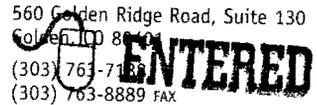




TA 16

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December 19, 2006

Mr. Dave Cobrain
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Reference: Work Assignment No. 06280.170.0002; State of New Mexico Environment Department, Santa Fe, New Mexico; General Permit Support Contract; Technical Review of the Technical Area 16 Closure Plan, LA-UR-06-6913, dated September 2006; Los Alamos National Laboratory, Los Alamos, New Mexico; Draft Deliverable, Revision 1.

Dear Mr. Cobrain:

Enclosed please find the modified deliverable for the above-referenced work assignment. The deliverable consists of a technical review of the Technical Area 16 Closure Plan. The document is formatted in Microsoft Word. The first deliverable was emailed to you and Steve Pullen at Dave.Cobrain@state.nm.us and Steve.Pullen@state.nm.us on December 1, 2006. The modified deliverable was emailed on December 19, 2006. A formal hard (paper) copy of this deliverable will be sent via U.S. mail.

In general, the planned closures of the TA-16 units are not adequately addressed. Additional details and discussion must be provided by LANL. Please feel free to contact me at (303) 464-6525, or Mr. Greg Starkebaum, the reviewer, at (303) 973-1532, if you have any questions.

Sincerely,

June K. Dreith
Project Manager

Enclosures



Cc. S. Pullen, NMED
G. Starkebaum, TechLaw
Denver Files

**Los Alamos National Laboratories
Los Alamos, New Mexico**

**Technical Review of
Technical Area 16 Closure Plan
September 2006**

Submitted to:

**Mr. Dave Cobrain and
Mr. Steve Pullen
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505**

Submitted by:

**Ms. June Dreith
TechLaw Inc.
3920 West 98th Place
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**Work Assignment No.
NMED Project Manager
Telephone No.
TechLaw Project Manager
Telephone No.**

**06280.170.0002
Dave Cobrain
(505) 428-2500
June Dreith
(303) 464-6525**

December, 2006

**Technical Review of
Technical Area 16 Closure Plan
dated September 2006
Los Alamos National Laboratory (LANL), New Mexico**

GENERAL COMMENTS

1. The LANL planned closures state that the closure of the two open burn units in TA16 does not include sampling of soil around the units to verify that hazardous constituents were not released to the soil during operations, unless an obvious spill or similar release is documented in the operating record. According to 20.4.1.500 NMAC, §264.601, a miscellaneous unit must be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. As defined in §264.601(c) (1), protection of human health and the environment includes, among other factors, prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering: The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates. The emission of gases, aerosols and particulates during operations at the two units is not addressed in the closure plan. Please provide a comprehensive assessment of the potential for releases of gases, aerosols and particulates emitted during operations at the two units, demonstrating the absence of any emissions that may have deposited hazardous constituents on surrounding soils, or revise the closure plan to provide for sampling of surrounding soils during closure to assess the deposition of hazardous constituents resulting from operations.
2. The Closure Plan provides for certification of closure of every unit. The regulation at 20.4.1.500 NMAC, §264.155, requires certification only for closure of hazardous waste surface impoundment, waste pile, land treatment and landfill units. Please explain why certifications are proposed to be provided for closure of the two miscellaneous units.
3. Decontamination criteria for the closure work are identified as background, below detection, at or below the NMED Soil Screening Levels (SSLs) or LANL Ecological Screening Levels (ESLs), or other limits to be negotiated, as outlined in Section 5.5.1 of the Closure Plan. The proposed criteria are acceptable, but are incomplete. The NMED SSLs and the referenced LANL ESL document do not include the explosives Tetryl and PETN. In addition, the “other nitrobenzenes and nitrotoluenes” listed as “Specific Constituents” in Tables A-1 and A-2 are not specifically identified in the Closure Plan. Please revise the Closure Plan to identify the other nitrobenzenes and nitrotoluenes, verify that the SSLs or ESLs include those constituents (or provide separate decontamination criteria for them), and provide decontamination criteria for Tetryl and PETN.
4. Analyses for explosives are not included in the Closure Plan. No rationale is provided to explain the absence of plans for analyses of the toxic explosives that may be present at low levels. Please revise the Closure Plan to provide for analyses of decontamination verification samples for explosives.

5. Modification of the Closure Plan to identify constituents of concern, develop decontamination criteria, and specify verification sampling locations in the proposed Pre-Closure and Structural Assessment, starting 25 days before closure begins (20 days after notification of closure to NMED), would not be consistent with 20.4.1.500 NMAC, §264.112(c). This assessment and changes to the Closure Plan are not addressed in Section 8, Amendment of the Closure Plan. The rule requires submittal of a request for a permit modification to authorize a change in an approved closure plan prior to notification of partial or final closure. Please revise the schedule to complete the Pre-Closure and Structural Assessment before notification of closure to NMED, in order to allow time for submittal of a permit modification request to change the Closure Plan prior to notification.

