



June 1, 2021

Arturo Duran
Designated Agency Manager
Environmental Management
U.S. Department of Energy
Los Alamos Field Office
P.O. Box 1663 MS M984
Los Alamos, New Mexico

Re: COMMENTS ON THE PERIODIC MONITORING REPORT FOR 2019 VAPOR-SAMPLING ACTIVITIES AT MATERIAL DISPOSAL AREA L, SOLID WASTE MANAGEMENT UNIT 54-006, AT TECHNICAL AREA 54, REVISION 1, MARCH 2021
LOS ALAMOS NATIONAL LABORATORY (LANL)
EPA ID #NM0890010515
LANL-20-028

Dear Mr. Duran,

The New Mexico Environment Department (NMED) has received the United States Department of Energy's (DOE) *Periodic Monitoring Report for 2019 Vapor-Sampling Activities at Material Disposal Area L, Solid Waste Management Unit 54-006, at Technical Area 54, Revision 1* (Report), dated March 2021 and referenced by EM2021-0039. The Report was received by NMED on March 31, 2021, in response to NMED's September 11, 2020 Notice of Disapproval (NOD) regarding the initial submittal of the Periodic Monitoring Report (PMR).

NMED's review of the Report indicates that some items from the NOD have not been resolved and that some new concerns warranted comment. NMED requires DOE to submit a second revision to address the enclosed comments. The sections and pages provided in the comments are from the redline version of the Report, and the font used in the redline documents were preserved in these comments including the strike out text.

DOE must address all the comments made herein and must not add to, delete from, or introduce other modifications to the second revision that do not pertain to the enclosed comments. If DOE notes other issues in the Report that may need modification, DOE must contact NMED to discuss the matter before introducing modifications to the second revision. The second revision of the PMR is due within 60 days of the date of this letter.

Should you have any questions regarding this correspondence, please contact Christopher Krambis of my staff at (505) 231-5423.

Sincerely,

**Kevin
Pierard**  Digitally signed by
Kevin Pierard
Date: 2021.06.01
16:25:53 -06'00'

Kevin M. Pierard, Chief
Hazardous Waste Bureau

cc: N. Dhawan, NMED HWB
C. Krambis, NMED HWB
M. Petersen, NMED HWB
C. Catechis, NMED-DOE-0B
S. Yanicak, NMED-DOE-0B
C. Rodriguez, EM-LA
L. King, US EPA Region 6
R. Martinez, San Ildefonso Pueblo, NM
D. Chavarria, Santa Clara Pueblo, NM
J. Hopkins, N3B
C. Maupin, N3B
E. Day, N3B
D. Diehl, N3B
P. Maestas, N3B
W. Alexander, N3B
emla.docs@em.doe.gov

File: Reading and LANL 2021, TA-54, Comment Letter for MDA-L Monitoring Year 2019 Annual Periodic Monitoring Report Revision 1.

Enclosure

June 1, 2021

NMED COMMENTS ON THE PERIODIC MONITORING REPORT FOR 2019 VAPOR-SAMPLING ACTIVITIES AT MATERIAL DISPOSAL AREA L, SOLID WASTE MANAGEMENT UNIT 54-006, AT TECHNICAL AREA 54, REVISION 1, MARCH 2021

LOS ALAMOS NATIONAL LABORATORY (LANL)

EPA ID #NM0890010515

LANL-20-028

Specific Comments:

1. Section 1.0 Introduction, page 1.

DOE statement: *“Additional risk evaluation is required to determine the potential need for cleanup (corrective action) if results indicate that contaminants are present at concentrations above screening values.”*

NMED Comment: This risk evaluation statement was not part of the original PMR and is not appropriate for inclusion in the Report. Additionally, corrective actions in the form of soil vapor extraction are already in place to remedy excess pore gas volatile organic chemicals (VOCs) contamination beneath MDA-L, which negates the purpose of this statement. Remove this statement from the second revision.

