



DEPARTMENT OF ENERGY
National Nuclear Security Administration
Los Alamos Field Office
Los Alamos, New Mexico 87544



JUN 26 2013

John Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Dear Mr. Kieling:

Subject: Withdrawal and Resubmittal of a Class 2 Permit Modification Request to the Los Alamos National Laboratory Hazardous Waste Facility Permit for Technical Area 54, Building 38, West, EPA ID No. NM0890010515

The purpose of this letter is to withdraw and resubmit a request for approval by the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) of a Class 2 Permit Modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit) issued to the U.S. Department of Energy (DOE) and Los Alamos National Security, LLC, (LANS) in November 2010. DOE and LANS, collectively known as the Permittees, requested approval to increase the storage capacity and footprint of the hazardous waste management units located at Technical Area (TA) 54, Building 38, West, Radio-Assay and Non-Destructive Testing Facility (TA-54-38 West or RANT).

The withdrawal and resubmittal of this permit modification request corrects an administrative error for the approval process and provides an opportunity to address comments received from NMED-HWB during the public comment period. Prior to the original submittal of this permit modification request, the Permittees provided a public notice for a pre-application draft permit modification request and made the draft available for public review on February 27, 2013. A pre-application public information meeting was held on March 14, 2013. On March 18, 2013, the Permittees received written comments to the draft from the NMED-HWB. The permit modification request was then submitted to NMED on May 2, 2013. On May 5, 2013, the Permittees issued a public notice via newspaper about the permit modification request, its availability for public comment, and a public meeting that would be held about the request. The public notice was corrected on May 12, 2013 to provide the time of the public meeting. No members of the public attended the meeting held on May 22, 2013.

Upon the NMED-HWB's recommendation, the Permittees have determined to withdraw and resubmit the permit modification request to address the communication for the public meeting. This document constitutes the revised request and incorporates changes to answer the comments NMED-HWB has provided.

The enclosed permit modification request includes descriptions of the necessary changes to the Permit and explains why the changes are necessary to facilitate the transport of transuranic waste from LANL for off-site disposal at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. TA-54-38 West serves as the packaging facility for Transuranic (TRU) waste that is stored at other permitted units at LANL and for preparation for transport to the WIPP. The 2012

Framework Agreement: Realignment of Environmental Priorities, established between the State of NMED and the DOE set forth goals to safely process, repackage, and remove 3,706 cubic meters of Transuranic waste from permitted container storage units at TA-54 Area G by June 30, 2014. An important component to meeting the goals of that agreement is the need for increased shipping capability from the permitted units at TA-54-38 West. The increased storage capacity at both of the units and the increased footprint at the TA-54-38 West Indoor Unit are necessary for waste shipping goals to be met. The increases will also allow flexibility and optimized use of the facility for future waste management activities including waste container loading in support of the over-all TRU waste management program at LANL and as allowed by the Permit.

This permit modification request has been drafted in accordance with Title 40 of the Code of Federal Regulations (40 CFR) §270.42(b). The class 2 modifications to the Permit presented for approval meet the conditions of 40 CFR §270.42, Appendix I, Item F.1.b. This item references a modification to the container storage unit that results in an increase in less than 25% of the storage capacity included within the Permit. The requested changes to the Permit increase the operating capacity at the TA-54-38 West Outdoor Pad and the TA-54-38 West Indoor Unit as well as increase the physical footprint of the TA-54-38 West Indoor Unit in order to accommodate shipments of larger containers. There are no changes to specific storage-related permit conditions or waste management practices associated with this request and there will be no changes made to the building or construction at the indoor or outdoor units.

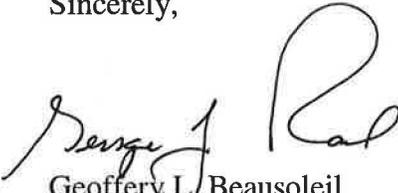
The additional revisions included with this permit modification request do not change any permit conditions or waste management practices. The Permittees are proposing updates to the Permit associated with this request and the permitted units at TA-54-38 West. These minor changes are considered administrative changes under 40 CFR §270.42, Appendix I, Item A.1 as they are merely clarifying or correcting the descriptive language for the unit and ensuring that figures and information have been updated consistently. These modifications have been included with this permit modification request in order to consolidate all the changes for the two permitted units at TA-54-38 West into a single request.

This permit modification request consists of two enclosures. Enclosure 1 (LA-UR-13-24619) includes the basis for the modification request, a description of the changes to be made to the Permit, pages from the Permit that illustrate the changes requested (including editing marks), a revised Part A form for the facility, supplementary information (LA-UR-12-27035) that discusses the applicability of the seismic standard in 40 CFR §264.18(a) in accordance with 40 CFR §270.14(b)(11)(ii), a signed certification page, and a draft fact sheet that outlines the changes requested by the permit modification and information on where the permit modification request can be obtained and how the public can comment.

Provided herein are three hard copies of the permit modification request package as well as an electronic version. The fact sheet (Attachment 6 of Enclosure 1) will be sent to the NMED-HWB maintained LANL facility mailing list within 7 days of transmittal of this request. The fact sheet contains the location and date of a scheduled public meeting; and a notice will be published in a few local newspapers containing the same information.

If you have comments or questions regarding this permit modification request, please contact Gene Turner of my staff at (505) 667-5794 or Mark Haagenstad, LANS, at (505) 665-2014.

Sincerely,

for 
Geoffery L. Beausoleil
Acting Manager

Enclosures

w/enclosure:

Laurie King, Chief (6PD-N)
New Mexico/Federal Facilities Section
Environmental Protection Agency
Region 6 1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Dave Cobrain
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Tim Hall
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

P. Maggiore, EPO, NA-00-LA,
G. Turner, EPO, NA-00-LA,
C. Beard, PADOPS, LANS, MS-A102
M. Brandt, ADESH, LANS, MS-K491
V. George, REG-DO, LANS, MS-M991
A. Dorries, ENV-DO, LANS, MS-K491
R. Dodge, WM-DO, LANS, MS-K491
S. Miller, LTP-SSS, LANS, MS-J595
K. Roberts, REG-SP, LANS, MS-M992
J. Armijo, WM-PROG, LANS, MS-M704
T. Grieggs, ENV-RCRA, LANS, MS-K490
M. Haagenstad, WM-PROG, LANS, MS-K404
WM-PROG File, LANS, MS-K490
Records Center, NA-00-LA
Official Contract File, NA-00-LA

EPO-15GT-482-518617

ENCLOSURE 1

**CLASS 2 PERMIT MODIFICATION REQUEST TECHNICAL AREA 54, BUILDING 38
(TA-54-38) WEST ADDITIONAL CONTAINER STORAGE**

**LOS ALAMOS NATIONAL LABORATORY HAZARDOUS WASTE FACILITY PERMIT
EPA ID: #NM0890010515**

JUNE 2013 (REV.1)

LA-UR-13-24619

JUN 26 2013

Date: _____

TABLE OF CONTENTS

I. Overview of the Class 2 Permit Modification Request 1

II. Discussion of the Permit Modification Request 2

 1. Description of the Exact Changes to be Made to the Permit and Supporting Documents
 (40 CFR §270.42(b)(1)(i)) 3

 A. Permit Attachment A Revisions..... 3

 B. Permit Attachment G.16 Revisions..... 4

 C. Permit Attachment G.17 Revisions..... 4

 D. Permit Attachment J Revisions 5

 E. Permit Attachment N Revisions..... 5

 F. Permit Attachment B Revisions..... 5

 2. Justification for Classifying the Permit Modification as a Class 2 (40 CFR
 §270.42(b)(1)(ii)) 5

 3. Purpose and Necessity for the Permit Modification (40 CFR §270.42(b)(1)(iii))..... 6

 4. Additional Information Required for Approval of Increased Container Storage Capacity
 (40 CFR §270.42(b)(1)(iv) and 40 CFR §270.13 through §270.21, §270.62 and §270.63)..... 10

 5. Description of How the Containment System Will Demonstrate Compliance With 40
 CFR §270.15(a) and (b) and §264.175 10

LIST OF ATTACHMENTS

TABLE 1	Summary of Changes Requested to the Permit
TABLE 2	Regulatory Crosswalk
ATTACHMENT 1	Proposed Revised Permit Text and Figures
ATTACHMENT 2	Revised Part A
ATTACHMENT 3	Supplemental Information on Applicability of the Seismic Location Standards
ATTACHMENT 4	Permittees' Response to Pre-Application Submittal Comments
ATTACHMENT 5	Certification Statement
ATTACHMENT 6	Draft Public Notice

I. OVERVIEW OF THE CLASS 2 PERMIT MODIFICATION REQUEST

This document contains a Class 2 permit modification request for the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit No. NM0890010515 (Permit). The request is being submitted by the U.S. Department of Energy (DOE) and Los Alamos National Security, LLC (LANS) (Permittees) in accordance with the Title 40 of the Code of Federal Regulations (40 CFR) §270.42(b).

The permit modification request proposes the following changes to two permitted units located at Technical Area 54, Building 38 (TA-54-38) West (also known as the Radioassay and Nondestructive Testing [RANT] facility):

- Increase the storage capacity of the TA-54-38 West Indoor Unit from 3,740 gallons (or 68 55-gallon drum equivalents¹ [DE]) to 4,950 gallons (90 DE).
- Increase the storage capacity of the TA-54-38 West Outdoor Pad from 7,920 gallons (144 DE) to 42,570 gallons (774 DE).
- Increase the footprint of the TA-54-38, West Indoor Unit to encompass the entire High Bay and Low Bay within Building 38.
- Other changes associated with the request include:
 - adding a reference to the canopy located on the TA-54-38 West Outdoor Pad;
 - removing references to mobile radioassay trailers that are no longer located at the unit;
 - adding more detailed description of the waste management processes at TA-54 West, including references to equipment used for waste management; and
 - updating minor inconsistencies in the Permit text and figures that are associated with the TA-54-38 West Outdoor Pad and the TA-54-38 West Indoor Unit.

As discussed further below, the permit modification request increases storage capacity at the two permitted units at TA-54-38 West as necessary to enable the Permittees to meet obligations developed under the *Los Alamos National Laboratory Framework Agreement: Realignment of Environmental Priorities* established between the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) and DOE. Under the *Framework Agreement*, the Permittees seek to facilitate and expedite off-site shipment of transuranic (TRU) waste to the Waste Isolation Pilot Plant (WIPP). Specifically, the Permittees are committed to safely process, repackage, and remove 3,706 cubic meters of TRU waste from permitted container storage units at TA-54 Area G by June 30, 2014.

This request does not reduce the ability of the Permittees to provide continued protection to human health and the environment or require any changes to waste management procedures currently approved in the Permit. It does not require any changes or construction at the permitted units, or add any EPA Hazardous Waste Numbers for waste management. To facilitate review, the proposed modifications to the text of the Permit are shown in Attachment 1 of this permit modification request, using red text and underline for additions and a red line ~~strikeout~~ font for

¹ As pointed out by interested citizens the term “gallon” is not meant to denote liquid transuranic mixed waste. To avoid confusion, the permit modification request was revised to identify storage capacities in terms of “55-gallon drum equivalents” or “DE”. The term gallon was retained to maintain consistency with Permit Attachment J, *Hazardous Waste Management Units*.

deleted text. Attachment 1 also includes replacement figures associated with the units. Additionally, as requested by NMED-HWB, the Permittees have denoted changes to the revised Part A Application form (Revision 11.0) in yellow-highlight to facilitate review. The revised Part A Application form is included as Attachment 2 of this permit modification request.

Prior to submittal of this permit modification request, the Permittees provided a public notice for a pre-application draft permit modification request and made the draft available for public review on February 27, 2013. A pre-application public meeting was held on March 14, 2013. During the pre-application public meeting, the Permittees received oral comments from two members of the public via teleconference. On March 18, 2013, the Permittees received written comments via electronic mail (e-mail) from the NMED-HWB. The permit modification request was subsequently submitted to the NMED-HWB on May 2, 2013. On May 5, 2013, the Permittees issued a public notice via newspaper about the permit modification request, its availability for public comment, and a public meeting that would be held about the request. The notice was republished on May 12, 2013 to denote the time of the public meeting. Additionally, the notification sent to the facility mailing list was delayed due to a miscommunication with the printing office at LANL. The notification was mailed on May 15, 2013, rather than by May 10, 2013 as required by 40 CFR §270.42(b)(2). The public mailing was not in compliance with 40 CFR §270.42(b)(2) as the mailing was distributed 12 days after the submittal of the permit modification request instead of the required 7 days. No members of the public attended the meeting held on May 22, 2013.

Upon the NMED-HWB's request, the Permittees determined that withdrawing and resubmitting the permit modification request was necessary because the public notice requirements of 40 CFR §270.42(b)(2) were not fully met. This document constitutes the revised request and incorporates changes to address informal comments made during the pre-submittal meeting on March 14, 2013 from the public and NMED-HWB on March 18, 2013. The Permittees have addressed the NMED-HWB comments separately in this submittal (Attachment 4). The revised permit modification request will be distributed, a public notice will be issued announcing a 60-day comment period, and a public meeting will be held in accordance with 40 CFR §270.42(b)(2).

II. DISCUSSION OF THE PERMIT MODIFICATION REQUEST

The following sections specifically address how this permit modification request complies with applicable requirements for Class 2 permit modifications under 40 CFR §§270.42(b)(1)(i) –(iv): (1) the exact changes to be made to the Permit and supporting documents referenced by the Permit; (2) why the permit modification is a Class 2; (3) why the Class 2 permit modification is necessary; (4) additional information required for approval of the permit modification; and (5) a description of how the modification meets specific container storage requirements. This permit modification request is organized as follows:

- This Class 2 permit modification request.
- Table 1 - A table that outlines references to the TA-54-38 West permitted units within the permit and a brief description of any proposed revisions to the section.
- Table 2 – A table that outlines all the permit application requirements included in 40 CFR Part 270 and references to the location of the information associated with the requirements in past documents or within this permit modification request.
- Attachment 1 – This attachment contains all of the proposed revised Permit text and replacement figures.

- Attachment 2 – This attachment contains the Part A Application form (Revision 11.0), that is highlighted where changes were made.
- Attachment 3 – This attachment contains information on the seismic location standard in 40 CFR §264.18(a).
- Attachment 4 – This attachment contains responses to the NMED-HWB comments submitted to the Permittees on the pre-submittal draft of this permit modification request.
- Attachment 5 – This attachment contains a signed certification as required by 40 CFR §270.11.
- Attachment 6 – This attachment contains a draft public notice that will be sent to the NMED-maintained LANL facility mailing list and published in local newspapers.

1. Description of the Exact Changes to be Made to the Permit and Supporting Documents (40 CFR §270.42(b)(1)(i))

The Permittees seek approval to increase container storage capacity at two permitted units: the TA-54-38 West Indoor Unit and the TA-54-38 West Outdoor Pad, and to expand the storage footprint at the TA-54-38 West Indoor Unit. In addition, the Permittees propose several other necessary changes to text and figures associated with the storage capacity increase at the two permitted units, and additions or corrections of information and figures associated with the permitted units. The following list describes the exact changes to be made:

- Revised Permit Text and Figures (Attachment 1)
 - Revisions to Permit Attachment A, *Technical Area (TA) – Unit Descriptions*;
 - Revisions to Permit Attachment G.16, *Technical Area 54, West, Building 38 Indoor Container Storage Unit Closure Plan*;
 - Revisions to Permit Attachment G.17, *Technical Area 54 West, Outdoor Container Storage Unit Closure Plan*;
 - Revisions to Permit Attachment J, *Hazardous Waste Management Units*; and
 - Permit Attachment N, *Figures*.
- Revisions to Permit Attachment B, *Part A Permit Application* (Attachment 2).

The attached *Summary of Changes Requested to the Permit* (Table 1) describes the following: 1) each location within the Permit that the units at TA-54-38 West are referenced, 2) any change requested at that location, and 3) justification for the change and any necessary explanation about the change. The *Proposed Revised Text and Figures* (Attachment 1) shows the specific changes to the Permit in redline and strikeout or as replacement figures.

A. Permit Attachment A Revisions

Descriptive text revisions identified in Attachment A, *Technical Area (TA) – Unit Descriptions*, include the following: (1) adding a reference to the canopy that is located on the TA-54-38 West Outdoor Pad, (2) removing references to mobile radioassay trailers that are no longer located at the unit, (3) adding more detailed descriptions of the waste handling processes at TA-54 West, including a reference to additional equipment (a second crane) as requested by NMED-HWB.

The canopy is used for the management of hazardous waste in addition to equipment storage and has been located at the unit since prior to the submittal of permit renewal applications. The mobile radioassay trailers that were located at the outdoor unit were removed prior to issuance of

the Permit and were removed from the figures of the unit; however, the reference to them in Attachment A was inadvertently overlooked. Additional language that describes the process at TA-54 West and mentions equipment used to manage waste containers, locations of waste storage, and traffic flows and patterns at the units was added to Permit Attachment A, Section A.4.3.

As previously described, a bridge crane is used within the High Bay at TA-54-38 West Indoor Unit to load Type A containers into TRUPACT II Type B shipping containers. The Permittees installed a second crane as a back-up to minimize operational disruption by ensuring that functioning equipment is available at all times in the event of a malfunction. Language has been added to clarify that the two bridge cranes are intended to be interchangeable and are capable of being utilized on the existing system.

B. Permit Attachment G.16 Revisions

Permit Attachment G.16, *Technical Area 54 West, Building 38 Indoor Container Storage Unit Closure Plan* has been revised to incorporate the change to the footprint of the TA-54-38 West Indoor Unit. Additionally, table names are corrected, figure names are deleted for figures that are not included in the closure plan, a reference to the second crane in the High Bay is added, a reference to Permit Attachment J is added, and references to the loading dock are removed from the closure plan. Currently, the boundaries of the unit allow for storage within a limited area, and for simplicity of storage operations the Permittees are requesting that the unit boundary encompass the entire High Bay and Low Bay within the building. The closure plan has been revised in the List of Tables; the List of Figures; Sections 2.0, 3.0, 5.3.2, and 6.1; and Figure G.16-1. The List of Tables and the List of Figures have been revised to correct typographical errors. Section 2.0 has been revised to remove the limitations on the footprint within the High Bay and Low Bay, to indicate that certain storage containers have been stored at the unit in the past, to reference the bridge crane system, and to remove the language associated with the loading dock. Section 3.0 has been revised to add a reference to the maximum quantity of hazardous waste that can be stored at the unit at any one time. Section 5.3.2 has been revised to indicate that there are multiple cranes at the unit. Section 6.1 and Figure G.16-1 have been revised to update sample locations that have been added to meet the requirements set out in Permit Section 9.4.7.1.i and to remove the sample locations that were located on the loading dock. The title of Figure G.16-1 has also been revised to reflect that the loading dock is not part of the indoor unit.

C. Permit Attachment G.17 Revisions

Permit Attachment G.17, *Technical Area 54 West, Outdoor Container Storage Unit Closure Plan*, has been revised in Sections 2.0, 3.0, 5.3.1, and 6.1; Tables G.17-1 and G.17-2; and on Figure G.17-1 to add references to a structure or correct inaccuracies. Section 2.0 of the closure plan has been revised to replace the “truck ramp” references with reference to the canopy that is located at the TA-54-38 West Outdoor Pad and took the place of the truck ramp prior to 1999. Language associated with the loading dock in the last paragraph of Section 2.0 has been revised to be consistent with the current Permit language rather than the language contained within the revised 1989 LANL Hazardous Waste Facility Permit. Section 3.0 has been revised to add a reference to the maximum quantity of hazardous waste that can be stored at the unit at any one time and a reference to Permit Attachment J, *Hazardous Waste Management Units*. Section 5.3.1 has been revised to include mention of the canopy as part of the structures that will be removed at the time of closure. Section 6.1 has been revised to include the sample locations for the loading dock that were previously included in Permit Attachment G.16. The sample areas for the

loading dock have also been added to Figure G.17-1. The titles of Table G.17-1 and G.17-2 have been revised to correct typographical errors and an additional typographical error within Table G.17-1 has also been corrected. Additional changes to Figure G.17-1 include the removal of a structure (357) from the unit that has not been located at the unit since prior to Permit issuance and the inclusion of the canopy outside TA-54 West as a structure used for waste management at the outdoor unit. The reference to the structure number of the canopy has also been removed for consistency with other figures. Previously these structures have not been consistently updated on figures.

D. Permit Attachment J Revisions

Table J-1 in Permit Attachment J, *Hazardous Waste Management Units*, was changed as necessary to reflect the increase in the operating capacities for both the TA-54-38 West Indoor Unit and the TA-54-38 West Outdoor Pad. Also within Table J-1, the square footage of the TA-54-38 West Indoor Unit has been corrected.

E. Permit Attachment N Revisions

Figures 9 and 37 within Permit Attachment N, *Figures* have been updated to include the entire High Bay and Low Bay as part of the TA-54-38 West Indoor Unit, remove unlabeled lines across the High Bay, and shading on the figures has been changed to clarify the boundaries of indoor and outdoor units.

F. Permit Attachment B Revisions

Permit Attachment B, *Part A Application*, has been updated as necessary to reflect the increase in the operating capacities for both the TA-54-38 West Indoor Unit and the TA-54-38 West Outdoor Pad (see Attachment 2 of this permit modification request). The process design capacity has been updated from 11,660 gallons (~211 DE) to 47,520 gallons (864 DE) to reflect the proposed storage capacity for both of the permitted units at TA-54 West. The estimated annual quantity of waste for the EPA Hazardous Waste Numbers listed for TA-54 West for Item 9 of the EPA Part A Application form were increased, because the increased storage capacity may have an impact on the annual quantity of individual EPA Hazardous Waste Numbers stored at the permitted units. Each of these quantities was increased by a factor of 4 to take into account the capacity increase. The cells where changes have been made are highlighted in Attachment 2.

2. Justification for Classifying the Permit Modification as a Class 2 (40 CFR §270.42(b)(1)(ii))

Under NMED rules, modifications to a container storage unit “[r]esulting in up to 25% increase in the facility’s container storage capacity” is a Class 2 modification under 40 CFR §270.42, Appendix I, Item F.1.b. There is a clear distinction in the rules between references to an individual “unit” within a RCRA permit and references to “facility” throughout Appendix I of 40 CFR §270.42. The term “facility” is defined in 40 CFR §260.10 as:

All contiguous land, and structures, other appurtenance, and improvements on the land, used for treating, storing, or disposing of hazardous waste, or for managing hazardous secondary material prior to reclamation. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

For these reasons, Appendix I, Item F.1.b refers to the total container storage capacity for all of the container storage units identified within the LANL Hazardous Waste Facility Permit. This

permit modification requests an increase in total container storage capacity at both permitted units of 35,860 gallons or 652 DE: an increase of 1,210 gallons (22 DE) at TA-54-38 West Indoor Unit and 34,650 gallon (630 DE) increase at the TA-54-38 West Outdoor Pad. Upon approval of the permit modification request, the new storage capacity for the two units combined will be 47,520 gallons (864 DE). The total facility container storage capacity within the LANL Hazardous Waste Facility Permit is 5,023,730 gallons (~91,340 DE). Therefore, the resulting increase is less than 1% (0.7%) of the facility's container storage capacity. The permit modification request to increase storage capacity and expand the footprint for TA-54-38 qualifies as a Class 2 permit modification request under 40 CFR §270.42, Appendix I, Item F.1.b, because it is a modification to a storage unit that results in less than a 25% increase in facility capacity.

It has been suggested by NMED-HWB (in the informal comments dated March 18, 2013) that the addition of an upgraded crane to the bridge crane system within the TA-54-38 West Indoor Unit be processed as a separate Class 2 permit modification. To facilitate NMED-HWB's review of this issue, the Permittees respectfully address this and provide regulatory analysis in the *Response to Pre-Application Submittal Comments* (Attachment 4), explaining that the second crane was installed as a back-up to prevent operational disruptions and to ensure continued availability of operational equipment; and the addition of this equipment would not necessarily require a modification to the Permit. However, as part of this permit modification request, an expanded description is included as a requested change to the Permit. The description includes more specific information about waste management operations at the units, (e.g., the general flow of waste through the units and equipment used at the units). The installation of a second crane at TA-54-38 West Indoor Unit is directly related to the permit modification request for increased storage capacity and also facilitates expedited off-site disposal of TRU mixed waste to WIPP under the *Framework Agreement* (see Attachment 4, *Permittees' Response to Pre-Application Submittal Comments*).

This permit modification request also proposes specific language changes that were affected by the Class 2 request for increased container storage capacity. Although the basis for classification was different in some cases and could qualify as a Class 1 permit modification, the changes have been included in this package because the revisions are associated with the permitted units addressed in the permit modification request, and therefore, notification for these changes has been transmitted to the NMED-HWB as part of this Class 2 modification package.² These include associated language changes for closure of the loading dock at TA-54-38 West as well as other revisions to figures and language discrepancies categorized as administrative changes pursuant to 40 CFR §270.42, Appendix I, Item A.1 (i.e., because no changes in requirements are proposed, only rearrangement for clarification purposes and updates to figures and information (see Attachment 1)).

3. Purpose and Necessity for the Permit Modification (40 CFR §270.42(b)(1)(iii))

As discussed above, this permit modification is necessary to enable the two permitted units at TA-54-38 West to have increased storage capacity to facilitate and expedite off-site shipment of TRU mixed waste to the WIPP and enable DOE/NNSA to meet the obligations set forth under the *Framework Agreement*.

² As requested by NMED-HWB, the Permittees removed proposed permit changes to the Part A Application not associated with this permit modification request, and submitted these under separate cover as a Class 1 permit modification on June 14, 2013 (see also, *Permittees' Response to NMED-HWB Comments*, Attachment 4). More changes to the Part A Application are forthcoming in a future permit modification.

