

file
LANL
TX 16 95
NOD

MEMORANDUM

TO: Robert Dinwiddie, RCRA Permitting Program

FROM: Teri Davis, RCRA Technical Compliance Program

THROUGH: Ronald A. Kern, Technical Compliance Program Manager *RAK*

DATE: December 12, 1995

SUBJECT: Technical Review of Los Alamos National Laboratory, Revision 0, February 1995, Technical Area 16 Material Disposal Area-P Closure Plan

TA 16

The following is a chronology of NMED Technical Compliance Program activities for the RCRA unit MDA-P beginning on June 15, 1994.

<u>DATE</u>	<u>ACTIVITY</u>
June 15, 1994	Technical Compliance Program provided comments to Permitting Program on LANL's previous Closure and Post-Closure Plan for MDA-P Landfill.
June 17, 1994	HRMB issues an NOD with technical comments included as Attachment-A.
July 21, 1994	LANL responded to NOD.
July 25, 1994	HRMB met with facility; outcome of meeting was that LANL rescinded the Closure Plan.
February 1995	HRMB received a new Closure Plan for MDA-P as a clean closure request for a waste pile.
April 11, 1995	Technical Compliance Program provided comments to Permitting Program on LANL's February 1995 submittal for closure of MDA-P.
October 31, 1995	Technical Compliance Program received a request for technical review from Permitting Program on LANL's February 1995 MDA-P Closure Plan. Included in Permitting's request are administrative review notes for NOD development.

Tk



MDA-Pcln
December 12, 1995
Page 2

A technical review of LANL's February 1995 submittal for closure of MDA-P was conducted on April 11, 1995. The Technical Compliance Program is re-submitting a modified version of the April 11, 1995 comments, at the request of the Permitting Program, for development of a NOD. The following is a cursory technical review of the closure plan as requested by Benito Garcia to determine if cleanup activities can begin.

The Phase I activities (waste removal and treatment) proposed within the closure plan appear to be generally adequate. Therefore, it is recommended that LANL proceed with the cleanup activities as proposed within the closure plan. The bulk of technical deficiencies identified within the closure plan relate to Phase II activities which deal with the investigation of contaminated media and confirmatory sampling. LANL should be able to proceed with the cleanup activities (Phase I - waste removal and treatment) while addressing the technical deficiencies within Attachment A.

cc: LANL File 95
Barbara Hoditschek, Permitting Program Manager

wpwin\lanl\ta16\mdapcp.125

ATTACHMENT A

TECHNICAL DEFICIENCIES and COMMENTS

The following comments are provided as a review of the technical completeness of the Los Alamos National Laboratory (LANL) February 1995 Closure Plan for Technical Area (TA)-16 Material Disposal Area P (MDA P). The first category below contains general comments which are significant items missing from the plan. The second category below includes specific comments about the text of the proposal.

General Comments

- 1) In general the waste removal operations (Phase I) appear adequate as presented within the closure plan. Proceeding with Phase I cleanup activates proposed within the closure plan should not interfere with the review process and ultimate approval of an adequate closure plan for MDA-P.
- 2) The background sampling section raises questions concerning the number of samples to be taken and the calculation of Upper Tolerance Limits (UTL) if LANL is not using the 95% upper confidence bound on the 95th percentile to provide a statically valid comparison. See specific comment #10.
- 3) LANL proposes to use action levels as potential cleanup levels. This may be appropriate depending on the input parameters utilized for development of preliminary remediation goals (PRG). However, concerns voiced by EPA Region 6 indicate that PRGs may not account for the following considerations: 1) the need to include additive effects of multiple constituents, 2) ecological-risk considerations, and 3) the leaching of contaminants to ground water. If LANL includes in the screening methodology the above considerations, then the use of Region 9 PRGs may be appropriate for use as action levels at this site.
- 4) LANL proposes to use an industrial exposure scenario in the development of PRGs and ultimate cleanup criteria decisions. Since this plan is presented as a clean closure equivalency demonstration, it does not seem appropriate to apply industrial land use scenarios versus residential standards to a clean closure certification. LANL should use the most conservative approach for a clean closure demonstration.
- 5) This Closure Plan lacks a complete sampling and analysis plan (SAP) to investigate releases from the unit. The approach presented includes a confirmatory sampling (Phase 2) event to assess the residual contamination in soils and tuff after the waste pile has been removed. As proposed within the Closure Plan, sampling of soil and tuff will only occur within the waste pile boundary and at the waste handling areas at the top of the hill. The area proposed as the waste pile boundary does not include all potential areas of contamination

