

Closure Plan



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GOVERNOR

A-16

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March 10, 1999

Mr. Theodore Taylor, Program Manager
Los Alamos Area Office
Department of Energy
528 35th Street, MS A316
Los Alamos, New Mexico 87544

Dr. John C. Browne, Director
Los Alamos National Laboratory
P. O. box 1663, MS A100
Los Alamos, New Mexico 87545

Re: Reply to the DOE/LANL November 9, 1998 (EM/ER:98-442) letter regarding the MDA-P Closure Plan and correspondence related to operation deviations.

Dear Mr. Taylor and Dr. Browne:

The Hazardous and Radioactive Materials Bureau (HRMB) has reviewed the DOE/LANL November 9, 1998 (EM/ER:98-442) letter regarding the MDA-P Closure Plan modification clarifications and provides comments in Attachment A.

Based on review of DOE/LANL's reply to comments, the Closure Plan requires a Class I permit modification for these operational deviations. The specifics for the modification are delineated in general comment number 1 of the attachment. The New Mexico Hazardous Waste Fees (20 NMAC 4.2) section 201.6 - Permit and Closure Plan Modification Fees specifies every facility which requests a Class I modification for which prior written approval by NMED is required by 40 CFR 270.42(a) (2) (incorporated into 20 NMAC 4.1.900) shall pay the basic fee for Class I modification set forth in Table 2.4. For a Class I modification the Basic Fee is \$1000. Based on HRMB's current understanding of the proposed operational deviations, DOE/LANL has described four (4) changes resulting in a Class I modifications with a total associated fee of \$1,000.

Furthermore, all comments in Attachment A which do not require a permit modification shall be addressed as a reply to this correspondence.

Should you have any questions regarding this letter, please contact me at (505) 827- 1567 extension 1015 or Mr. John Kieling, HRMB's LANL Facility Manager, at (505) 827-1558 extension 1012.

Sincerely,

Benito J. Garcia, Chief
Hazardous and Radioactive Materials Bureau

BIG:lw



6153

March 10, 1999
TA 16 MDA-P
EM/ER:98-442

Los Alamos National Laboratory
NM0890010515

CC w/ attachments:

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File: Reading and RED LANL TA-16, MDA P'99
Track: LANL, 3/10/99, NA, DOE/LANL, HRMB/Garcia, RE, File



ATTACHMENT A
COMMENTS ON DOE/LANL NOVEMBER 9, 1998 (EM/ER:98-442) LETTER
TA - 16, MDA P

GENERAL COMMENTS:

1. **11/9/98 letter Paragraph 2, page 1:** "The September 18, 1998, letter from HRMB indicates that the changes specified in the Laboratory's letter dated July 22, 1998, regarding potential operational deviations from the material Disposal area P (MDA-P) Closure Plan were considered unexpected events occurring during closure of the site. HRMB appears to be referring to safety and waste management operational issues regarding detonatable pieces of high explosives (HE) to be remediated within the MDA-P Area of contamination (AOC)."

11/9/98 letter Paragraph 1, page 2: "Further, Section 6.1.1.4 of the approved Closure Plan indicates that "No changes in unit operating plans or design are expected [emphasis added] that would require amendment of the closure plan." This section also describes an unexpected event as something that "would include the discovery of hazardous waste or mixed-waste residuals that cannot be removed or decontaminated to meet the closure performance standard or additional excavation and sampling that may be required (e.g., removing contaminants in cracks or fractures)."