The TA-54-38 West Outdoor Pad and the TA-54-38 West Indoor Unit at RANT were originally permitted in February 1997 and were included in the permit renewal issued by the NMED-HWB on November 30, 2010. The permitted units at TA-54-38 West are container storage units that are currently used to receive, stage, and assemble payload containers of TRU mixed waste for shipment to WIPP. Brief descriptions of the units located at the RANT facility can be found in Permit Attachment A, *Technical Area (TA) – Unit Descriptions*, Section A.4.3; Permit Attachment G.16, *Technical Area 54, West Building 38 Indoor Container Storage Unit Closure Plan*, Section 2.0; and Permit Attachment G.17, *Technical Area 54, West Outdoor Container Storage Unit Closure Plan*, Section 2.0.

To meet the goals set out within the *Framework Agreement*, the Permittees have taken specific measures such as safety basis modifications, procurement of additional equipment, and investment in remediation capability to provide and make more efficient the important capability of waste packaging and preparation for transport of TRU mixed waste that is housed at TA-54-38 West. A critical component of the overall plan to meet framework agreement goals is to increase storage capacity at the permitted units at RANT to 47,520 gallons or 864 DE. As more TRU mixed waste undergoes WIPP waste characterization procedures, a greater quantity of large container shipments will need to be processed through the two units to meet framework agreement deadlines established between the NMED and the DOE/NNSA. Therefore, the overall plan requires increased storage capacity at the RANT facility to allow for a larger quantity of TRU mixed waste to be stored at the permitted units so that the throughput may be increased accordingly. This permit modification is also necessary to allow for the storage of a sufficient volume of standard waste boxes as well as standard sized drums to facilitate the greater throughput needed at the units. This permit modification will greatly reduce operational constraints by increasing container storage capacity within both of the units and removing the current space limitations of the unit boundaries within the TA-54-38 West Indoor Unit. The increased storage capacity at the permitted units at TA-54-38 West will continue to be necessary after the initial push of the agreement is complete as the remaining agreement goals are met. Additionally, increased throughput for the units will be necessary long-term while the remaining TRU waste in storage at TA-54, Area G is packaged and shipped off-site and the units at TA-54, Area G are closed. The request for increased capacities ensures that when TRU waste containers are readied for shipment at other storage units at LANL, there is available storage room at TA-54-38 West.

The current total capacity at both the TA-54-West permitted units is 11,660 gallons (or 212 DE). The TA-54-38 West Indoor Unit capacity is 3,740 gallons (68 DE) and the capacity of the TA-54-38 West Outdoor Pad is 7,920 gallons (144 DE). The maximum number of containers that can be included in a single shipment to WIPP is 42 DEs or 6 standard waste boxes (SWBs). This means that currently only 3-5 shipments of waste containers can be stored between both permitted units at any one time and only 2-3 shipments can be pre-loaded and stored within the outdoor unit. Normal operations at the permitted units allow approximately 5 shipments of waste to be shipped off-site per week with little leeway in the storage capacity to allow for an increase in the number of shipments off-site. Storage capacity is already proving to hinder operations as shipments through the units increase. The accelerated shipping schedule required by the agreement approximates that 5-10 shipments per week will be necessary to attain off-site shipment goals. Currently, additional shipments are required between units at TA-54, Area G and TA-54-38 West to accommodate the limited storage capacity as the increase in off-site shipping operations occurs. When more waste can be stored at TA-54-38 West, less individual shipments between the permitted units at TA-54, Area G and TA-54-38 West will be required.

The increased capacity requested in this permit modification for the two units combined is 47,520 gallons (864 DE), which represents approximately a 400% increase in capacity for the units. The 400% increase represents the maximum quantity of waste that could physically be stored at the unit within safety basis requirement limitations. The new capacity requested has been simplified to be consistent with the maximum capacity basis that exists at other container storage units at LANL (i.e., the total storage area at the unit). It ensures that capacity at the units directly relate to the physical capacities of the units, thus decreasing the likelihood that storage volumes will lead to noncompliance with the permit conditions.

The ability to store a volume of TRU mixed waste that is greater than the number of shipments expected to be completed within a week is vital to expediting the loading/shipping of waste to WIPP. Although an increase of 5 -10 shipments per week equals a 200% increase in capacity (23,320 gallons or 424 DE), actual TRU waste volumes for waste shipments reveal that the need for increased capacity is greater than 200%. Ten shipments of 55-gallon drums is equivalent to 23,100 gallons (420 DE), which is very close to a limit of 200% increase in capacity, and does not account for actual container volumes, which could result in a greater than 200% increase in capacity. For example, a single shipment of SWBs is approximately 2,430 gallons (~44 DE) and ten shipments a week of SWBs is equal to a waste volume of 24,299 gallons (441.8 DE) which is greater than a 200% increase in capacity for the units. Combined with this potential for short term exceedances of a 200% capacity threshold, additional increase in capacity is necessary to address possible contingencies and unexpected events. Increased storage capabilities might be essential due to expected events that impact the ability of LANL to ship TRU waste off-site such as delay or shutdown due to transport issues, storm events, security concerns, and receipt facility delays of as short as two weeks.

The permitted units at TA-54-38 West may receive any container that may be stored at the units in accordance with Permit Section 3.3 (e.g. 85-gallon drums, 100-gallon drums, and ten-drum overpacks); however, most often the units receive WIPP-ready 55-gallon drums and SWBs for final preparation and packaging. All waste containers are handled in a manner that will not cause them to rupture.

Waste is generally brought into the TA-54-38 West Outdoor Pad through the south-eastern vehicle gate and placed in storage on the northern portion of the TA-54-38 West Outdoor Pad. At the outdoor unit, waste is not stored in front of gates or within 10 feet of the fence line or within 60 feet of the building. No paved or unpaved roadways are located within 5-ft of the waste storage area. From the outdoor permitted unit, containers are generally moved into the Low Bay at TA-54-38 West and made amenable for placement in a WIPP-compliant shipping container. Normal operations for making the individual waste containers ready for shipment include stretch wrapping fourteen drum configurations (or drum payloads) and ratchet strapping SWBs one on top of the other. Generally, these Type A container configurations are then moved by forklift into the High Bay where they are loaded into TRUPACT II Type B shipping containers using a bridge crane.

Empty TRUPACT II containers that are received from WIPP are usually moved into the High Bay using the western bay door and are opened and inspected prior to waste being placed within the High Bay. After the containers are opened, the drum payloads or SWBs are placed into the containers. The TRUPACT II containers are then closed. Metal loading platforms allow for personnel access to the top of the TRUPACT II containers so that the TRUPACT II containers can be opened or closed, and to ensure that there is no issue while placing the shipping containers within the TRUPACT II containers.

After the TRUPACT II containers are loaded and the trailer is prepared for shipment, the trailer is moved via trailer jockey or other approved vehicle through the eastern bay door and to the TA-54-38 West Outdoor Storage Pad for storage prior to shipment to WIPP or out the southeastern gate of the TA-54-38 West Outdoor Pad to a staging area to await inspection and shipment to WIPP. When a loaded trailer of TRUPACT II containers is stored at the TA-54-38 West Outdoor Pad, the trailer is not placed in front of a gate and is not stored within 10 feet of the fence line. Gates at the TA-54-38 West Outdoor Pad are locked when not in use.

Containers are handled with forklifts (using drum grapplers, when appropriate) or drum dollies while present at TA-54-38 West and are placed directly in the appropriate permitted unit when active packaging is not underway. The bridge crane is utilized in the High Bay to place drum payloads directly into the TRUPACT II containers. A second bridge crane provides redundancy and ensures that a back-up crane is available while the original is undergoing maintenance activities. A switch mechanism ensures that only a single crane will be used at one time. A description of the operations and equipment at the unit has been added to Section A.4.3 of Permit Attachment A, *Technical Area (TA) – Unit Descriptions*.

Typical storage times for waste containers at the RANT facility are currently a few days. These times may increase to up to a few weeks as more waste can be staged prior to shipment off-site. No hazardous waste will be stored at the unit for greater than one year in accordance with 40 CFR §268.505(b).

While waste is present at the outdoor unit, traffic is limited to vehicles that are approved and necessary to deliver, manage, or ship waste inventory off-site. Most vehicles enter or exit through the TA-54-38 bay doors in the High Bay or through the southwest and southeast vehicle gates. Routine traffic controls and patterns at TA-54-38 West will not change due to this permit modification.

Increased shipping operations both off-site and intra-site will not significantly impact traffic volumes at the site. The increase will not change the designation of the roadways from the light-to-moderate overall traffic volume designation that has been assigned to the areas.

The additional waste shipments (5-10 per week) will not have a measurable impact on the average number of vehicles per day at the closest intersections with publicly accessible roadways (Pajarito Road and NM 4 as well as Pajarito Road and Diamond Drive). The most recent LANL traffic study for Pajarito Road (Chemistry and Metallurgy Research Replacement [CMRR] Traffic Impact Analysis Study, dated September 30, 2008) focuses primarily on impacts to intersections in an approximately two-mile stretch of Pajarito Road, extending from northwest of the entrance to TA-64 to southeast of the TA-46 entrance. RANT is located approximately one mile from the entrance to TA-46. However, the study also notes that the only vehicle access to this area is via the guard stations that limit public entry to the Pajarito corridor. This means any vehicles accessing the CMRR project traffic focus area would have to travel up or down Pajarito Road. The same is true of the RANT facility - the only off-site vehicle access to RANT is via Pajarito Road. Therefore, the traffic estimates used for the CMRR project in the traffic study are also applicable to current traffic flow at RANT.

Pajarito Road has an average daily traffic volume of 4,555 vehicles per day in the northwest portion of the corridor and 4,373 vehicles per day in the southeast portion of the corridor as measured in the traffic study. The study estimated that there would be approximately 100 dirt hauls per day and an additional 100 personal vehicles parked at the CMRR project site and that all 200 of these vehicles will access the project site via Pajarito Road. The traffic study

concluded that the increase in vehicles would not result in any "degradation to overall level of service" or adverse safety impacts. Currently, RANT makes one shipment per day off-site to WIPP. Should the permit modification be approved, shipments would likely increase to two per day (10 total shipments per week). The estimates from the 2008 Traffic Study far exceed the estimated number of trucks that will leave the RANT facility. Therefore, the addition of five trucks per week will not significantly impact traffic patterns on Pajarito Road.

Mesita del Buey Road, the road that runs most of the length of TA-54, will have a minor increase in local traffic volume due to expedited waste shipments. For informational purposes, there are approximately 2-3 waste transfers per week from TA-54, Area G to RANT. Each waste transfer requires closure of Mesita del Buey Road between TA-54, Area G and RANT, and therefore, has no potential to affect other non-related traffic movement. The increased storage capacity at the permitted units at TA-54-38 West will also enable less back and forth between permitted units at TA-54, Area G and RANT because it will allow for more than a current single shipments' worth of waste volume to be staged at the RANT facility at one time. The number of shipments per week will not increase but they will be larger. The road will continue to have light-to-moderate traffic volumes overall.

Additionally, the overall level of risk from radionuclides at the units will not be increased as a result of this permit modification. The maximum quantity of radionuclides that can be present or reasonably anticipated at the permitted units in accordance with safety basis requirements will not be increased at the RANT facility to allow for an increase in the hazardous waste capacity. Although a greater number of hazardous waste containers will be stored at the units, all activities at the units must still be within the boundaries of the risk threshold. The risk associated with the storage of waste at the RANT facility must take into consideration the hazardous waste storage capacity at the units and the nuclear facility safety basis analysis that has identified the conditions, safe boundaries, and hazard controls necessary to protect the workers, the public, and the environment from adverse consequences from the work performed at the facility.

4. Additional Information Required for Approval of Increased Container Storage Capacity (40 CFR §270.42(b)(1)(iv) and 40 CFR §270.13 through §270.21, §270.62 and §270.63)

The attached regulatory crosswalk (Table 2) describes those portions of the Permit that are affected by this permit modification request. Where applicable, regulatory citations reference EPA rules at 40 CFR parts 264 and 270. Those portions of the Permit that are not impacted by the permit modification request are identified within the table, denoted as "No" or "NA".

Additionally, Attachment 3 includes supplementary information mentioned in Table 2 associated with the applicability of the seismic location standard in 40 CFR §264.18(a) in accordance with 40 CFR §270.14(b)(11)(ii). This information is not required for this permit modification request; however, it has been included because the NMED-HWB has requested this type of information for Permit changes similar to the footprint increase at the TA-54-38 West Indoor Unit.

5. Description of How the Containment System Will Demonstrate Compliance With 40 CFR §270.15(a) and (b) and §264.175

Waste containment measures at the TA-54 RANT are in place to meet the requirements of 40 CFR §264.175 and Permit Section 3.7, *Containment Systems*. Controlling run-on and run-off at the TA-54 RANT locations where waste management operations will regularly occur is accomplished by the design of the buildings and the use of control structures with appropriate

contouring of surface areas. Run-on of storm water into the storage buildings will not occur. The building walls are on raised floors, and surface contouring slopes away from the building to prevent storm water from pooling against the foundations, doors, and loading areas. Storm water run-on/run-off controls for the general site will meet requirements pursuant to the TA-54 RANT Multi-Sector General Permit Storm Water Plan for the facility. Additional storm water and precipitation measures will be in compliance with Permit Section 3.5.1(5) for weather protective equipment or design.

Secondary containment will be provided where potential liquid-bearing containers are stored in the buildings to prevent run-off. Every effort is made to remove all liquids from drums in the waste container remediation lines at TA-54, Area G, prior to shipment to RANT. However, should a container not achieve full remediation (i.e., it contains up to the 1% liquid level allowable under WIPP waste acceptance criteria), that container would be managed in accordance with Permit Section 3.7.1, *Containers with Free Liquids*, while stored at the RANT facility. Secondary containment systems (e.g., pallets) will be used, as needed, and will have sufficient capacity to contain at least 10 percent (%) of the volume of potential liquid-bearing containers or the volume of the largest container stored in the system, whichever is greater, pursuant to the requirements of 40 CFR §264.175(b)(3). Containers with liquids will be identified with “Free Liquids” labels in conformance with Permit Section 3.6(2).

Table 1. Summary of Changes Requested to the Permit

Permit Section	Revision Description	Justification
Section 3.12.1	No changes necessary.	Section 3.12.1 describes the exception to the secondary containment and weather protection requirements, but does not exempt the units from the permit conditions for secondary containment and weather protection located in Permit Sections 3.7 and 3.5.1(5), respectively.
Attachment A, Section A.4	No changes necessary.	The description of the location of the units, the general transport of containers, the description of equipment used for waste management, and container management descriptions are adequate and are included in the 2003 TA-54 Part B Permit Application as well as within this permit modification request.
Attachment A, Section A.4.3	Description of waste management activities has been added to section.	The descriptions of the permitted units do not limit the footprint of the TA-54-38 West Indoor Unit and correctly include the loading dock as part of the TA-54-38 West Outdoor Pad as included in the 2003 TA-54 Part B Permit Application. At the request of the NMED-HWB, descriptive language has been compiled in this section to describe operations at the units.
Attachment A, Section A.4.3.1	No changes necessary.	The description of the TA-54-38 West Indoor Unit includes the entire High Bay and Low Bay as included in the 2003 TA-54 Part B Permit Application.
Attachment A, Section A.4.3.2	Description has been updated to include reference to the canopy and remove structures no longer located at the unit.	The description of the TA-54-38 West Outdoor Pad already includes the loading dock from the 2003 TA-54 Part B Permit Application. The section has been revised to include a reference to the canopy that is located at the unit and remove reference to structures (trailers) no longer located at the unit.
Attachment A, Section A.4.4	No changes necessary.	The descriptions of access and security controls at TA-54-38 West do not change as part of this permit modification request.
Attachment A, Section A.4.5	No changes necessary.	The emergency equipment at TA-54-38 West described within the section does not change as part of this permit modification request.
Attachment A, Section A.4.6	No changes necessary.	The description of preventing run-on and runoff does not change as part of this permit modification request.

Table 1. Summary of Changes Requested to the Permit (continued)

Permit Section	Revision Description	Justification
Attachment A, Section A.4.6.3	No changes necessary.	Run-on and runoff management methods do not change as part of this permit modification request.
Attachment B, Part A Application	Process design capacity at TA-54-38 West (“TA-54 West”) and estimated annual quantities of EPA Hazardous Waste Numbers for TA-54-38 West have been updated.	Updates have been incorporated to increase the process design capacity at the TA-54-38 West permitted units to allow the flexibility to perform more shipments of waste. Additionally, red text editing marks are not included within the form, as it has been given a new revision number. Revision 11.0 of the Part A Application is located in Attachment 2 of this permit modification request.
Attachment D, Sections D.2.1	No changes necessary.	The location of the emergency equipment list does not change as part of this permit modification request.
Attachment D, Sections D.4.1	No changes necessary.	The location of the emergency equipment list does not change as part of this permit modification request.
Attachment D, Sections D.6	No changes necessary.	The location of the emergency equipment list does not change as part of this permit modification request.
Attachment D, TA-54 Attachment D Contingency Plan Introduction	No changes necessary.	Attachment D Contingency Plan Introduction does not change as part of this permit modification request.
Table D-3, TA-54 West	No changes necessary.	Emergency equipment at TA-54-38 West listed in this table does not change as part of this permit modification request.
Attachment G.16, Table of Contents	No changes necessary.	Table of contents does not change as part of this permit modification request. However, page numbers may change based on approved changes.
Attachment G.16, List of Tables	Titles of Tables G.16-1 and G.16-2 have been revised.	Title changes were made to be consistent with table titles within the closure plan.
Attachment G.16, List of Figures	Removal of figure names not included within closure plan and renaming of Figure G.16-1.	Corrections were made to erroneously listed figures and Figure G.16-1 was renamed to remove mention of the loading dock.
Attachment G.16, Section 1.0	No changes necessary.	Section already describes the indoor unit as the High Bay and Low Bay of TA-54-38 West.

Table 1. Summary of Changes Requested to the Permit (continued)

Permit Section	Revision Description	Justification
Attachment G.16, Section 2.0	Mention of the loading dock has been removed from the description of the unit, footprint limitations have been removed from the description of the unit, past tense has been added to container descriptions, and extra description of the bridge crane system and backup crane has been added.	Revisions have been made to remove the loading dock description from the closure plan, to describe the entire High Bay and Low Bay as the permitted unit boundary, to remove present tense for containers that are not currently stored at the unit, and add a description of the crane added to the unit.
Attachment G.16, Section 3.0	Addition of reference to Attachment J of the Permit.	Estimation of maximum waste stored over the life of the facility does not change as part of this permit modification request, but will be reassessed at the time of closure of the unit. At the request of the NMED-HWB, the maximum inventory of hazardous waste that may be stored at the unit at any given time has been added.
Attachment G.16, Section 4 – All	No changes necessary.	General closure information does not change as part of this permit modification request.
Attachment G.16, Section 5.0	No changes necessary.	Closure procedures for this unit do not change as part of this permit modification request.
Attachment G.16, Section 5.1	No changes necessary.	The plan for removal of waste does not change as part of this permit modification request.
Attachment G.16, Section 5.2 – All	No changes necessary.	Records review and structural assessment do not change as part of this permit modification request.
Attachment G.16, Section 5.3	No changes necessary.	The general plan for decontamination and removal of structures and related equipment does not change as part of this permit modification request.
Attachment G.16, Section 5.3.1	No changes necessary.	The plan for removal of structures and related equipment does not change as part of this permit modification request.
Attachment G.16, Section 5.3.2	The language has been changed to indicate that there is more than one crane at the facility.	The change incorporates upgraded equipment at the unit.
Attachment G.16, Section 5.4	No changes necessary.	The section on equipment used during decontamination activities does not require revision as part of this permit modification request.
Attachment G.16, Section 6.0	No changes necessary.	The general explanation of the sampling and analysis plan does not change as part of this permit modification request.

Table 1. Summary of Changes Requested to the Permit (continued)

Permit Section	Revision Description	Justification
Attachment G.16, Section 6.1, Bulleted Items	Sample locations within the building have been increased and loading dock locations have been removed.	Sample locations have been added to account for the larger footprint of the entire High Bay and Low Bay as the permitted unit boundary. The loading dock sample locations were moved to Attachment G.17.
Attachment G.16, Section 6.2 – All	No changes necessary.	Sample collection procedures do not change as part of this permit modification request.
Attachment G.16, Section 6.3 – All	No changes necessary.	Sample management procedures do not change as part of this permit modification request.
Attachment G.16, Section 6.4 – All	No changes necessary.	Sample analysis requirements do not change as part of this permit modification request.
Attachment G.16, Section 7.0	No changes necessary.	Waste management for waste generated during closure activities does not change as part of this permit modification request.
Attachment G.16, Section 8.0	No changes necessary.	The requirement for a closure certification report does not change as part of this permit modification request.
Attachment G.16, References	No changes necessary.	No references are changed as part of this permit modification request.
Attachment G.16, Tables – All	No changes necessary.	The information in Tables G.16-1 through 7 has not changed as part of this permit modification request.
Attachment G.16, Figure G.16-1	Figure has been replaced.	Revision illustrates the larger footprint of the entire High Bay and Low Bay as the permitted unit boundary, incorporates sample areas for the larger footprint, and removes the loading dock sample locations. Removed outdated truck ramp and truck diagram formerly included on the figure, added second bridge crane to building, and the title of the figure was revised to remove reference to the loading dock.
Attachment G.17, Table of Contents, List of Tables, and List of Figures	No changes necessary.	Table of contents, list of tables, and list of figures do not change as part of this permit modification request. However, page numbers may change based on approved changes.
Attachment G.17, Section 1.0	No changes necessary.	Information in the introduction section does not change as part of this permit modification request.
Attachment G.17, Section 2.0	Mention of the truck ramp has been removed from and the canopy has been added to the description of the unit in the final paragraph of the section.	Revisions have been made to remove mention of a truck ramp that was removed prior to renewal of the current Permit and a reference to the canopy that is currently located in its place has been added.

Table 1. Summary of Changes Requested to the Permit (continued)

Permit Section	Revision Description	Justification
Attachment G.17, Section 3.0	Addition of reference to Attachment J of the Permit.	Estimation of maximum waste stored over the life of the facility does not change as part of this permit modification request. At the request of the NMED-HWB, the maximum inventory of hazardous waste that may be stored at the unit at any given time has been added.
Attachment G.17, Section 4 – All	No changes necessary.	General closure information does not change as part of this permit modification request.
Attachment G.17, Section 5.0	No changes necessary.	Closure procedures for this unit do not change as part of this permit modification request.
Attachment G.17, Section 5.1	No changes necessary.	Removal of waste associated with closure activities does not change as part of this permit modification request.
Attachment G.17, Section 5.2 – All	No changes necessary.	Records review and structural assessment do not change as part of this permit modification request.
Attachment G.17, Section 5.3	No changes necessary.	General description of decontamination and removal of structures and equipment does not change as part of this permit modification request.
Attachment G.17, Section 5.3.1	The canopy waste added to the section.	The canopy at the outdoor unit has been added to the list of structures that will be removed as part of closure of the unit.
Attachment G.17, Section 5.3.2	No changes necessary.	Decontamination procedures do not change as part of this permit modification request.
Attachment G.17, Section 5.4	No changes necessary.	Equipment used during decontamination activities does not change as part of this permit modification request.
Attachment G.17, Section 6.0	No changes necessary.	The general explanation of the sampling and analysis plan does not change as part of this permit modification request.
Attachment G.17, Section 6.1	Sample locations for the loading dock have been added to the end of the section.	Revision includes a description of the loading dock sampling locations previously included in Attachment G.16.
Attachment G.17, Section 6.2 – All	No changes necessary.	Sample collection procedures do not change as part of this permit modification request.
Attachment G.17, Section 6.3 – All	No changes necessary.	Sample management procedures do not change as part of this permit modification request.
Attachment G.17, Section 6.4 – All	No changes necessary.	Sample analysis requirements do not change as part of this permit modification request.
Attachment G.17, Section 7.0	No changes necessary.	Waste management for waste generated during closure activities does not change as part of this permit modification request.

Table 1. Summary of Changes Requested to the Permit (continued)

Permit Section	Revision Description	Justification
Attachment G.17, Section 8.0	No changes necessary.	The requirement for a closure certification report does not change as part of this permit modification request.
Attachment G.17, References	No changes necessary.	No references are changed as part of this permit modification request.
Attachment G.17, Table G.17-1	Title revised and typographical error corrected.	Title corrected to remove reference to “Area G” as the unit is not located at TA-54 Area G. The spelling of “Nitrobenzene” was corrected.
Attachment G.17, Table G.17-2	Title revised.	Title corrected to remove reference to “Area G” as the unit is not located at TA-54 Area G.
Attachment G.17, Table G.17-3 through G.17-6	No changes necessary.	No information in Tables G.16-3 through 6 has been changed as part of this permit modification request.
Attachment G.17, Figure G.17-1	Figure has been replaced.	Revisions include the addition of loading dock sample areas, the removal of a structure (357) that does not exist at the unit. The structure was removed prior to Permit issuance and is not included within either Figures 9 or 37 in Attachment N; however, the figures for the unit were not replaced consistently.
Attachment J, TA-54, West Indoor	Operating capacity has been increased and total square footage of the unit has been corrected.	Capacity of the unit was increased to allow the flexibility to perform more shipments of waste. The total square footage of the unit was also corrected to reflect the area of the High Bay and the Low Bay.
Attachment J, TA-54 West Outdoor Pad	Operating capacity has been increased.	Capacity of the unit was increased to allow the flexibility to perform more shipments of waste.
Attachment N, Figure 9	Figure has been replaced.	Change has been made to illustrate the larger footprint of the entire High Bay and Low Bay as the permitted unit boundary. The color of the canopy on the figure was also changed to reflect that it is not used for hazardous waste storage to be consistent with the closure plan and an item was added to the legend to reflect these changes.
Attachment N, Figure 25	No changes necessary.	The Technical Area TA-54, Areas G, H, L, and TA-54 West Location Map does not change as part of this permit modification request.

