

February 15, 2013

APPLICANT: LUMINANT GENERATION COMPANY, LLC.

APPLICATION: UNITED STATES – ADVANCED PRESSURIZED WATER REACTOR

SUBJECT: SUMMARY OF JANUARY 8, 2013, PUBLIC TELECONFERENCE TO DISCUSS LUMINANT GENERATION COMPANY, LLC.'S GROUNDWATER MODEL FOR THE COMANCHE PEAK COMBINED LICENSE APPLICATION, CHAPTER 2, SECTION 2.4, "HYDROLOGIC ENGINEERING"

On Tuesday, January 8, 2013, the U.S. Nuclear Regulatory Commission (NRC) held a Category 1 public teleconference with Luminant Generation Company, LLC. (Luminant). During this teleconference, Luminant discussed its approach for modeling radionuclide environmental transport using the modeling program RESRAD. The meeting was noticed on December 21, 2012, and is available through the Agencywide Documents Access and Management System (ADAMS) under Accession Number ML12355A068. The meeting notice included the meeting agenda. The list of attendees is included as an enclosure.

After opening remarks and the introduction of attendees, Luminant stated that the computer modeling program, in which it plans to use, is RESRAD-OFFSITE, Version 2.6. This model will be used to examine radionuclide transport along the horizontal and vertical pathways as defined in Luminant's Calculation Package 039.

Next, Luminant presented the source term for the postulated tank rupture. Luminant chose the Boric Acid Tank (BAT) as the source, because it has the largest radionuclide inventory, and assumed that the volume released would be 52,800 gallons, equal to 80 percent of the tank capacity of 66,000 gallons. Nearly all of the release would follow the horizontal pathway. The volume following the vertical pathway would consist of 0.02 percent of the volume released, or 105.6 gallons. The NRC staff questioned why Luminant assumed only 105.6 gallons would follow the vertical groundwater path. In addition, Luminant excluded gaseous radionuclides, based on the assumption that they would not enter into the groundwater and would remain at the source location. Radionuclides with a half life of less than one day were also excluded from this analysis. The NRC staff disagreed with Luminant's analysis regarding gaseous radionuclides, and stated that groundwater does contain dissolved gases. Luminant responded that the BAT should not have a significant amount of gaseous radionuclides before the postulated tank failure, and this will be documented in Luminant's request for additional information response.

The NRC staff informed Luminant that the RESRAD model was designed to consider a solid state source zone but not a liquid source zone, thus modeling a BAT rupture could be a challenge. Luminant stated that in its modeling it assumed a rupture of the BAT, used the lowest available  $K_d$  value, and used the shortest and fastest groundwater pathway. Luminant plans to use RESRAD to model the concentration of radionuclides at two hypothetical wells.

The first well would be located at the edge of the Squaw Creek Reservoir, and the second well below the Glen Rose Formation in the Twin Mountain Formation. These wells would be within the boundary of the Comanche Peak Nuclear Power Plant site. Sensitivity analysis shows that the solutions are sensitive to some parameters (i.e. > 10 percent change in output), but no parameter sensitivities affect the conclusions.

Finally, Luminant and the NRC staff summarized the call. Luminant will consider addressing potential dissolved gaseous radionuclides in the source term; explain how the source term will be entered into RESRAD; fully explain how it plans to apply RESRAD; and perform sensitivity analysis in calculations and explain why this analysis is acceptable.

Please direct any inquires to me at 301-415-1544, or via e-mail at Stephen.Monarque@nrc.gov.

Sincerely,

*/RA/*

Stephen Monarque, 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

The first well would be located at the edge of the Squaw Creek Reservoir, and the second well below the Glen Rose Formation in the Twin Mountain Formation. These wells would be within the boundary of the Comanche Peak Nuclear Power Plant site. Sensitivity analysis shows that the solutions are sensitive to some parameters (i.e. > 10 percent change in output), but no parameter sensitivities affect the conclusions.

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**NRO-002**

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<b>DATE</b>	02/13/2013	02/13/2013	02/15/2013

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LIST OF ATTENDEES

U.S. Nuclear Regulatory Commission  
Public Teleconference held on January 8, 2013

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Mark McBride	Nuclear Regulatory Commission
Nebiyu Tiruneh	Nuclear Regulatory Commission
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Deborah Jerez-MacPherson	Mitsubishi Nuclear Energy Systems
Mory Diane	Mitsubishi Nuclear Energy Systems
Brandon Hall	Mitsubishi Nuclear Energy Systems
Frostie White	Mitsubishi Nuclear Energy Systems
Michael Tschiltz	Mitsubishi Nuclear Energy Systems
Diane Yeager	LBG
James Beach	LBG
Dave O'Rourke	LBG
Tom Schutzer	Enercon
Stacy Burgess	Enercon
Todd Brautigam	Enercon
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Enclosure

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(Revised 02/06/2013)

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