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

NMED concurs that these operational deviations were not unexpected events. The reference to an unexpected event is an example not a definition. However, NMED sees a number of changes in the plan which require modification. They are as follows:

- a) *The treatment or verification standard for the hazardous debris currently contained in the approved Closure Plan per 40 CFR 268.45(a)(1), Table 1(A)(1)(e) allows for high pressure steam and water sprays to remove hazardous contaminants from debris surfaces or to remove contaminated debris surface layers. The alternative treatment standard is for Land Disposal Restrictions (LDR) consequently, a waste determination/disposal issue and does not affect the closure of the unit but how the removed waste is decontaminated, classified, and disposed. Therefore, because this LDR treatment standard is part of RCRA regulation for hazardous debris it will not constitute a modification of the plan. However, the sampling of the decon water contradicts the standard in section six. This typographical error must be clarified and will require a class I permit modification -reference 20 NMAC 4.1 section 270.42, Appendix I (a)(2): correction of typographical errors.*
- b) *not meeting the approved closure schedule without the Secretary's approval [Reference bullet number seven on page two of DOE/LANL's July 22, 1998 EM/ER:98-232, potential operational deviations from the MDA P Closure Plan. The schedule for project completion is currently unknown, but may require a plan modification if it deviates from the original schedule specified in Figures 6-2 and 6-3 of the approved Closure Plan.]*

It appears that there will be no way DOE/LANL will be able to meet the time requirements for removal and closure as specified in the Closure Plan. The Closure Plan proposes 26 months (with risk assessment) to complete Phase I and Phase II of the Closure Plan. Phase I includes

removing waste from the waste pile and was estimated to be 17 months from the time the Closure Plan was submitted. If given additional time and having the 17 month time clock begin after Closure Plan approval which occurred on February 20, 1997, phase I should have been completed by July 20, 1998. To complete final closure activities in accordance with the Closure Plan a 26 month time from the time of Closure Plan approval (February 20, 1997) would be on April 20, 1999. The facility has missed the removal date of July 20, 1998 and a modification to the Closure Plan will be required for the new schedule. This will require a class I permit modification -reference 20 NMAC 4.1 section 270.42, Appendix I (d)(1)(b): changes in the closure schedule for any unit, changes in the final closure schedule for the facility, or extension of the closure period, with prior approval of the Director.

- c) proposing fewer samples than the approved Closure Plan [Reference bullet number five on page two of DOE/LANL's July 22, 1998 EM/ER:98-232, potential operational deviations from the MDA P Closure Plan- A large volume of clean fill that composes the morphologic feature of MDA P will not be removed, but will be sampled during the Phase II verification activities. The entire southern part of the morphologic feature of MDA P is composed of apparently uncontaminated soils placed during the original construction of the burning grounds in 1950. Waste disposal occurred over the leading edge of the soils and aggregated over time, and bullet number 6 on page two -The estimated number of soil samples to be collected during Phase I will be proportional to the reduced estimated volume of waste to be excavated, segregated and managed.]

The closure plan defines the amount of sampling of waste as a percentage of 100 yd³ batches based on an estimated volume of approximately 30,000 yd³ (reference page 4-3 of approved Closure Plan). Because the original estimated proposed volume has changed this operational deviation will require a permit modification. This will require a class I permit modification - reference 20 NMAC 4.1 section 270.42, Appendix I (d)(1)(a): changes in the estimate of maximum extent of operations of maximum inventory of waste on-site at any time during the active life of the facility, with prior approval of the Director. Furthermore, HRMB emphasizes:

1) that fixed analytical sampling will still be performed prior to waste being removed from the soil before excavation or after it has been removed to the top of the mesa (Page 4-3 - 4-4 of approved Closure Plan), and

2) that fixed analytical sampling will still be performed prior to waste being removed from the area of concern (AOC) (reference section 6.3.2 Management of Generated Waste, page 6-28 of the approved Closure Plan.

- d) apparent proposed treatment of other waste than from the MDA-P waste pile as specified in the approved Closure Plan (section 6.2.6), for example waste or soils from the proposed VCA PRS 16-016(c). This will require a class I permit modification -reference 20 NMAC 4.1 section 270.42, Appendix I (d)(1)(a): changes in the estimate of maximum extent of operations of maximum inventory of waste on-site at any time during the active life of the facility, with prior approval of the Director.

Furthermore, DOE/LANL may choose to perform the confirmation portion of the VCA plan during phase 2 of the approved Closure Plan after the HE sorting pad is removed because a portion of the PRS is underneath the HE sorting pad and will not achieve NFA until this portion is investigated.

