



TA 55

560 Golden Ridge Road Santa Fe 130
Golden, CO 80401
(303) 763-7188
(303) 763-8889 FAX
www.techlawinc.com

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 55 Closure Plan, LA-UR-06-6916, dated September 2006; Los Alamos National Laboratory, Los Alamos, New Mexico; Draft Deliverable

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 54 Closure Plan. The document is formatted in Microsoft Word. The deliverable was emailed to you and Steve Pullen of NMED on December 19, 2006 at Dave.Cobrain@state.nm.us and Steve.Pullen@state.nm.us . A formal hard (paper) copy of this deliverable will be sent via U.S. mail.

In general the planned closure of T-55 units is not adequately addressed. Very brief unit descriptions and generic closure work descriptions and closure schedules are provided. Additional details and discussions 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

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

**Technical Review of
Technical Area 55 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
Westminster, Colorado 80031**

**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 55 Closure Plan
dated September 2006
Los Alamos National Laboratory (LANL), New Mexico**

GENERAL COMMENTS

1. The Closure Plan provides for certification of closure of every unit (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 the container storage, tank and miscellaneous units.
2. Decontamination criteria are proposed to be developed during the closure work, as explained in Section 5 of the Closure Plan. 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.
3. 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 3.1.1, TA-55 Container Storage Units, Page 3:** The descriptions of the TA-55-4 CSUs are limited to types of wastes stored, 5 of the units are located in the basement of building TA-55-4, and TA-55-185 is a steel-framed building with a concrete floor. Attachment A, Section A.3.1.1, provides information that epoxy paint was applied to the floors of these units, Section A.2.2 mentions sumps, and Table A-1 provides floor dimensions. However, it is not clear whether all of the units have sumps or epoxy coated floors. Please clarify which units have sumps and epoxy coated floors.
2. **Section 3.1.2, TA-55 Storage Tank System, Page 3:** The descriptions of the tanks in TA-55-4 in this section are limited to “three component systems” with little explanation of their

location or functions. Attachment B, Section B.2.2 suggests that extensive ancillary equipment is part of the tank system, and Section B.2.3 mentions the existence of sumps and drains adjacent to the tank system. All of the ancillary equipment should be described, in enough detail to provide a full understanding of the work necessary to close the system. Apparently all of the tanks are, or will be, interconnected with the cementation unit, and the upstream evaporator system. Please provide a more complete description of the tanks and attached ancillary equipment such as the evaporator waste supply piping, and the secondary containment sumps and drains, including locations and downstream discharge point.

3. **Section 3.1.3, TA-55 Cementation Unit, Page 4:** The cementation unit description is limited to two sentences. The description does not mention exterior connections outside the glovebox, although it is apparent that wastes mixed with cement are pumped into external containers. Attachment C, Section C.2.2, mentions “ancillary equipment located in Room 401 (outside the glovebox)”, but provides no indication what the ancillary equipment might consist of. Section C.2.3 mentions a containment system (e.g., recessed areas, sumps, berms) but no indication of the location, size or capacity of the containment is provided. Please revise this section to provide an expanded description of the unit, ancillary equipment and containment, adequate to convey an understanding of the work necessary to complete closure.
4. **Section 3.1.4, TA-55 Outside Storage Pad Container Storage Unit, Page 4:** The two-sentence description in this section is supplemented by dimensions in Section D.1. However, the Closure Plan does not provide any indication of a containment system for this unit. Please revise this section to explain whether asphalt berms, a low point within the boundaries of the pad, or some other type of containment is provided.
5. **Section 3.3, Description of Waste Managed, Page 4:** The waste descriptions provided in this section are generic, and do not account for the separate storage of dry wastes in some units. In addition the discussion does not address whether wastes were or are managed other than in closed containers. This aspect of waste management operations could be important in determining the potential for releases of small amounts of waste into secondary containment, sumps, drains, or off of the container storage pad. Please revise this section to explain whether wastes were or are packaged, transferred, inspected or otherwise managed such that containers were or are opened while in the units.
6. **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.

- 7. Section 4, Closure Schedule, Page 5:** The last 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-55 waste management 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).
- 8. 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-55 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, 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.
- 9. Section 5.2, Removal of Waste, Page 6:** The first paragraph in this section states that: “Prior to initiation of closure activities, all containerized wastes will be removed from the storage or treatment unit scheduled for closure.” Similar statements that wastes will be removed prior to the start of closure are in the Attachments, Sections A.1, B.1, C.1 and D.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 2 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 and the Attachments to be consistent with (revised) Section 4 and the schedule in Table 2.
- 10. Section 5.3.2, Pre-Closure and Structural Assessment, Page 7:** The first paragraph in this page concludes with 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 to start 25 days before each closure, according to Table 2. Among the required contents of every closure plan, stated in 20.4.1.500 NMAC §264.112(b)(4), are “...criteria for determining the extent of decontamination required to satisfy the closure performance standard”. Please revise the Closure Plan to include decontamination criteria, or concentration thresholds, for each

category of proposed samples (wipe, aqueous, soil, etc.) that will be collected during the TA-55 closures.

