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CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

March 28, 1996

77/16  
Mr. Larry Kirkman  
DOE/LAAO  
528 35th Street  
Los Alamos, NM 87545

Dear Mr. Kirkman:

This cover letter and its three attachments make up the Notice of Deficiency (NOD) for DOE/LANL Closure Plan for Technical Area 16 (TA-16), Material Disposal Area P (MDA-P). Attachment A contains technical deficiencies as reviewed by Hazardous and Radioactive Materials Bureau's (HRMB) Technical Compliance program. Attachment B contains administrative deficiencies as reviewed by HRMB's Permitting Program. Attachment C is an Administrative Review Checklist for Temporary Unit (TU) Applications to assist DOE/LANL in the preparation of a TU Application to treat materials and waste removed from MDA-P.

A response to the deficiencies identified in this NOD is required within 30 calendar days of the receipt of this NOD unless otherwise specified.

Should you or your staff have questions concerning the contents of this NOD please contact, me at (505) 827-1557, Mr. Robert (Stu) Dinwiddie for administrative questions or Ms. Teri Davis for technical questions at (505) 827-1561 or at the above address.

Sincerely,

Benito J. Garcia, Bureau Chief  
Hazardous & Radioactive Materials Bureau

BJG:cj

cc: Barbara Hoditschek  
Ron Kern  
Robert S. (Stu) Dinwiddie  
Teri Davis  
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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 1) appears adequate as presented within the closure plan. Proceeding with Phase 1 cleanup activities proposed within the closure plan should not interfere with the review process and ultimate approval of an adequate closure plan for MDA-P. Phase 1 should be implemented as soon as possible by DOE/LANL while NMED and DOE/LANL finalize the closure plan for the entire site.
2. The background sampling section raises questions concerning the number of samples or sample sets 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 scenario versus residential standards to a clean closure demonstration. If DOE/LANL proposes closure that is not defined as a clean closure under RCRA then DOE/LANL should submit an alternate closure plan to include post closure care provisions.
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 potential release areas from the unit and determine nature, rate, and extent of contaminant migration. 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. 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 regulates mixed waste under RCRA and understands that the radioactive waste without any RCRA regulated constituents, 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 1-4 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 from MDA-P 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 during Phase 2.

4. 1.1.2 Contingent Approach, pg. 1-6, The closure standards of 20 NMAC 4.1 Subpart V, 40 CCR 264.258(b) require that, if waste residues are above acceptable risk levels based on acceptable ecological and health-based risk models, then the owner must comply with all post-closure requirements. The demonstration of a 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 health and the environment as required per 20 NMAC 4.1 Subpart V, CFR 264.258(b). 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, DOE/LANL believe 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 2 data to SALs in the decision criteria for determination of extent of contamination as proposed in this closure plan. DOE/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" EPA Region 9 PRGs, then a risk assessment may be conducted in accordance with EPA guidance. NMED will review the Phase 2 results and determine 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 level based on industrial exposure settings." LANL may propose an industrial setting for risk, 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, The Background Sampling Plan must be submitted to NMED in response to the NOD.
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.

Samples collected near MDA-P should identify the soil horizon or geologic unit from which samples are to be collected. 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 all potentially impacted contaminant areas into the sampling grid. (See specific comments # 2, 3, & 4.)
11. 4.8.4.1 Data Review,..., pg. 4-30, "During data validation, if field, equipment rinsate, or trip blank samples for a site sampling event or for a sample delivery group contain detectable concentrations of common laboratory contaminants or the major actions, 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 two 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 rewrite this section to be consistent with the above approach. As a part of Phase 2 activities, 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 #2 and 5 and specific comments #1, 4, 5, 6 and 8 mentioned above regarding proposed cleanup levels, activities for Phase 2 and all risk-assessment concerns.
14. 6.1.1.2, pg. 6-2, This section should be revised to include a Sampling and Analysis Plan (SAP) to investigate all releases from the unit to media of concern.

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 down canyon 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 representative samples are taken.