RESPONSE TO TECHNICAL ISSUES IN DOE/LANL 11/9/98 LETTER :

1. **HRMB original issue:** All proposed changes to the Closure Plan to include high explosive (HE) handling processes shall be clarified using process flow diagrams and narrative summaries that illustrate and describe all waste streams and their ultimate disposal.

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

Response acceptable to HRMB.

2. **HRMB original issue:** Up to date figures illustrating the proposed new processes shall be included.

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

Response acceptable to HRMB.

3. **HRMB original issue:** The filtration system and sorting pad shall meet the requirements for temporary units as defined in 20 NMAC 4.1, 40 CFR 264.553 - temporary units, and 40 CFR 270.42 Appendix I.D.3.e - requirements for a Class 2 permit modification.

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

Response acceptable to HRMB.

4. **HRMB original issue:** The state of New Mexico has not adopted the new land disposal requirements (LDR's) and therefore the more conservative concentration for barium still applies.

Reference bullet number two on page two of DOE/LANL's July 22, 1998 EM/ER:98-232, potential operational deviations from the MDA P Closure Plan - "The land disposal treatment standard for barium has changed as of May 26, 1998 (63 FR 28555). Because barium contaminated soil will be stabilized onsite, the Laboratory requests a determination of whether it should use the updated treatment standard for industrial hazardous waste or whether it could use the new soil treatment standard of a 90% reduction of the concentration of hazardous constituents capped at 10 times the universal treatment standard."

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

The NMED will approve a new regulatory cluster that includes the new land disposal treatment standard for barium this Spring. Therefore, HRMB will allow the early adoption of this standard for barium. Allowing the standard to be adopted a few months earlier will in no way be less protective of human health and the environment. However, for the barium waste being treated during removal of the waste pile DOE/LANL must use the new soil treatment standard for industrial hazardous waste, for contaminated environmental media (i.e. tuff, soil). During Phase II the new environmental media treatment standard is applicable.

5. **HRMB original issue:** If the proposed hand-sorting pad is constructed over an existing potential release site then using this area for baseline sampling is not acceptable.

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

Response acceptable to HRMB.

6. **HRMB original issue:** LANL shall include waste analysis plans (WAP's) for all waste streams including filters and soil generated from the sorting operation. A WAP may not be necessary for the decon water used in steam cleaning the debris if all LDR requirements for debris alternative treatment standards are met. These WAP's shall include sampling for underlying constituents and radioactivity.

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

Response acceptable to HRMB.

7. **HRMB original issue:** Closure performance standards of SAL's or risk based clean up levels shall be met. If limited excavation of the tuff is proposed, additional sampling shall be proposed where contamination is below SAL's or risk based clean up levels is left in place.

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

It is understood that the MDA-P verification of closure performance standards is part of Phase 2 and will be negotiated through further meetings with HRMB. However since over excavation of the welded tuff may not be possible, DOE/LANL shall reflect this in the Phase 2 sampling and analysis, as well as possible alternative remediation strategies for the welded tuff, to meet the closure performance standard.

8. **HRMB original issue:** LANL shall provide an adequate sampling and analysis plan which addresses depth (e.g. every 2 feet), location, and percentage of full suite analysis, to confirm the identified clean fill area. This sampling and analysis shall be performed in Phase 1. If contamination is found above the performance standards the removal procedure shall be described. Rather than perform a detailed sampling and analysis plan of the clean fill it may be economically beneficial for LANL to choose to remove the clean fill and dispose of appropriately.

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

It seems that the sampling described in the approved Closure Plan made no provision for "clean fill" and will not adequately verify that the "clean fill" was not actually contaminated waste and part of the waste pile. It is acceptable to NMED to propose a new sampling and analysis (S & A) plan to characterize the "clean fill" in Phase 2. The new S & A plan should provide a sampling location map with proposed sampling points and include sampling at different depths rather than just the top 12 inches. It is understood that some of the "clean fill" was moved to the top of the mesa and used to build the treatment pads. The new S & A plan for the "clean fill" should include that portion which was moved to the mesa top.