from MDA-P (see specific comments below). LANL should revise the Phase 2 sampling plan to include investigation of all releases from the unit and determine nature, rate, and extent. The current proposal is inadequate.

Specific Comments

- 1) 1.0 Introduction, pg. 1-1, "**Radioactive waste and mixed waste are not anticipated to be present in this waste pile.**" Because of this site's long history, the nature of historic activities at LANL, and the lack of complete knowledge of process at the site, it is important to characterize all risk, including that associated with radioactive constituents, to human health and the environment. If there are radioactive constituents present above action levels, then by their very nature they are hazardous to a human health. Because health risk is being evaluated at this site, it is important to look at the health risk posed by the combination of all contaminants of concern, including radioactive isotope sampling and radioactive concentration terms included in the risk assessment. NMED understands that the radioactive waste, if necessary, will be remediated under a different authority.
- 2) 1.1.1 Waste Pile Boundaries..., pg. 1-4, "**Because the stream continues to receive (e.g., barium) from these upstream sources, cleaning up the stream to the clean-closure performance goals would not be possible.**" It is necessary to characterize the rate and extent of all constituents in all media. LANL states on page 1-5 that the stream contamination will be addressed in the RFI for OU 1082. As this plan is intended to meet the requirements of clean closure as outlined in 20 NMAC 4.1 Subpart V, 40 CFR Part 264.258, all releases from the landfill will be investigated to the extent necessary to determine if the closure performance standard can be met. The boundary of the waste pile presented in Figure 4-1 will potentially change dependant upon the extent of contamination. Clean closure certification will only be achievable if the data can show that releases from the unit have been adequately characterized, the extent of contamination has been determined, and it is determined that after corrective action has been performed that all hazardous waste residues have been removed to the extent necessary to protect human health and the environment.
- 3) 1.1.1 Waste Pile Boundaries..., pg. 1-4, It is not acceptable to defer the investigation of releases to ground water or other potentially contaminated media or areas from this unit when attempting to demonstrate clean closure equivalency. This section should be revised to include all potential areas impacted by releases from the waste pile.
- 4) 1.1.2 Contingent Approach, pg.1-6, The closure standards of 20 NMAC 4.1 Subpart V, 40 CFR 264.258 (b) require that, if waste residues or contaminated materials are left in place and it is determined that waste residues are above acceptable risk levels, then the owner must comply with all post-closure requirements. The demonstration of clean closure by removal or decontamination must clearly show that all wastes, hazardous constituents, and contaminated media (including ground water) have been removed to the extent necessary to protect human

MDA-Pcln
December 12, 1995
Page 5

health and the environment. The general approach presented in the closure plan to compare background UTL and PRGs with residue contamination to demonstrate clean closure equivalency may be appropriate. However, as noted in EPA Guidance Risk Assessment Guidance for Superfund (RAGS) December 1991, the PRGs may differ from final remediation levels, and a risk-assessment approach should be employed to determine final media clean-up standards. The determination of clean closure by an equivalency demonstration will be evaluated once data is available.

As recently proposed by LANL in a December 1, 1995 letter to Barbara Driscoll, LANL believes it is appropriate to adopt the EPA Region 9 PRGs as SALs for use in screening. The adoption of PRGs would eliminate the comparison of Phase II data to SALs in the decision criteria for determination of extent of contamination as proposed in this closure plan. LANL should revise the appropriate sections within this closure plan to reflect the adoption of the EPA Region 9 PRGs as action levels.

