of the impact of site modifications on site hydrologic processes such as infiltration, surface runoff, groundwater levels, hydraulic gradients and flow paths.

2) A conservative quantitative analysis that demonstrates that the estimated maximum operational groundwater level complies with the US-APWR Design Certification Document.

This is supplemental RAI 2.4.12-01-S.

SUPPLEMENTAL INFORMATION:

This supplemental information is provided in response to NRC Hydrology Audit Open Item 2.4.12-3 from the audit conducted June 7-9, 2011. Based on an NRC white paper titled "Comanche Peak Nuclear Power Plant Status of Flooding, Groundwater, and Accidental Release Issues (FSAR Sections 2.4.2, 2.4.12, and 2.4.13) October 12, 2011," Luminant decided that additional detailed information concerning the properties of the engineered fill and the design of the caps for the engineered fill would be helpful for the NRC to complete their review. The attached white paper contains the additional information.

Attachment

"Estimation of Conservative Bounding Fill and Infiltration Cap Properties and Determination of Above Grade Fill Extents," dated November 2011.

Impact on R-COLA

None.

Impact on S-COLA

None; this response is site-specific.

Impact on DCD

None.