Table 1. Summary of Changes Requested to the Permit (continued)

Permit Section	Revision Description	Justification
Attachment N, Figure 37	Figure has been replaced.	Change has been made to illustrate the larger footprint of the entire High Bay and Low Bay as the permitted unit boundary. The color of the canopy on the figure was also changed to reflect that it is not used for hazardous waste storage to be consistent with the closure plan and an item was added to the legend to reflect these changes.

Table 2. Regulatory Crosswalk

Regulatory Citation(s) 40 CFR	Description of Requirement	Location of Documentation	Revision or Supplementary Information
§270.13	Part A permit application	2009 LANL General Part A ¹ Updated form included as Attachment 2 of permit modification request Attachment J, Table J-1	Yes
§270.14(b)(1)	General facility description	2003 General Part B ² , Appendix A, Section A.1 2003 TA-54 Part B ³ , Section 2.1.3 and Attachment A, Section A.1 Permit ⁴ Attachment A, Section A.4.3 Additional text description included within unit description of the permit modification request	No
§270.14(b)(2)	Chemical and physical analyses of hazardous waste	Permit ⁴ Section 2.4 and Permit ⁴ Attachment C	No
§270.14(b)(3)	Waste analysis plan	Permit ⁴ Attachment C	No
§264.13(b)	Development and implementation of a written waste analysis plan	Permit ⁴ Section 2.4 and Permit ⁴ Attachment C	No
§264.13(c)	Off-site waste analysis requirements	Permit ⁴ Section 2.2.1	No
§270.14(b)(4)	Security procedures and equipment	Permit ⁴ Section 2.5 and Permit ⁴ Attachment A, Section A.4.4	No
§264.14	Security procedures and equipment	Permit ⁴ Section 2.5 and Permit ⁴ Attachment A, Section A.4.4	No
§270.14(b)(5)	General inspection schedule	Permit ⁴ Section 2.6 and Permit ⁴ Attachment E	No
§264.15(b)	General inspection schedule	Permit ⁴ Section 2.6 and Permit ⁴ Attachment E	No
§264.174	Inspections/containers	Permit ⁴ Section 2.6 and Permit ⁴ Attachment E	No
§264.193(i)	Tank inspections	NA ⁵	NA ⁵
§264.195	Overfill control inspections	NA ⁵	NA ⁵
§264.226	Surface impoundment monitoring and inspection	NA ⁵	NA ⁵
§264.254	Waste pile monitoring and inspection	NA ⁵	NA ⁵
§264.273	Land treatment and operating requirements	NA ⁵	NA ⁵

Table 2. Regulatory Crosswalk (continued)

Regulatory Citation(s) 40 CFR	Description of Requirement	Location of Documentation	Revision or Supplementary Information
§264.303	Landfill monitoring and inspection	NA ⁵	NA ⁵
§264.602	Monitoring, analysis, inspection, response, reporting, and corrective action	NA ⁵	NA ⁵
§264.1033	Process vent standards	NA ⁵	NA ⁵
§264.1052	Equipment leak air emission standards	NA ⁵	NA ⁵
§264.1053	Compressor standards	NA ⁵	NA ⁵
§264.1058	Standards for pumps, valves, pressure relief devices, flanges, and connections	NA ⁵	NA ⁵
§264.1084	Air emission standards: tanks	NA ⁵	NA ⁵
§264.1085	Air emission standards: surface impoundments	NA ⁵	NA ⁵
§264.1086	Air emission standards: containers	Permit ⁴ Section 3.9 and Permit ⁴ Attachment E, Section E.8	No
§264.1088	Inspection and monitoring requirements	Permit ⁴ Section 3.9 and Permit ⁴ Attachment E, Section E.8	No
§270.14(b)(6)	Request for waiver from preparedness and prevention requirements of 264 Subpart C	NA ⁵	No
§264.30-37	Preparedness and prevention: applicability, design and operation, required equipment, testing and maintenance of equipment, access to communications or alarm systems, required aisle space, and arrangements with local authorities	Permit ⁴ Section 2.10	No
§264.227	Surface impoundment emergency repairs	NA ⁵	NA ⁵
§270.14(b)(7)	Contingency Plan	Permit ⁴ Section 2.11 and Permit ⁴ Attachment D	No
§264.50-56	Contingency plan and emergency procedures: applicability, purpose/implementation of contingency plan, content of contingency plan, copies of contingency plan, amendment to contingency plan, amendment to contingency, emergency coordinator, and emergency procedures	Permit ⁴ Section 2.11 and Permit ⁴ Attachment D	No

Table 2. Regulatory Crosswalk (continued)

Regulatory Citation(s) 40 CFR	Description of Requirement	Location of Documentation	Revision or Supplementary Information
§270.14(b)(8)	Description of preparedness and prevention	Permit ⁴ Section 2.10	No
§270.14(b)(8)(i)	Hazard prevention in unloading operations	Permit ⁴ Attachment A, Section A.4	No
§270.14(b)(8)(ii)	Runoff prevention	Permit ⁴ Attachment A, Section A.4.6	No
§270.14(b)(8)(iii)	Prevent contamination of water supplies	2003 TA-54 Part B ³ , Attachment G, Section G.1.4.3	No
§270.14(b)(8)(iv)	Mitigation of equipment failure and power outages	Permit ⁴ Section 2.10.1 2003 TA-54 Part B ³ , Attachment G, Section G.1.4.4	No
§270.14(b)(8)(v)	Prevention of undue exposure of personnel to hazardous waste	2003 TA-54 Part B ³ , Attachment G, Section G.1.4.5	No
§270.14(b)(8)(vi)	Prevention of releases to the atmosphere	2003 TA-54 Part B ³ , Attachment G, Section G.1.4.6	No
270.14(b)(9)	Prevention of accidental ignition or reaction of ignitable, reactive, or incompatible wastes	Permit ⁴ Section 2.8	No
§264.17	Procedures to prevent accidental ignition, reaction of ignitables, reaction of reactives, reaction of incompatibles, and documentation of compliance with 40 CFR §264.17 (general requirements for ignitable, reactive, or incompatible wastes)	Permit ⁴ Section 2.8	No
§270.14(b)(10)	Traffic pattern: volume, controls, and access	2003 General Part B ² , Appendix A, Section A.2 2003 TA-54 Part B ³ , Attachment A, Section A.2 Permit ⁴ Attachment N, Figure 1 Traffic volume and controls supplement information included within Section II.3 of the permit modification request	Yes
§270.14(b)(11)	Facility/unit identification and location information	2003 General Part B ² , Appendix A, Section A.3 2003 TA-54 Part B ³ , Attachment A, Section A.3 Unit is previously permitted, additional information is included within Section II.3 of permit modification request	Yes

Table 2. Regulatory Crosswalk (continued)

Regulatory Citation(s) 40 CFR	Description of Requirement	Location of Documentation	Revision or Supplementary Information
§270.14(b)(11)(i)	Seismic standard applicability [40 CFR §264.18(a)]	2003 General Part B ² , Appendix A, Section A.3.1 2003 TA-54 Part B ³ , Attachment A, Section A.3.1 Unit is previously permitted, additional information is included within Attachment 3 of permit modification request	Yes
§270.14(b)(11)(ii)	Seismic standard requirements	2003 General Part B ² , Appendix A, Section A.3.1 2003 TA-54 Part B ³ , Attachment A, Section A.3.1 Unit is previously permitted, additional information is included within Attachment 3 of permit modification request	Yes
§270.14(b)(11)(ii)(A)	No fault within 3,000 feet (ft) with displacement in Holocene time	2003 General Part B ² , Appendix A, Section A.3.1 2003 TA-54 Part B ³ , Attachment A, Section A.3.1 Unit is previously permitted, additional information is included within Attachment 3 of permit modification request	Yes
§270.14(b)(11)(ii)(B)	If faults which have displacement in Holocene time are present within 3,000 ft, no faults pass within 200 ft of portions of the facility where treatment, storage, or disposal will be conducted	2003 General Part B ² , Appendix A, Section A.3.1 2003 TA-54 Part B ³ , Attachment A, Section A.3.1 Unit is previously permitted, additional information is included within Attachment 3 of permit modification request	Yes
§264.18(a)	Seismic considerations	2003 General Part B ² , Appendix A, Section A.3.1 2003 TA-54 Part B ³ , Attachment A, Section A.3.1 Unit is previously permitted, additional information is included within Attachment 3 of permit modification request	Yes
§270.14(b)(11)(iii)	100-year floodplain standard	2003 General Part B ² , Appendix A, Section A.3.2 2003 TA-54 Part B ³ , Attachment A, Section A.3.2	No

Table 2. Regulatory Crosswalk (continued)

Regulatory Citation(s)	Description of Requirement	Location of Documentation	Revision or Supplementary Information
40 CFR §270.14(b)(11)(iv)(A-C)	Facilities located within the 100-year floodplain	NA ⁵	NA ⁵
§270.14(b)(11)(v)	Compliance schedule for 40 CFR §264.18(b)	NA ⁵	NA ⁵
§270.14(b)(12)	Personnel training program (40 CFR §§264.13(a)(3) and 264.16)	Permit ⁴ Section 2.7 and Permit ⁴ Attachment F	No
§270.14(b)(13)	Closure and post-closure plans	Permit ⁴ Attachments G.16 and G.17 Revisions are summarized in Table 1 and illustrated in Attachment 1 of this permit modification request	Yes
§264, Subpart G	Closure and post-closure	Permit ⁴ Attachments G.16 and G.17 Revisions are summarized in Table 1 and illustrated in the Attachment 1 of this permit modification request	Yes
§264.178	Closure/containers	Permit ⁴ Attachments G.16 and G.17 Revisions are summarized in Table 1 and illustrated in Attachment 1 of this permit modification request	Yes
§264.197	Closure and post-closure care/tanks	NA ⁵	NA ⁵
§264.228	Surface impoundments	NA ⁵	NA ⁵
§264.258	Waste piles	NA ⁵	NA ⁵
§264.280	Land treatment	NA ⁵	NA ⁵
§264.310	Landfills	NA ⁵	NA ⁵
§264.351	Incinerators	NA ⁵	NA ⁵
§264.603	Requirements by the Secretary	NA ⁵	NA ⁵
§270.14(b)(14)	Deed restrictions/post-closure notices (40 CFR §264.119)	NA ⁵	NA ⁵
§270.14(b)(15)	Closure cost estimate (40 CFR §264.142)	NA ⁵	NA ⁵
§270.14(b)(16)	Post-closure cost estimate (40 CFR §264.144)	NA ⁵	NA ⁵
§270.14(b)(17)	Liability insurance (40 CFR §264.147)	NA ⁵	NA ⁵
§270.14(b)(18)	Proof of financial coverage (40 CFR §264.149-150)	NA ⁵	NA ⁵

Table 2. Regulatory Crosswalk (continued)

Regulatory Citation(s) 40 CFR	Description of Requirement	Location of Documentation	Revision or Supplementary Information
§270.14(b)(19)	Topographic map requirements	2003 TA-54 Part B ³ , Attachment A, Section A.4	No
§270.14(b)(19)(i)	Map scale and date	2003 TA-54 Part B ³ , Attachment A, Section A.4	No
§270.14(b)(19)(ii)	100-year floodplain area	2003 TA-54 Part B ³ , Attachment A, Section A.4	No
§270.14(b)(19)(iii)	Surface waters	2003 TA-54 Part B ³ , Attachment A, Section A.4	No
§270.14(b)(19)(iv)	Surrounding land uses	2003 TA-54 Part B ³ , Attachment A, Section A.4 Permit ⁴ Attachment N, Figures 1, 2, & 3	No
§270.14(b)(19)(v)	Wind rose	2003 TA-54 Part B ³ , Attachment A, Section A.4	No
§270.14(b)(19)(vi)	Map orientation	2003 TA-54 Part B ³ , Attachment A, Section A.4	No
§270.14(b)(19)(vii)	Legal boundaries	2003 TA-54 Part B ³ , Attachment A, Section A.4	No
§270.14(b)(19)(viii)	Access control	2003 TA-54 Part B ³ , Attachment A, Section A.4 Permit ⁴ Attachment N, Figure 9 Revisions are summarized in Table 1 and illustrated in Attachment 1 of this permit modification request	Yes
§270.14(b)(19)(ix)	Wells	2003 TA-54 Part B ³ , Attachment A, Section A.4	No
§270.14(b)(19)(x)	Buildings	2003 TA-54 Part B ³ , Attachment A, Section A.4 Permit ⁴ Attachment N, Figure 37 Revisions are summarized in Table 1 and illustrated in Attachment 1 of this permit modification request	Yes
§270.14(b)(19)(xi)	Drainage barriers or flood control	2003 TA-54 Part B ³ , Attachment A, Section A.4	No
§270.14(b)(19)(xii)	Location of operational units	2003 TA-54 Part B ³ , Attachment A, Section A.4 Permit ⁴ Attachment N, Figures 24 & 25	No
§270.14(b)(20)	Considerations Under Federal Law	2003 General Part B ² , Section 3.0	No

Table 2. Regulatory Crosswalk (continued)

Regulatory Citation(s) 40 CFR	Description of Requirement	Location of Documentation	Revision or Supplementary Information
§270.3(a)	Wild and Scenic Rivers Act	2003 General Part B ² , Section 3.0	No
§270.3(b)	National Historic Preservation Act	2003 General Part B ² , Section 3.0	No
§270.3(c)	Endangered Species Act	2003 General Part B ² , Section 3.0	No
§270.3(d)	Coastal Zone Management	2003 General Part B ² , Section 3.0	No
§270.3(e)	Fish and Wildlife Coordination Act	2003 General Part B ² , Section 3.0	No
§270.3(f)	Executive Orders	2003 General Part B ² , Section 3.0	No
§270.14(b)(21)	Notice of extension approval for land disposal facilities	NA ⁵	NA ⁵
§270.14(b)(22)	A summary of the pre-application meeting	NA ⁵	NA ⁵
§270.14(c)	Groundwater monitoring requirements	NA ⁵	NA ⁵
§270.14(c)(3)	Topographic map with points of compliance	NA ⁵	NA ⁵
§270.14(c)(3)	Proposed location of groundwater monitoring wells	NA ⁵	NA ⁵
§270.14(c)(4)	Description of plume of contamination that has entered the groundwater from a regulated unit at the time the application was submitted	NA ⁵	NA ⁵
§270.14(c)(4)(i)	Extent of plume indicated on topographic map	NA ⁵	NA ⁵
§270.14(c)(4)(ii)	Identification of constituents and concentration	NA ⁵	NA ⁵
§270.14(c)(5)	Detailed plan and engineering report describing proposed groundwater monitoring program	NA ⁵	NA ⁵
§270.14(c)(6)	If no release detected at date of submitted, then submit following	NA ⁵	NA ⁵
§270.14(c)(6)(i)	List of proposed indicator parameters, waste constituents, and reaction products	NA ⁵	NA ⁵
§270.14(c)(6)(ii)	Proposed groundwater monitoring system	NA ⁵	NA ⁵
§270.14(c)(6)(iii)	Background values for each proposed monitoring parameter	NA ⁵	NA ⁵

Table 2. Regulatory Crosswalk (continued)

Regulatory Citation(s)	Description of Requirement	Location of Documentation	Revision or Supplementary Information
§270.14(c)(6)(iv)	Description of proposed sampling, analysis, and statistic comparisons to be used	NA ⁵	NA ⁵
§270.14(c)(7)	If a release is detected at the point of compliance, then corrective actions	NA ⁵	NA ⁵
§270.14(c)(8)	Measured concentration detected exceeds limits	NA ⁵	NA ⁵
§270.14(d)	Information requirements for SWMUs	2003 TA-54 Part B ³ , Section 4.0	No
§270.14(d)(1)(i)	Location of SWMUs on topographic map	2003 TA-54 Part B ³ , Section 4.0	No
§270.14(d)(1)(ii)	Types of SWMUs	2003 TA-54 Part B ³ , Section 4.0	No
§270.14(d)(1)(iii)	Dimensions and descriptions of SWMUs	2003 TA-54 Part B ³ , Section 4.0	No
§270.14(d)(1)(iv)	Dates of SWMU operations	2003 TA-54 Part B ³ , Section 4.0	No
§270.14(d)(1)(v)	Waste types managed at SWMUs	2003 TA-54 Part B ³ , Section 4.0	No
§270.14(d)(2)	Information on releases from SWMUs	2003 TA-54 Part B ³ , Section 4.0	No
§270.14(d)(3)	RCRA Facility Assessment sampling and analysis results	NA ⁵	NA ⁵
§270.15	Information requirements for containers	Permit ⁴ Part 3	No
§270.15(a)	Description of containment system	Permit ⁴ Sections 3.7	No
§270.15(b)	Storage areas holding wastes that do not contain free liquids	Permit ⁴ Sections 3.7 & 3.12.1, and Permit ⁴ Attachment A, Section A.4.3	No
§264.175(a-c)	Containment	Units comply with containment requirements of Permit ⁴ Section 3.7 An exception is located at Permit ⁴ Section 3.12.1 and a general description of the units is located at Permit ⁴ Attachment A, Section A.4.3	No
§270.15(c)	Requirements for ignitable, reactive, and incompatible wastes	Permit ⁴ Section 2.8	No
§270.15(d)	Requirements for incompatible wastes	Permit ⁴ Section 2.8	No

Table 2. Regulatory Crosswalk (continued)

Regulatory Citation(s) 40 CFR	Description of Requirement	Location of Documentation	Revision or Supplementary Information
§264.176	15-meter storage buffer for ignitable or reactive wastes	Permit ⁴ Section 2.8 2003 TA-54 Part B ³ , Figure 2-14	No
§264.177(a)	Incompatible wastes in containers	Permit ⁴ Section 2.8	No
§264.177(b)	Incompatible wastes in containers	Permit ⁴ Section 2.8	No
§264.177 (c)	Incompatible wastes separation or segregation	Permit ⁴ Section 2.8	No
§264.17 (b)	Prevention of reactions	Permit ⁴ Section 2.8	No
§264.17(c)	Documentation of precautions for ignitable, reactive or incompatible waste	Permit ⁴ Section 2.8	No
§270.15(e)	Information on air emission control equipment	Permit ⁴ Section 3.9 and Permit ⁴ Attachment E, Section E.8	No
§270.27	Air emission controls for containers	Permit ⁴ Section 3.9 and Permit ⁴ Attachment E, Section E.8	No
§270.16	Information requirements for tank systems	NA ⁵	NA ⁵
§270.17	Information requirements for surface impoundments	NA ⁵	NA ⁵
§270.18	Information requirements for waste piles	NA ⁵	NA ⁵
§270.19	Information requirements for incinerators	NA ⁵	NA ⁵
§270.20	Information requirements for land treatment facilities	NA ⁵	NA ⁵
§270.21	Information requirements for landfills	NA ⁵	NA ⁵
§270.62	Hazardous waste incinerator permits	NA ⁵	NA ⁵
§270.63	Permits for land treatment demonstrations using field test or laboratory analysis	NA ⁵	NA ⁵

¹ Los Alamos National Laboratory General Part A Permit Application, Revision 6.0, June 2009 (AR 31720)
² Los Alamos National Laboratory General Part B Permit Renewal Application, Revision 2.0, August 2003 (AR 16149)
³ Los Alamos National Laboratory Technical Area 54 Part B Permit Renewal Application, Revision 3.0, June 2003 (AR 11809)
⁴ Hazardous Waste Facility Permit Issued by the New Mexico Environment Department to Los Alamos National Laboratory, EPA No. NM0890010515, November 2010
⁵ Not applicable

ATTACHMENT 1
Proposed Revised Permit Text and Figures

Changes to Attachment A, Technical Area (TA) – Unit Descriptions

A.4.2.9 Pad 11

This asphalt pad is approximately 4 inches thick, measures approximately 478 ft long by 137 ft wide, and is sloped approximately 1 to 2% to the southeast. Storage dome 375 is located on the western portion of pad 11 and is used for storage of hazardous, mixed low level, and mixed transuranic waste. It measures approximately 300 ft long by 100 ft wide (*see* Figure 36 in Attachment N (*Figures*)). The building is an aluminum A-frame truss design that is anchored to a concrete ring wall. The dome is of modular construction utilizing a membrane or fabric covering. It is equipped with 14 personnel doors and two roll-up doors, one each at the east and west ends of the building. Ramped entrances allow for safe movement of container handling equipment and vehicle access. Dome 375 contains a modular panel containment structure (approximately 120 feet long x 60 feet wide) used for size reduction, decontamination, segregation, waste assay, reclassification activities, and repackaging of transuranic waste prior to shipment offsite. Dome 375 also contains four structures that serve as an office area, a control area, and rooms for donning and doffing anti-contamination clothing. These structures are support structures and will not be used to store hazardous waste. The Real-Time Radiography (RTR) system #1 is designed to provide X-ray examination of the contents of a waste drum. The unit, RTR1, has been located on Pad 11 in support of the transuranic waste characterization operations.

A.4.3 TA-54 West

The two permitted units at TA-54 West include the indoor low bay and the high bay at TA-54-38 and the outdoor storage pad which surrounds the north, east, and south sides of TA-54-38 and the loading dock at TA-54-38. The permitted units at TA-54 West are used to store solid mixed low level and mixed transuranic waste (*see* Figure 37 in Attachment N (*Figures*)).

The permitted units at TA-54-38 West may receive any container that may be stored at the units in accordance with Permit Section 3.3 (e.g. 85-gallon drums, 100-gallon drums, and ten-drum overpacks); however, most often the units receive WIPP-ready 55-gallon drums and SWBs for final preparation and packaging. All waste containers are handled in a manner that will not cause them to rupture.

Waste is generally brought into the TA-54-38 West Outdoor Pad through the south-eastern vehicle gate and placed in storage on the northern portion of the TA-54-38 West Outdoor Pad. At the outdoor unit, waste is not stored in front of gates or within 10 feet of the fence line or within 60 ft of the building. No paved or unpaved roadways are located within 5-ft of the waste storage area. From the outdoor permitted unit, containers are generally moved into the Low Bay at TA-54-38 West and made amenable for placement in a WIPP-compliant shipping container. Normal operations for making the individual waste containers ready for shipment include stretch wrapping fourteen drum configurations (or drum payloads) and ratchet strapping SWBs one on top of the other. Generally, these Type A container configurations are then moved by forklift into the High Bay where they are loaded into TRUPACT II Type B shipping containers using a bridge crane.

Empty TRUPACT II containers that are received from WIPP are usually moved into the High Bay using the western bay door and are opened and inspected prior to waste being placed within the High Bay. After the containers are opened, the drum payloads or SWBs are placed into the containers. The TRUPACT II containers are then closed. Metal loading platforms allow for personnel access to the top of the TRUPACT II containers so that the TRUPACT II containers can be opened or closed, and to ensure that there is no issue while placing the shipping containers within the TRUPACT II containers.

After the TRUPACT II containers are loaded and the trailer is prepared for shipment, the trailer is moved via trailer jockey or other approved vehicle through the eastern bay door and to the TA-54-38 West Outdoor Storage Pad for storage prior to shipment to WIPP or out the southeastern gate of the TA-54-38 West Outdoor Pad to a staging area to await inspection and shipment to WIPP. When a loaded trailer of TRUPACT II containers is stored at the TA-54-38 West Outdoor Pad, the trailer is not placed in front of a gate and is not stored within 10 feet of the fence line. Gates at the TA-54-38 West Outdoor Pad are locked when not in use.

Containers are handled with forklifts (using drum grapplers, when appropriate) or drum dollies while present at TA-54-38 West and are placed directly in the appropriate permitted unit when active packaging is not underway. The bridge crane is utilized in the High Bay to place drum payloads directly into the TRUPACT II containers. A second bridge crane provides redundancy and ensures that a back-up crane is available while the original is undergoing maintenance activities. A switch mechanism ensures that only a single crane will be used at one time.

A.4.3.1 TA-54 West Building (RANT)

TA-54-38 is a building constructed of 36-ft-high pre-cast concrete panel walls topped by pre-stressed double-T concrete roof sections. Its foundation consists of a 6-inch reinforced concrete slab on compacted fill. The building is divided into several offices and houses the Indoor permitted unit which includes the low bay and the high bay (*see* Figure 37 in Attachment N (*Figures*)). The low bay is approximately 40 ft-wide and 34 ft long. An 8 ft-wide by 12 ft-high roll-up door is located at the east end and opens to an outdoor loading dock. A second 8-ft-wide by 12-ft-high roll-up door is located in the southeast corner and opens into the high bay. The walls and floor of the low bay are coated with industrial grade enamel paint. The high bay, approximately 40 ft wide and 80 ft long, is used for loading transuranic and mixed transuranic waste into Transuranic Package Transporter-II containers. It is equipped with 14-ft-wide by 18-ft-high roll-up doors on the east and west ends to allow convenient, indoor loading of the tractor-trailers that transport shipments of waste to the Waste Isolation Pilot Plant. The high bay floor is not painted and slopes at an angle of 1.5 degrees toward a central trench (which is 5 inches wide, 6 inches deep and 50 ft long) and a sump. The entire length of the trench is covered with a metal grate and is designed to hold precipitation and snow melt from tractor-trailers.

A.4.3.2 TA-54 West Outdoor Pad

The outdoor permitted asphalt pad (which is approximately 4 inches thick and slopes toward the curbed edges to allow for storm water runoff (*see* Figure 37 in Attachment N (*Figures*)))

consists of the loading dock at TA-54-38 and the storage pad located on the north, east, and south sides of TA-54-38. The loading dock is 16 ft wide by 38 ft, 10 inches long and is covered by a metal awning. The loading dock is constructed of 6-inch cast-in-place concrete and is located approximately 4 inches above grade. The boundary of the storage pad is delineated by the fence surrounding the pad. ~~and~~ The canopy located on the pad and approximate dimensions of the pad are shown on Figure 37. ~~Mobile radioassay trailers and~~ sStorage sheds for supplies and equipment are also ~~stored~~ located on the pad at the outdoor permitted unit (*see* Figure 37 in Attachment N (*Figures*)).

