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December 19, 2006

Mr. Dave Cobrain
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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 50 Closure Plan, LA-UR-06-6914, dated September 2006; Los Alamos National Laboratory, Los Alamos, New Mexico; Draft Deliverable, Revision 1

Dear Mr. Cobrain:

Enclosed please find the deliverable for the above-referenced work assignment. The deliverable consists of a technical review of the Technical Area 50 Closure Plan. The document is formatted in Microsoft Word. The deliverable was emailed to you and Steve Pullen at Dave.Cobrain@state.nm.us and Steve.Pullen@state.nm.us on December 6, 2006. A modified deliverable was emailed to you 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 TA-50 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

32552



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

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

**Technical Review of
Technical Area 50 Closure Plan
September 2006**

Submitted to:

**Mr. Dave Cobrain and
Mr. Steve Pullen
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2905 Rodeo Park Drive East, Building 1
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Submitted by:

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December 19, 2006

**Technical Review of
Technical Area 50 Closure Plan
dated September 2006
Los Alamos National Laboratory (LANL), New Mexico**

GENERAL COMMENTS

1. The Closure Plan provides for certification of closures (Section 10). 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 each container storage unit (CSU).
2. Decontamination criteria are proposed (Section 5.5.1) to include NMED Soil Screening Levels (SSLs) and LANL Ecological Screening Levels (ESLs). Although the SSLs provide specific concentration criteria or action limits, the referenced ESL document does not include concentration limits. Use of the ESL methods would apparently require development of proposed criteria during the closure period, to apply to releases, contaminated structures or soil identified during the closure period. This approach does not comply with 20.4.1.500 NMAC, §264.112(b)(4), which states that criteria for determining the extent of decontamination required to satisfy the closure performance standard must be included in the closure plan. Please revise the Closure Plan to provide decontamination criteria adequate to support the plan.
3. Samples to be collected for decontamination verification are proposed (Tables A-2 and B-2) to be analyzed only for metals, volatile and semi-volatile organics (VOCs and SVOCs). The analytes that would be identified in these analyses appear to represent only a small portion of the hazardous wastes that have been or may be stored at the TA-50 CSUs. The LANL general Waste Analysis Plan, Attachment B to the Part B Permit Application, lists a wide range of wastes that may be stored at the TA-50 CSUs; and TA-50 Attachment H, Authorized Waste, identifies 151 types of hazardous wastes that may be stored at the TA-50 CSUs. Many of these would not be detected in the proposed analyses, for example the acute hazardous wastes P029, P030, P031 and P033. The Closure Plan does not explain why the decontamination verification sample analyses are proposed to be limited as noted above. Please provide the rationale for restricting decontamination verification analyses as proposed, or expand the analyses to include a representative range of hazardous constituents stored at these units.
4. 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 4, Closure Schedule, Page 4:** The second paragraph in 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-50 CSUs." 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).
- 2. Section 4, Closure Schedule, Page 4:** The last paragraph in this section outlines the notice and demonstration(s) to be submitted in the event that closure of the TA-50 CSUs 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, 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), should be included in this paragraph.
- 3. Section 5.2, Removal of Waste, Page 5:** The first paragraph in this section states that: "Prior to initiation of closure activities, all containerized wastes will be removed from the CSU scheduled for closure." Similar statements that wastes will be removed prior to the start of closure are found in Attachment Sections A.1 and B.1. These statements contradict Section 4, which states that waste treatment, removal or disposal will begin within 90 days after the start of the closure time period. The Closure Schedule provided in Table 1 indicates that wastes will be removed from each unit within 5 days after the start of the closure period. Although removal of wastes prior to the start of closure is acceptable and not restricted in the regulations, including removal prior to the start of closure as a requirement in the Closure Plan may unnecessarily restrict the facility's options and time available for managing the wastes. Please revise this section to be consistent with (revised) Section 4 and the schedule in Table 1.
- 4. Section 5.3.2, Pre-Closure and Structural Assessment, Page:** The first paragraph in this section includes the statement that: "...background samples or data derived from studies developed under the LANL corrective action program or other programs will be reviewed to determine levels or concentration thresholds applicable for the purposes of closure." This

review is apparently intended to be part of the Assessment scheduled for 25 days before the start of each closure, according to Table 1. This approach does not meet the standard stated in 20.4.1.500 NMAC §264.112(b)(4), which requires a closure plan to provide "...criteria for determining the extent of decontamination required to satisfy the closure performance standard". If the proposed schedule is followed, the Closure Plan would have to be revised before the start of closure activities. Although the types of wastes stored at TA-50 may change in the future, the wastes currently and previously stored there are known, and the specific hazardous constituents and decontamination criteria that would be applicable at this time can be determined. Please revise the Closure Plan to provide for modifications to the decontamination criteria if necessary, in accordance with the Closure Plan Amendment procedure in §264.112(c). Please include decontamination criteria, or concentration thresholds, for each category of proposed samples (wipe, aqueous, soil, etc.) that will or may be collected during the TA-50 closures.