ATTACHMENT B  
ADMINISTRATIVE DEFICIENCIES

**GENERAL COMMENTS:**

In response to DOE/LANL redesignation of MDA-P as a Waste Pile NMED does not agree with the reasoning or references to Waste Pile in the closure plan. Under the provisions of 20 NMAC 4.1 Revised November 1, 1995, subpart VI at 40 CFR §265.300, the regulations in this subpart apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as § 265.1 provides otherwise. MDA-P is used as a disposal facility and a landfill governed by this subpart. After over 40 years of use as a "Material Disposal Area" DOE/LANL may not redesignate MDA-P as a "Waste Pile." It is recommended that references to waste pile be adjusted accordingly.

Under the provisions of 20 NMAC 4.1, § IX, § 901A "Owners and operators of surface impoundments, landfills, land treatment units, and waste pile units that receive wastes after July 26, 1982, or that certified closure (according to § 265.115) after January 26, 1983, must have post-closure permits, unless they demonstrate closure by removal as provided under § 270.1 (c) (5) and (6)." NMED interprets this to mean MDA-P may be closed by removal of waste. It is recommended that pages referring to Waste Pile be adjusted accordingly.

**SPECIFIC COMMENTS:**

1. Section 6.1.1.1, Page 6-2, Paragraph 4  
This section does not address mixed waste. Should mixed waste be discovered, DOE/LANL must notify NMED by telephone within 24 hours of the discovery and within 72 hours in writing. [40 CFR §270.30(h)] and an amended closure plan addressing handling of the mixed waste component will be submitted for review to NMED by DOE/LANL within 30 calendar days of mixed waste discovery at MDA-P. [40 CFR § 265.112(c)(4)] not in 60 days as currently stated in the closure plan by DOE/LANL.
2. Section 2.1.1.3, Page 2-4 entire section  
DOE/LANL needs to submit information about the possible impact of the Run-on/Run-off control trench and its effect on transporting surface contamination from SWMUs 16-016(c), 16-010(b) and the barium nitrate SWMU near the burn pad at the top of the MDA-P hill. The trench runs through SWMUs 16-016(c) and 16-010(b) and may acquire and transport contamination from these SWMUs during storm events.
3. Section 2.2, Pg. 2-7, Paragraph 2  
Section does not refer to the uppermost aquifer as required by 40 CFR § 265 § F.

4. Section 3.2.1, Page 3-9, Paragraph 4 and Section 3.2.2, Page 3-10, Paragraph 5 States "All solvents wastes were burned," NMED is in receipt of documentary evidence, Jacobs Engineering Group Summary Report dated December 23, 1986, page 11, which states "...Acetone and methanol in cans, jars and drums" are present in the landfill. DOE/LANL must address the discrepancy between the Closure Plan sections cited in lines one and two of this comment and technical deficiency 7, on page 4 of attachment A in reference to December 23, 1986, Jacobs Report.
5. Prior MDA-P Closure Plan Disapprovals were based in part on incomplete waste characterization. Closure by removal under 40 CFR §270.1(c) will require complete characterization of the site while undergoing closure. DOE/LANL needs to present more detailed information about the characterization methods and number of sampling(s) for treatment determination.
6. Section 4.1.3, Page 4-3, entire section Spot sampling for HE contamination. EPA has stated in the past that insufficient validation of the DOE/LANL HE Spot Test has been completed and that there must be more Spot Test Validation performed before its acceptance as a primary characterization method. Meeting discussions on the HE Spot Test Validity, October 17-20, 1995 at Los Alamos Inn, indicated a lack of sufficient correlation between fixed laboratory results and spot test results for EPA to accept HE Spot Test results. NMED accepts the use of HE Spot Test in Appendix H of the closure plan for screening purposes only. HE Spot Tests are not acceptable for site characterization.
7. DOE/LANL must also obtain necessary permits from the Corps of Engineers (401 or 404 Permit) regulating activities impacting the stream. DOE/LANL must submit a copy of the permit or evidence that additional permits are not required prior to beginning of waste removal.
8. DOE/LANL must submit, within 60 days of the receipt of this NOD, an application for a Temporary Unit under the provisions of 40 CFR §264.553 if operations are to begin in the Spring of 1996. NMED has forwarded, as Attachment C of this NOD, a copy of the "Administrative Review Checklist for Temporary Unit (Corrective Action)" to assist DOE/LANL with the rapid production of a high quality Temporary Unit Application.