HRMB TELEPHONE CONVERSATION COMMENTS NOT ADDRESSED ABOVE:

- Provide clarification regarding generator treatment. Indicate when the less-than-90-day start date begins.
- Indicate how the clean and treated soil and debris waste will be containerized at the staging area(s).
- Discuss de-watering of barium contaminated soil (presumably during generator treatment).
- Include characterization information regarding process waste streams generated.
- Indicate how barium sands will be managed.

HRMB RESPONSE TO DOE/LANL 11/9/98 LETTER:

Regarding the 90-day start date, there is no time limit to treat the waste except for the scheduled closure. However, once treatment of a specific batch begins that batch must be treated to meet LDR standards, or if not treated to LDR, must be removed to a RCRA permitted storage facility within 90 days from the first time the batch is treated.

All other responses acceptable to HRMB.

HRMB FURTHER CLARIFICATIONS REQUESTED:

9. Reference first row of table on page six of DOE/LANL's July 22, 1998 EM/ER:98-232, potential operational deviations from the MDA P Closure Plan. DOE/LANL shall clarify what kind of containers the soils and liquids will be staged in. Container storage is required pursuant to the approved Closure Plan.
10. DOE/LANL shall describe the procedure to track waste: which quadrant each waste pile came from, waste piles, each batch of treated waste, & containers. LANL shall also describe how the waste characterization data will be managed to assure the 90 day requirement is met.

9

Los Alamos National Laboratory

ENVIRONMENTAL RESTORATION



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Los Alamos, New Mexico 87544
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Date: May 9, 1996
Refer to: EM/ER:96-265

Mr. Benito Garcia
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

SUBJECT: RESPONSE TO THE NOTICE OF DEFICIENCY (NOD) FOR THE MATERIAL DISPOSAL AREA (MDA) P CLOSURE PLAN

Dear Mr. Garcia:

Enclosed is the Los Alamos National Laboratory's response to the New Mexico Environment Department's NOD concerning the MDA P Closure Plan. A certification form signed by the appropriate officials is also enclosed. The enclosed response repeats each comment from the NOD for convenience in reviewing. Also enclosed within this deliverable are two reports dealing with background geochemistry in the vicinity of MDA P. These reports are being provided to partially satisfy General Comment Number 2.

Please contact Dave McInroy at (505) 667-0819 or Mat Johansen at (505) 667-0575, if you have any questions regarding the response to the NOD.

Sincerely,

Jorg Jansen, Program Manager
Environmental Restoration

Sincerely,

Theodore J. Taylor, Program Manager
Los Alamos Area Office

JJ/TT/rfr

Enclosures: Response to NOD for MDA P Closure Plan
Certification

MAY 20 1996

ema

Mr. Garcia
EM/ER: 96-265

-2-

May 9, 1996

Cy (w/encs.):

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D. Griswold, ERD, AL, MS A906
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J. White, ESH-19, MS K498
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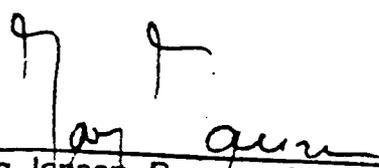
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J. Vozella, LAAO, MS A316

CERTIFICATION

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document Title: RESPONSE TO THE NOTICE OF DEFICIENCY (NOD) FOR THE MATERIAL DISPOSAL AREA P CLOSURE PLAN

Name:

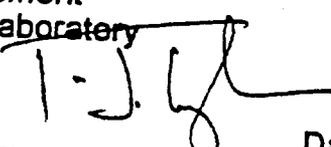

Jorg Jansen, Program Manager
Environmental Restoration Project
Los Alamos National Laboratory

Date: 5-10-96

or

Tom Baca, Program Director
Environmental Management
Los Alamos National Laboratory

Name:


Joseph Vozella,
Acting Assistant Area Manager of
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Date: 5/10/96

or

Theodore J. Taylor
Program Manager
Environment Restoration Program
DOE-Los Alamos Area Office

RESPONSE TO THE NOTICE OF DEFICIENCY (NOD) FOR THE
MATERIAL DISPOSAL AREA P CLOSURE PLAN
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 the 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.