- 11. Section 5.5, Verification of Decontamination, Page 9:** This section addresses only water and wipe samples. Additional types of potential samples identified in Section 6.4.3 and Attachments A, B, C and D include soil samples. Please include soil sample verification sampling discussion in this section.
- 12. Section 5.5.1, Verification Criteria, Page 10:** 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 and/or LANL ESLs are referenced. This description seems to suggest that risk assessments may be performed for any units where hazardous constituents have been released to secondary containment or the environment (soil). The intent of the ESL reference is unclear, because the referenced ESL manual does not provide protective concentrations, only methods for developing limits. In addition, protective concentrations for wipe and liquid decontamination verification samples will not be found in the SSL or ESL documents. Please clarify the intent of this section by explaining whether risk assessments may be performed, and provide the proposed concentration limits for hazardous constituents to be used for the closures.
- 13. 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.
- 14. Section 6.4, Sample Collection Procedures, Page 14:** The types of samples addressed include only liquid, wipe and soil samples. Section D.2.2 (page D-3) provides for characterizing asphalt if necessary to dispose of asphalt that may be contaminated, “using general LANL waste characterization procedures.” The actual sampling or other waste characterization method(s) to be used for asphalt is not described. Please provide the proposed sampling procedure or other waste characterization method(s) for asphalt.
- 15. Section 7.2, Quality Assurance/Quality Control, Page 16:** Discussion of QA/QC procedures in this section does not include the definition of “detectable” for blank contaminants in footnote (a) of Table 5. 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.
- 16. 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.

- 17. Section 10, Closure Certification Report, Page 17:** Certification reports are not required for container and tank storage or miscellaneous units according to 20.4.1.500 NMAC, §264.155. Please revise this section to explain why certification reports will be prepared.
- 18. Attachments A and D, Tables A-2, A-3, A-4 and A-5, Pages A-6 and A-7, and Table D-1, Page D-7:** Specific constituents and hazardous waste numbers listed as semi-volatile organic compounds in these tables include benzene, dichloroethane, carbon tetrachloride and other chemicals, which are actually volatile organics. Please revise these tables to include the specific volatile organics and corresponding waste numbers in the correct categories.
- 19. Attachments A, B, C and D, Tables A-8, Page A-9; Table B-3, Page B-7; Table C-2, Page C-7; and Table D-2, Page D-8:** These tables indicate Target Detection Limits (practical quantitation limits) of 10 mg/L for VOCs and SVOCs. The method detection limits for method 8260B and 8270D are generally in the low micrograms per liter, especially for relatively “clean” aqueous samples as proposed to be collected for decontamination verification. Please provide the rationale for specifying 10 mg/L as the TDL.

CLOSURE CHECKLIST

TA-55**Completeness & Technical Evaluation Checklist**
(From EPA, 12/93)**Closure Plans - for Container, Tank and Cementation Units**

<u>Information</u>		<u>Complete?</u>	<u>Adequate?</u>	<u>Comment #</u>	<u>Location of</u>
I-1	Closure Plans Subpart G	N	N	G1, 2, 3	10, 5, 8
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, Table 1
I-1d	Schedule for Closure 264.112(b)(6)	Y	N	6, 7, 8, 9, 10	4, 5.2, 5.3.2
I-1d(1)	Time Allowed 264.113	Y	N	7	4
I-1d(1)(a)	Extension 264.113(a), (b), (c)	N	N	8	4
I-1e	Closure Procedures 264.112(b)(1) and 114	Y	N	1, 2, 3, 4, 5	3
I-1e(1)	Inventory Removal 264.112(b)(3)	Y	N	9	5.2, Attachments A-D
I-1e(2)	Disposal/Decon 264.114	N	N	11, 12, 13, 14 15, 16, 17, 18, 19	5, 6, 7, 8 Attachments
A-D					
I-1e(4)	Containers	Y	N	1, 4, 5	2.1

264.178

I-1e(5) Tanks 264.197	Y	N	2	2.1
I-1e(11) Misc. Units 264.601	Y	N	3	2.1