5) 1.1.2 Contingent Approach, pg. 1-6, This section should be revised as follows, **" If the remaining Appendix VIII constituents equal or exceed" Region 9 PRGs, then a risk assessment may be conducted in accordance with EPA guidance. NMED will review the Phase 2 results to make the determination if a risk assessment is needed.**

6) 1.1.2 Contingent Approach, pg.1-6, **"If additional waste must be removed,...to reduce risk of target levels based on industrial exposure setting."** LANL may propose an industrial setting for risk (if that is currently feasible), but a residential scenario is required for comparison purposes. Additionally, future land use is a major consideration. Therefore, LANL should use a residential land use scenario, a hazard index of 1 or less, and 10^{-6} or less increase in cancer risk over background. Additional risk assessment calculations based on other assumptions may be presented in addition to the most conservative scenario. See general comment #3.

7) 3.2.2, General S-Site Information, pg. 3-10, **"Based on this information, it is likely that RCRA F-listed solvents (F001, F002, F003, and F005) may have been used at the S-site but it is not likely that they were disposed of unburned at the waste pile. Records indicate that solvents were discharged via outfalls or burned at the burn site."** Since the facility lacks complete records of items disposed at this site and NMED personnel have observed laboratory type amber bottles containing liquid in debris at the unit, it is recommended to modify this statement to reflect site conditions.

8) 4.1.1, ..Background Sampling, pg. 4-2, As mentioned within the Closure Plan, when is the Background Sampling Plan scheduled to be submitted to NMED?

9) 4.1.1, ..Background Sampling, pg. 4-2, The statistical analysis of UTL for background values should be calculated based on the 95% upper confidence limit of the 95 percentile.

MDA-PcIn
December 12, 1995
Page 6

Samples collected near MDA P should identify the soil horizon or geologic unit from which samples are to be collected. These background values should be compared with values presented in the latest background document drafted by Longmire et al. (1995).

10) 4.2.1, Sampling of Soil Beneath... Waste Pile, pg. 4-6, **"Only the grids located within the surveyed waste pile project boundary will be sampled."** This sentence should be revised to incorporate concerns expressed in specific comments # 2, 3, and 4.

11) 4.8.4.1 Data Review,..., pg.4-30, **"During data validation, if field, equipment rinsate, or trip blanks samples for a site sampling event or for a sample delivery group contain detectable concentrations of common laboratory contaminants or the major cations, the analytical results will only be considered positive if the concentration exceeds 10 times the maximum concentration in the blank(s)."** LANL's data validation should be consistent with the following EPA document: "Guidance on Evaluation, Resolution, and Documentation of Analytical Problems Associated with Compliance Monitoring", EPA 821-B-93-001, February 1993. If the environmental sample has a concentration less than ten times the applicable blank, this does not mean that the particular constituent is not actually present and may require re-sampling and verification. This section should be revised accordingly.

12) 5.0 Ground Water Monitoring Program, pg.5-1, LANL shall re-write this section to be consistent with the above described sampling approach. All releases from the waste pile must be characterized and the extent and rate of contamination determined. LANL shall install monitoring wells within the shallow "alluvial" ground water to determine the extent of releases into this medium.

13) 6.1.1.2 Closure/Decontamination Standard, pg. 6-3, This section should be revised to be consistent with general comments # 3, and 5 and specific comments # 1, 4, 5, 6, and 8 mentioned above.

14) 6.1.1.2, pg. 6-2, As mentioned in a previous section, it is not acceptable to defer the investigation of releases to ground water or other potentially contaminated media or areas from this unit when attempting to demonstrate clean closure equivalency. Previous investigations did not adequately address the issue of extent of contamination, and the current closure plan does not either. This section should be revised to include a SAP to investigate all releases from the unit to media of concern.

A SAP for surface water, ground water, and soil/sediment should be drafted as a part of Phase 2 activities. Particular emphasis should be placed on collecting samples downcanyon from MDA-P and near the large drainage on the eastern side of the unit. Particular attention should be focused on the depth and the geomorphic position from which samples are collected so that a representative sample is taken. LANL should submit this plan to NMED for approval no later than 30 days after receipt of this NOD.