LANL will implement Phase 1 as soon as possible. Currently, LANL is performing a biological assessment to determine if any endangered species are nesting within MDA P. This assessment will be completed during May, 1996. Premobilization activities have been started, these activities include construction of decontamination pads and temporary storage areas.

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 a 95% upper confidence bound on the 95th percentile to provide a statistically valid comparison. See specific comment #10.

See the attached background sampling report "Natural Background Geochemistry of the Bandelier Tuff at MDA P, Los Alamos National Laboratory", March 20, 1996 as described on page 11 of the report..

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.

LANL will take into consideration the need to include additive effects of multiple constituents, ecological-risk considerations and the leaching of contaminants to ground water in addition to using Region 9 PRGs as action levels. The Closure Plan will be revised to incorporate these PRGs.

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, the DOE/LANL should submit an alternate closure plan to include post closure care provisions.

MDA P is located within a secure, explosive, exclusion boundary. TA-16 is continuing to perform high explosive operations and plans to continue as evident in the Laboratory's long range 30 year plan. LANL believes clean closure, using the industrial scenario, will be protective of human health and the environment as required by the closure performance standards described in 40 CFR 265.111. All PRGs within LANL boundaries are being remediated to industrial standards. This issue will be worked to resolution through future meetings with NMED.

5. This closure plan lacks a complete sampling and analysis plan (SAP) to investigate releases from the unit. The approach presented include 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.

The sampling grid, shown as Figure 4-1, depicts where samples will be taken. This grid will be revised, and the sampling plan will be revised to extend sampling locations as necessary to determine the extent of potential contamination from MDA P.

MDA P is bounded on three sides by PRS 16-016(c) and 16-010(b), and the stream. These sides have received contamination similar to that in MDA P. These PRSs will be investigated and remediated as part of OU 1082 during the closure time frame of MDA P. The stream side boundary will not be extended as part of the closure. However, any potential contamination, directly attributable to only MDA P will be remediated to acceptable levels. Other sources will be investigated and remediated as part of OU 1082 corrective action activities.

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.

LANL concurs and will assign a full time radiological controls technician to perform radiological surveys and sample soil for radiological contamination for the duration of field activities.

Radionuclide analyses by gamma spec, gross alpha and gross beta are included in the Phase II verification sampling. If any positive results above background are obtained, this data should be adequate for use in risk assessment.

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 requirement 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 dependent 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.

LANL agrees that clean closure will be achieved when 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 area 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.

After MDA P is removed, to demonstrate clean closure equivalency for ground water and other media, LANL will place four borings in the canyon between the landfill and the stream. These borings will be closer to the stream than the landfill as the TEGD wells already at the toe of MDA P have never had volumes of water in sufficient quantity to collect samples. Alluvial water, sediment and underlying tuff will be sampled to determine what impact, if any, there may have been on these media in the canyon. Additional bore holes and steam sediment samples may be determined to be necessary during Phase 2 confirmatory sampling. The number and location of these samples will be negotiated with NMED.

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 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.

Region 9 PRGs will be used as action levels. A risk-assessment may be employed to determine final media clean-up standards if Region 9 PRGs cannot be met.

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.

The section will be revised to identify use of Region 9 PRGs.

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.

See answer to General Comment #4.

7. 3.2.2, . . . General S-Site Information, P.3-10, "Based on this information, it is likely that RCRA F-listed Solvent (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.

The statement will be revised to include the fact that bottles containing liquid may be present in the debris.

8. 4.1.1, . . . Background Sampling, pg. 4-2, The Background Sampling Plan must be submitted to NMED in response to the NOD.

Please see the attached background reports.

4.1.1, . . . Background Sampling, pg. 4-1, 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 geological 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.