2. Section 2.0 Scope of Activities, page 3 and Section 2.1 Deviations, page 4

DOE Statement: *“Five ports were not sampled because of purge flow rates of less than 0.3 standard liters per minute (slpm), and two additional ports at borehole 54-02001 had noticeable low flow rates of 0.5 and 0.4 slpm and the data from these ports were suspect. These ports will require attention in future sampling.”* And *“Two additional ports at borehole 54-02001 had noticeable low flow rates of 0.5 and 0.4 slpm and the data were suspect.”*

NMED Comment: Provide justification for not discussing the deviations at borehole 54-02001 in the original PMR and steps DOE is taking to rectify the low flow conditions at all these ports. The Consent Order specifies that the dates of operation, system failures, and modifications made to the remediation system during the reporting period should be included in the Remediation System Monitoring section of PMRs (Appendix E Section IV). Add this information to the appropriate section of the second revision.

3. Section 5.1 VOC Pore-Gas Results, page 8

DOE Statement: *“except for samples from borehole location 54-27642, which show concentrations did not decrease with depth for carbon tetrachloride; chloroform; cyclohexane; 1,1-DCA and 1,2-DCA; 1,2-dichloropropane (DCP); PCE; 1,1,1-TCA; and TCE.”*

NMED Comment: Explain why this statement, which was in the original PMR, was struck from the Report considering that Figures D-2.0-1 through D-2.0-3 in the Report show TCE, 1,2-DCA and 1,2-

DCP did not decrease with depth in boring 54-27642 during both sampling events. Removing this statement from the main body of the Report conflicts with the inserted statement on page D-2 in Appendix D of the Report, which states: *"The extent of the 25x contour in map view is reduced, and concentrations at depth are not as pronounced. However, one port in 54-27642 at nearly 350 ft is showing concentrations of greater than 100 times the Tier I SL."* Restore this statement, or a revised statement, into this section of the second revision.

4. Section 5.2.1 Potential for Groundwater Contamination, page 8

DOE Statement: *"Based on this evaluation, the concentrations of VOCs in pore gas at MDA L do not pose an immediate potential source of groundwater contamination."*

NMED Comment: This statement was not part of the original PMR. The Consent Order (Appendix E Section IV) does not specify that such a conclusion is appropriate or required for PMR submittals. Remove this inserted statement from the second revision because it is not appropriate for a PMR.

5. Table 3.1-1: MDA L Tier I Pore-Gas Screening Calculations, page 21:

NMED Comment: The Henry's Law Constant provided in Table 3.1-1 of the Report to derive the Tier I Screening Level (SL) for Dichloroethene[trans-1,2-] is still the EPA value of 0.383 instead of the NMED value of 0.167. By using the EPA value, DOE has derived a much higher Tier 1 SL compared to using the NMED value. This is unacceptable for the following reasons:

- DOE uses 0.167 for this compound at MDA-C.
- DOE and NMED agreed in November 18 and December 2, 2020 email correspondences to use the NMED Henry's Law constants, when available, in all PMRs to ensure consistency in deriving Tier I SL across LANL.
- According to Section IX.G. of the Consent Order, the lower of two levels are to be used for the cleanup level for a substance when two standards for an individual substance has been established.

NMED requires that Table 3.1-1 be revised in the second revision using the NMED Henry's Law Constant of 0.167 and the NMED-derived SL for Dichloroethene[trans-1,2-] of 16,700 ug/m³ as agreed during our 2020 email correspondences. In general, it was agreed that the NMED soil screening guidance is to be used as the default source across the LANL site. If there is no value in the NMED guidance, then the EPA regional tables could be used.

6. Table 3.1-3, page 24:

NMED Comment: In the second revision, resolve the following two discrepancies in Table 3.1-3:

- Tier I SL for Isopropanol (propanol[2-]) is listed as 13.5 ug/m³ in contrast to the 136 ug/m³ listed in Table 3.1-1 *MDA L Tier I Pore-Gas Screening Calculations* on page 21 of the Report.
- Tier I SL for Trimethylbenzene[1,2,4-] is listed as 14,100 ug/m³ in contrast to the 14,000 ug/m³ listed in Table 3.1-1 *MDA L Tier I Pore-Gas Screening Calculations* on page 22 of the Report.