Administrative Review

Type of Permit: Temporary Unit (Corrective Action)

Facility: \_\_\_\_\_

Unit: \_\_\_\_\_

Date of Review: \_\_\_\_\_

Name of Reviewer: \_\_\_\_\_

New Mexico Environment Department  
Hazardous and Radioactive Materials Bureau

RCRA Permit Program

Standard Operating Procedure

Chapter 6 Checklist H.1

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## ADMINISTRATIVE REVIEW CHECKLIST

FOR

TEMPORARY UNIT (CORRECTIVE ACTION)

FACILITY: \_\_\_\_\_

UNIT: \_\_\_\_\_

TYPE OF PERMIT: \_\_\_\_\_

REVIEWER: \_\_\_\_\_

DATE: \_\_\_\_\_

Administrative Review

Type of Permit: Temporary Unit (Corrective Action)

Facility: \_\_\_\_\_

Unit: \_\_\_\_\_

Date of Review: \_\_\_\_\_

Name of Reviewer: \_\_\_\_\_

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REGULATORY CITATION(S) :	REQUIREMENT:	PROVIDED by Applicant: Yes/No/N.A.	LOCATION in Application	COMMENTS: Sufficient/ Not Sufficient
§ <u>264.553(b)</u>	Director's discretion to select alternative requirements of TUs:			
<u>(b)(1)</u>	Temporary Unit must be located within a currently permitted or interim status facility boundary.	_____	_____	_____
<u>(b)(2)</u>	Temporary Units must be used only for treatment and/or storage of remediation waste.	_____	_____	_____
§ <u>264.553(c)</u>	The Secretary shall consider each of the following before designating a Temporary Unit:			
<u>(c)(1)</u>	the length of time the temporary unit will be in operation	_____	_____	_____

Administrative Review

Type of Permit: Temporary Unit (Corrective Action)

Facility: \_\_\_\_\_

Unit: \_\_\_\_\_

Date of Review: \_\_\_\_\_

Name of Reviewer: \_\_\_\_\_

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REGULATORY CITATION(S):	REQUIREMENT:	PROVIDED by Applicant: Yes/No/N.A.	LOCATION in Application	COMMENTS: Sufficient/ Not Sufficient
<u>§ 264.553(c)(6)</u>	the hydrogeologic conditions influencing migration of possible releases from the TU	_____	_____	_____
	and environmental conditions influencing migration of possible releases from the TU	_____	_____	_____
<u>(c)(7)</u>	the potential for exposure of humans and environmental receptors			
	On-Site Receptors: human	_____	_____	_____
	environmental	_____	_____	_____
	Off-Site Receptors: human	_____	_____	_____
	environmental	_____	_____	_____

Administrative Review  
 Type of Permit: **Temporary Unit (Corrective Action)**  
 Facility: \_\_\_\_\_  
 Unit: \_\_\_\_\_  
 Date of Review: \_\_\_\_\_  
 Name of Reviewer: \_\_\_\_\_

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REGULATORY CITATION(S) :	REQUIREMENT:	PROVIDED by Applicant: Yes/No/N.A.	LOCATION in Application	COMMENTS: Sufficient/ Not Sufficient
<u>§ 264.553(e)(2)</u>	continued operation is necessary to ensure timely and efficient implementation of remediation activities	_____	_____	_____
<u>(f)</u>	Incorporation of temporary unit(s) or time extension for the temporary unit into an existing permit shall be:	_____	_____	_____
<u>(f)(1)</u>	approved under the provisions as an agency initiated permit modification of § 270.41	_____	_____	_____
<u>(f)(2)</u>	requested by the owner operator as a Class II modification under the provisions of § 270.42	_____	_____	_____