A.4.4 Security and Access Control

The permitted units at TA-54 are provided security by both their locations on top of Mesita del Buey and by 8-foot industrial chain-link fences topped by razor wire or barbed wire. Additional security is provided by a system of facility access controls to ensure that only authorized personnel are granted access. These access controls also ensure that all facility personnel can be identified and located in an emergency. Depending on national security conditions a guard station will be manned west of the TA-54 timed vehicle-access control gate. Guard stations control public access on Pajarito Road east and west of TA-54; only properly identified Facility employees or individuals under their escort will have access to TA-54. During times of low national security, any access to the TA-54 administrative area for Areas L and G is limited by a timed vehicle-access control gate on the entrance road to TA-54. This gate is open during normal working hours from 6:00 a.m. to 6:30 p.m., Monday through Friday (except holidays). Gate hours are subject to change. Access to TA-54 West is by a manually operated gate on the west side of the facility. The gate is also open during normal working hours. Access to any part of TA-54 before or after normal working hours or on weekends requires approval of the appropriate Group Leader or Facility Manager at TA-54. TA-54 is patrolled by security personnel during non-operational hours to ensure that the gates are locked and that unauthorized entry has not occurred. Anyone entering the fenced Area L and Area G waste management areas from the TA-54 administrative area is “badged in” before proceeding. Badging in is the process of identifying the person, assessing his or her security and training status using DOE security badges, and determining the need for an escort. Authorized personnel may enter the fenced portions of Areas L and G only after negotiating additional access controls in the form of walk-through turnstiles and motorized vehicle gates. Each turnstile and vehicle gate is equipped with a badge reader to ensure authorized access only. Resident personnel are required to badge in upon arrival and prior to leaving TA-54. Non-resident personnel and visitors are required to badge or sign in and out at an access control point at the facility operations center. Depending on their level of training, non-resident personnel may be required to be escorted in order to access TA-54 Areas L and G and TA-54 West. Access to the Area L, Area G, and TA-54 West permitted units requires additional controls. Bilingual (*i.e.*, English and Spanish) warning signs are posted on the fence at 50- to 75-ft intervals, are legible from a distance of 25 ft, and can be seen from any approach to this area. The legends on the signs indicate "Danger—Hazardous Waste Storage Area" and "Unauthorized Persons Keep Out." The security fence is inspected by on-site personnel and repairs are made as necessary. The locations of the security fence, entry gates, and entry stations are shown on Figures 7, 8, and 9, in Attachment N (*Figures*).

Changes to Attachment G.16, Technical Area 54 West, Building 38 Indoor Container Storage Unit Closure Plan

LIST OF TABLES

<u>TABLE NO.</u>	<u>TITLE</u>
G.16-1	Hazardous Waste Constituents of Concern at the Technical Area 54 West , Building 38 High Bay
G.16-2	Hazardous Waste Constituents of Concern at the Technical Area 54 West , Building 38 Low Bay
G.16-3	Closure Schedule for the Technical Area 54 West, Building 38, Indoor Container Storage Unit
G.16-4	Potential Waste Materials, Waste Types, and Disposal Options
G.16-5	Sample Containers, Preservation Techniques, and Holding Times
G.16-6	Summary of Analytical Methods
G.16-7	Quality Control Sample Types, Applicable Analyses, Frequency, and Acceptance Criteria

LIST OF FIGURES

<u>FIGURE NO.</u>	<u>TITLE</u>
G.16-1	Technical Area 54, Building 38 (High <u>and Low</u> Bay Sampling Grid and Additional Sampling Locations)
G.16-2	Technical Area 54, Building 38 Low Bay Sampling Grid Locations
G.16-3	Technical Area 54, Building 38 (High and Low Bay) Loading Zone Sampling Locations

1.0 INTRODUCTION

This closure plan describes the activities necessary to close the indoor hazardous waste container storage unit that is comprised of the High Bay and Low Bay rooms located at Technical Area 54 West, Building 38 (TA-54-38) at the Los Alamos National Laboratory (Facility), hereinafter referred to as the permitted unit. The information provided in this closure plan addresses the closure requirements specified in Permit Part 9, the Code of Federal Regulations (CFR), Title 40, Part 264, Subparts G and I for hazardous waste management units operated at the Facility under the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act.

Until closure is complete and has been certified in accordance with Permit Section 9.5, a copy of the approved closure plan or the hazardous waste facility permit containing the plan, any approved revisions, and closure activity documentation associated with the closure will be on file with hazardous waste compliance personnel at the Facility and at the U.S. Department of Energy (DOE) Los Alamos Site Office. Prior to closure of the permitted unit, this closure plan may be amended in accordance with Permit Section 9.4.8, as necessary and appropriate, to provide updated sampling and analysis plans and to incorporate updated decontamination technologies. Amended closure plans shall be submitted to the New Mexico Environment Department (Department) for approval prior to implementing closure activities.

2.0 DESCRIPTION OF UNIT TO BE CLOSED

A specific description of the permitted unit can be found in Permit Attachment A (*Technical Area Unit Descriptions*). Additional features and equipment located at the permitted unit and not discussed elsewhere within the Permit are described below.

The permitted unit is comprised of the ~~outdoor loading dock and areas within the entire~~ High Bay (Room 101) and the entire Low Bay (Room 102). Access between the two bays is provided through a 2.4 meter (m) wide by 3.8 m high roll-up door.

The High Bay, ~~which stores~~ has been used to store fiberglass-reinforced plywood boxes, standard waste boxes (SWBs), B25 boxes, and drums of various sizes, is 40 feet (ft) wide and 80 ft long. It is equipped with a 5-ton capacity bridge crane system and back-up crane, a truck-axle weighing scale, loading platforms, and TRUPACT-II and HalfPACT lid stands. The floor is a 6-inch, reinforced, epoxy-coated, concrete slab which gently slopes toward a central 50-ft trench and a sump. The sump is locked out and a pipe plug has been installed. The floor has a grated drain (approximately five (5) inches (in.) wide by 57 ft long) that runs down the center of the bay which collects melting snow and water from the trucks that enter the bay. The permitted container storage area within the High Bay, ~~which is located along the south side of the room's center wall, is approximately 11 ft wide and 34 ft long and~~ is used as a transuranic (TRU) waste payload-container assembly area and TRUPACT-II/HalfPACT shipper-container loading area. Its primary function is the preparation of waste packages for transport to the Waste Isolation Pilot Plant (WIPP). The TRU waste packaged in the High Bay is predominantly radioactive, but can include mixed waste.

The Low Bay, where waste drums of various sizes are stored, is 40 ft long by 34 ft wide; it was once used for staging hazardous solid and liquid waste while nondestructive radioassay waste characterization activities were performed. The floor is a 6-inch reinforced concrete slab coated with industrial grade enamel paint. ~~The permitted container storage area within the Low Bay is approximately 11 ft².~~

The permitted unit began hazardous waste operations in 1995 when testing of radioassay equipment occurred. Shipments of waste packages from the facility to the WIPP began in 1999. The building was constructed in 1989 and 1990. Specific hazardous waste constituents stored at the permitted unit are included in Tables G.16-1 and G.16-2.

Permit Part 3 (*Storage in Containers*), Permit Attachment A (*Technical Area Unit Descriptions*), Permit Attachment B (*Part A Application*), and Permit Attachment C (*Waste Analysis Plan*) include information about waste management procedures and hazardous waste constituents stored at the permitted unit.

3.0 ESTIMATE OF MAXIMUM WASTE STORED

Approximately 612,755 gallons of waste has been stored at the permitted unit since 1995. Throughout the life of this permit, it is estimated that an additional 440,000 gallons of waste will be stored at the permitted unit. The maximum inventory of hazardous waste that will be stored at the unit at any given time is 4,950 gallons as required by Permit Attachment J (*Hazardous Waste Management Units*).

4.0 GENERAL CLOSURE INFORMATION

4.1 Closure Performance Standard

As required by Permit Section 9.2, the permitted unit will be closed to meet the following performance standards:

- a. remove all hazardous waste residues and hazardous constituents; and
- b. ensure contaminated media do not contain concentrations of hazardous constituents greater than the clean-up levels established in accordance with Permit Sections 11.4 and 11.5. For soils the cleanup levels shall be established based on residential use. The Permittees must also demonstrate that there is no potential to contaminate groundwater.

If the Permittees are unable to achieve either of the clean closure standards above, they must:

- c. control hazardous waste residues, hazardous constituents, and, as applicable, contaminated media such that they do not exceed a total excess cancer risk of 10^{-5} for carcinogenic substances and, for non-carcinogenic substances, a target Hazard Index of 1.0 for human receptors, and meet Ecological Screening Levels established under Permit Section 11.5;
- d. minimize the need for further maintenance;
- e. control, minimize, or eliminate, to the extent necessary to protect human health and the environment, the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, groundwater, surface waters, or to the atmosphere; and
- f. comply with the closure requirements of Permit Part 9 (*Closure*) and 40 CFR Part 264 Subparts G and I for container storage units.

Closure of the permitted unit will be deemed complete when: 1) all surfaces and equipment have been decontaminated, or otherwise properly disposed of; 2) closure has been certified by an independent,

5.2 Records Review and Structural Assessment

After waste removal and before starting closure decontamination and sampling activities, the Facility Operating and Inspection Records for the permitted unit will be reviewed and an assessment will be conducted to determine any previous finding(s) or action(s) that may influence closure activities or potential sampling locations.

5.2.1 Records Review

The Facility Operating and Inspection Records shall be reviewed in accordance with Permit Section 9.4.6.1. Goals of the review will be to:

- a. confirm the specific hazardous waste constituents of concern; and
- b. confirm additional sampling locations (*e.g.*, locations of spills or chronic conditions identified in the Operating and Inspection Records).

5.2.2 Structural Assessment

An assessment of the permitted unit's physical condition will be conducted in accordance with Permit Section 9.4.6.2. The assessment will include inspecting the floors and walls of the permitted unit for any existing cracks or conditions that indicate a potential for, or an actual, release of constituents. If a crack, gap, or stained area is present, the Permittees will amend this closure plan in order to update the sampling and analysis plan (SAP) (*see* Section 6.0 of this closure plan) to add these sampling locations and the applicable sampling methods and procedures. This inspection will be documented with photographs and drawings, as necessary.

5.3 Decontamination and Removal of Structures and Related Equipment

In accordance with Permit Section 9.4.3, the unit's surfaces and related equipment will be decontaminated, or removed, or both and managed appropriately. Decontamination activities will ensure the removal of all hazardous waste residues and hazardous waste constituents from the permitted unit to meet the closure performance standards.

All surfaces and related equipment that are removed and not intended for recycle will not require decontamination, will be considered solid and potentially hazardous waste when removed, and will be disposed of in accordance with Section 7.0.

5.3.1 Removal of Structures and Related Equipment

At this time, there is no equipment identified for removal from the unit; however, if equipment is identified during the assessment it will be decontaminated, removed, and disposed of in accordance with the appropriate sections of this closure plan.

5.3.2 Decontamination of Structures and Related Equipment

Decontamination of the permitted unit's surfaces and equipment will include all features located within the unit (*e.g.*, drain grates, ladders). The following equipment located at the permitted unit is expected to be left in place and therefore decontaminated: the man lift; the lid stands; the drum wrapper; the portion of the bridge cranes that comes into contact with waste containers; and the floor scales.

The permitted unit's floors and walls (up to 11 ft) will be decontaminated. Decontamination of the permitted unit will be conducted by first removing loose material (*e.g.*, dust, dirt) through sweeping followed by pressure washing or steam cleaning with a solution consisting of a surfactant detergent (*e.g.*, Alconox[®]) and water mixed in accordance with the manufacturer's recommendations.

Ceilings of the permitted unit, walls above 11 ft, and the areas outside of the permitted unit will be presumed to be free of contamination unless there is some physical indication of contamination (*e.g.*, staining), the records review reveals that large amounts of liquid volatile or semi-volatile organic hazardous waste was stored in the permitted unit, or a spill or release occurred within the permitted unit that could have affected the ceiling or the walls above 11 ft.

Portable berms or other such devices (*e.g.*, absorbent socks, plastic sheeting, wading pools, existing secondary containment) will collect excess wash water and provide containment during the decontamination process.

The floor drain in the High Bay will be plugged before decontamination activities begin to ensure that none of the wash water solution enters the drain located on the floor.

5.4 Equipment Used During Decontamination Activities

Reusable protective clothing, tools, and equipment used during closure decontamination activities will be cleaned with a wash water solution. Residue, disposable equipment, and small reusable equipment that cannot be decontaminated will be containerized and managed as waste as summarized in Table G.16-4 and in accordance with Permit Section 9.4.5 and Section 7.0 of this closure plan.

6.0 SAMPLING AND ANALYSIS PLAN

This SAP addresses the specific requirements in Permit Section 9.4.7 and describes the sampling, analysis, and quality assurance/quality control (QA/QC) methods that will be used to demonstrate that the Permittees have met the closure performance standards outlined in Permit Section 9.2.

6.1 Decontamination Verification Sampling Activities

Decontamination verification sampling activities, and soil sampling if applicable, will be conducted at the permitted unit in order to verify that surfaces and related equipment at the permitted unit meet the closure performance standards in Permit Section 9.2. All samples will be collected and analyzed in accordance with the procedures in Sections 6.2, 6.3, and 6.4 of this closure plan.

One wipe sample will be collected from each piece of decontaminated equipment at the permitted unit. In compliance with Permit Section 9.4.7.1.i, this closure plan will ensure the collection of:

- a. ~~four~~nine wipe samples from the High Bay (*see* Figure G.16-1):
 1. ~~two~~four from the floor;
 2. one from ~~the~~each wall; and
 3. one from the sump;

- b. ~~one~~six wipe samples from the Low Bay (*see* Figure G.16-1):

~~1. two from the floor; and~~

~~b. one from each wall~~

~~c. one from the floor; and~~

~~d. 2. two wipe samples from the Loading Dock areas identified as 'sample area 1' and 'sample area 2' (see Figure G.16-1).~~

If liquid is found in the sump in the High Bay at the time of the assessment, liquid samples will be collected in accordance with Section 6.2.1 of this closure plan.

Solid chip samples may be collected and analyzed to determine if residual hazardous constituents remain in the concrete floor at the permitted unit.

6.2 Sample Collection Procedures

Samples will be collected in accordance with Permit Section 9.4.7.1 and the procedures identified in this SAP which incorporates guidance from the United States Environmental Protection Agency (USEPA) (EPA, 2002), DOE (DOE, 1995), and other Department-approved procedures.

6.2.1 Liquid Sampling

Liquid samples will be collected and analyzed to determine if residual hazardous constituents remain in the drain at the permitted unit. Liquid samples will be collected using glass or plastic tubes, a composite liquid sampler, a bacon bomb, a bailer, or by pouring liquid in sample containers.

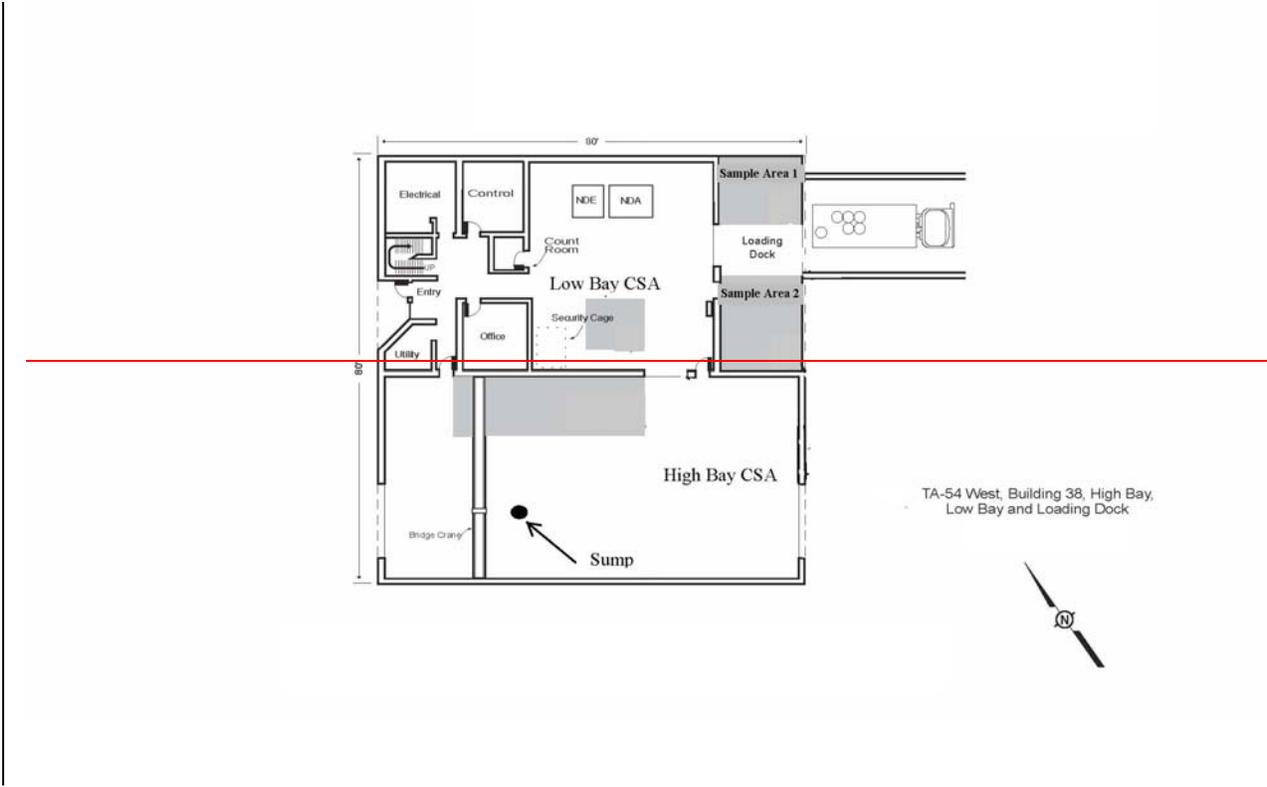
6.2.2 Wipe Sampling

Surface wipe samples will be collected and analyzed to determine if residual hazardous constituents remain on the surfaces and related equipment at the permitted unit. Samples will be collected in accordance with the National Institute of Occupational Safety and Health (NIOSH) *Manual of Analytical Methods* (NIOSH, 1994). The appropriate wipe sample method will consider the type of surface being sampled, the type of constituent being sampled for, the solution used, and the desired constituent concentration detection limit.

The NIOSH method includes wiping a 100-square-centimeter area at each discrete location with a gauze wipe wetted with a liquid solution appropriate for the desired analysis (*e.g.*, deionized water for lead). For wipe sampling, guidance from the analytical laboratory must be obtained prior to wipe verification sampling to confirm that the solution chosen for each analysis is appropriate for the analysis to be conducted and that wipe sampling is a proper technique for the analysis.

6.2.3 Solid Chip Sampling

Solid chip samples may be collected and analyzed to determine if residual hazardous constituents remain in the concrete floor at the permitted unit. Any non-porous inclusions from the sampling location will be removed by brushing or wiping. Using a chisel, drill, hole saw, or similar tool, a minimum 100 grams of the sample will be collected to a depth of 2 cm, or to an alternate depth specified in the assessment and transferred to an appropriate sampling container. The holding time and the preservation techniques to be used for each analysis will be determined from Table G.16-5.



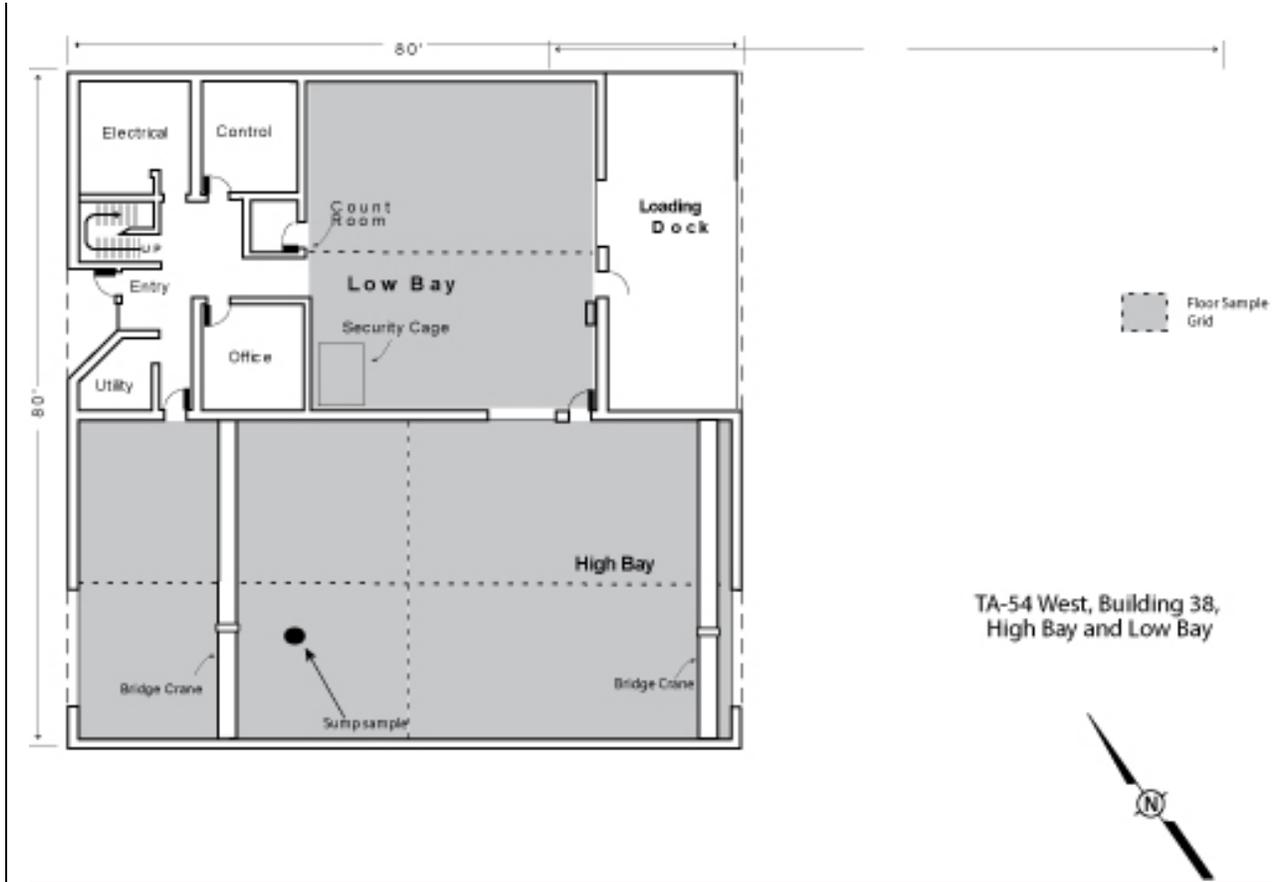


Figure G.16-1: Technical Area 54, Building 38 (High, ~~and~~ Low Bay, ~~and Loading Dock~~ Sampling Locations)

Changes to Attachment G.17, Technical Area 54 West Outdoor Container Storage Unit Closure Plan

June 2012

1.0 INTRODUCTION

This closure plan describes the activities necessary to close the outdoor hazardous waste container storage unit at Technical Area 54 West, Building 38 (TA-54-38) at the Los Alamos National Laboratory (Facility), hereinafter referred to as the permitted unit. The information provided in this closure plan addresses the closure requirements specified in Permit Part 9 and the Code of Federal Regulations (CFR), Title 40, Part 264, Subparts G and I for hazardous waste management units at the Facility under the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act.

Until closure is complete and has been certified in accordance with Permit Section 9.5, a copy of the approved closure plan or the hazardous waste facility permit containing the plan, any approved revisions, and closure activity documentation associated with the closure will be on file with hazardous waste compliance personnel at the Facility and at the U.S. Department of Energy (DOE) Los Alamos Site Office. Prior to closure of the permitted unit, this closure plan may be amended in accordance with Permit Section 9.4.8, as necessary and appropriate, to provide updated sampling and analysis plans and to incorporate updated decontamination technologies. Amended closure plans shall be submitted to the New Mexico Environment Department (Department) for approval prior to implementing closure activities.

2.0 DESCRIPTION OF UNIT TO BE CLOSED

A specific description of the permitted unit can be found in Permit Attachment A (*Technical Area Unit Descriptions*). Additional features and equipment located at the permitted unit and not discussed elsewhere within the Permit are described below.

The permitted unit is located on the north and east sides of TA-54-38 and consists of an asphalt pad (which slopes toward the north and east and has a thickness of approximately four inches) and a loading dock which measures 16 ft wide by 38 ft, 10 inches long. The loading dock is constructed of six inch cast-in-place concrete, is approximately 4 inches above grade, and is covered by a metal roof awning. Small storage sheds (1024 and 1025) for supplies and equipment and not for the storage of hazardous waste, are also located on the permitted unit. The entire permitted unit measures approximately 37,900 square feet.

The slope of the asphalt pad allows for storm water to run off the pad into a one inch wide trench drain that runs along the north edge of the pad. The eastern edge of the pad consists of an asphalt swale that collects storm water and conveys it to a single discharge point at the northeast corner of the site. An asphalt berm running from the extreme northern corner of Building 38 to the drain flanks the northern side of the permitted unit and an asphalt curb flanks the southern side.

The waste typically stored at the permitted unit consists of hazardous and mixed waste in both solid and liquid form. The permitted unit was constructed in 1993, became operational in 1998, and has been subject to waste management regulations under RCRA since its construction. In 2007, the boundaries of the permitted unit were expanded to include the current configuration. The stored wastes include corrosive liquids, sludge, debris, and chemical wastes with metals and volatile and semi-volatile organic constituents.

