

TAY 9



NEW MEXICO  
ENVIRONMENT DEPARTMENT



*Hazardous Waste Bureau*

BILL RICHARDSON  
Governor

2905 Rodeo Park Drive East, Building 1

Santa Fe, New Mexico 87505-6303

RON CURRY  
Secretary

DIANE DENISH  
Lieutenant Governor

Phone (505) 476-6000 Fax (505) 476-6030

JON GOLDSTEIN  
Deputy Secretary

www.nmenv.state.nm.us

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

December 20, 2007

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

David McInroy  
Remediation Services Deputy Project Director  
Los Alamos National Lab  
P.O. Box 1663, Mail Stop M992  
Los Alamos, New Mexico 87545

**RE: NOTICE OF DISAPPROVAL  
INVESTIGATION WORK PLAN FOR SITES AT TECHNICAL AREA 49  
OUTSIDE THE NUCLEAR ENVIRONMENTAL SITE BOUNDARY  
LOS ALAMOS NATIONAL LABORATORY (LANL)  
EPA ID #NM0890010515  
HWB-07-032**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) is in receipt of the United States Department of Energy and the Los Alamos National Security, LLC's (the "Permittees") document entitled *Investigation Work Plan for Sites at Technical Area 49 Outside the Nuclear Environmental Site Boundary* (Plan) dated October 31, 2007 and referenced by LA-UR-07-6429/EP 2007-0569. NMED has reviewed the Plan and hereby issues this notice of disapproval.

**General Comments:**

1. Table 4.4-1, *Summary of Proposed Boreholes and Sampling*, requires revision. The Permittees must provide the subsurface sampling strategy for all SWMUs and AOCs in a table identical to the format of Tables 4.1-1 through 4.5-1 of the *Investigation Work Plan for S-Site Aggregate Area* (September 2007).



**Specific Comments:**

**1. Section 1.0, Introduction, page 1:**

**Permittees' Statement:** "This work plan includes two nondeferred sites [AOC 49-005(b) and SWMU 49-006], which are contained within the boundaries of AOC 49-008(a)."

**NMED Comment:** Area of Concern (AOC) 49-005(b) is not included in Table IV-1, *Non-Deferred Sites Within Testing Hazard Zones* (Table IV-1) of the March 1, 2005 Order on Consent (Order). The Permittees must revise the Plan to correct this error.

**2. Section 1.0, Introduction, page 1; Section 4.3, Surface Investigation, page 20; Section 4.3.3, SWMU 49-004, page 23; Table 1.1-1, List of TA-49 SWMUs and AOCs Outside the NES Boundary, page 83:**

**NMED Comment:** NMED agrees that AOC 49-005(b) and solid waste management unit (SWMU) 49-006 are within the boundaries of AOC 49-008(a). However, AOC 49-005(b) is not listed on Table IV-1 or Table IV-2, *Deferred Sites Within Testing Hazard Zones* (Table IV-2). SWMU 49-006 is listed on Table IV-1. Therefore, surface and subsurface sampling must be completed at AOC 49-005(b) and SWMU 49-006. The Permittees must revise the Plan to include proposed surface and subsurface investigation activities at these sites.

**3. Section 4.1, Investigation Objectives, page 19, bullet 2:**

**Permittees' Statement:** "Upon review of the "RFI Work Plan for OU 1144" and documentation of RFI activities to date, it was determined that insufficient data exist to determine the nature and extent of contamination at Areas 5, 6, and 10. These include the following data needs.

- Vertical and lateral extent of inorganic chemical and radionuclide contamination for the open burning/landfill area in Area 6 (SWMU 49-004) and the small landfill associated with Area 10."

**NMED Comment:** The Permittees state in Section 2.4.1.1, *Site Description* that "[t]he possibility that the trenches were utilized by the Laboratory for material disposal or other purposes cannot be categorically excluded." Therefore, in addition to defining vertical and lateral extent of inorganic contamination at the Areas identified above, the Permittees must define vertical and lateral extent of contamination at all four trenches located west of SWMU 49-004 and include this as an objective in the revised Plan. The Permittees must revise the Plan to propose the additional investigation.

**4. Section 4.3.1, Area 5: Transformer Pads, page 20:**

**Permittees' Statement:** "Surface sampling will be conducted at two transformer pads located within AOC 49-008(a) because the potential contaminants related to the transformers are distinguishable from potential firing-site contaminants associated with this area. Eight surface

samples will be collected around the perimeter (one sample on each side) of each transformer pad: four samples will be collected from 0 to 6 in. and another four will be collected from 6 to 18 in.”

**NMED Comment:** The eight surface sample locations are not depicted on any of the Area 5 figures in the Plan. The Permittees must provide a figure which identifies all proposed surface sampling locations for the Area 5 transformer pads.

