

TA 50

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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

June 25, 2007

David Gregory  
Federal Project Director  
Los Alamos Site Office  
Department of Energy  
528 35<sup>th</sup> Street, Mail Stop A316  
Los Alamos, NM 87544

David McInroy  
Remediation Services Deputy Project Director  
Los Alamos National Laboratory  
P.O. Box 1663, MS M992  
Los Alamos, NM 87545

**RE: NOTICE OF DISAPPROVAL FOR THE PHASE II INVESTIGATION WORK PLAN FOR MATERIAL DISPOSAL AREA (MDA) C, SOLID WASTE MANAGEMENT UNIT 50-009, AT TECHNICAL AREA 50, LOS ALAMOS NATIONAL LABORATORY (LANL), EPA ID #NM0890010515 HWB-LANL-07-008**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security LLC's (LANS) (collectively, the Permittees) *Phase II Investigation Work Plan for Material Disposal Area C, Solid Waste Management Unit 50-009, at Technical Area 50* (Work Plan), dated April 2007 and referenced by LA-UR-07-2581/EP2007-0226. NMED has reviewed this document and determined that it does not satisfy all requirements outlined by NMED's Notice of Disapproval (NOD) dated February 19, 2007. The Permittees must therefore submit a revised Work Plan that addresses the following issues:



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**Specific Comments:**

**1) Section 3.2.1 Number, Locations, and Depths of Boreholes, pages 4-5:**

**Permittees' Statement:** "The two NMED-proposed locations to the north of Pit 5 and outside the MDA C boundary are replaced by a proposed single borehole to the northeast of Building 50-0176. This location is sited 300 feet north of Pit 5 and is intended to define the lateral extent of contamination to the north of MDA C." "The Laboratory proposes extending five of the nine boreholes NMED proposed for extension (50-24769, 50-24771, 50-24783, 50-24784, and 50-24813)."

**NMED Comment:** The Permittees propose drilling three of five required additional boreholes and extending six of the required nine existing boreholes required in NMED's Notice of Disapproval (NOD) dated February 19, 2007. NMED does not concur with the Permittees' approach. The Permittees did not provide adequate justification for performing less work than was required in the NOD. The Permittees state that "[t]hese nine locations should provide sufficient coverage to confirm that VOC concentrations decrease in the Otowi Member to levels that do not pose a threat of groundwater contamination." This assertion has minimal or no justification. The Permittees do not explain why the nine locations provide sufficient coverage. Therefore, the Permittees must complete the supplemental work as follows;

- Extend all boreholes required in the NOD, with the exception of 50-24821. Borehole 50-24821 may be deferred until construction activities are complete.
- NMED concurs with the locations of boreholes 50-A, 50-B, and 50-C; however, NMED also requires that the two boreholes to the north of MDA C included in the NOD be drilled. NMED believes these two boreholes will be important locations, not only for determining lateral extent of contamination, but also for their use as possible future vapor-monitoring/vapor-extraction points.

**2) Section 3.2.3 Subsurface Tuff Sampling, page 6:**

**Permittees' Statement:** "New boreholes will be sampled beginning at 50 ft bgs."

**NMED Comment:** NMED concurs with this approach with the exception of the two borehole locations to the north of MDA C and borehole 50-B. The Permittees must obtain tuff and pore-gas samples at 10, 25, and 50-foot intervals at these locations due to their close proximity to occupied buildings. Sampling of these shallower depths at these locations will help characterize the shallow subsurface and identify potential vapor intrusion problems at buildings near MDA C.

**3) Section 3.5 Fracture Analysis, page 7:**

**Permittees' Statement:** "Because boreholes provide only limited information regarding the location and orientation of fractures in the subsurface, borehole data will be supplemented by fracture data obtained from a seismic survey currently being conducted immediately west of MDA C at TA-55. This study will provide information regarding the numbers, size, spacing, fill material, and orientation of fractures in the immediate vicinity of MDA C."

**NMED Comment:** The Permittees should use the fracture studies completed for MDA H and MDA P as a guide. The Permittees must include, in a separate document, borehole data, information from the seismic study at TA-55, and any other relevant information from projects within the vicinity of MDA C which addresses the migration of water and vapor-phase contamination via fractures at MDA C. The study must be submitted no later than March 30, 2008.

**4) Section 4.2 Drilling Methods, page 7:**

**Permittees' Statement:** "All boreholes will be advanced using an air-rotary drilling method, which uses a drill pipe or drill stem coupled to a drill bit that rotates and cuts through soil and rock."

**NMED Comment:** The Permittees must employ the same drilling methods that were used during the first phase of work. Hollow stem augers must be utilized until refusal occurs. According to the MDA C Investigation Report, refusal will be encountered at approximately 300 feet. Once the hollow stem auger method can no longer be used, the Permittees may use the air-rotary method to achieve the termination depth of the borehole.

**5) Section 5.2 Vapor-Monitoring Borehole Installation and Configuration, page 10, paragraph 3:**

**Permittees' Statement:** "If the steel liner cannot be removed from the borehole, the FLUTE membrane will be installed through the liner, and the only available vapor sampling ports will be in approximately the bottom 150 ft of the borehole."

**NMED Comment:** The Permittees cannot consider borehole 50-24818 as a potential vapor-monitoring/vapor extraction point due to the 446 feet of steel casing that potentially will not be removed from the borehole--limiting vapor-monitoring ports to the bottom 150 feet of the borehole. This is one of the reasons why NMED is requiring drilling of the boreholes in specific comment # 1, bullet 2 for use as vapor-monitoring/vapor extraction points.

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**6) Section 6.0 Schedule, page 11:**

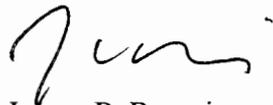
**Permittees' Statement:** "Additional time will be required for completing readiness activities before field work begins, receiving sample data, and preparing the Phase II Investigation Report. "It is anticipated that the Phase II Investigation Report will be submitted to NMED by September 30, 2008."

**NMED Comment:** The Permittees have not provided adequate justification for their request to submit the Phase II Investigation Report by September 30, 2008. Therefore, the Phase II Investigation Report will be due to NMED on March 30, 2008. The new Notice Date for the Phase II Investigation Report will be July 31, 2008.

The Permittees must submit a revised Work Plan on July 31, 2007. All submittals (including maps) must be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the Order.

Please contact Kathryn Roberts at (505) 476-6041 should you have any questions.

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
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file: Reading and LANL TA-50 '07 (SWMU; 50-009)