Permit Part 3 (*Storage in Containers*), Permit Attachment A (*Technical Area Unit Descriptions*), Permit Attachment B (*Part A Application*), and Permit Attachment C (*Waste Analysis Plan*) include information about waste management procedures and hazardous waste constituents stored at the permitted unit.

The ~~L~~oading ~~D~~ock, located just east of the low bay, is approximately 16 ft wide and 39 ft long and is constructed of cast-in-place concrete. A ~~canopy truck ramp, which is not part of the Loading Dock CSA,~~ runs perpendicular to the loading dock platform. ~~At the bottom of the truck ramp is a 38-inch square grate covering a drainage culvert. The Loading Dock container storage area is divided into two areas on the platform; the first is an area at the north end of the loading dock which measures 16 ft by ten (10) ft and the second area is at the south end of the loading dock which measures 16 ft by 12 ft.~~ Waste drums of various sizes are stored in the ~~L~~oading ~~d~~ock.

3.0 ESTIMATE OF MAXIMUM WASTE STORED

To date, approximately 612,755 gallons of waste has been stored in the permitted unit. Throughout the life of this Permit it is estimated that an additional 1,870,000 gallons of waste will be stored in the permitted unit. The maximum inventory of hazardous waste that will be stored at the unit at any given time is 42,570 gallons as required by Permit Attachment J (Hazardous Waste Management Units).

4.0 GENERAL CLOSURE INFORMATION

4.1 Closure Performance Standard

As required by Permit Section 9.2, the permitted unit will be closed to meet the following performance standards:

- a. remove all hazardous waste residues and hazardous constituents; and
- b. ensure contaminated media do not contain concentrations of hazardous constituents greater than the clean-up levels established in accordance with Permit Sections 11.4 and 11.5. For soils the cleanup levels shall be established based on residential use. The Permittees must also demonstrate that there is no potential to contaminate groundwater.

If the Permittees are unable to achieve either of the clean closure standards above, they must:

- c. control hazardous waste residues, hazardous constituents, and, as applicable, contaminated media such that they do not exceed a total excess cancer risk of 10^{-5} for carcinogenic substances and, for non-carcinogenic substances, a target Hazard Index of 1.0 for human receptors, and meet Ecological Screening Levels established under Permit Section 11.5;
- d. minimize the need for further maintenance;
- e. control, minimize, or eliminate, to the extent necessary to protect human health and the environment, the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, groundwater, surface waters, or to the atmosphere; and
- f. comply with the closure requirements of Permit Part 9 (*Closure*) and 40 CFR Part 264, Subparts G and I.

Closure of the unit will be deemed complete when: 1) all structures, surfaces, and equipment have been decontaminated, or otherwise properly disposed of; 2) closure has been certified by an independent, professional engineer licensed in the State of New Mexico; and 3) closure certification has been submitted to, and approved by, the Department.

be conducted to determine any previous finding(s) or action(s) that may influence closure activities or potential sampling locations.

5.2.1 Records Review

The Facility Operating and Inspection Records shall be reviewed as outlined in Permit Section 9.4.6.1. The goals of the review will be to:

- a. confirm the specific hazardous waste constituents of concern; and
- b. confirm additional sampling locations (*e.g.*, locations of spills or chronic conditions identified in the Operating and Inspection Records).

5.2.2 Structural Assessment

An assessment of the permitted unit's physical condition will be conducted in accordance with Permit Section 9.4.6.2. The assessment will include inspecting the asphalt pad and the loading dock for any existing cracks or conditions that indicate a potential for, or an actual, release of constituents. If a crack, gap, or stained area is present, the Permittees will amend this closure plan in order to update the sampling and analysis plan (SAP) (*see* Section 6.0 of this closure plan) to add these sampling locations and the applicable sampling methods and procedures. This inspection will be documented with photographs and drawings, as necessary.

5.3 Decontamination and Removal of Structures and Equipment

In accordance with the procedures in Permit Section 9.4.3, all remaining hazardous waste residues and hazardous constituents will be removed from the permitted unit. The permitted unit's structures and related equipment will be decontaminated, removed, or both and managed appropriately. All waste material will be controlled, handled, characterized, and disposed of in accordance with Permit Attachment C (*Waste Analysis Plan*), Permit Section 9.4.5, and Facility waste management procedures (*see* Table G.17-3). Decontamination activities will ensure the removal of all hazardous waste residues and hazardous waste constituents from the permitted unit to meet the closure performance standards as outlined in Permit Section 9.2.

5.3.1 Removal of Structures and Related Equipment

All surfaces, structures, and related equipment that are removed will not require decontamination, will be considered solid and potentially hazardous waste (as defined by this Permit) when removed, and will be disposed of in accordance with Permit Section 9.4.5 and Section 7.0 of this closure plan.

At this time, there is no equipment identified for removal from the unit; however, if equipment is identified during the assessment, it will be removed and disposed of in accordance with Permit Section 9.4.3.2. The canopy, asphalt pad, the materials associated with the asphalt pad (*e.g.*, the berm around the pad), and a minimum of six inches of the base course and soil underlying the asphalt pad shall be removed after the assessment. If after the removal of the pad (and underlying soil and base course material) the remaining surface shows evidence that the removal to that point has not gathered all appropriate soils and materials associated with the pad, additional soil and materials will be removed. The Permittees shall take precautions to not remove or disturb the soil or tuff that overlies the regulated unit (covered under the March 1, 2005 Compliance Order on Consent (*see* Permit Section 9.3)) beneath the permitted unit. The option of removing small areas of asphalt at sampling locations where contamination

is suspected (*i.e.*, locations of spills or stains) to allow sampling without disturbing the surrounding area prior to the general removal of the pad will be assessed at the time of the assessment.

5.3.2 Decontamination of Structures and Related Equipment

All structures and related equipment that will be reused by the Facility will be decontaminated in accordance with Permit Section 9.4.3.1. The following structures and equipment located at the permitted unit is expected to be left in place and will therefore be decontaminated: the loading dock and the metal awning.

Water-resistant structures and equipment (*i.e.*, the loading dock, the awning) at the permitted unit and not sensitive to water intrusion will be decontaminated by steam cleaning, or pressure washing, with a solution consisting of a surfactant detergent (*e.g.*, Alconox®) and water and mixed in accordance with the manufacturer's recommendation. All other equipment at the permitted unit that is sensitive to water intrusion (*e.g.*, electronic devices or tools) will be decontaminated by washing using a wipe-down method with a solution consisting of a surfactant detergent (*e.g.*, Alconox®) and water and mixed in accordance with the manufacturer's recommendation.

The quantity of the wash solution will be minimized by dispensing from buckets, spray bottles, or other types of containers. Cloths, or other absorbent cleaning devices, will not be reused to wipe down the equipment after being wetted in the wash solution or after spraying solution onto the equipment. Portable berms or other such devices (*e.g.*, absorbent socks, plastic sheeting, wading pools, existing secondary containment) will collect excess water and provide containment during the decontamination process.

5.4 Equipment Used During Decontamination Activities

Reusable protective clothing, tools, and equipment used during decontamination activities will be cleaned with a wash water solution. Residue, disposable equipment, and small reusable equipment that cannot be decontaminated will be containerized and managed as waste as summarized in Table G.17-3 and in accordance with Facility waste management procedures, depending on the regulated constituents present.

6.0 SAMPLING AND ANALYSIS PLAN

This SAP addresses the specific requirements in Permit Section 9.4.7 and describes the sampling, analysis, and quality assurance/quality control (QA/QC) methods that will be used to demonstrate that the Permittees have met the closure performance standards outlined in Permit Section 9.2.

6.1 Soil Sampling and Decontamination Verification Wipe Sampling Activities

Soil sampling and decontamination verification wipe sampling activities will be conducted at the permitted unit in order to verify that the soils beneath the permitted unit as well as the unit's surfaces and related equipment meet the closure performance standards in Permit Section 9.2. All samples will be collected and analyzed in accordance with the procedures in Sections 6.2, 6.3, and 6.4 of this closure plan.

One wipe sample will be collected from each piece of decontaminated equipment related to the permitted unit (*e.g.*, the awning). In compliance with Permit Section 9.4.7.1.i, this closure plan will ensure the collection of wipe samples from the floor and walls of the loading dock for a total of four verification samples.

In compliance with Permit Section 9.4.7.1.ii, this closure plan will ensure the collection of soil samples from the permitted unit at the following locations:

- a. one sample from a known past loading zone area ('sample location 1') identified in the permitted unit's records (*see* Permit Section 9.4.7.1.ii(1));
- b. one sample every 900 square feet of the permitted unit for a total of 46 samples (*see* Permit Section 9.4.7.1.ii(2));
- c. two samples from the swale in the eastern portion of the permitted unit (*see* Permit Section 9.4.7.1.ii(3)); and
- d. one sample every 30 feet along the drain line on the northern boundary of the permitted unit for a total of four samples (*see* Permit Section 9.4.7.1.ii(8)).

An additional two wipe samples are required from the loading dock areas identified as 'Sample Area 1' and 'Sample Area 2.' Figure G.17-1 illustrates the sampling locations discussed in this section.

6.2 Sample Collection Procedures

Samples will be collected in accordance with the Permit Section 9.4.7.1 and the procedures identified in this SAP which incorporate guidance from the United States Environmental Protection Agency (USEPA) (EPA, 2002), DOE (DOE, 1995), and other Department-approved procedures.

6.2.1 Wipe Sampling

Surface wipe samples will be collected and analyzed to determine if residual to determine if residual hazardous constituents remain on the surfaces and related equipment at the permitted unit. Samples will be collected in accordance with the National Institute of Occupational Safety and Health (NIOSH) *Manual of Analytical Methods* (NIOSH, 1994). The appropriate wipe sample method will consider the type of surface being sampled, the type of constituent being sampled for, the solution used, and the desired constituent concentration detection limit.

The NIOSH method includes wiping a 100 square centimeter area at each discrete location with a gauze wipe wetted with a liquid solution appropriate for the desired analysis (*e.g.*, deionized water for lead). For wipe sampling, guidance from the analytical laboratory must be obtained prior to wipe verification sampling to confirm that the solution chosen for each analysis is appropriate for the analysis to be conducted and that wipe sampling is a proper technique for the analysis.

6.2.2 Soil Sampling

Soil samples will be collected and analyzed to determine if hazardous constituents are present in soils at the permitted unit. Soil samples will be collected using a spade, scoop, auger, trowel, or other equipment as specified in approved methods for the type of analytes (*i.e.*, EPA 1996 or 2002) and from the appropriate depths as directed in Permit Section 9.4.7.1.ii. Samples will be kept at their at-depth temperature or lower, protected from ultraviolet light, sealed tightly in the recommended container, and analyzed within the specific holding times listed in Table G.10-5.

Table G.17-1

**Hazardous Waste Constituents of Concern at the Technical Area 54, ~~Area G~~, West Outdoor
 Container Storage Unit^a**

Category	EPA Hazardous Waste Numbers	Specific Constituents
Toxic Metals	D003, D004, D005, D006, D007, D008, D009, D010, D011	Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver
Organic Compounds	D018, D019, D021, D022, D026, D027, D028, D029, D030, D035, D036, D037, D038, D039, D040, D043 F001, F002, F003, F004, F005	Benzene, Carbon tetrachloride, Chlorobenzene, Chloroform, Cresol, 1,4-Dichlorobenzene, 1,2-Dichloroethylene, 2,4-Dinitrotoluene, Methyl ethyl ketone, Nitrobenzene, Pentachlorophenol, Pyridine, Tetrachloroethylene, Trichloroethylene, Vinyl Chloride Acetone, Methyl ethyl ketone, Methylene Chloride, Toluene, MIBK, DBCP, Tetrachloroethylene, 1,1,1-trichloroethane, Chlorinated Fluorocarbons, 1,1,2-trichloro-1,1,2-trifluoroethane, ortho-dichlorobenzene, Trichlorofluoromethane, 1,1,2-trichloroethane, Xylene, Ethyl acetate, Ethyl benzene, Ethyl ether, n-butyl alcohol, Cyclohexanone, Methanol, Cresols, Cresylic acid, Nitrobenzene, Carbon disulfide, Isobutanol, Pyridine, 2-ethoxyethanol, 2-nitropropane

^a Based on the unit Operating Record
 MIBK = methyl isobutyl ketone or 4-methyl-2-pentanone
 DBCP = 1,2-dibromo-3-chloropropane

Table G.17-2

Closure Schedule for Technical Area 54, ~~Area G~~, West Outdoor Container Storage Unit

Activity	Maximum Time Required
Notify the Department of intent to close and conduct structural assessment.	-45 Days
Final receipt of waste.	Day 0
Complete waste removal.	Day 90
Complete records review and structural assessment.	10 days after completed waste removal or 100 days after final receipt of waste
Complete all closure activities and submit final closure certification report to the Department.	Day 180

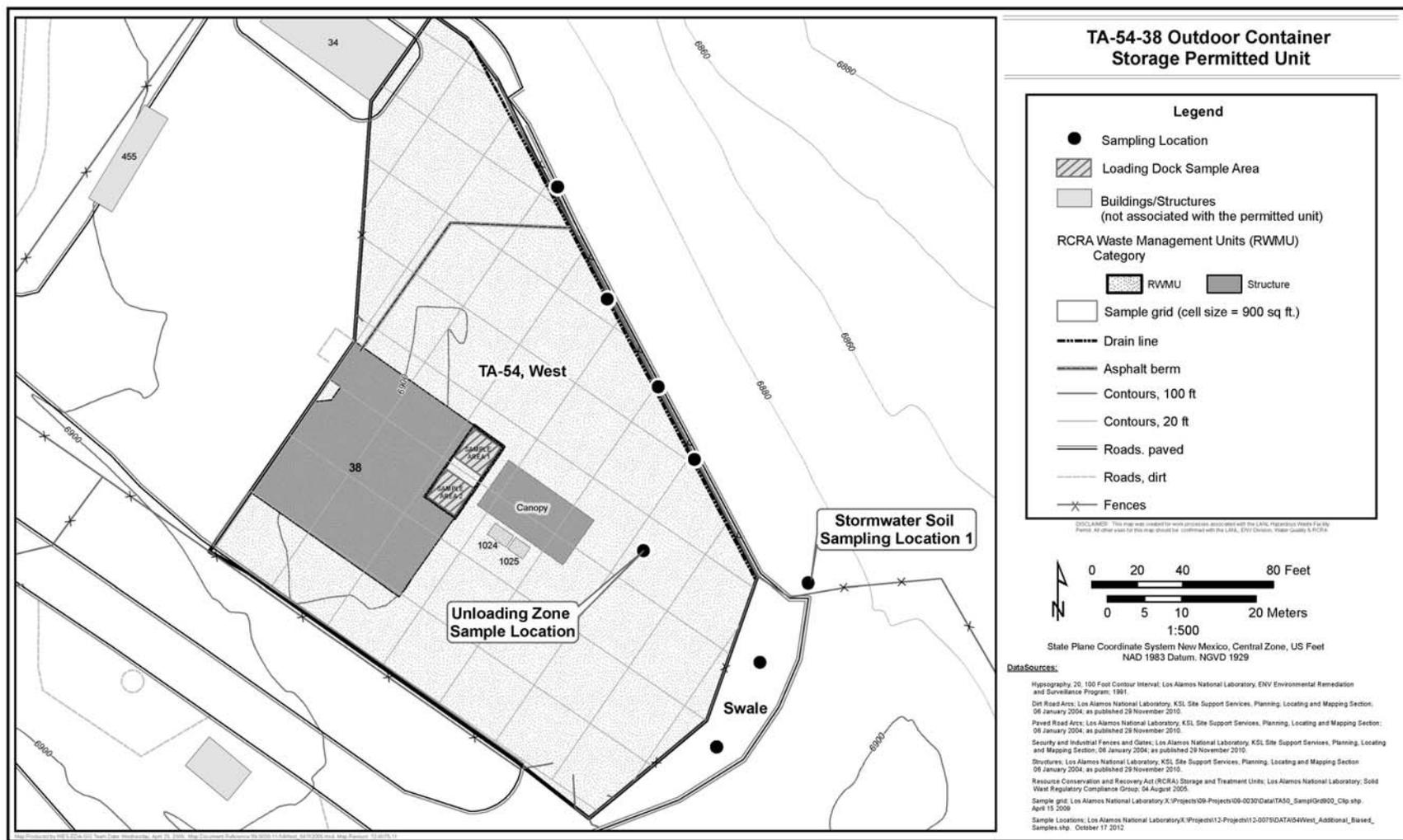


Figure G.17-1: Technical Area 54 West Outdoor Container Storage Unit Grid Sampling and Additional Sampling Locations

Changes to Attachment J: Hazardous Waste Management Units

Unit Identifier	Process Codes	Operating Capacity	General Information	Type of Unit
			feet	
TA-54 Area G Pad 11	S01	682,440 gal	Includes Storage Dome 375 and RTR1 Total square footage – 65,500	Outdoor (associated with a regulated unit)
TA-54 Area G Storage Shed 8	S01	11,880 gal	Also referred to as TA-54-8 Total square footage - 640	Indoor
TA-54 Area G TA-54-33	S01	108,240 gal	Also referred to as Drum Prep Facility Total square footage – 8,570	Indoor
TA-54 “H”	D80	NA	Material Disposal Area H Unit not permitted to receive hazardous waste	Regulated unit
TA-54 “L”	D80	NA	Material Disposal Area L Unit not permitted to receive hazardous waste	Regulated unit
TA-54 Area L Container Storage Unit (below ground)	S99	600 gal	Includes shafts 36 and 37 Wastes removed and unit undergoing closure, closure certification incomplete	NA
TA-54 Area L Outdoor Pad	S01	407,880 gal	Includes all area within fence-line except limited administrative areas. Includes Storage Sheds 31, 68, 69, and 70; Storage Pads 32, 35, 36, and 58; and Building 39; and Storage Dome 215 (former Area 1). Total square footage – 110,500	Outdoor (associated with a regulated unit)
TA-54-38 West Indoor	S01	4,9503,74 0 gal	Includes High Bay and Low Bay	Indoor

Unit Identifier	Process Codes	Operating Capacity	General Information	Type of Unit
			Total square footage – 4, 5 960	
TA-54-38 West Outdoor Pad	S01	42,570 ^{7,9} 20 gal	Includes loading dock and Pad surrounding Total square footage – 37,900	Outdoor (not associated with a regulated unit)
TA-55-4, B40	S01	21,500 gal	Located in basement Referred to as Area 1 Total square footage – 3,380	Indoor
TA-55-4, K13	S01	2,500 gal	Located in basement Referred to as Area 4 Total square footage - 208	Indoor
TA-55-4, B05	S01	3,600 gal	Located in basement Referred to as Area 5 Non-liquid wastes only Total square footage - 260	Indoor
TA-55-4, B45	S01	11,000 gal	Located in basement Non-liquid wastes only Total square footage - 788	Indoor
TA-55-4, Vault	S01	4,000 gal	Located in basement Referred to as Area 6 Total square footage – 4,020	Indoor
TA-55-4-401 Mixed Waste Storage Tank Unit	S02	Storage - 137 gal	TA-55-4 Room 401 Unit divided into two components (Evaporator Glovebox Storage Tank System and Cementation Storage Tank System) Total square footage – 4,500	Indoor

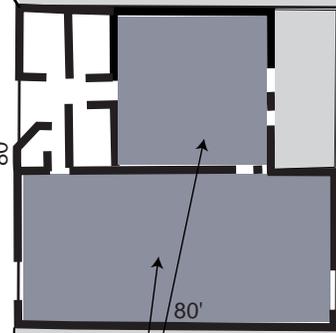
Revised Figures for Attachment N: Figures

NOT TO SCALE



54-34

TA-54 West, Building 38, Outdoor Pad
Container Storage Unit



Canopy
54-1024 54-1025

Entry Gate

TA-54 West, Building 38 Indoor
Container Storage Unit

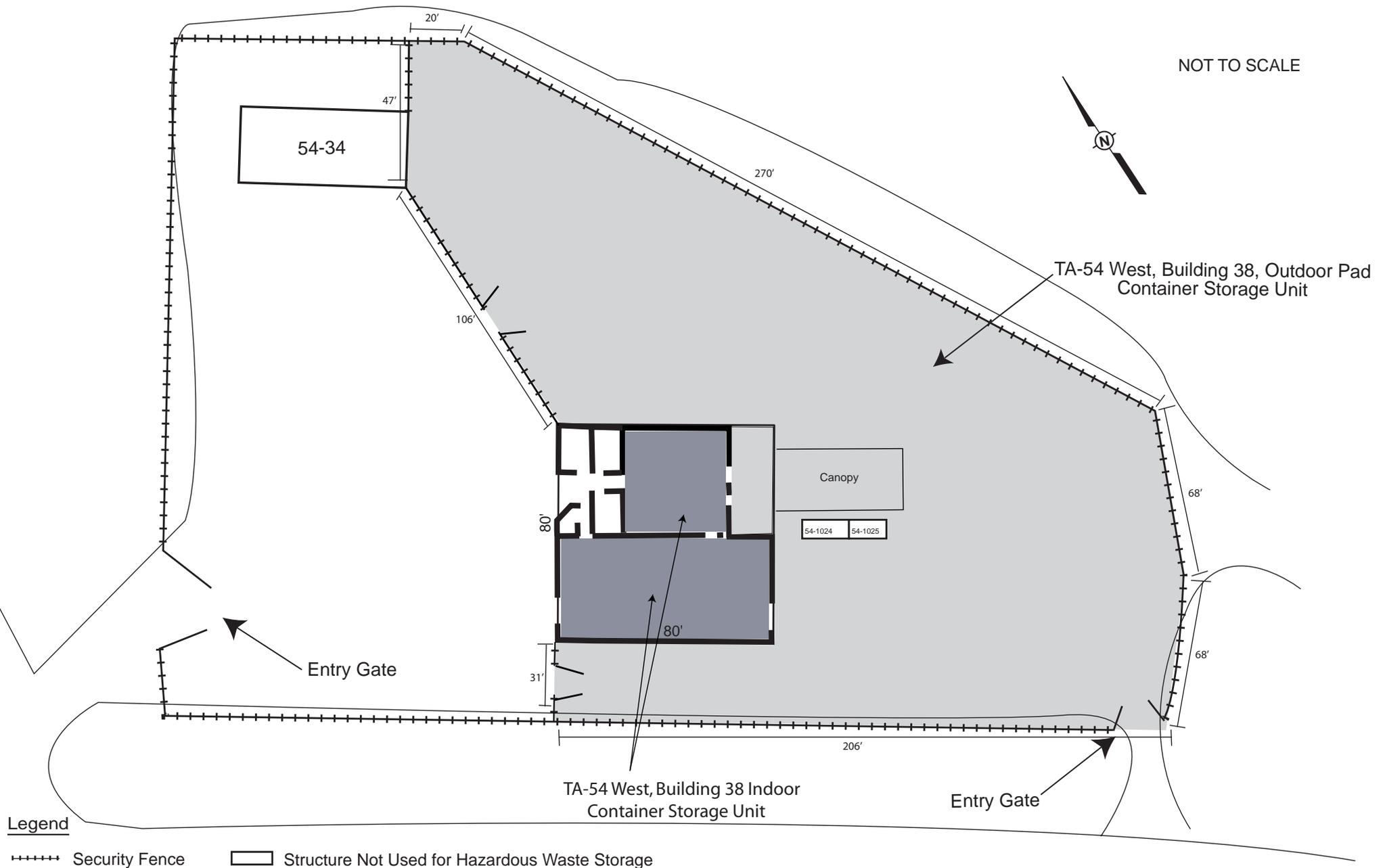
Entry Gate

Legend

-  Security Fence
-  Structure Not Used for Hazardous Waste Storage
-  Gate
-  Outdoor Storage Unit
-  Indoor Storage Unit

Figure 9

Technical Area (TA) 54 West Location Map Showing Security Fences, Entry Gates, and Entry Stations



NOT TO SCALE



TA-54 West, Building 38, Outdoor Pad
Container Storage Unit

54-34

Canopy

54-1024 54-1025

Entry Gate

TA-54 West, Building 38 Indoor
Container Storage Unit

Entry Gate

Legend

- Security Fence
- Structure Not Used for Hazardous Waste Storage
- ∕ Gate
- Outdoor Storage Unit
- Indoor Storage Unit

Figure 37
Technical Area (TA) 54 West, Building 38 Indoor (High Bay and Low Bay) and Outdoor Pad

ATTACHMENT 2
Revised Part A Application

<p>SEND COMPLETED FORM TO: The Appropriate State or Regional Office.</p>	<p>United States Environmental Protection Agency RCRA SUBTITLE C SITE IDENTIFICATION FORM</p>		
<p>1. Reason for Submittal</p> <p>MARK ALL BOX(ES) THAT APPLY</p>	<p>Reason for Submittal:</p> <p><input type="checkbox"/> To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID number for this location)</p> <p><input type="checkbox"/> To provide a Subsequent Notification (to update site identification information for this location)</p> <p><input type="checkbox"/> As a component of a First RCRA Hazardous Waste Part A Permit Application</p> <p><input checked="" type="checkbox"/> As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment # 11.0)</p> <p><input type="checkbox"/> As a component of the Hazardous Waste Report (If marked, see sub-bullet below)</p> <p><input type="checkbox"/> Site was a TSD facility and/or generator of $\geq 1,000$ kg of hazardous waste, >1 kg of acute hazardous waste, or >100 kg of acute hazardous waste spill cleanup in <u>one or more months</u> of the report year (or State equivalent LQG regulations)</p>		
<p>2. Site EPA ID Number</p>	<p>EPA ID Number <input type="text" value="N"/> <input type="text" value="M"/> <input type="text" value="0"/> <input type="text" value="8"/> <input type="text" value="9"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="5"/> <input type="text" value="1"/> <input type="text" value="5"/></p>		
<p>3. Site Name</p>	<p>Name: Los Alamos National Laboratory</p>		
<p>4. Site Location Information</p>	<p>Street Address: Bikini Atoll Road, SM-30</p> <p>City, Town, or Village: Los Alamos County: Los Alamos</p> <p>State: New Mexico Country: USA Zip Code: 87545</p>		
<p>5. Site Land Type</p>	<p><input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input checked="" type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other</p>		
<p>6. NAICS Code(s) for the Site (at least 5-digit codes)</p>	<p>A. <input type="text" value="9"/> <input type="text" value="2"/> <input type="text" value="8"/> <input type="text" value="1"/> <input type="text" value="1"/></p> <p>B. <input type="text" value="5"/> <input type="text" value="4"/> <input type="text" value="1"/> <input type="text" value="7"/> <input type="text" value="1"/></p> <p>C. <input type="text" value="5"/> <input type="text" value="6"/> <input type="text" value="2"/> <input type="text" value="2"/> <input type="text" value="1"/></p> <p>D. <input type="text" value=""/></p>		
<p>7. Site Mailing Address</p>	<p>Street or P.O. Box: PO Box 1663</p> <p>City, Town, or Village: Los Alamos</p> <p>State: New Mexico Country: USA Zip Code: 87545</p>		
<p>8. Site Contact Person</p>	<p>First Name: Geoffrey MI: L Last: Beausoleil</p> <p>Title: Acting Manager, Los Alamos Field Office, Department of Energy, National Nuclear Security Administration</p> <p>Street or P.O. Box: 3747 West Jemez Road</p> <p>City, Town or Village: Los Alamos</p> <p>State: New Mexico Country: USA Zip Code: 87544</p> <p>Email: geoffrey.beausoleil@nnsa.doe.gov</p> <p>Phone: (505) 667-6691 Ext.: Fax: None</p>		
<p>9. Legal Owner and Operator of the Site</p>	<p>A. Name of Site's Legal Owner: United States Department of Energy Date Became Owner: 01/01/1943</p> <p>Owner Type: <input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input checked="" type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other</p> <p>Street or P.O. Box: 3747 West Jemez Road</p> <p>City, Town, or Village: Los Alamos Phone: (505) 667-6691</p> <p>State: New Mexico Country: USA Zip Code: 87544</p> <p>B. Name of Site's Operator: Los Alamos National Security, LLC Date Became Operator: 06/01/2006</p> <p>Operator Type: <input checked="" type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other</p>		

10. Type of Regulated Waste Activity (at your site)
 Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities; Complete all parts 1-10.

