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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 6, 2011

George J. Rael, Assistant Manager
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Department of Energy/National
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Michael J. Graham, Associate Director
Environmental Programs
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Los Alamos, NM 87545

**RE: DIRECTION TO MODIFY
REMEDY COMPLETION REPORT
UPPER LOS ALAMOS CANYON AGGREGATE AREA, FORMER TA 32
LOS ALAMOS NATIONAL LABORATORY
EPA ID #NM0890010515
HWB-LANL-10-083**

Dear Messrs. Rael and Graham:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security, LLC (LANS) (collectively, the Permittees) *Remedy Completion Report for Upper Los Alamos Canyon Aggregate Area, Former Technical Area 32, Revision 1* (Report), dated February 2011 and referenced by LA-UR-11-1177/EP2011-0064. NMED hereby issues this Direction to Modify. The comment numbers correspond to the January 25, 2011 Notice of Disapproval (NOD).

General Comments:

1. NMED's comment questioned rounding of risk and hazard levels to one significant figure. The response indicated that rounding is an acceptable procedure as recognized by



Environmental Protection Agency (EPA) guidance. Since the figures in the supporting tables provided in the actual risk assessment typically are not rounded, a check of the results can be conducted. Presentation of final results in the main text as rounded values does not impact evaluation of risk. However, there is a general inconsistency with how the Permittees treat this issue. Some of the investigation reports provide two significant figures while others present one significant figure. Reports must be reviewed for internal consistency. Rounding of risk in the main discussions of text is acceptable only if the figures in the supporting risk tables include at least two significant figures.

2. The NOD comment addressed a concern for exposures to industrial and construction workers via inhalation of volatile organic compounds (VOCs) via the vapor intrusion scenario. The NOD requested a qualitative discussion of the vapor intrusion pathway with respect to these two receptors. While the response provides this discussion, NMED does not agree with the conclusion that evaluation of the pathways was not warranted. These are potentially complete exposure routes, and while the residential analysis may be protective of these other receptors, the risk assessment should have addressed these risks. No additional response is needed.
3. NMED concurs that for these sites inclusion of vapor-intrusion results will not impact the total excess cancer risk and hazard index. For all future reports, total excess cancer risk and hazard must include the risk/hazard across all complete exposure pathways, regardless of whether the pathway significantly contributes to overall risk/hazard.

Specific Comments:

5. **Section 4.4.4, Summary of Human Health Risk Screening, pages 27 and F-80:**
The comment addresses the prevalence of polynuclear aromatic hydrocarbons (PAHs) and whether the detections should be retained in the risk evaluation. The Permittees argue that the detections of PAHs are not site-related but reflective of the industrial nature of the area. However, more recent sampling confirmed the previous elevated levels detected in 1996. Regardless of whether the PAHs can be tied directly to site activities or may be related to other sources, PAHs are present at concentrations exceeding residential levels in an area where residential exposure pathways are complete. Risks from PAHs must therefore be addressed. NMED cannot issue a Certificate of Completion without controls for this site until the risk posed by the PAHs is addressed.
6. **Section 6.0, Recommendations, Part b, page 31:**
NMED does not agree with the recommendation that no further corrective action is necessary at AOC 32-004. See Specific Comment #5 above.
10. **Attachment F-2, Johnson and Ettinger Model Spreadsheets, Tables F-3.3-1, F-3.3-7, and F-3.3-10:**
The NOD comment indicates that a minimum of eight samples are required to calculate statistical exposure point concentrations. The Permittees argue that the ProUCL guidance

allows for as few as five data points in deriving a statistical based upper confidence level (UCL) of the mean. While this may be true, NMED has had numerous discussions with the Permittees concerning number of data points needed for statistical determinations. In informal agreements made with Dr. Rich Mirenda, it was acknowledged that the Permittees needed a minimum of eight samples (data points) and if these data were not available, the maximum detected concentration would be applied. The use of a minimum of eight samples was agreed to by NMED. The response to this comment is contrary to this informal agreement. The Permittees must provide for consistency between investigations and how site data are evaluated and adhere to the aforementioned agreement. As stated in the original comment, the tables must be modified using maximum detected concentrations as exposure point concentrations and all subsequent risk and hazard calculations must be revised. The Permittees may include the modifications in the Phase II Investigation Report for Upper Los Alamos Aggregate Area (due by August 30, 2012).

Please contact Neelam Dhawan of my staff at (505) 476-6042 should you have any questions.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
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File: LANL, TA -32 Remedy Completion Report, Upper Los Alamos Canyon, 2011,
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