**5. Section 4.3.2, Area 6 West, SWMU 49-004 and Area 10: AOC 49-002 and SWMU 49-005(a), pages 21-22:**

**NMED Comment:** The description of the three categories of surface sampling locations proposed within each sampling array is confusing. For example, it is unclear; how many samples will be obtained, the rationale for selection of samples for off-site laboratory analysis and, the rationale for analytical suites. The Permittees must remove this language from the Plan and provide the surface sampling strategy in a table identical to the format of Tables 4.1-1 through 4.5-1 of the *Investigation Work Plan for S-Site Aggregate Area* (September 2007).

Additionally, Table 1.1-1, *List of TA-49 SWMUs and AOCs Outside the NES Boundary*, indicates that no surface sampling is proposed at SWMU 49-004. However, Section 4.3.3, states “Figure 4.3-1 illustrates the surface-sampling grid pattern to be used for SWMU 49-004.” The Permittees must clarify whether surface sampling is proposed for SWMU 49-004 or otherwise resolve the discrepancy.

**6. Section 4.4.2, Subsurface Investigations, SWMU 49-004, page 24:**

**NMED Comment:** The Permittees must revise the Plan, where appropriate, to include proposed subsurface sampling at all four trenches located west of SWMU 49-004. Also see specific comment # 3.

**7. Section 4.4.6, Analysis Plan, page 26, paragraph 1:**

**Permittees’ Statement:** “The selection of core samples to be submitted to an analytical laboratory will be based on the following criteria:

- The sample exhibiting the highest field screening detection
- The sample obtained from the maximum depth in each boring that displays field screening evidence of contamination
- The sample located at the base of a SWMU or AOC”

**NMED Comment:** The Permittees state in the third paragraph of Section 4.4.6 that “[a]ll subsurface core samples will be submitted to an analytical laboratory for analyses of HE compounds, perchlorate, nitrate, cyanide, and TAL metals. If indicated by field-screening, samples will also be analyzed for isotopic americium, isotopic plutonium, isotopic uranium, tritium, VOCs, and SVOCs.” NMED understands this statement to mean that core samples will be selected based on the criteria above and *those* core samples will be submitted to an off-site

analytical laboratory for the list of analyses given above. The Permittees must clarify whether it is their intention to send either a subset or all subsurface core samples to an off-site analytical laboratory for analysis.

The Permittees have not proposed vapor-phase sampling in this Plan. The Permittees must propose pore-gas sampling similar to the vapor-sampling proposed in the *Investigation Work Plan for sites at TA-49 inside the NES Boundary*, or provide justification for omitting pore-gas sampling from the Plan.

**8. Section 5.4, Field-Screening Method, page 31:**

**Permittees' Statement:** "The primary field-screening methods to be used on subsurface core include (1) visual observation and (2) radiological screening."

**NMED Comment:** According to Sections 2.3 through 2.6 of the Plan, previous sampling results indicate that inorganics, radionuclides and, in some cases, organics are present at TA-49. Pursuant to Section IX.B.2.d, the Permittees must use X-ray fluorescence (XRF) to field-screen for inorganics and headspace vapor-screening for VOCs in addition to radiological screening.

Section 5.2.3 states "[i]f field screening indicates the presence of VOCs, samples will be collected and submitted for laboratory analysis. Vapor-monitoring wells will be installed if vapor-phase contamination is confirmed by field screening results." The Permittees must explain how they will verify the presence of vapor-phase contamination, particularly in light of their intention not to conduct field screening or pore-gas sampling. Alternatively, the Permittees must conduct headspace vapor-screening for VOCs.

**9. Figure 2.4-5, Figure 2.4-7, and Figure 2.4-8, pages 51, 53, and 54:**

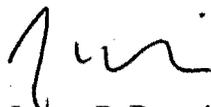
**NMED Comment:** The Permittees must revise Figures 2.4-5, 2.4-7, and 2.4-8 to clearly identify the boundary of AOC 49-008(b).

The Permittees must address all comments and submit a revised Plan by January 31, 2007. As part of the response letter that accompanies the revised Plan, the Permittees shall include a table that details where all revisions have been made to the Plan and that cross-references NMED's numbered comments. 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. In addition, the Permittees must submit a redline-strikeout version that includes all changes and edits to the Plan (electronic copy) with the response to this NOD.

Messrs. Gregory and McInroy  
December 20, 2007  
Page 5

Should you have any questions regarding this letter, please contact Kathryn Roberts at 476-6041.

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

cc: J. Holman, NMED HWB  
K. Roberts, NMED HWB  
D. Cobrain, NMED HWB  
King, EPA 6PD-N  
S. Yanicak, NMED DOE OB, MS J993  
T. Skibitski, NMED DOE OB  
G. Rael, DOE LASO, MS A316  
S. Stiger, ENV MS M991  
J. McCann, LANL, MS M991  
file: Reading and LANL'07, TA-49 (SWMUs: 49-006, 49-004, 49-005(a), AOCs: 49-005(b), 49-008(a), 49-008(b), and 49-002)