- Y N **1. Generator of Hazardous Waste**
 If "Yes", mark only one of the following – a, b, or c.
- a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs./mo.) or more of hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs./mo) of acute hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 100 kg/mo (220 lbs./mo) of acute hazardous spill cleanup material.
- b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs./mo) of non-acute hazardous waste.
- c. CESQG: Less than 100 kg/mo (220 lbs./mo) of non-acute hazardous waste.

If "Yes" above, indicate other generator activities in 2-4.

- Y N **2. Short-Term Generator** (generate from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section.
- Y N **3. United States Importer of Hazardous Waste**
- Y N **4. Mixed Waste (hazardous and radioactive) Generator**

- Y N **5. Transporter of Hazardous Waste**
 If "Yes", mark all that apply.
- a. Transporter
- b. Transfer Facility (at your site)

- Y N **6. Treater, Storer, or Disposer of Hazardous Waste** Note: A hazardous waste Part B permit is required for these activities.

- Y N **7. Recycler of Hazardous Waste**

- Y N **8. Exempt Boiler and/or Industrial Furnace**
 If "Yes", mark all that apply.
- a. Small Quantity On-site Burner Exemption
- b. Smelting, Melting, and Refining Furnace Exemption

- Y N **9. Underground Injection Control**

- Y N **10. Receives Hazardous Waste from Off-site**

B. Universal Waste Activities; Complete all parts 1-2.

- Y N **1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes", mark all that apply.**
- a. Batteries
- b. Pesticides
- c. Mercury containing equipment
- d. Lamps
- e. Other (specify) _____
- f. Other (specify) _____
- g. Other (specify) _____

- Y N **2. Destination Facility for Universal Waste**
 Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities; Complete all parts 1-4.

- Y N **1. Used Oil Transporter**
 If "Yes", mark all that apply.
- a. Transporter
- b. Transfer Facility (at your site)

- Y N **2. Used Oil Processor and/or Re-refiner**
 If "Yes", mark all that apply.
- a. Processor
- b. Re-refiner

- Y N **3. Off-Specification Used Oil Burner**

- Y N **4. Used Oil Fuel Marketer**
 If "Yes", mark all that apply.
- a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- b. Marketer Who First Claims the Used Oil Meets the Specifications

11. Description of Hazardous Wastes

A. Waste Codes for Federally Regulated Hazardous Wastes.

D001	D002	D003	D004	D005	D006	D007
D008	D009	D010	D011	D012	D013	D014
D015	D016	D017	D018	D019	D020	D021
D022	D023	D024	D025	D026	D027	D028
D029	D030	D031	D032	D033	D034	D035
D036	D037	D038	D039	D040	D041	D042
D043	F001	F002	F003	F004	F005	F006
F007	F008	F009	F010	F011	F012	F019
F020	F021	F022	F023	F024	F025	F026
F027	F028	F032	F034	F035	F037	F038
F039	K044	K045	K046	K047	K084	K101
K102	P001	P002	P003	P004	P005	P006
P007	P008	P009	P010	P011	P012	P013
P014	P015	P016	P017	P018	P020	P021
P022	P023	P024	P026	P027	P028	P029
P030	P031	P033	P034	P036	P037	P038
P039	P040	P041	P042	P043	P044	P045
P046	P047	P048	P049	P050	P051	P054
P056	P057	P058	P059	P060	P062	P063
P064	P065	P066	P067	P068	P069	P070
P071	P072	P073	P074	P075	P076	P077
P078	P081	P082	P084	P085	P087	P088
P089	P092	P093	P094	P095	P096	P097
P098	P099	P101	P102	P103	P104	P105
P106	P108	P109	P110	P111	P112	P113
P114	P115	P116	P118	P119	P120	P121
P122	P123	P127	P128	P185	P188	P189
P190	P191	P192	P194	P196	P197	P198
P199	P201	P202	P203	P204	P205	U001
U002	U003	U004	U005	U006	U007	U008
U009	U010	U011	U012	U014	U015	U016
U017	U018	U019	U020	U021	U022	U023
U024	U025	U026	U027	U028	U029	U030
U031	U032	U033	U034	U035	U036	U037
U038	U039	U041	U042	U043	U044	U045
U046	U047	U048	U049	U050	U051	U052
U053	U055	U056	U057	U058	U059	U060
U061	U062	U063	U064	U066	U067	U068
U069	U070	U071	U072	U073	U074	U075

11. Description of Hazardous Wastes**A. Waste Codes for Federally Regulated Hazardous Wastes. (Continued)**

U076	U077	U078	U079	U080	U081	U082
U083	U084	U085	U086	U087	U088	U089
U090	U091	U092	U093	U094	U095	U096
U097	U098	U099	U101	U102	U103	U105
U106	U107	U108	U109	U110	U111	U112
U113	U114	U115	U116	U117	U118	U119
U120	U121	U122	U123	U124	U125	U126
U127	U128	U129	U130	U131	U132	U133
U134	U135	U136	U137	U138	U140	U141
U142	U143	U144	U145	U146	U147	U148
U149	U150	U151	U152	U153	U154	U155
U156	U157	U158	U159	U160	U161	U162
U163	U164	U165	U166	U167	U168	U169
U170	U171	U172	U173	U174	U176	U177
U178	U179	U180	U181	U182	U183	U184
U185	U186	U187	U188	U189	U190	U191
U192	U193	U194	U196	U197	U200	U201
U202	U203	U204	U205	U206	U207	U208
U209	U210	U211	U213	U214	U215	U216
U217	U218	U219	U220	U221	U222	U223
U225	U226	U227	U228	U234	U235	U236
U237	U238	U239	U240	U243	U244	U246
U247	U248	U249	U271	U278	U279	U280
U328	U353	U359	U364	U367	U372	U373
U387	U389	U394	U395	U404	U409	U410
U411						

12. Notification of Hazardous Secondary Material (HSM) Activity

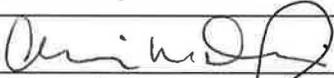
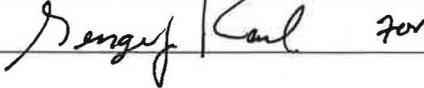
Y N Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 261.2(a)(2)(ii), 40 CFR 261.4(a)(23), (24), or (25)?

If "Yes", you must fill out the Addendum to the Site Identification Form: Notification for Managing Hazardous Secondary Material.

13. Comments

Multiple empty horizontal lines for providing comments.

14. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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 fines and imprisonment for knowing violations. For the RCRA Hazardous Waste Part A Permit Application, all owner(s) and operator(s) must sign (see 40 CFR 270.10(b) and 270.11).

Signature of legal owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	Alison M. Dorries, ENV-DO, LANS	6/25/2013
 for	Geoffrey L. Beausoleil, Acting Manager, Los Alamos Field Office	June 26, 2013

ADDENDUM TO THE SITE IDENTIFICATION FORM: NOTIFICATION OF HAZARDOUS SECONDARY MATERIAL ACTIVITY



ONLY fill out this form if:

- ❖ You are located in a State that allows you to manage excluded hazardous secondary material (HSM) under 40 CFR 261.2(a)(2)(ii), 261.4(a)(23), (24), or (25) (or state equivalent). See <http://www.epa.gov/epawaste/hazard/dsw/statespf.htm> for a list of eligible states; **AND**
- ❖ You are or will be managing excluded HSM in compliance with 40 CFR 261.2(a)(2)(ii), 261.4(a)(23), (24), or (25) (or state equivalent) **or** you have stopped managing excluded HSM in compliance with the exclusion(s) and do not expect to manage any amount of excluded HSM under the exclusion(s) for at least one year. Do not include any information regarding your hazardous waste activities in this section.

1. Indicate reason for notification. Include dates where requested.

- Facility will begin managing excluded HSM as of _____ (mm/dd/yyyy).
- Facility is still managing excluded HSM/re-notifying as required by March 1 of each even-numbered year.
- Facility has stopped managing excluded HSM as of _____ (mm/dd/yyyy) and is notifying as required.

2. Description of excluded HSM activity. Please list the appropriate codes and quantities in **short tons** to describe your excluded HSM activity ONLY (do not include any information regarding your hazardous wastes). Use additional pages if more space is needed.

a. Facility code (answer using codes listed in the Code List section of the instructions)	b. Waste code(s) for HSM	c. Estimated short tons of excluded HSM to be managed annually	d. Actual short tons of excluded HSM that was managed during the most recent odd-numbered year	e. Land-based unit code (answer using codes listed in the Code List section of the instructions)

3. Facility has financial assurance pursuant to 40 CFR 261.4(a)(24)(vi). (Financial assurance is required for reclaimers and intermediate facilities managing excluded HSM under 40 CFR 261.4(a)(24) and (25))

Y N Does this facility have financial assurance pursuant to 40 CFR 261.4(a)(24)(vi)?

This page intentionally left blank

United States Environmental Protection Agency

HARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact	First Name: Geoffrey	MI: L	Last Name: Beausoleil									
	Contact Title: Los Alamos Field Office Manager (Acting)											
	Phone Number: 505-667-6691	Ext.:	Email: geoffrey.beausoleil@nnsa.doe.gov									
2. Facility Permit Contact Mailing Address	Street or P. O. Box: 3747 West Jemez Road											
	City, Town, or Village: Los Alamos											
	State: New Mexico											
	Country: USA	Zip Code: 87544										
3. Operator Mailing Address and Telephone Number	Street or P. O. Box: P.O. Box 1663, MS K491											
	City, Town, or Village: Los Alamos											
	State: New Mexico	Phone Number: 505-665-6952										
	Country: USA	Zip Code: 87545										
4. Facility Existence Date	Facility Existence Date (mm/dd/yyyy): 01/01/1943											
5. Other Environmental Permits												
A. Facility Type <i>(Enter code)</i>	B. Permit Number										C. Description	
See Attached												
6. Nature of Business: The central mission of Los Alamos National Laboratory is the reduction of global nuclear danger supported by research that also contributes to conventional defense, civilian, and industrial needs. This includes programs in nuclear, medium energy, and space physics; hydrodynamics; conventional explosives; chemistry; metallurgy; radiochemistry; space nuclear systems; controlled thermonuclear fusion; laser research; environmental technology; geothermal, solar, and fossil energy research; nuclear safeguards; biomedicine; health and biotechnology; and industrial partnerships.												

5. Other Environmental Permits														
A. Facility Type (Enter code)		B. Permit Number										C. Description		
<i>National Pollutant Discharge Elimination System (NPDES):</i>														
NPDES Construction General Permit:										Construction Project Title				
N	N	M	R	1	2	A	K	1	3				TA-16 Borrow Pit Stabilization Project	
N	N	M	R	1	2	A	H	7	0				Sandia Canyon Grade Control Structure	
N	N	M	R	1	2	A	0	4	2				Sandia Canyon SGC Access Road	
N	N	M	R	1	2	A	F	4	1				FY-13 TA-3 D&D Project	
N	N	M	R	1	2	A	A	5	2				TA-8-22 Revitalization	
N	N	M	R	1	2	A	5	7	7				TA-21 Closure Project	
N	N	M	R	1	2	A	2	7	9				Zero Liquid Discharge	
N	N	M	R	1	2	A	3	9	5				TA-55 Construction	
N	N	M	R	1	2	A	5	8	2				Regional Wells Project	
N	N	M	R	1	2	A	3	7	6				TA-40 Lift Stations Project	
N	N	M	R	1	2	A	3	7	5				TA-35 Parking Lot	
N	N	M	R	1	2	A	3	6	9				SM-43 Parking Lot	
N	N	M	R	1	2	A	2	7	5				TA-16 Indoor Firing Range	
N	N	M	R	1	2	A	3	1	2				Water Canyon SD Replacement	
N	N	M	R	1	2	A	1	0	6				TRU Waste Facility Construction	
Industrial Point Source Permit:														
N	N	M	0	0	2	8	3	5	5				NPDES Industrial Point Source Discharge	
NPDES Storm Water Multi-Sector General Permit (MSGP) for Industrial Activities														
N	N	M	R	0	5	G	B	2	1				NPDES MSGP	
NPDES Storm Water Individual Permit														
N	N	M	0	0	3	0	7	5	9				NPDES LANL Storm Water Individual Permit	
<i>Resource Conservation and Recovery Act (RCRA):</i>														
R	N	M	0	8	9	0	0	1	0	5	1	5	RCRA Hazardous Waste Facility Permit	
<i>Groundwater Discharge Plans (GDP):</i>														
E	D	P	-	8	5	7							TA-46 SWWS Plant and TA-3 Sanitary Effluent Reclamation Facility (SERF), Approved July 1992, Discharge Permit Renewal Application, July 2010 (NMED Renewal Pending)	
E	D	P	-	1	1	3	2						TA-50 Radioactive Liquid Waste Treatment Facility, Discharge Permit Application, February 2012 (NMED approval pending)	
E	D	P	-	1	5	8	9						Twelve (12) Domestic Septic Tank/Leachfield Systems, Discharge Permit Application, June 2010 (NMED approval pending)	
E	D	P	-	1	7	9	3						On-Site Treatment and Land Application of Groundwater, Discharge Permit Application, December 2011 (NMED approval pending)	
<i>Section 404 Dredge and Fill Permits with U.S. Army Corps of Engineers</i>														
E	S	P	A	2	0	1	1	-	0	0	2	5	3	-ABQ TA-72-Sandia Canyon SMA-6 Storm Water Management Project
E	S	P	A	2	0	1	2	-	0	0	0	5	0	-ABQ Sandia Canyon Stream Channel and Wetland
E	S	P	A	2	0	1	3	-	0	0	1	9	4	-ABQ Berm Construction Project Mortandad Canyon and Wetland
E	S	P	A	2	0	1	1	-	0	0	5	1	2	Water Canyon, Culvert Replacement Project

5. Other Environmental Permits

A. Facility Type (Enter code)	B. Permit Number											C. Description
<i>Air Quality Permits:</i>												
Air Quality Operating Permit (20.2.70 NMAC)												
E	P	1	0	0	-	R	1	-	M	3		LANL Air Emissions Operating Permit
Air Quality (20.2.72 NMAC)												
E	2	1	9	5	-	R	5	9				Various Exemptions
E	2	1	9	5	B	-	M	2				TA-3 Power Plant
E	2	1	9	5	F	-	R	3				TA-33 1600kW Generator
E	G	C	P	3	-	2	1	9	5	G	-	TA-60 Asphalt Plant
E	2	1	9	5	H	-	R	1				Data disintegrator
E	2	1	9	5	N	-	R	2				Chemistry and Metallurgy Research Replacement Facility
E	2	1	9	5	P	-	R	1				TA-33 1-225 kW/2-20 kW Diesel Generators
Air Quality (National Emission Standards for Hazardous Air Pollutants) Beryllium Machining:												
E	6	3	4	-	M	2						TA-3-141
E	6	3	2	-	R	1						TA-35-213
E	1	0	8	-	M	1	-	R	7			TA-55-4

7. Process Codes and Design Capacities – Enter information in the Section on Form Page 3

- A. PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04, and X99), describe the process (including its design capacity) in the space provided in Item 8.
- B. PROCESS DESIGN CAPACITY**- For each code entered in Item 7.A; enter the capacity of the process.
- AMOUNT** - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.
 - UNIT OF MEASURE** - For each amount entered in Item 7.B(1), enter the code in Item 7.B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.
- C. PROCESS TOTAL NUMBER OF UNITS** - Enter the total number of units for each corresponding process code.

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity	Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
Disposal			Treatment (Continued) (for T81 –T94)		
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day	T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; Liters Per Hour; Kilograms Per Hour; or Million BTU Per Hour
D80	Landfill	Acre-feet; Hectares-meter; Acres; Cubic Meters; Hectares; Cubic Yards	T82	Lime Kiln	
D81	Land Treatment	Acres or Hectares	T83	Aggregate Kiln	
D82	Ocean Disposal	Gallons Per Day or Liters Per Day	T84	Phosphate Kiln	
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards	T85	Coke Oven	
D99	Other Disposal	Any Unit of Measure Listed Below	T86	Blast Furnace	
Storage			T87	Smelting, Melting, or Refining Furnace	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards	T88	Titanium Dioxide Chloride Oxidation Reactor	
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards	T89	Methane Reforming Furnace	
S03	Waste Pile	Cubic Yards or Cubic Meters	T90	Pulping Liquor Recovery Furnace	
S04	Surface Impoundment	Gallons; Liters; Cubic Meters; or Cubic Yards	T91	Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid	
S05	Drip Pad	Gallons; Liters; Cubic Meters; Hectares; or Cubic Yards	T92	Halogen Acid Furnaces	
S06	Containment Building Storage	Cubic Yards or Cubic Meters	T93	Other Industrial Furnaces Listed in 40 CFR 260.10	
S99	Other Storage	Any Unit of Measure Listed Below	T94	Containment Building Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day, Metric Tons Per Hour, or Million Btu Per Hour
Treatment			Miscellaneous (Subpart X)		
T01	Tank Treatment	Gallons Per Day; Liters Per Day	X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
T02	Surface Impoundment	Gallons Per Day; Liters Per Day	X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Metric Tons Per Hour; or Million BTU Per Hour	X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Short Tons Per Day; BTUs Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Short Tons Per Day; BTUs Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour	X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; or Million BTU Per Hour	X99	Other Subpart X	Any Unit Measure Listed Below
Unit of Measure		Unit of Measure Code	Unit of Measure		Unit of Measure Code
Gallons		G	Short Tons Per Hour		D
Gallons Per Hour		E	Short Tons Per Day		N
Gallons Per Day		U	Metric Tons Per Hour		W
Liters		L	Metric Tons Per Day		S
Liters Per Hour		H	Pounds Per Hour		J
Liters Per Day		V	Kilograms Per Hour		R
			Million Btu Per Hour		X
			Unit of Measure		Unit of Measure Code
			Cubic Yards		Y
			Cubic Meters		C
			Acres		B
			Acre-feet		A
			Hectares		Q
			Hectare-meter		F
			Btu Per Hour		I

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only						
	(1) Amount (Specify)		(2) Unit of Measure										
X 1	S	0	2	533.788		G	001						
Technical Area 14													
1	X	0	1	1,000 50/20		See Lines 2 & 3	002						
2				Pounds per detonation Gallons per burn/pounds per burn									
3				Units identified at TA-14-23 is to be closed in accordance with the Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested.									
4													
5													
6													
7													
8													
9													
1 0													
1 1													
1 2													
1 3													

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04 and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in sequence with Item 7)	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only						
	(1) Amount (Specify)		(2) Unit of Measure										
X 2	T	0	4	100.00		U	001						

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number	A. Process Code (From list above)				B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only						
					(1) Amount (Specify)	(2) Unit of Measure								
X	1	S	0	2	533.788	G	001							
Technical Area 16														
	1	X	0	1	1,000 50/1,000	See Lines 2 & 3	002							
	2				Pounds per burn Gallons per burn/pounds per burn									
	3				Unit identified as TA-16-399 Burn Tray is to be closed in accordance with the Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested.									
	4													
	5													
	6													
	7													
	8													
	9													
1	0													
1	1													
1	2													
1	3													

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04 and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in sequence with Item 7)	A. Process Code (From list above)				B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only						
					(1) Amount (Specify)	(2) Unit of Measure								
X	2	T	0	4	100.00	U	001							

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number	A. Process Code (From list above)				B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only					
					(1) Amount (Specify)	(2) Unit of Measure							
X	1	S	0	2	533.788	G	001						
Technical Area 36													
	1	X	0	1	2,000	See line 2	001						
	2				Pounds per detonation								
	3												
	4												
	5												
	6												
	7												
	8												
	9												
1	0												
1	1												
1	2												
1	3												

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04 and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in sequence with Item 7)	A. Process Code (From list above)				B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only					
					(1) Amount (Specify)	(2) Unit of Measure							
X	2	T	0	4	100.00	U	001						

7. Process Codes and Design Capacities (Continued)												
EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.												
Line Number	A. Process Code (From list above)				B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
					(1) Amount (Specify)	(2) Unit of Measure						
X	1	S	0	2	533.788	G	001					
Technical Area 39												
	1	X	0	1	2,000	See Lines 2 and 3	002					
	2				1,000 pounds per detonation at each unit							
	3				One unit identified as TA-39-57 is to be closed in accordance with Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested.							
	4											
	5											
	6											
	7											
	8											
	9											
1	0											
1	1											
1	2											
1	3											
<p>Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04 and X99) in Item 8.</p>												
8. Other Processes (Follow instructions from Item 7 for D99, S99, T04 and X99 process codes)												
Line Number (Enter #s in sequence with Item 7)	A. Process Code (From list above)				B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
					(1) Amount (Specify)	(2) Unit of Measure						
X	2	T	0	4	100.00	U	001					

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only					
	(1) Amount (Specify)	(2) Unit of Measure										
X 1	S	0	2	533.788	G	001						
Technical Area 54, Area L												
1	S	0	1	407,880	G	001						
2	D	8	0	1,200	See Line 3	001						
3				To be closed in accordance with Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested. The unit of measure for capacity is cubic yards.								
4												
5												
6												
7												
8												
9												
1 0												
1 1												
1 2												
1 3												

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04 and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in sequence with Item 7)	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only					
	(1) Amount (Specify)	(2) Unit of Measure										
X 2	T	0	4	100.00	U	001						
1	S	9	9	600	See Line 2	001						
2				To be closed in accordance with Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested. The unit of measure for capacity is gallons.								

7. Process Codes and Design Capacities (Continued)												
EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.												
Line Number		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
					(1) Amount (Specify)	(2) Unit of Measure						
X	1	S	0	2	533.788	G	001					
Technical Area 54, Area G												
	1	S	0	1	4,346,590	G	009					
	2	S	0	1	4,950	See Line 4	001					
	3	D	8	0	14	See Line 5	001					
	4				To be closed in accordance with Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested. The unit of measure for capacity is gallons.							
	5				To be closed in accordance with Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested. The unit of measure for capacity is cubic yards.							
	6											
	7											
	8											
	9											
1	0											
1	1											
1	2											
1	3											
<p>Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04 and X99) in Item 8.</p>												
8. Other Processes (Follow instructions from Item 7 for D99, S99, T04 and X99 process codes)												
Line Number (Enter #s in sequence with Item 7)		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
					(1) Amount (Specify)	(2) Unit of Measure						
X	2	T	0	4	100.00	U	001					

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only					
	(1) Amount (Specify)	(2) Unit of Measure										
X 1	S	0	2	533.788	G	001						
Technical Area 54, Material Disposal Area H												
1	D	8	0	63	See Line 2	001						
2				To be closed in accordance with Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested. The unit of measure for capacity is cubic yards.								
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04 and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in sequence with Item 7)	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only					
	(1) Amount (Specify)	(2) Unit of Measure										
X 2	T	0	4	100.00	U	001						

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number	A. Process Code (From list above)				B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only					
	(1) Amount (Specify)		(2) Unit of Measure										
X 1	S	0	2	533.788		G	001						
Technical Area 55													
1	S	0	1	207,600		G	007						
2	S	0	2	137		G	001						
3													
4													
5													
6													
7													
8													
9													
1 0													
1 1													
1 2													
1 3													

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04 and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04 and X99 process codes)

Line Number (Enter #s in sequence with Item 7)	A. Process Code (From list above)				B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only					
	(1) Amount (Specify)		(2) Unit of Measure										
X 2	T	0	4	100.00		U	001						
3	T	0	4	150		G	001						

9. Description of Hazardous Wastes – Enter information in the Sections on Form Page 5

- A. **EPA HAZARDOUS WASTE NUMBER** – Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. **ESTIMATED ANNUAL QUANTITY** – For each listed waste entered in Item 9.A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in Item 9.A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. **UNIT OF MEASURE** – For each quantity entered in Item 9.B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the listed hazardous wastes.