The attached background chemistry reports for Area P soils and tuff by Broxton , et al. (1996) and McDonald, et al. (1996) include specific UTLs for each soil horizon and tuff unit. Area P values are compared to Lab-wide background values for comparable stratigraphic units in both reports.

References

Broxton, D. E., R. T. Rytli, D. Carlson, R. G. Warren, E. Kluk and S. Chipera, 1996. Natural Background Geochemistry of the Bandelier Tuff at MDA P, Los Alamos National Laboratory. Los Alamos National Laboratory Report LA-UR-1151. 42 pp.

McDonald, E.V., R. T. Rytli, P. A. Longmire, and S. L. Reneau, 1996. Background Geochemistry of Soils and Colluvium at MDA P, Los Alamos National Laboratory. Los Alamos National Laboratory Report LA-UR-96-1092.

Also, these reports used the 95% - 95% statistical approach.

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 General Comments #5.

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.

During data validation, if field equipment, rinsate, or trip blank(s) samples for a site sampling event or for a sample delivery group contain detectable concentrations of common laboratory contaminants or the major cations, positive sample results will be reported unless the concentration of the compound/cation in the sample is less than or equal to ten times the amount in any blank for the common laboratory contaminants, or less than or equal to five times the amount for other analytes. This approach is consistent with the Contract Laboratory Program Function Guidelines, EPA/54OR-94-013, Feb. 1994.

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.

LANL has attempted to collect groundwater samples in the past from wells installed at MDA P at the point of compliance. These wells have never had volumes of water in sufficient quantity to collect samples. However, as previously stated, four boreholes will be drilled and samples of alluvial water, sediment and underlying tuff will be collected to demonstrate what impact, if any, may be attributable to MDA P.

See Specific Comment #3.

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.

The section will be revised.

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.

As proposed in the clean closure plan, borings and sediment sampling, and surface water sampling will occur at specified locations after the site debris has been removed (e.g., within the canyon and stream and eastern drainage). Phase 2 sampling requirements outlined in Section 4.2 of the Closure Plan field screening methods may be used to bias sample locations to insure representative samples are collected.

RESPONSE TO THE NOTICE OF DEFICIENCY (NOD) FOR THE
MATERIAL DISPOSAL AREA P CLOSURE PLAN
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 Subpart 265.300, the regulations in this subpart apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as Subpart 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, Subpart IX, Subpart 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 Subpart 265.115) after January 26, 1983, must have post-closure permits, unless they demonstrate closure by removal as provided under Subpart 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.

LANL proposed to recharacterize MDA P from a landfill to a waste pile based on two informational sources; in volume 59, No. 215 Federal Register (FR), page 55779 (November 9, 1994), and an OSWER Policy Directive. The Policy Directive, from Sylvia Lowrance, Director, Office of Solid Waste, US EPA, to Regions I-X, dated May 12, 1989 is on clean closure equivalency demonstrations. This document states "EPA interprets its regulations to allow landfills from which wastes have been removed at closure to accomplish "clean closure" and, if closed under 40 CFR 265 standards, to allow an equivalency demonstration to be made under 40 CFR Section 270.1(c)(5) and (6), through redefinition of the landfill as a waste pile, surface impoundment, or land treatment unit."

59 FR 55779 states "Under parts 264 and 265, subpart L, owners and operators of landfills are required to cover the unit with an impermeable cap designed to prevent infiltration of liquid in the unit. . ."

LANL intends to remove all waste and associated contamination from MDA P. LANL will revise the closure plan to refer to the unit to be closed as MDA P. The unit will not fit the definition of a landfill when all waste is removed. LANL will close MDA P per 20 NMAC 4.1 265.250.

SPECIFIC COMMENTS:

1. Section 6.1.1.1, pp. 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 Subpart 270.30 (h)] and an amended closure plan addressing handling of the mixed waste component will be submitted for 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 Subpart 265.112(c) (4)] not in 60 days as currently stated in the closure plan by DOE/LANL.

