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August 26, 2009

DCN: NMED-2009-19

Mr. David Cobrain
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Dr. E, Bldg 1
Santa Fe, NM 87505

RE: Draft Technical Review Comments on the Phase II Investigation Report for Material Disposal Area C, Solid Waste Management Unit 50-009, at Technical Area 50, Los Alamos National Laboratory, dated June 2009

Dear Mr. Cobrain:

This letter serves as a deliverable and provides our draft technical review on the risk assessment portions of Los Alamos National Laboratory's (LANL) Phase II Investigation Report for Material Disposal Area (MDA) C, Solid Waste Management Unit 50-009, at Technical Area 50, dated June 2009. As noted in a follow-up email from Kathryn Roberts (dated August 6, 2009), NMED is planning to request a third phase of investigative work to delineate the vapor plume. Ms. Roberts indicated that a comment will be drafted to LANL specifying that the risk assessment will not be reviewed until additional characterization work is completed and the risk assessment updated. As such, a detailed review of the risk assessment was not requested at this time, but rather a review of the overall methodology and assumptions.

The primary concern with the risk assessment is that the vapor intrusion scenario is not addressed. Several volatile organic compounds (VOCs) were detected in the pore gas samples. An evaluation of whether VOC concentrations were sufficient to potentially migrate to groundwater was conducted. However, an evaluation of inhalation of vapors migrating from soil into indoor air was not addressed. The evaluation of this pathway is not dependent on depth of contaminant detections in soil, as typically applied in residential and industrial scenarios. Further, neither the NMED soil screening levels nor the regional screening levels account for the vapor intrusion pathway. As noted in previous comments, application of generic screening levels is adequate if the screening levels account for all potentially complete exposure pathways. At MDA C, the vapor intrusion pathway is complete and must be evaluated. It is suggested that the Johnson and Ettinger model be used to evaluate risk. Risk determined from this analysis should be added to the risks determined from the comparison to the generic screening levels for assessment of overall risk. Inhalation of VOCs by ecological receptors is typically not evaluated in ecological risk assessments, due to the lack of inhalation data for the various receptors. Therefore, the inclusion of the vapor intrusion scenario will only apply to the human health risk assessment.



If you or any of your staff have questions, please contact me at (801) 451-2864 or via email at paigewalton@msn.com.

Thank you,



Paige Walton
AQS Senior Scientist and Project Lead


~~Enclosure~~

cc: Kathryn Roberts, NMED (electronic)
Joel Workman, AQS (electronic)