5. **Section 5.4.2, Decontamination of Surfaces, Page 7:** The second paragraph states that neither of the TA-50 CSUs has recessed areas (i.e., sumps). However, Section A.2.2 explains that there are drain lines to the Radioactive Liquid Waste Treatment Facility (RLWTF) in both Room 102 and Room 103. The Closure Plan does not provide for sampling in the drains, or any other evaluation of the drains. These drains would apparently collect any spills or other liquids that reached the floors of these rooms, such as rain or melted snow. The drains are therefore the most likely locations to be contaminated at this unit. Please revise the Closure Plan to include sampling and comprehensive evaluation of the drain lines, from Rooms 102 and 103 to the RLWTF, as part of the closure activities.
6. **Section 5.5, Verification of Decontamination, Page 9:** This section addresses only water and wipe samples. Potential samples identified in Attachments A and B include soil samples. Please include soil verification sampling discussion in this section.
7. **Section 5.5.1, Verification Criteria, Page 9:** One of the verification criteria is "Detectable concentrations of RCRA-regulated constituents in samples collected during verification activities are at or below levels agreed upon with the NMED to be protective of human health and the environment, based on the results of risk assessment methods." The protective concentrations in NMED SSLs are referenced, and the LANL ESL methods are referenced. This description seems to suggest that ecological risk assessments may be performed for a CSU where hazardous constituents have been released. Please clarify the intent of this section by explaining whether risk assessments may be performed, or provide the proposed concentration limits for hazardous constituents to be used for the closures.
8. **Section 6, Sample Management Procedures, Page 10:** The second 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.
9. **Section 7.2, Quality Assurance/Quality Control, Pages 14 and 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.

- 10. Section B.2.4, Contaminated Soil Removal, Page B-3:** The first paragraph in this section states, in part: “If records indicate that no release of hazardous waste to soils has occurred and no staining is seen, no soil sampling will be conducted.” This conclusion is based on the assumption that a release would be recorded, or that visible staining of soils would indicate the presence of an unrecorded release. Given the wide range of activities at this unit, including open air size reduction and repackaging of contaminated glove boxes and other materials (Section 3.1) over a long period of time, and lack of containment for airborne particulates, the potential for releases of small amounts of contaminated dust to the surrounding soil is high. In addition, the collection of wind-driven rain and snow on the floor of this unit, with no sump or drain for collection, and no other effective secondary containment structure, indicates that the potential for releases of at least small amounts of contaminated runoff to surrounding and underlying soils is also high. Such releases would not be likely to be observed or officially recorded as such, and would not leave obvious stained areas on the soil. Please revise the Closure Plan to include definite plans for sampling of soil around the TA-50-69 Outside CSU in all directions, with special emphasis on runoff paths at the low point(s) on the pad.
- 11. 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.
- 12. 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

CLOSURE CHECKLIST

TA-50

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 B-2	Closure Plans Subpart G	N	N	G1, 2, 3	10, 5.5.1, Tables A-2,
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	Max. Inventory 264.112(b)(3)	Y	Y		3.2
I-1d	Schedule for Closure 264.112(b)(6)	Y	N	1, 2, 3, 4	4, 5.2, 5.3.2
I-1d(1)	Time Allowed 264.113	Y	N	1, 2	4
I-1d(1)(a)	Extension 264.113(a), (b), (e)(3)	N	N	2	4
I-1e	Closure Procedures 264.112(b)(1) and 114	Y	N	5	5.4.2
I-1e(1)	Inventory Removal 264.112(b)(3)	Y	N	1, 3	4, 5.2, A.1, B.1
I-1e(2)	Disposal/Decon B.2.4 264.114	N	N	5, 6, 7, 8, 9, 10	5.4.2, 5.5, 6, 7.2,

I-1e(4) Containers
264.178

Y

Y

2.1, 5.2, 5.4