LANL is unclear on why NMED requests telephone and written notification as an emergency if mixed waste is encountered. LANL has identified mixed waste in the Closure Plan and we do not believe that the discovery or confirmation of that waste stream is an emergency situation which would require telephone and written notification. LANL does not anticipate any change in closure activities should mixed waste be encountered. We will manage mixed waste as another waste stream within the constraints of RCRA. LANL does not anticipate that a modification of the Closure Plan, based on the discovery of mixed waste, will be necessary.

2. Section 2.1.1.3, pp. 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.

The mentioned run-on/run-off diversion channel above MDA P was installed at the direct request of NMED approximately two and a half years ago. The channel appears to have functioned properly since that time by physical evidence that no up-gradient run-off has run onto MDA P.

There is no evidence that a point discharge is associated with any of the mentioned SWMUs, and therefore transportation of surface contamination is not likely to occur. During MDA P remediation activities, extension of the run-on/run-off control channel around the active operations and control of run-off from these areas will be enhanced by the installation of additional controls (i.e., silt fences, straw bales). Barring catastrophic events, there should be no impact due to run-off during remediation of MDA P.

- 3 Section 2.2, pp. 2-7, Paragraph 2. Section does not refer to the uppermost aquifer as required by 40 CFR Subpart 265 Subpart F.

LANL has drilled several boreholes that would be within the point of compliance for MDA P. These boreholes were completed as monitoring wells. No water has been collected from these wells. Also, a deep borehole in the vicinity of MDA P (near the sand vessels at the burn ground) was drilled to 200 feet. No water was encountered in this borehole. LANL proposes to sample the alluvial water, sediment and underlying tuff approximately five feet south of the stream to demonstrate that there is no contaminant contribution. One sample, every five feet to a depth of 20 feet, will be analyzed for metals, VOCs and semivolatiles. The subsurface saturated zone closest to MDA P is the alluvial ground water associated with the stream. As described in the response to technical specified comment #3, LANL will investigate the potential for impacts to this groundwater.

4. Section 3.2.1, pp. 3-9, Paragraph 4 and Section 3.2.2, pp. 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 references to December 23, 1986, Jacobs Report.

The closure plan will be revised to include the fact that bottles containing liquid or solvents may be present in the debris.

5. Prior MDA P Closure Plan Disapprovals were based in part on incomplete waste characterization. Closure by removal under 40 CFR Subpart 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.

Soil and tuff will be segregated based on visual observation and field instrument (XRF, PID, LIBS) readings. The resulting batches will be sampled for contaminants as described in Table 4-2. At least one fixed laboratory sample will be taken for every 100 cubic yards of soil generated.

Debris will be segregated based on visual observation and field instrument readings. The resulting batches will be sampled for contaminants as discussed in Table 4-2. Whenever possible,

debris will be sampled directly. However, if the debris cannot be sampled, the rinse water from decontamination will be sampled and analyzed to determine if the debris has reached the decontamination standard.

Any soils which require treatment may be treated on-site or off-site. If treated on-site, the soil will be sampled and analyzed to determine if the treatment method was effective. The soil will be sampled at least once per 100 cubic yard batch or at least once per waste stream, whichever is less. The analysis performed prior to treatment is shown in Table 4-2. The post treatment analysis will be conducted to determine if the contaminant of concern has been stabilized.

Table 4-2 is included for reference with this response.

6. Section 4.1.3, pp. 4-3, entire section. Spot sampling for HE contamination. EPA has stated in the past that insufficient validation of the DOE/LANAI 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 fixed laboratory results and spot test results 3 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.

HE spot tests will be used for personnel safety when handling debris. EPA SW846 method 8330 will be used to determine if the decontamination standard has been met.

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.

LANL will submit the required permits.

8. Within 60 days of the receipt of this NOD, DOE/LANL must submit an application for Temporary Unit under the provisions of 40 CFR Subpart 264.553 if operations are to begin in the Spring of 1996. NMED has forwarded, as Attachment C of the 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.

LANL does not anticipate the need for a Temporary Unit. If future closure activities require a Temporary Unit, the application will be submitted to NMED.