7. Table 5.1-2, Second Round VOC Pore-Gas Detected Results at MDA L (in $\mu\text{g}/\text{m}^3$); pages 40 and 41:

NMED Comment: Resolve the following discrepancies in Table 5.1-2 in the second revision:

- The benzene detection of $1800 \text{ ug}/\text{m}^3$ at location 54-27642 at 175 ft depth is not highlighted to indicate it exceeds the Tier I SL as stated in DOE's response to NMED's comment 2b.
- The tetrahydrofuran GW Tier I SL is listed as $2790 \text{ ug}/\text{m}^3$ on pages 41 and 42 instead of $9790 \text{ ug}/\text{m}^3$ as listed in Table 3.1-1 *MDA L Tier I Pore-Gas Screening Calculations* on page 21.
- The trimethylbenzene[1,2,4-] GW Tier I SL is listed as $14,100 \text{ ug}/\text{m}^3$ on pages 41 and 42 instead of $14,000 \text{ ug}/\text{m}^3$ as listed in Table 3.1-1 *MDA L Tier I Pore-Gas Screening Calculations* on page 22.

8. Appendix D, page D-3

DOE statement: *"Figure D-2.0-7 shows the 1,1-DCE plume. Data from FY 2019 show that concentrations of this compound reach only a bit over 5 times the Tier I SL in a limited region on the west side of MDA L within the Qbt 1v-u unit."*

NMED Comment: Based on this figure, the 1,1-DCE plume appears to exceed the Tier I SL by 5 times on the portion of the site labelled "East" not "West" during both sampling rounds. In addition, the cross-sections in this figure show that the 5 times exceedance also appears in deeper geologic units for both sampling rounds including Unit 1g of the Bandelier tuff down to the Otowi unit. Review this statement, and if it is incorrect, correct the statement in the second revision.

9. Submittal Letter EMLA-2021-0182-02-001, page 1.

DOE Statement: *"EM-LA would like to discuss the proposed trigger level for activation of the Interim Measure (IM) soil vapor extraction (SVE) units. Based on mass transport calculations for a 3-dimensional plume, EM-LA and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) proposed a trigger of 2000 parts per million by volume (ppmv) total VOC in the 2018 MDA L IM Final Report. At the request of NMED, EM-LA is proposing to revise the 2000 ppmv total VOC trigger level to include the addition of Tier I trigger levels. This revision to the SVE trigger will require discussion with NMED to come to a mutually acceptable set of trigger values for the MDA L IM SVE units. EM-LA and N3B propose meeting with NMED in the next months to discuss the SVE trigger at MDA L, including presentations explaining the basis for the 2000 ppmv trigger and how Tier I-based triggers can be scientifically validated."*

NMED Comment: NMED contacted DOE via email on August 13, 2020, to discuss the proposed trigger level for activation of the Interim Measure (IM) soil vapor extraction (SVE) units at the MDA-L site. On October 13, 2020, DOE replied to NMED's request via email that they would set a meeting up in November 2020. However, NMED has yet to hear back from DOE concerning this request. NMED again requests DOE set up a meeting with NMED to discuss this matter.

10. Submittal Letter EMLA-2021-0182-02-001, page 1.

DOE Statement: *“In the 2010–2011 timeframe, NMED and the U.S. Department of Energy Environmental Management Los Alamos Field Office (EM-LA) agreed upon a set of eight compounds of primary concern at MDA L. Unless NMED objects, for future MDA L periodic monitoring reports, EM-LA plans to submit the figures that most accurately represent subsurface conditions, specifically X-Y plots for those eight compounds determined to be of primary concern.”*

NMED Comment: NMED does not concur with this request because Section IV) n) 6. of Appendix E of the Consent Order requires figures that present vapor sampling locations and laboratory analytical data for each contaminant exceeding screening levels at more than one location. This includes presenting analytical data for current and historical events to show concentrations versus time for contaminants exceeding screening levels.