For non-listed waste: For each characteristic or toxic contaminant entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. Enter the first two as described above.
2. Enter "000" in the extreme right box of Item 9.D(1).
3. Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 9.E.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in Item 9.D(2) or in Item 9.E(2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous waste that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in Item 9.A. On the same line complete Items 9.B, 9.C, and 9.D by estimating the total annual quantity of the waste and describing all the processes to be used to store, treat, and/or dispose of the waste.
2. In Item 9.A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In Item 9.D.2 on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING Item 9 (shown in line numbers X-1, X-2, X-3, and X-4 below) – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES												
				(1) PROCESS CODES (Enter code)										(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
X	1	K 0 5 4	P	T	0	3	D	8	0							
X	2	D 0 0 2	P	T	0	3	D	8	0							
X	3	D 0 0 1	P	T	0	3	D	8	0							
X	4	D 0 0 2														Included With Above

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter code)										(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 3																	
	1	D	0	0	1	7,000	P	S	0	1							
	2	D	0	0	2	21,000	P	S	0	1							
	3	D	0	0	3	2,500	P	S	0	1							
	4	D	0	0	4	3,000	P	S	0	1							
	5	D	0	0	5	3,000	P	S	0	1							
	6	D	0	0	6	2,500	P	S	0	1							
	7	D	0	0	7	7,000	P	S	0	1							
	8	D	0	0	8	27,000	P	S	0	1							
	9	D	0	0	9	4,000	P	S	0	1							
1	0	D	0	1	0	2,500	P	S	0	1							
1	1	D	0	1	1	3,000	P	S	0	1							
1	2	D	0	1	2	1,000	P	S	0	1							
1	3	D	0	1	8	1,500	P	S	0	1							
1	4	D	0	1	9	2,000	P	S	0	1							
1	5	D	0	2	1	2,000	P	S	0	1							
1	6	D	0	2	2	2,000	P	S	0	1							
1	7	D	0	2	3	2,000	P	S	0	1							
1	8	D	0	2	4	2,000	P	S	0	1							
1	9	D	0	2	5	2,000	P	S	0	1							
2	0	D	0	2	6	2,000	P	S	0	1							
2	1	D	0	2	7	1,500	P	S	0	1							
2	2	D	0	2	8	2,000	P	S	0	1							
2	3	D	0	2	9	1,000	P	S	0	1							
2	4	D	0	3	0	1,500	P	S	0	1							
2	5	D	0	3	2	1,500	P	S	0	1							
2	6	D	0	3	3	1,500	P	S	0	1							
2	7	D	0	3	4	1,500	P	S	0	1							
2	8	D	0	3	5	3,500	P	S	0	1							
2	9	D	0	3	6	1,500	P	S	0	1							
3	0	D	0	3	7	1,000	P	S	0	1							
3	1	D	0	3	8	1,500	P	S	0	1							
3	2	D	0	3	9	2,500	P	S	0	1							
3	3	D	0	4	0	2,500	P	S	0	1							
3	4	D	0	4	2	1,500	P	S	0	1							
3	5	D	0	4	3	1,500	P	S	0	1							
3	6	F	0	0	1	21,000	P	S	0	1							
3	7	F	0	0	2	21,000	P	S	0	1							
3	8	F	0	0	3	21,000	P	S	0	1							
3	9	F	0	0	4	2,500	P	S	0	1							

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
								(1) PROCESS CODES (Enter code)					(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))				
Technical Area 3 (Continued)																	
4	0	F	0	0	5	21,000	P	S	0	1							
4	1	F	0	0	6	500	P	S	0	1							
4	2	F	0	0	7	500	P	S	0	1							
4	3	F	0	0	9	500	P	S	0	1							
4	4	P	0	0	3	1,000	P	S	0	1							
4	5	P	0	1	2	1,000	P	S	0	1							
4	6	P	0	1	5	1,000	P	S	0	1							
4	7	P	0	2	9	1,000	P	S	0	1							
4	8	P	0	3	0	1,000	P	S	0	1							
4	9	P	0	3	1	1,000	P	S	0	1							
5	0	P	0	3	8	1,000	P	S	0	1							
5	1	P	0	5	6	1,000	P	S	0	1							
5	2	P	0	6	3	1,000	P	S	0	1							
5	3	P	0	6	8	1,000	P	S	0	1							
5	4	P	0	7	3	1,000	P	S	0	1							
5	5	P	0	7	6	1,000	P	S	0	1							
5	6	P	0	7	8	1,000	P	S	0	1							
5	7	P	0	9	5	1,000	P	S	0	1							
5	8	P	0	9	6	1,000	P	S	0	1							
5	9	P	0	9	8	1,000	P	S	0	1							
6	0	P	0	9	9	500	P	S	0	1							
6	1	P	1	0	6	1,000	P	S	0	1							
6	2	P	1	1	3	1,000	P	S	0	1							
6	3	P	1	2	0	1,000	P	S	0	1							
6	4	U	0	0	1	1,000	P	S	0	1							
6	5	U	0	0	2	1,000	P	S	0	1							
6	6	U	0	0	3	1,000	P	S	0	1							
6	7	U	0	1	2	1,000	P	S	0	1							
6	8	U	0	1	9	1,000	P	S	0	1							
6	9	U	0	2	2	1,000	P	S	0	1							
7	0	U	0	2	9	1,000	P	S	0	1							
7	1	U	0	3	1	1,000	P	S	0	1							
7	2	U	0	3	7	1,000	P	S	0	1							
7	3	U	0	4	4	1,000	P	S	0	1							
7	4	U	0	4	5	1,000	P	S	0	1							
7	5	U	0	5	2	1,000	P	S	0	1							
7	6	U	0	5	6	1,000	P	S	0	1							
7	7	U	0	5	7	1,000	P	S	0	1							
7	8	U	0	7	5	1,000	P	S	0	1							

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter code)										(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 3 (Continued)																		
7	9	U	0	7	7	1,000	P	S	0	1								
8	0	U	0	8	0	1,000	P	S	0	1								
8	1	U	1	0	8	1,000	P	S	0	1								
8	2	U	1	0	3	500	P	S	0	1								
8	3	U	1	1	2	1,000	P	S	0	1								
8	4	U	1	1	5	1,000	P	S	0	1								
8	5	U	1	1	7	1,000	P	S	0	1								
8	6	U	1	2	1	1,000	P	S	0	1								
8	7	U	1	2	2	1,000	P	S	0	1								
8	8	U	1	2	3	1,000	P	S	0	1								
8	9	U	1	3	1	1,000	P	S	0	1								
9	0	U	1	3	3	1,000	P	S	0	1								
9	1	U	1	3	4	1,000	P	S	0	1								
9	2	U	1	3	5	1,000	P	S	0	1								
9	3	U	1	4	0	1,000	P	S	0	1								
9	4	U	1	4	4	1,000	P	S	0	1								
9	5	U	1	5	1	1,000	P	S	0	1								
9	6	U	1	5	4	1,000	P	S	0	1								
9	7	U	1	5	9	1,000	P	S	0	1								
9	8	U	1	6	0	1,000	P	S	0	1								
9	9	U	1	6	1	1,000	P	S	0	1								
1	0	0	U	1	6	5	1,000	P	S	0	1							
1	0	1	U	1	6	9	1,000	P	S	0	1							
1	0	2	U	1	8	8	1,000	P	S	0	1							
1	0	3	U	1	9	0	1,000	P	S	0	1							
1	0	4	U	1	9	6	1,000	P	S	0	1							
1	0	5	U	2	0	4	1,000	P	S	0	1							
1	0	6	U	2	1	0	1,000	P	S	0	1							
1	0	7	U	2	1	1	1,000	P	S	0	1							
1	0	8	U	2	1	3	1,000	P	S	0	1							
1	0	9	U	2	1	6	1,000	P	S	0	1							
1	1	0	U	2	1	8	1,000	P	S	0	1							
1	1	1	U	2	1	9	1,000	P	S	0	1							
1	1	2	U	2	2	0	1,000	P	S	0	1							
1	1	3	U	2	2	5	500	P	S	0	1							
1	1	4	U	2	2	6	1,000	P	S	0	1							
1	1	5	U	2	2	7	500	P	S	0	1							
1	1	6	U	2	2	8	1,000	P	S	0	1							
1	1	7	U	2	3	9	500	P	S	0	1							

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																	
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter code)										(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 14																	
	1	D	0	0	1	2,000	P	X	0	1							
	2	D	0	0	3												Included with above.
	3	D	0	0	5												Included with above.
	4	D	0	0	6												Included with above.
	5	D	0	0	7												Included with above.
	6	D	0	0	8												Included with above.
	7	D	0	0	9												Included with above.
	8	D	0	1	1												Included with above.
	9	D	0	1	8												Included with above.
1	0	D	0	2	2												Included with above.
1	1	D	0	2	8												Included with above.
1	2	D	0	2	9												Included with above.
1	3	D	0	3	0												Included with above.
1	4	D	0	3	5												Included with above.
1	5	D	0	3	6												Included with above.
1	6	D	0	3	8												Included with above.
1	7	D	0	4	0												Included with above.
1	8	F	0	0	1												Included with above.
1	9	F	0	0	2												Included with above.
2	0	F	0	0	3												Included with above.
2	1	F	0	0	4												Included with above.
2	2	F	0	0	5												Included with above.
2	3																
2	4																
2	5																
2	6																
2	7																
2	8																
2	9																
3	0																
3	1																
3	2																
3	3																
3	4																
3	5																
3	6																
3	7																
3	8																
3	9																

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES						
	(1) PROCESS CODES (Enter code)							(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 16														
	1	D	0	0	1	20,000	P	X	0	1				
	2	D	0	0	2									Included with above.
	3	D	0	0	3									Included with above.
	4	D	0	0	5									Included with above.
	5	D	0	0	6									Included with above.
	6	D	0	0	7									Included with above.
	7	D	0	0	8									Included with above.
	8	D	0	0	9									Included with above.
	9	D	0	1	0									Included with above.
1	0	D	0	1	1									Included with above.
1	1	D	0	1	8									Included with above.
1	2	D	0	2	2									Included with above.
1	3	D	0	2	8									Included with above.
1	4	D	0	2	9									Included with above.
1	5	D	0	3	0									Included with above.
1	6	D	0	3	5									Included with above.
1	7	D	0	3	6									Included with above.
1	8	D	0	3	8									Included with above.
1	9	D	0	4	0									Included with above.
2	0	F	0	0	1									Included with above.
2	1	F	0	0	2									Included with above.
2	2	F	0	0	3									Included with above.
2	3	F	0	0	4									Included with above.
2	4	F	0	0	5									Included with above.
2	5	K	0	4	4									Included with above.
2	6	K	0	4	5									Included with above.
2	7													
2	8													
2	9													
3	0													
3	1													
3	2													
3	3													
3	4													
3	5													
3	6													
3	7													
3	8													
3	9													

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																	
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter code)										(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 36																	
	1	D	0	0	1	15,000	P	X	0	1							
	2	D	0	0	3											Included with above.	
	3	D	0	0	5											Included with above.	
	4	D	0	0	6											Included with above.	
	5	D	0	0	7											Included with above.	
	6	D	0	0	8											Included with above.	
	7	D	0	0	9											Included with above.	
	8	D	0	1	0											Included with above.	
	9	D	0	1	1											Included with above.	
1	0	D	0	1	8											Included with above.	
1	1	D	0	2	2											Included with above.	
1	2	D	0	2	8											Included with above.	
1	3	D	0	2	9											Included with above.	
1	4	D	0	3	0											Included with above.	
1	5	D	0	3	5											Included with above.	
1	6	D	0	3	6											Included with above.	
1	7	D	0	3	8											Included with above.	
1	8	D	0	4	0											Included with above.	
1	9	F	0	0	1											Included with above.	
2	0	F	0	0	2											Included with above.	
2	1	F	0	0	3											Included with above.	
2	2	F	0	0	4											Included with above.	
2	3	F	0	0	5											Included with above.	
2	4																
2	5																
2	6																
2	7																
2	8																
2	9																
3	0																
3	1																
3	2																
3	3																
3	4																
3	5																
3	6																
3	7																
3	8																
3	9																

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																	
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter code)										(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 39																	
	1	D	0	0	1	15,000	P	X	0	1							
	2	D	0	0	3												Included with above.
	3	D	0	0	5												Included with above.
	4	D	0	0	6												Included with above.
	5	D	0	0	7												Included with above.
	6	D	0	0	8												Included with above.
	7	D	0	0	9												Included with above.
	8	D	0	1	0												Included with above.
	9	D	0	1	1												Included with above.
1	0	D	0	1	8												Included with above.
1	1	D	0	2	2												Included with above.
1	2	D	0	2	8												Included with above.
1	3	D	0	2	9												Included with above.
1	4	D	0	3	0												Included with above.
1	5	D	0	3	5												Included with above.
1	6	D	0	3	6												Included with above.
1	7	D	0	3	8												Included with above.
1	8	D	0	4	0												Included with above.
1	9	F	0	0	1												Included with above.
2	0	F	0	0	2												Included with above.
2	1	F	0	0	3												Included with above.
2	2	F	0	0	4												Included with above.
2	3	F	0	0	5												Included with above.
2	4																
2	5																
2	6																
2	7																
2	8																
2	9																
3	0																
3	1																
3	2																
3	3																
3	4																
3	5																
3	6																
3	7																
3	8																
3	9																

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES															
	(1) PROCESS CODES (Enter code)								(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))														
Technical Area 50																							
1	D	0	0	1	69,696	P	S	0	1														
2	D	0	0	2	52,734	P	S	0	1														
3	D	0	0	3	3,444	P	S	0	1														
4	D	0	0	4	7,531	P	S	0	1														
5	D	0	0	5	7,740	P	S	0	1														
6	D	0	0	6	535,451	P	S	0	1														
7	D	0	0	7	567,226	P	S	0	1														
8	D	0	0	8	1,405,439	P	S	0	1														
9	D	0	0	9	75,666	P	S	0	1														
1	0	D	0	1	8,922	P	S	0	1														
1	1	D	0	1	31,255	P	S	0	1														
1	2	D	0	1	100	P	S	0	1														
1	3	D	0	1	100	P	S	0	1														
1	4	D	0	1	100	P	S	0	1														
1	5	D	0	1	100	P	S	0	1														
1	6	D	0	1	44	P	S	0	1														
1	7	D	0	1	66	P	S	0	1														
1	8	D	0	1	5,535	P	S	0	1														
1	9	D	0	1	4,261	P	S	0	1														
2	0	D	0	2	100	P	S	0	1														
2	1	D	0	2	100	P	S	0	1														
2	2	D	0	2	100	P	S	0	1														
2	3	D	0	2	100	P	S	0	1														
2	4	D	0	2	100	P	S	0	1														
2	5	D	0	2	100	P	S	0	1														
2	6	D	0	2	518	P	S	0	1														
2	7	D	0	2	972	P	S	0	1														
2	8	D	0	2	216,783	P	S	0	1														
2	9	D	0	2	215,184	P	S	0	1														
3	0	D	0	3	5,491	P	S	0	1														
3	1	D	0	3	293	P	S	0	1														
3	2	D	0	3	3,135	P	S	0	1														
3	3	D	0	3	2,222	P	S	0	1														
3	4	D	0	3	1,228	P	S	0	1														
3	5	D	0	3	1,792	P	S	0	1														
3	6	D	0	3	549	P	S	0	1														
3	7	D	0	3	761	P	S	0	1														
3	8	D	0	3	1,549	P	S	0	1														
3	9	D	0	3	1,675	P	S	0	1														

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES						
	(1) PROCESS CODES (Enter code)							(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 50 (Continued)														
4	0	D	0	4	0	3,942	P	S	0	1				
4	1	D	0	4	1	293	P	S	0	1				
4	2	D	0	4	2	1,182	P	S	0	1				
4	3	D	0	4	3	655	P	S	0	1				
4	4	F	0	0	1	442,263	P	S	0	1				
4	5	F	0	0	2	147,347	P	S	0	1				
4	6	F	0	0	3	50,980	P	S	0	1				
4	7	F	0	0	4	2,817	P	S	0	1				
4	8	F	0	0	5	334,821	P	S	0	1				
4	9	F	0	0	6	100	P	S	0	1				
5	0	F	0	0	7	100	P	S	0	1				
5	1	F	0	0	8	100	P	S	0	1				
5	2	F	0	0	9	165	P	S	0	1				
5	3	F	0	1	0	100	P	S	0	1				
5	4	F	0	1	1	100	P	S	0	1				
5	5	F	0	1	2	100	P	S	0	1				
5	6	F	0	1	9	100	P	S	0	1				
5	7	F	0	2	0	100	P	S	0	1				
5	8	F	0	2	1	100	P	S	0	1				
5	9	F	0	2	2	100	P	S	0	1				
6	0	F	0	2	3	100	P	S	0	1				
6	1	F	0	2	4	100	P	S	0	1				
6	2	F	0	2	5	100	P	S	0	1				
6	3	F	0	2	6	100	P	S	0	1				
6	4	F	0	2	7	165	P	S	0	1				
6	5	F	0	2	8	100	P	S	0	1				
6	6	F	0	3	2	100	P	S	0	1				
6	7	F	0	3	4	100	P	S	0	1				
6	8	F	0	3	5	100	P	S	0	1				
6	9	F	0	3	7	100	P	S	0	1				
7	0	F	0	3	8	100	P	S	0	1				
7	1	F	0	3	9	100	P	S	0	1				
7	2	K	0	4	4	100	P	S	0	1				
7	3	K	0	4	5	100	P	S	0	1				
7	4	K	0	4	6	100	P	S	0	1				
7	5	K	0	4	7	100	P	S	0	1				
7	6	K	0	8	4	100	P	S	0	1				
7	7	K	1	0	1	100	P	S	0	1				
7	8	K	1	0	2	100	P	S	0	1				

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																	
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES								
	(1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 50 (Continued)																	
7	9	P	0	0	1	100	P	S	0	1							
8	0	P	0	0	2	100	P	S	0	1							
8	1	P	0	0	3	293	P	S	0	1							
8	2	P	0	0	4	100	P	S	0	1							
8	3	P	0	0	5	100	P	S	0	1							
8	4	P	0	0	6	143	P	S	0	1							
8	5	P	0	0	7	100	P	S	0	1							
8	6	P	0	0	8	100	P	S	0	1							
8	7	P	0	0	9	100	P	S	0	1							
8	8	P	0	1	0	100	P	S	0	1							
8	9	P	0	1	1	143	P	S	0	1							
9	0	P	0	1	2	293	P	S	0	1							
9	1	P	0	1	3	100	P	S	0	1							
9	2	P	0	1	4	100	P	S	0	1							
9	3	P	0	1	5	293	P	S	0	1							
9	4	P	0	1	6	100	P	S	0	1							
9	5	P	0	1	7	100	P	S	0	1							
9	6	P	0	1	8	100	P	S	0	1							
9	7	P	0	2	0	100	P	S	0	1							
9	8	P	0	2	1	100	P	S	0	1							
9	9	P	0	2	2	100	P	S	0	1							
1	0	0	P	0	2	3	100	P	S	0	1						
1	0	1	P	0	2	4	100	P	S	0	1						
1	0	2	P	0	2	6	100	P	S	0	1						
1	0	3	P	0	2	7	100	P	S	0	1						
1	0	4	P	0	2	8	100	P	S	0	1						
1	0	5	P	0	2	9	293	P	S	0	1						
1	0	6	P	0	3	0	485	P	S	0	1						
1	0	7	P	0	3	1	485	P	S	0	1						
1	0	8	P	0	3	3	143	P	S	0	1						
1	0	9	P	0	3	4	100	P	S	0	1						
1	1	0	P	0	3	6	100	P	S	0	1						
1	1	1	P	0	3	7	100	P	S	0	1						
1	1	2	P	0	3	8	227	P	S	0	1						
1	1	3	P	0	3	9	100	P	S	0	1						
1	1	4	P	0	4	0	100	P	S	0	1						
1	1	5	P	0	4	1	100	P	S	0	1						
1	1	6	P	0	4	2	100	P	S	0	1						
1	1	7	P	0	4	3	143	P	S	0	1						

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																	
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES								
	(1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 50 (Continued)																	
1	1	8	P	0	4	4	100	P	S	0	1						
1	1	9	P	0	4	5	100	P	S	0	1						
1	2	0	P	0	4	6	100	P	S	0	1						
1	2	1	P	0	4	7	100	P	S	0	1						
1	2	2	P	0	4	8	143	P	S	0	1						
1	2	3	P	0	4	9	100	P	S	0	1						
1	2	4	P	0	5	0	100	P	S	0	1						
1	2	5	P	0	5	1	100	P	S	0	1						
1	2	6	P	0	5	4	100	P	S	0	1						
1	2	7	P	0	5	6	2,624	P	S	0	1						
1	2	8	P	0	5	7	100	P	S	0	1						
1	2	9	P	0	5	8	100	P	S	0	1						
1	3	0	P	0	5	9	100	P	S	0	1						
1	3	1	P	0	6	0	100	P	S	0	1						
1	3	2	P	0	6	2	100	P	S	0	1						
1	3	3	P	0	6	3	293	P	S	0	1						
1	3	4	P	0	6	4	100	P	S	0	1						
1	3	5	P	0	6	5	100	P	S	0	1						
1	3	6	P	0	6	6	100	P	S	0	1						
1	3	7	P	0	6	7	100	P	S	0	1						
1	3	8	P	0	6	8	293	P	S	0	1						
1	3	9	P	0	6	9	100	P	S	0	1						
1	4	0	P	0	7	0	100	P	S	0	1						
1	4	1	P	0	7	1	100	P	S	0	1						
1	4	2	P	0	7	2	100	P	S	0	1						
1	4	3	P	0	7	3	293	P	S	0	1						
1	4	4	P	0	7	4	100	P	S	0	1						
1	4	5	P	0	7	5	100	P	S	0	1						
1	4	6	P	0	7	6	403	P	S	0	1						
1	4	7	P	0	7	7	100	P	S	0	1						
1	4	8	P	0	7	8	425	P	S	0	1						
1	4	9	P	0	8	1	100	P	S	0	1						
1	5	0	P	0	8	2	100	P	S	0	1						
1	5	1	P	0	8	4	100	P	S	0	1						
1	5	2	P	0	8	5	100	P	S	0	1						
1	5	3	P	0	8	7	100	P	S	0	1						
1	5	4	P	0	8	8	100	P	S	0	1						
1	5	5	P	0	8	9	100	P	S	0	1						
1	5	6	P	0	9	2	143	P	S	0	1						