SPECIFIC COMMENTS

- 1. Section 3.3, Description of Wastes Managed, Page 4:** The explosives noted in this section include HMX, TATB, TNT and RDX. The explosives listed in Tables A-1 and A-2 (Hazardous Waste Constituents of Concern), however, include HMX, RDX, TNT, PETN, Tetryl and other Nitrobenzenes and Nitrotoluenes. Please revise Section 3.3 and the tables as necessary to clarify and consistently describe the explosive compounds treated at the units.
- 2. Section 3.3, Description of Wastes Managed, Page 4:** The types of wastes managed are described as Pure HE, Combustible and Non-Combustible Solids, and Liquids consisting of oils and solvents contaminated with HE. These categories appear to be consistent with the hazardous waste numbers and constituents listed in Tables A-1 and A-2. However, the referenced Waste Analysis Plan in Appendix B of the LANL General Part B Permit Renewal Application identifies many additional types of hazardous wastes and numerous additional chemical compounds in Table B-6 (HE Waste Treated by Open Burning at LANL). For example, ten U-listed wastes (HE-contaminated commercial chemical products), two K-listed wastes, and several D-listed wastes, HE-contaminated water, and HE-contaminated liquid acids, bases and/or inorganic salt solutions are identified in Table B-6 but not in the Closure Plan. Please revise the Closure Plan to provide a detailed rationale for not identifying all of the types and specific hazardous wastes treated at the TA16 units in the Closure Plan, or include all of the hazardous waste constituents treated at the units in the Closure Plan.
- 3. Section 4, Closure Schedule, Page 5:** This section includes a statement that: "Treatment, removal, or disposal of hazardous waste will begin in accordance with the approved closure plan, as required by 20.4.1.500 NMAC, §264.113(a) [10-1-03], within 90 days after final receipt of waste at each of the TA-16 OB units." This sentence misstates the requirements of §264.113(a). The 90-day limit refers to completion of treatment, removal or disposal, not beginning this process: "Within 90 days after receiving the final volume of hazardous wastes, or the final volume of non-hazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at a hazardous waste management unit or facility, the owner or operator must treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan." Please revise this section to accurately incorporate the requirements of §264.113(a).

4. **Section 4, Closure Schedule, Page 5:** The last paragraph in this section outlines the notice and demonstration(s) to be submitted in the event that closure of the TA-16 OB units cannot proceed according to schedule. Although §264.113(c) is referenced, the time limit for submitting the notice and demonstrations is not explicitly included. To avoid potential miscommunication or violation of this rule, please include the requirement to provide the demonstration(s) at least 30 days prior to the expiration of the 90-day period in §264.113(a), and 30 days prior to the expiration of the 180-day period in §264.113(b).
5. **Section 5.2, Removal of Waste, Page 5:** This section states that: "...removal of hazardous waste from each unit prior to initiation of closure activities is not anticipated." This statement appears to contradict the schedule for closure, which starts with the final receipt of waste at each unit, as noted in Section 4 and Table 1. The final treatment of waste will occur on the first day of closure, assuming there are no reasons for delay such as bad weather. Therefore, the ash and other residue from treating the last wastes will need to be removed and disposed within a short time after the start of the closure period. Please clarify if the ash and other wastes resulting from final treatment are not expected to be hazardous wastes, or revise this section to be consistent with the stated schedule.
6. **Section 5.4, General Decontamination Procedures, Pages 7 and 8:** Soil sampling is addressed in this section only in relation to potential cracks in the concrete or if complete removal of concrete is required. The discussion of soil removal in Section A.2.3 is similar. Section A.3.1.1 contradicts the previous statements and provides definite plans for limited soil sampling. The potential for deposition of unburned or partially burned wastes emitted from the units during routine operations is not considered or demonstrated to be unlikely or insignificant. As stated in 20.4.1.500 NMAC, §264.601(c)(1), such emissions and deposition must be considered at closure as well as during operation. Open burning operations can produce unburned or partially burned particulate and aerosol emissions that may be deposited on surrounding surfaces. Please revise the Closure Plan to demonstrate the absence of such emissions throughout the operating history of the two units, or provide plans for sampling the soils surrounding each unit to determine the extent of contamination, if any.
7. **Section 5.5, Verification of Decontamination, Pages 9 and 10:** This section addresses only water and wipe samples. Additional types of potential samples identified in Section 4, Section 6.4, and Attachment A include soil samples. Please include soil sample verification sampling discussion in this section.
8. **Section 5.5, Verification of Decontamination, Page 10:** The last sentence in this section references Section 7 for analytical methods for decontamination verification samples, but the methods are only provided in Table A-3. The methods provided in Table A-3 are for water samples only, and do not include explosives that may be present at the units. Please revise Table A-3 to include the methods for preparation of wipe and soil samples, and analytical methods for explosives.
9. **Section 5.5.1, Verification Criteria, Page 10:** Among the proposed verification criteria are the NMED SSLs and LANL ESLs. The referenced documents do not include concentration limits for several explosives identified as treated at the units, such as Tetryl, PETN and

TATB. Please revise the Closure Plan to include decontamination criteria for these compounds.

