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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 13, 2009

David Gregory
Federal Project Director
Los Alamos Site Office
Department of Energy
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David McInroy
Environmental Operations Project Director
Los Alamos National Security, LLC
P.O. Box 1663, MS M992
Los Alamos, NM 87545

**RE: APPROVAL WITH MODIFICATIONS
PHASE II INVESTIGATION/REMEDIATION WORK PLAN
FOR MATERIAL DISPOSAL AREA A, REVISION 1
SOLID WASTE MANAGEMENT UNIT 21-014, AT TECHNICAL AREA 21,
LOS ALAMOS NATIONAL LABORATORY (LANL),
EPA ID #NM0890010515
HWB-LANL-09-028**

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, L.L.C.'s (LANS) (collectively, the Permittees) *Phase II Investigation/Remediation Work Plan for Material Disposal Area A, Solid Waste Management Unit 21-014, at Technical Area 21, Revision 1* (Work Plan), dated September 30, 2009 and referenced by LAUR-09-5806/EP2009-0366. NMED has reviewed the Work Plan and hereby issues this Approval with Modifications (Approval). The Permittees must implement the Work Plan with the modifications outlined below.

Comments

1. The Permittees do not provide sufficient detail regarding the Plutonium Tank removal. On page 10, Section 4.1.2, Regulatory Basis for Technical Approach, the Permittees state "[w]ith respect to the Plutonium Tanks, decisions regarding waste removal (tank heel) and physical tank removal can be made only after receipt of the



characterization data. This work plan will be conducted under the requirements of the Consent Order.” The Permittees then state on page 25, Section 5.3.5, Removal of Tanks, that the “[d]evelopment of the technical methods and the approach for removing the tanks will be included in the alternatives analysis conducted by the Laboratory as a separate document.” NMED concurs that more data is needed before a decision is made regarding the tank removal process. The document that will address the remedial alternatives for removal of the tanks must contain detailed descriptions of the Plutonium Tank removal and must be submitted to NMED no less than 90 days before implementation of the tank removal process.

2. In Table 2.3-1, MDA A, Carcinogenic Screening Evaluation, the Permittees use soil screening levels from 2006. The Permittees must use the most recent available soil screening levels (*NMED Technical Background Document for Development of Soil Screening Levels Rev 5.0* (August 2009)). Additionally, Section XI.B.11 of the March 1, 2005 Order on Consent (Order) requires that the Permittees provide summaries of regulatory criteria, background, and applicable cleanup levels as part of the Work Plan; the Permittees did not provide this data. The Permittees must ensure that future work plans include this information and follow the requirements set out in the Order.
3. The Permittees propose to collect PCB samples based on visible staining or initial waste-screening results. NMED requires that the Permittees submit 20% of all surface samples collected for PCB analysis (this includes top soil and overburden soil samples). The samples must be selected based on field screening results that indicate the likely presence of contamination.
4. In addition to the analyses proposed by the Permittees to verify that topsoil and overburden material is nonhazardous and meets residential cleanup levels, the Permittees must test for radionuclide contamination to demonstrate that the material is appropriate for use as backfill or must be transported off site for disposal. The Permittees must collect one sample for every 50 cubic yards of topsoil or overburden material intended for use as backfill, in order to confirm that the material is nonhazardous and meets the residential cleanup levels. Reuse of topsoil or overburden material as backfill is subject to NMED review and approval. Any topsoil/overburden material that is demonstrated to meet residential cleanup criteria returned to the excavation as fill must be placed in the deeper portions of the excavation.
5. The Permittees propose to extend the submittal date of the Phase II Investigation/Remediation Report to December 21, 2013, well beyond the date established in the Order (May 2011). The Permittees’ basis for the proposed date is the need to use the data from the MDA B removal activities to guide the removal activities at MDA A. In Section 8.0, Schedule, pages 26-27, the Permittees state that, “[w]aste excavation, sorting, characterization, and packaging are estimated to take approximately 13 mo. Confirmation sampling, data validation and verification, and reporting are estimated to take approximately 4 mo and will be conducted concurrently with demobilization and site restoration.” Mobilization for the excavation activities at MDA A must be initiated in 2010 immediately subsequent to

the completion of removal activities at MDA B. The Remedy Completion Report for MDA B is due in December 2010. NMED therefore estimates that MDA B excavation activities must be completed by June 2010. Based on the Permittees' 13 month estimate, excavation at MDA A should be complete by September 2011. The complexities of the Plutonium Tank removal should be addressed by this time as well, since the Permittees have already started this work. The Permittees must submit the MDA A Phase II Investigation/Remediation Report no later than May 31, 2012.

