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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 9, 2007

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

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

**RE: NOTICE OF DISAPPROVAL
REMEDY COMPLETION REPORT FOR THE INVESTIGATION AND
REMEDICATION OF SOLID WASTE MANAGEMENT UNIT 61-002 AT
TECHNICAL AREA 61
LOS ALAMOS NATIONAL LABORATORY (LANL)
EPA ID #NM0890010515
HWB-07-009**

Dear Messrs. McInroy and Gregory:

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 *Remedy Completion Report for the Investigation and Remediation of Solid Waste Management Unit (SWMU) 61-002 at Technical Area 61* (Report) dated May 3, 2007 and referenced by LA-UR-07-2745/EP 2007-208. NMED has reviewed the Report and hereby issues this notice of disapproval. NMED provides the following comments:



General Comments:

1. **NMED Comment:** The potential for soil contamination to impact ground water was not adequately addressed in the risk assessment. A general discussion of chemical properties affecting the mobility and persistence of inorganic and organic contaminants in soil was included in Section E-3.0, *Environmental Fate and Transport*, as a basis for determining that migration to groundwater would not occur. A tier one analysis from NMED's Petroleum Storage Tank Bureau was presented for petroleum constituents including a risk-based screening and a migration-based screening (see Section E-4.2, page E-15, *Comparison of Soil Concentrations with Risk-Based Screening Levels*). However, migration screening using site-specific results was not conducted. The Permittees must conduct a migration-based screening using NMED soil screening levels (SSLs) to support the conclusion that constituents other than petroleum constituents will not reach groundwater. The analysis will indicate whether the migration to groundwater pathway is complete or not. Once completed, the results must be noted in Attachment E-1, *Ecological Scoping Checklist*, Question E.
2. **NMED Comment:** The bulleted items on pages E-8 and E-9 indicate that the potential risk to ecological receptors is low based on a comparison to NMED and U.S. Environmental Protection Agency (EPA) Region 6 residential medium-specific soil screening levels (MSSLs). The comparisons were performed because ecological screening levels (ESLs) were not available for the compounds being screened. An explanation or justification demonstrating that a residential human health-based screening level would be protective of the array of ecological receptors evaluated at the site was not provided. The Permittees must provide the scientific rationale used in determining that the NMED and EPA Region 6 residential MSSLs are protective of ecological receptors.

Specific Comments:

1. Section 4.3 Controls, pg 20:

Permittees Statement: “[b]ased on the results of the human health risk screening assessment, controls are required to restrict land use of the property. The Laboratory intends to retain ownership of the property indefinitely and will continue to restrict the property to industrial use only.”

NMED Comment: At locations 61-24316 (aroclor-1254), 61-26622 (arsenic, diesel range organics, methylnaphthalene, trimethylbenzene, xylene), 61-24347 (diesel range organics), and 61-24352 (benzene, naphthalene, toluene, diesel range organics, trimethylbenzene, and xylene) contaminants were detected in soils at concentrations above the industrial, construction worker, and residential SSLs. At locations 61-26986 (arsenic) and 61-26623 (trimethylbenzene) contaminants were detected at concentrations above residential SSLs. For NMED to consider a corrective action complete with controls for SWMU 61-002, the Permittees must remove that soil which exceeds the residential SSLs (see NMED letter dated March 14, 2005) and define the extent of contamination at the aforementioned locations vertically through additional sampling

until the detected concentrations of contaminants no longer exceed the applicable respective soil screening levels based on anticipated site use.

The Permittees must submit a Work Plan to NMED, prior to conducting further work at the site, that addresses further investigation to determine the extent of contamination and any planned remedial action at SWMU 61-002. Once NMED approves the Work Plan, Permittees must submit a revised Remedy Completion Report that includes the results of all additional investigation and remediation conducted at the site.

2. Section E.1.1 Screening Evaluation, Pg. E-2:

Permittees Statement: “These risk-based SSLs are substituted for the soil saturation limits (C_{sat}) SSLs in the screening assessments to provide a meaningful assessment of risk.”

NMED Comment: A chemical concentration which exceeds the C_{sat} is a strong indication that the chemical may occur as a nonaqueous phase liquid (NAPLs) in soil. The Permittees may not use a risk-based value exceeding a C_{sat} because certain default assumptions and models used in the generic algorithms for developing risk-based SSLs are not applicable when free-phased contaminants are present in the soil. The Permittees must revise the text to discuss any C_{sat} exceedances and the implications of any C_{sat} exceedances. Where appropriate, the revised text must include a statement that such exceedances may indicate the presence of saturated soils and that soil where the concentrations exceed or approach the C_{sat} will be removed.

3. Section E-3.2 Organic Chemicals, Pg. E-11:

Permittees Comment: “Saturated conditions do not exist in the soil and tuff.”

NMED Comment: Comparison of the maximum detections of several organic compounds listed in Table E-1.1-2, *Exposure Point Concentrations (EPCs) for the Construction Worker Scenario at SWMU 61-002*, Page E-21, and C_{sat} values provided in NMED risk assessment guidance (2006), indicated that the following compounds may be present at levels that exceed the C_{sat} concentrations:

Contaminant	Maximum Detection (mg/kg)	NMED C_{sat} (2006)	NMED DAF 20 SSL_{gw}
Ethylbenzene	230	128	20.2
Toluene	380	252	21.7
1,2,4-Trimethylbenzene	610	1.5	1.42
1,3,5-Trimethylbenzene	870	82	0.35

As previously mentioned, chemical concentrations exceeding the C_{sat} suggest the chemical may occur as a NAPL in the soil. Where the exceedances of C_{sat} concentrations occur, the Permittees

must indicate if free-phase may be present in the subsurface soils. In addition, the Permittees must remove all soils where C_{sat} has exceeded.

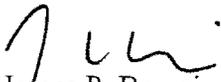
Section E-4.1.6 Complete Pathways of Exposure, Pg. E-13:

Permittees Comment: "Indoor vapor exposure is an incomplete pathway for current and future on-site commercial workers. Workers at the site are currently limited to outdoor workers. This condition is expected to remain for the foreseeable future based on expected land use."

NMED Comment: No justification or support is provided for this statement. The Permittees must clarify the basis for stating that "...construction of buildings on the site is unlikely..." (see page E-13, Section E-4.1.4, Land Use). The possibility of grading at the site requires an evaluation of the construction worker risk scenario and the vapor intrusion pathway. The Permittees must evaluate the construction worker risk scenario and complete a vapor intrusion model for SWMU 61-002. If contaminants are found above construction worker SSLs, Permittee must excavate the site to meet construction worker SSLs, resample, and submit analyses for NMED review and approval before any construction work may begin.

The Permittees must address these comments, cross-referencing NMED's numbered comments, in a response letter and submit a revised Work Plan (see Specific Comment #1) by September 14, 2007. The Work Plan must include a schedule for completion of work and proposed submittal date for the revised Remedy Completion Report for NMED approval. All submittals must be in the form of two paper copies and one electronic copy in accordance with section XI.A of the Consent Order. Should you have any questions regarding this letter, please contact Jennifer Holman of my staff at (505) 476-6043.

Sincerely,



James P. Bearzi

Chief

Hazardous Waste Bureau

cc: J. Holman, NMED HWB
D. Goering, NMED HWB
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file: Reading and LANL'07, TA-61 (SWMU 61-002)