- 10. Section 6, Sample Management Procedures, Page 11:** The last paragraph in this section states that sample collection equipment will include, among other items, “EPA-certified clean containers”. The EPA does not certify containers as clean. Various bottle supply houses certify their containers as clean. Please revise this statement to accurately reflect actual industry practices.
- 11. Section 7.2, Quality Assurance/Quality Control, Page 15:** Discussion of QA/QC procedures in this section does not include the definition of “detectable” for blank contaminants in footnote (a) of Table 4 (Page 22). The footnote states that VOC and SVOC blank contaminants will not be considered “detectable” unless they are 10 times the quantitation limit for methylene chloride, acetone, 2-butanone, toluene, and/or any phthalate ester, and 5 times the quantitation limit for other contaminants, without further explanation. Please provide the basis and rationale for this proposed definition of detectable blank contaminants.
- 12. Section A.3.1.1, Soil Sampling Strategy, Page A-3:** The plans to collect at least 3 soil samples at the TA-16-388 Flash Pad and 2 soil samples at the TA-16-399 Burn Tray contradict previous statements that soil sampling will not be performed unless some evidence of cracked concrete, a spill or other release is observed. This section notes an “area of suspected contamination” at the Flash Pad that is not mentioned previously in the Closure Plan. Similarly, the plan for sampling soil at the Burn Tray suggests that this unit is located on bare ground, with no secondary containment. However, the plans do not include provisions for soil removal or follow up sampling to verify adequate soil removal, if necessary. Please revise the Closure Plan Section 3 to include detailed descriptions of the area of suspected contamination at the Flash Pad, and the location of the Burn Tray on bare soil. Revise the sampling discussion in Section 5 to include the initial and verification sampling after removal, as necessary to fully determine the extent of soil contamination, if any.
- 13. Section 4, Closure Schedule, Page 5:** The schedule discussion does not address the Pre-Closure and Structural Assessment proposed to be performed prior to the start of closure, and after notification of closure to NMED. The Pre-Closure and Structural Assessment description in Section 5.3.2 also does not mention the schedule, although it identifies several changes that will be incorporated into the Closure Plan as a result of the Assessment; including details for sampling, analyses, and decontamination criteria. The schedule for performing the Assessment in Table 2, starting 20 days after notification of closure to NMED, does not take into account the requirements of 20.4.1.500 NMAC, §264.112(b)(4) and §264.112(c) which require decontamination criteria to be included in a closure plan, and require changes in a closure plan to be submitted as a permit modification request prior to closure notification. Please revise the Closure Plan to include decontamination criteria, and revise the schedule to allow for completion of the Pre-Closure and Structural Assessment and

submittal of a permit modification request (if necessary) before notification of closure.

- 14. Section 8, Amendment of the Closure Plan, Page 17:** The bulleted causes for modification of the Closure Plan are accurate, but these are not the only examples of changes in a closure plan. The proposed Pre-Closure and Structural Assessment (Section 5.3.2) may result in changes in the constituents of concern, decontamination plans, sampling locations and analytical procedures. Changes in these areas will require modification of the facility permit to authorize the changes in the Closure Plan as provided in 20.4.1.500 NMAC, §264.112(c). Please revise this section to provide for amendment of the Closure Plan after completion of the Pre-Closure and Structural Assessment, if necessary, prior to notification of closure to NMED.

COMPLETENESS CHECKLIST

TA-16**Completeness & Technical Evaluation Checklist**

(From EPA, 12/93)

Closure Plans, Post-Closure Plans and Financial Requirements- for Container Storage Units

<u>Information</u>		<u>Complete?</u>	<u>Adequate?</u>	<u>Comment #</u>	<u>Location of</u>
I-1 A	Closure Plans Subpart G	N	N	G1, 2, 3, 4	5, 10, 5.5, Attachment
I-1a	Closure Performance Standard 264.111	Y	Y		2.1
I-1b	Partial/Final Closure 264.112(b)	Y	Y		2.2
I-1c A-2	Max. Inventory 264.112(b)(3)	Y	N	1, 2	3.3; Tables A-1 and
I-1d	Schedule for Closure 264.112(b)(6)	Y	Y		4
I-1d(1)	Time Allowed 264.113	Y	N	3	4
I-1d(1)(a)	Extension 264.113(a), (b), (e)(3)	N	N	4	4
I-1e	Closure Procedures 264.112(b)(1) and 114	Y	N	6	5.4
I-1e(1)	Inventory Removal 264.112(b)(3)	Y	N	5	4, 5.2, Table 1
I-1e(2)	Disposal/Decon 264.114	N	N	7, 8, 9, 10, 11 12	5.5, 6, 7.2, A.3.1.1
I-1e(11)	Miscellaneous Units 264.601	Y	Y		2.1, 5.2, 5.4