Specific Comments

1. Section 5.1, Topsoil and Overburden Sampling and Excavation Methods, page 19

Permittees' Statement: "Based on the IR data, the overburden underlying the topsoil in the area of the central pit and eastern trenches ranges from 1.5 to 5 ft deep, averaging 3.4 ft. Once the topsoil over the central pit and eastern trenches is removed, the remaining overburden samples will be collected by use of hand or mechanical augers to obtain samples before excavation. Samples will be collected in the center point of a grid, sized so that a minimum of one sample is collected for each 100 yd³ of material. The grid spacing is approximately 20 ft × 20 ft, based on the maximum remaining overburden soil thickness of 5 ft. A sample will be composited over the entire remaining overburden thickness to obtain a sample representing the mixing that will occur during excavation. Overburden contaminated above residential SSLs/SALs will be managed as waste and removed from a grid location using excavators. Contaminated overburden will be placed into rolloff containers as waste. Once any contaminated overburden has been removed, larger earthmoving equipment will remove and stockpile the remaining overburden in an environmentally protective manner by means of appropriately designed and controlled (e.g., bermed and covered) staging piles for reuse as excavation backfill for MDA A."

NMED Comment: One composite sample is not sufficient to characterize the overburden. The Permittees must collect composite samples from at least four separate areas corresponding to the locations of the eastern trenches, the central pit, and the Plutonium Tanks for laboratory analysis to characterize the remaining overburden.

2. Section 5.2.4, Confirmation Sampling Methods for Soil and Tuff, page 21

Permittees' Statement: "Postwaste removal confirmation samples will be collected at depths corresponding to approximately 0–0.5 ft and 1.5–2.0 ft below the excavation bottom and 0.0–0.5 and 1.5–2.0 ft laterally adjacent to the sidewalls. The deeper samples will be collected at a depth with little or no evidence of contamination, based on visual observation and field-screening results. In addition, the samples will be collected at areas where elevated field screening, visual staining, fractures, or areas of elevated moisture are observed."

NMED Comment: The Permittees did not provide sufficient detail regarding confirmation sampling. The sampling strategies are not clearly explained, with

samples collected where there is no evidence of contamination and also where there is evidence of contamination. Confirmation samples must be collected from areas of staining, elevated moisture zones, contaminated zones identified by field-screening, locations based on the waste types removed, and areas with detected residual contamination. Additionally, confirmation samples must be collected at depths corresponding to approximately 0–0.5 ft and 1.5–2.0 ft below the excavation bottom and 0.0–0.5 and 1.5–2.0 ft laterally adjacent to the sidewalls using a systematic random sampling pattern.

3. Section 5.3.8, Site Restoration. page 26

Permittees' Statement: "Restoration of the tank excavations will be conducted concurrently with backfilling and restoration of the MDA A trenches and central pit. Placement and compaction of fill soil for the Plutonium Tanks will be conducted as described in section 5.2.6."

NMED Comment: This statement does not fit in the context of the proposed schedule. The waste is proposed to be removed from the trenches and pit by May 10, 2013; five months later by October 7, 2013 the tank removal will be completed. No discussion of backfilling the trenches and central pit is included in the text. The Permittees must clarify the site restoration plan schedule in the context of the revised schedule discussed in General Comment 5. This could be incorporated into a request for an area of contamination designation, if one is necessary.

The Permittees must submit the Phase II Investigation/Remediation Report no later than May 31, 2012. 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 Kristen Van Horn of my staff at (505) 476-6046 should you have any questions.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain, NMED HWB
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File: LANL, 2009 TA-21 MDA A (SWMU 21-014)