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 50 (Continued)														
1	5	7	P	0	9	3	100	P	S	0	1			
1	5	8	P	0	9	4	100	P	S	0	1			
1	5	9	P	0	9	5	293	P	S	0	1			
1	6	0	P	0	9	6	293	P	S	0	1			
1	6	1	P	0	9	7	100	P	S	0	1			
1	6	2	P	0	9	8	293	P	S	0	1			
1	6	3	P	0	9	9	100	P	S	0	1			
1	6	4	P	1	0	1	100	P	S	0	1			
1	6	5	P	1	0	2	100	P	S	0	1			
1	6	6	P	1	0	3	100	P	S	0	1			
1	6	7	P	1	0	4	143	P	S	0	1			
1	6	8	P	1	0	5	143	P	S	0	1			
1	6	9	P	1	0	6	293	P	S	0	1			
1	7	0	P	1	0	8	100	P	S	0	1			
1	7	1	P	1	0	9	100	P	S	0	1			
1	7	2	P	1	1	0	100	P	S	0	1			
1	7	3	P	1	1	1	100	P	S	0	1			
1	7	4	P	1	1	2	143	P	S	0	1			
1	7	5	P	1	1	3	293	P	S	0	1			
1	7	6	P	1	1	4	100	P	S	0	1			
1	7	7	P	1	1	5	100	P	S	0	1			
1	7	8	P	1	1	6	100	P	S	0	1			
1	7	9	P	1	1	8	100	P	S	0	1			
1	8	0	P	1	1	9	143	P	S	0	1			
1	8	1	P	1	2	0	293	P	S	0	1			
1	8	2	P	1	2	1	100	P	S	0	1			
1	8	3	P	1	2	2	100	P	S	0	1			
1	8	4	P	1	2	3	100	P	S	0	1			
1	8	5	P	1	2	7	100	P	S	0	1			
1	8	6	P	1	2	8	100	P	S	0	1			
1	8	7	P	1	8	5	100	P	S	0	1			
1	8	8	P	1	8	8	100	P	S	0	1			
1	8	9	P	1	8	9	100	P	S	0	1			
1	9	0	P	1	9	0	100	P	S	0	1			
1	9	1	P	1	9	1	100	P	S	0	1			
1	9	2	P	1	9	2	100	P	S	0	1			
1	9	3	P	1	9	4	100	P	S	0	1			
1	9	4	P	1	9	6	100	P	S	0	1			
1	9	5	P	1	9	7	100	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 50 (Continued)														
1	9	6	P	1	9	8	100	P	S	0	1			
1	9	7	P	1	9	9	100	P	S	0	1			
1	9	8	P	2	0	1	100	P	S	0	1			
1	9	9	P	2	0	2	100	P	S	0	1			
2	0	0	P	2	0	3	100	P	S	0	1			
2	0	1	P	2	0	4	100	P	S	0	1			
2	0	2	P	2	0	5	100	P	S	0	1			
2	0	3	U	0	0	1	293	P	S	0	1			
2	0	4	U	0	0	2	954	P	S	0	1			
2	0	5	U	0	0	3	485	P	S	0	1			
2	0	6	U	0	0	4	100	P	S	0	1			
2	0	7	U	0	0	5	100	P	S	0	1			
2	0	8	U	0	0	6	100	P	S	0	1			
2	0	9	U	0	0	7	143	P	S	0	1			
2	1	0	U	0	0	8	143	P	S	0	1			
2	1	1	U	0	0	9	143	P	S	0	1			
2	1	2	U	0	1	0	100	P	S	0	1			
2	1	3	U	0	1	1	100	P	S	0	1			
2	1	4	U	0	1	2	293	P	S	0	1			
2	1	5	U	0	1	4	100	P	S	0	1			
2	1	6	U	0	1	5	100	P	S	0	1			
2	1	7	U	0	1	6	100	P	S	0	1			
2	1	8	U	0	1	7	100	P	S	0	1			
2	1	9	U	0	1	8	143	P	S	0	1			
2	2	0	U	0	1	9	470	P	S	0	1			
2	2	1	U	0	2	0	100	P	S	0	1			
2	2	2	U	0	2	1	100	P	S	0	1			
2	2	3	U	0	2	2	293	P	S	0	1			
2	2	4	U	0	2	3	100	P	S	0	1			
2	2	5	U	0	2	4	100	P	S	0	1			
2	2	6	U	0	2	5	100	P	S	0	1			
2	2	7	U	0	2	6	100	P	S	0	1			
2	2	8	U	0	2	7	100	P	S	0	1			
2	2	9	U	0	2	8	100	P	S	0	1			
2	3	0	U	0	2	9	293	P	S	0	1			
2	3	1	U	0	3	0	100	P	S	0	1			
2	3	2	U	0	3	1	293	P	S	0	1			
2	3	3	U	0	3	2	100	P	S	0	1			
2	3	4	U	0	3	3	143	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 50 (Continued)																			
2	3	5	U	0	3	4	100	P	S	0	1								
2	3	6	U	0	3	5	100	P	S	0	1								
2	3	7	U	0	3	6	100	P	S	0	1								
2	3	8	U	0	3	7	143	P	S	0	1								
2	3	9	U	0	3	8	100	P	S	0	1								
2	4	0	U	0	3	9	100	P	S	0	1								
2	4	1	U	0	4	1	143	P	S	0	1								
2	4	2	U	0	4	2	100	P	S	0	1								
2	4	3	U	0	4	3	100	P	S	0	1								
2	4	4	U	0	4	4	293	P	S	0	1								
2	4	5	U	0	4	5	293	P	S	0	1								
2	4	6	U	0	4	6	100	P	S	0	1								
2	4	7	U	0	4	7	100	P	S	0	1								
2	4	8	U	0	4	8	100	P	S	0	1								
2	4	9	U	0	4	9	100	P	S	0	1								
2	5	0	U	0	5	0	100	P	S	0	1								
2	5	1	U	0	5	1	100	P	S	0	1								
2	5	2	U	0	5	2	293	P	S	0	1								
2	5	3	U	0	5	3	100	P	S	0	1								
2	5	4	U	0	5	5	143	P	S	0	1								
2	5	5	U	0	5	6	293	P	S	0	1								
2	5	6	U	0	5	7	293	P	S	0	1								
2	5	7	U	0	5	8	100	P	S	0	1								
2	5	8	U	0	5	9	100	P	S	0	1								
2	5	9	U	0	6	0	100	P	S	0	1								
2	6	0	U	0	6	1	100	P	S	0	1								
2	6	1	U	0	6	2	100	P	S	0	1								
2	6	2	U	0	6	3	100	P	S	0	1								
2	6	3	U	0	6	4	100	P	S	0	1								
2	6	4	U	0	6	6	100	P	S	0	1								
2	6	5	U	0	6	7	143	P	S	0	1								
2	6	6	U	0	6	8	143	P	S	0	1								
2	6	7	U	0	6	9	100	P	S	0	1								
2	6	8	U	0	7	0	165	P	S	0	1								
2	6	9	U	0	7	1	100	P	S	0	1								
2	7	0	U	0	7	2	100	P	S	0	1								
2	7	1	U	0	7	3	100	P	S	0	1								
2	7	2	U	0	7	4	100	P	S	0	1								
2	7	3	U	0	7	5	381	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 50 (Continued)																			
2	7	4	U	0	7	6	100	P	S	0	1								
2	7	5	U	0	7	7	293	P	S	0	1								
2	7	6	U	0	7	8	100	P	S	0	1								
2	7	7	U	0	7	9	100	P	S	0	1								
2	7	8	U	0	8	0	4,129	P	S	0	1								
2	7	9	U	0	8	1	100	P	S	0	1								
2	8	0	U	0	8	2	100	P	S	0	1								
2	8	1	U	0	8	3	100	P	S	0	1								
2	8	2	U	0	8	4	100	P	S	0	1								
2	8	3	U	0	8	5	143	P	S	0	1								
2	8	4	U	0	8	6	100	P	S	0	1								
2	8	5	U	0	8	7	100	P	S	0	1								
2	8	6	U	0	8	8	100	P	S	0	1								
2	8	7	U	0	8	9	100	P	S	0	1								
2	8	8	U	0	9	0	100	P	S	0	1								
2	8	9	U	0	9	1	518	P	S	0	1								
2	9	0	U	0	9	2	143	P	S	0	1								
2	9	1	U	0	9	3	100	P	S	0	1								
2	9	2	U	0	9	4	100	P	S	0	1								
2	9	3	U	0	9	5	100	P	S	0	1								
2	9	4	U	0	9	6	100	P	S	0	1								
2	9	5	U	0	9	7	100	P	S	0	1								
2	9	6	U	0	9	8	100	P	S	0	1								
2	9	7	U	0	9	9	100	P	S	0	1								
2	9	8	U	1	0	1	100	P	S	0	1								
2	9	9	U	1	0	2	100	P	S	0	1								
3	0	0	U	1	0	3	143	P	S	0	1								
3	0	1	U	1	0	5	100	P	S	0	1								
3	0	2	U	1	0	6	100	P	S	0	1								
3	0	3	U	1	0	7	100	P	S	0	1								
3	0	4	U	1	0	8	293	P	S	0	1								
3	0	5	U	1	0	9	143	P	S	0	1								
3	0	6	U	1	1	0	100	P	S	0	1								
3	0	7	U	1	1	1	100	P	S	0	1								
3	0	8	U	1	1	2	293	P	S	0	1								
3	0	9	U	1	1	3	100	P	S	0	1								
3	1	0	U	1	1	4	100	P	S	0	1								
3	1	1	U	1	1	5	293	P	S	0	1								
3	1	2	U	1	1	6	100	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 50 (Continued)																			
3	1	3	U	1	1	7	293	P	S	0	1								
3	1	4	U	1	1	8	100	P	S	0	1								
3	1	5	U	1	1	9	100	P	S	0	1								
3	1	6	U	1	2	0	100	P	S	0	1								
3	1	7	U	1	2	1	293	P	S	0	1								
3	1	8	U	1	2	2	778	P	S	0	1								
3	1	9	U	1	2	3	293	P	S	0	1								
3	2	0	U	1	2	4	143	P	S	0	1								
3	2	1	U	1	2	5	100	P	S	0	1								
3	2	2	U	1	2	6	100	P	S	0	1								
3	2	3	U	1	2	7	100	P	S	0	1								
3	2	4	U	1	2	8	100	P	S	0	1								
3	2	5	U	1	2	9	100	P	S	0	1								
3	2	6	U	1	3	0	100	P	S	0	1								
3	2	7	U	1	3	1	293	P	S	0	1								
3	2	8	U	1	3	2	100	P	S	0	1								
3	2	9	U	1	3	3	293	P	S	0	1								
3	3	0	U	1	3	4	667	P	S	0	1								
3	3	1	U	1	3	5	447	P	S	0	1								
3	3	2	U	1	3	6	143	P	S	0	1								
3	3	3	U	1	3	7	100	P	S	0	1								
3	3	4	U	1	3	8	100	P	S	0	1								
3	3	5	U	1	4	0	293	P	S	0	1								
3	3	6	U	1	4	1	100	P	S	0	1								
3	3	7	U	1	4	2	100	P	S	0	1								
3	3	8	U	1	4	3	100	P	S	0	1								
3	3	9	U	1	4	4	293	P	S	0	1								
3	4	0	U	1	4	5	293	P	S	0	1								
3	4	1	U	1	4	6	100	P	S	0	1								
3	4	2	U	1	4	7	100	P	S	0	1								
3	4	3	U	1	4	8	100	P	S	0	1								
3	4	4	U	1	4	9	100	P	S	0	1								
3	4	5	U	1	5	0	100	P	S	0	1								
3	4	6	U	1	5	1	884	P	S	0	1								
3	4	7	U	1	5	2	100	P	S	0	1								
3	4	8	U	1	5	3	143	P	S	0	1								
3	4	9	U	1	5	4	359	P	S	0	1								
3	5	0	U	1	5	5	100	P	S	0	1								
3	5	1	U	1	5	6	100	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 50 (Continued)																			
3	5	2	U	1	5	7	100	P	S	0	1								
3	5	3	U	1	5	8	100	P	S	0	1								
3	5	4	U	1	5	9	315	P	S	0	1								
3	5	5	U	1	6	0	293	P	S	0	1								
3	5	6	U	1	6	1	470	P	S	0	1								
3	5	7	U	1	6	2	143	P	S	0	1								
3	5	8	U	1	6	3	143	P	S	0	1								
3	5	9	U	1	6	4	100	P	S	0	1								
3	6	0	U	1	6	5	293	P	S	0	1								
3	6	1	U	1	6	6	100	P	S	0	1								
3	6	2	U	1	6	7	143	P	S	0	1								
3	6	3	U	1	6	8	143	P	S	0	1								
3	6	4	U	1	6	9	293	P	S	0	1								
3	6	5	U	1	7	0	143	P	S	0	1								
3	6	6	U	1	7	1	100	P	S	0	1								
3	6	7	U	1	7	2	100	P	S	0	1								
3	6	8	U	1	7	3	100	P	S	0	1								
3	6	9	U	1	7	4	100	P	S	0	1								
3	7	0	U	1	7	6	100	P	S	0	1								
3	7	1	U	1	7	7	100	P	S	0	1								
3	7	2	U	1	7	8	100	P	S	0	1								
3	7	3	U	1	7	9	100	P	S	0	1								
3	7	4	U	1	8	0	100	P	S	0	1								
3	7	5	U	1	8	1	100	P	S	0	1								
3	7	6	U	1	8	2	100	P	S	0	1								
3	7	7	U	1	8	3	100	P	S	0	1								
3	7	8	U	1	8	4	100	P	S	0	1								
3	7	9	U	1	8	5	100	P	S	0	1								
3	8	0	U	1	8	6	100	P	S	0	1								
3	8	1	U	1	8	7	100	P	S	0	1								
3	8	2	U	1	8	8	293	P	S	0	1								
3	8	3	U	1	8	9	100	P	S	0	1								
3	8	4	U	1	9	0	293	P	S	0	1								
3	8	5	U	1	9	1	100	P	S	0	1								
3	8	6	U	1	9	2	100	P	S	0	1								
3	8	7	U	1	9	3	100	P	S	0	1								
3	8	8	U	1	9	4	100	P	S	0	1								
3	8	9	U	1	9	6	293	P	S	0	1								
3	5	2	U	1	9	7	100	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 50 (Continued)														
3	9	1	U	2	0	0	100	P	S	0	1			
3	9	2	U	2	0	1	100	P	S	0	1			
3	9	3	U	2	0	2	100	P	S	0	1			
3	9	4	U	2	0	3	100	P	S	0	1			
3	9	5	U	2	0	4	293	P	S	0	1			
3	9	6	U	2	0	5	100	P	S	0	1			
3	9	7	U	2	0	6	100	P	S	0	1			
3	9	8	U	2	0	7	100	P	S	0	1			
3	9	9	U	2	0	8	100	P	S	0	1			
4	0	0	U	2	0	9	100	P	S	0	1			
4	0	1	U	2	1	0	513	P	S	0	1			
4	0	2	U	2	1	1	359	P	S	0	1			
4	0	3	U	2	1	3	293	P	S	0	1			
4	0	4	U	2	1	4	100	P	S	0	1			
4	0	5	U	2	1	5	100	P	S	0	1			
4	0	6	U	2	1	6	293	P	S	0	1			
4	0	7	U	2	1	7	100	P	S	0	1			
4	0	8	U	2	1	8	293	P	S	0	1			
4	0	9	U	2	1	9	293	P	S	0	1			
4	1	0	U	2	2	0	491	P	S	0	1			
4	1	1	U	2	2	1	100	P	S	0	1			
4	1	2	U	2	2	2	100	P	S	0	1			
4	1	3	U	2	2	3	143	P	S	0	1			
4	1	4	U	2	2	5	293	P	S	0	1			
4	1	5	U	2	2	6	6,594	P	S	0	1			
4	1	6	U	2	2	7	293	P	S	0	1			
4	1	7	U	2	2	8	1,219	P	S	0	1			
4	1	8	U	2	3	4	100	P	S	0	1			
4	1	9	U	2	3	5	100	P	S	0	1			
4	2	0	U	2	3	6	100	P	S	0	1			
4	2	1	U	2	3	7	100	P	S	0	1			
4	2	2	U	2	3	8	100	P	S	0	1			
4	2	3	U	2	3	9	646	P	S	0	1			
4	2	4	U	2	4	0	143	P	S	0	1			
4	2	5	U	2	4	3	100	P	S	0	1			
4	2	6	U	2	4	4	100	P	S	0	1			
4	2	7	U	2	4	6	231	P	S	0	1			
4	2	8	U	2	4	7	100	P	S	0	1			
4	2	9	U	2	4	8	100	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)													
Line Number	A. EPA Hazardous Waste No. (Enter code)			B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES							
						(1) PROCESS CODES (Enter code)				(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))			
Technical Area 50 (Continued)													
4	3	0	U	2	4	9	100	P	S	0	1		
4	3	1	U	2	7	1	100	P	S	0	1		
4	3	2	U	2	7	8	100	P	S	0	1		
4	3	3	U	2	7	9	100	P	S	0	1		
4	3	4	U	2	8	0	100	P	S	0	1		
4	3	5	U	3	2	8	100	P	S	0	1		
4	3	6	U	3	5	3	100	P	S	0	1		
4	3	7	U	3	5	9	100	P	S	0	1		
4	3	8	U	3	6	4	100	P	S	0	1		
4	3	9	U	3	6	7	100	P	S	0	1		
4	4	0	U	3	7	2	100	P	S	0	1		
4	4	1	U	3	7	3	100	P	S	0	1		
4	4	2	U	3	8	7	100	P	S	0	1		
4	4	3	U	3	8	9	100	P	S	0	1		
4	4	4	U	3	9	4	100	P	S	0	1		
4	4	5	U	3	9	5	100	P	S	0	1		
4	4	6	U	4	0	4	100	P	S	0	1		
4	4	7	U	4	0	9	100	P	S	0	1		
4	4	8	U	4	1	0	100	P	S	0	1		
4	4	9	U	4	1	1	100	P	S	0	1		
4	3	0											
4	3	1											
4	3	2											
4	3	3											
4	3	4											
4	3	5											
4	3	6											
4	3	7											
4	3	8											
4	3	9											
4	4	0											
4	4	1											
4	4	2											
4	4	3											
4	4	4											
4	4	5											
4	4	6											
4	4	7											
4	4	8											

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES								
	(1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 54, Area L																
1	1	D	0	0	1	220,000	P	S	0	1						
2	2	D	0	0	2	365,000	P	S	0	1						
3	3	D	0	0	3	100,000	P	S	0	1						
4	4	D	0	0	4	25,000	P	S	0	1						
5	5	D	0	0	5	80,000	P	S	0	1						
6	6	D	0	0	6	65,000	P	S	0	1						
7	7	D	0	0	7	75,000	P	S	0	1						
8	8	D	0	0	8	800,000	P	S	0	1						
9	9	D	0	0	9	65,000	P	S	0	1						
1	0	D	0	1	0	30,000	P	S	0	1						
1	1	D	0	1	1	40,000	P	S	0	1						
1	2	D	0	1	2	12,000	P	S	0	1						
1	3	D	0	1	3	4,000	P	S	0	1						
1	4	D	0	1	4	4,000	P	S	0	1						
1	5	D	0	1	5	7,000	P	S	0	1						
1	6	D	0	1	6	4,000	P	S	0	1						
1	7	D	0	1	7	4,000	P	S	0	1						
1	8	D	0	1	8	20,000	P	S	0	1						
1	9	D	0	1	9	20,000	P	S	0	1						
2	0	D	0	2	0	30,000	P	S	0	1						
2	1	D	0	2	1	10,000	P	S	0	1						
2	2	D	0	2	2	23,000	P	S	0	1						
2	3	D	0	2	3	4,000	P	S	0	1						
2	4	D	0	2	4	4,000	P	S	0	1						
2	5	D	0	2	5	4,000	P	S	0	1						
2	6	D	0	2	6	4,000	P	S	0	1						
2	7	D	0	2	7	12,000	P	S	0	1						
2	8	D	0	2	8	30,000	P	S	0	1						
2	9	D	0	2	9	7,000	P	S	0	1						
3	0	D	0	3	0	20000	P	S	0	1						
3	1	D	0	3	1	12000	P	S	0	1						
3	2	D	0	3	2	19000	P	S	0	1						
3	3	D	0	3	3	19000	P	S	0	1						
3	4	D	0	3	4	19000	P	S	0	1						
3	5	D	0	3	5	20000	P	S	0	1						
3	6	D	0	3	6	9000	P	S	0	1						
3	7	D	0	3	7	7000	P	S	0	1						
3	8	D	0	3	8	4000	P	S	0	1						
3	9	D	0	3	9	10000	P	S	0	1						

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES						
	(1) PROCESS CODES (Enter code)							(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 54, Area L (Continued)														
4	0	D	0	4	0	15000	P	S	0	1				
4	1	D	0	4	1	7000	P	S	0	1				
4	2	D	0	4	2	12000	P	S	0	1				
4	3	D	0	4	3	15000	P	S	0	1				
4	4	F	0	0	1	660000	P	S	0	1				
4	5	F	0	0	2	350000	P	S	0	1				
4	6	F	0	0	3	250000	P	S	0	1				
4	7	F	0	0	4	30000	P	S	0	1				
4	8	F	0	0	5	250000	P	S	0	1				
4	9	F	0	0	6	7000	P	S	0	1				
5	0	F	0	0	7	28000	P	S	0	1				
5	1	F	0	0	8	7000	P	S	0	1				
5	2	F	0	0	9	8000	P	S	0	1				
5	3	F	0	1	0	4000	P	S	0	1				
5	4	F	0	1	1	4000	P	S	0	1				
5	5	F	0	1	2	4000	P	S	0	1				
5	6	F	0	1	9	500	P	S	0	1				
5	7	F	0	2	0	500	P	S	0	1				
5	8	F	0	2	1	500	P	S	0	1				
5	9	F	0	2	2	500	P	S	0	1				
6	0	F	0	2	3	500	P	S	0	1				
6	1	F	0	2	4	500	P	S	0	1				
6	2	F	0	2	5	500	P	S	0	1				
6	3	F	0	2	6	500	P	S	0	1				
6	4	F	0	2	7	4000	P	S	0	1				
6	5	F	0	2	8	4000	P	S	0	1				
6	6	F	0	3	2	500	P	S	0	1				
6	7	F	0	3	4	500	P	S	0	1				
6	8	F	0	3	5	500	P	S	0	1				
6	9	F	0	3	7	500	P	S	0	1				
7	0	F	0	3	8	500	P	S	0	1				
7	1	F	0	3	9	4000	P	S	0	1				
7	2	K	0	4	4	22000	P	S	0	1				
7	3	K	0	4	5	4000	P	S	0	1				
7	4	K	0	4	6	4000	P	S	0	1				
7	5	K	0	4	7	4000	P	S	0	1				
7	6	K	0	8	4	500	P	S	0	1				
7	7	K	1	0	1	500	P	S	0	1				
7	8	K	1	0	2	500	P	S	0	1				

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, Area L (Continued)														
7	9	P	0	0	1	4,000	P	S	0	1				
8	0	P	0	0	2	4,000	P	S	0	1				
8	1	P	0	0	3	4,000	P	S	0	1				
8	2	P	0	0	4	4,000	P	S	0	1				
8	3	P	0	0	5	4,000	P	S	0	1				
8	4	P	0	0	6	4,000	P	S	0	1				
8	5	P	0	0	7	4,000	P	S	0	1				
8	6	P	0	0	8	4,000	P	S	0	1				
8	7	P	0	0	9	4,000	P	S	0	1				
8	8	P	0	1	0	4,000	P	S	0	1				
8	9	P	0	1	1	4,000	P	S	0	1				
9	0	P	0	1	2	4,000	P	S	0	1				
9	1	P	0	1	3	4,000	P	S	0	1				
9	2	P	0	1	4	4,000	P	S	0	1				
9	3	P	0	1	5	4,000	P	S	0	1				
9	4	P	0	1	6	4,000	P	S	0	1				
9	5	P	0	1	7	4,000	P	S	0	1				
9	6	P	0	1	8	4,000	P	S	0	1				
9	7	P	0	2	0	4,000	P	S	0	1				
9	8	P	0	2	1	4,000	P	S	0	1				
9	9	P	0	2	2	4,000	P	S	0	1				
1	0	0	P	0	2	3	4,000	P	S	0	1			
1	0	1	P	0	2	4	4,000	P	S	0	1			
1	0	2	P	0	2	6	4,000	P	S	0	1			
1	0	3	P	0	2	7	4,000	P	S	0	1			
1	0	4	P	0	2	8	4,000	P	S	0	1			
1	0	5	P	0	2	9	4,000	P	S	0	1			
1	0	6	P	0	3	0	4,000	P	S	0	1			
1	0	7	P	0	3	1	4,000	P	S	0	1			
1	0	8	P	0	3	3	4,000	P	S	0	1			
1	0	9	P	0	3	4	4,000	P	S	0	1			
1	1	0	P	0	3	6	4,000	P	S	0	1			
1	1	1	P	0	3	7	4,000	P	S	0	1			
1	1	2	P	0	3	8	4,000	P	S	0	1			
1	1	3	P	0	3	9	4,000	P	S	0	1			
1	1	4	P	0	4	0	4,000	P	S	0	1			
1	1	5	P	0	4	1	4,000	P	S	0	1			
1	1	6	P	0	4	2	4,000	P	S	0	1			
1	1	7	P	0	4	3	4,000	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, Area L (Continued)														
1	1	8	P	0	4	4	4,000	P	S	0	1			
1	1	9	P	0	4	5	4,000	P	S	0	1			
1	2	0	P	0	4	6	4,000	P	S	0	1			
1	2	1	P	0	4	7	4,000	P	S	0	1			
1	2	2	P	0	4	8	4,000	P	S	0	1			
1	2	3	P	0	4	9	4,000	P	S	0	1			
1	2	4	P	0	5	0	4,000	P	S	0	1			
1	2	5	P	0	5	1	4,000	P	S	0	1			
1	2	6	P	0	5	4	4,000	P	S	0	1			
1	2	7	P	0	5	6	4,000	P	S	0	1			
1	2	8	P	0	5	7	4,000	P	S	0	1			
1	2	9	P	0	5	8	4,000	P	S	0	1			
1	3	0	P	0	5	9	4,000	P	S	0	1			
1	3	1	P	0	6	0	4,000	P	S	0	1			
1	3	2	P	0	6	2	4,000	P	S	0	1			
1	3	3	P	0	6	3	4,000	P	S	0	1			
1	3	4	P	0	6	4	4,000	P	S	0	1			
1	3	5	P	0	6	5	4,000	P	S	0	1			
1	3	6	P	0	6	6	4,000	P	S	0	1			
1	3	7	P	0	6	7	4,000	P	S	0	1			
1	3	8	P	0	6	8	4,000	P	S	0	1			
1	3	9	P	0	6	9	4,000	P	S	0	1			
1	4	0	P	0	7	0	4,000	P	S	0	1			
1	4	1	P	0	7	1	4,000	P	S	0	1			
1	4	2	P	0	7	2	4,000	P	S	0	1			
1	4	3	P	0	7	3	4,000	P	S	0	1			
1	4	4	P	0	7	4	4,000	P	S	0	1			
1	4	5	P	0	7	5	4,000	P	S	0	1			
1	4	6	P	0	7	6	4,000	P	S	0	1			
1	4	7	P	0	7	7	4,000	P	S	0	1			
1	4	8	P	0	7	8	4,000	P	S	0	1			
1	4	9	P	0	8	1	4,000	P	S	0	1			
1	5	0	P	0	8	2	4,000	P	S	0	1			
1	5	1	P	0	8	4	4,000	P	S	0	1			
1	5	2	P	0	8	5	4,000	P	S	0	1			
1	5	3	P	0	8	7	4,000	P	S	0	1			
1	5	4	P	0	8	8	4,000	P	S	0	1			
1	5	5	P	0	8	9	4,000	P	S	0	1			
1	5	6	P	0	9	2	4,000	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area L (Continued)																			
1	5	7	P	0	9	3	4,000	P	S	0	1								
1	5	8	P	0	9	4	4,000	P	S	0	1								
1	5	9	P	0	9	5	4,000	P	S	0	1								
1	6	0	P	0	9	6	4,000	P	S	0	1								
1	6	1	P	0	9	7	4,000	P	S	0	1								
1	6	2	P	0	9	8	4,000	P	S	0	1								
1	6	3	P	0	9	9	4,000	P	S	0	1								
1	6	4	P	1	0	1	4,000	P	S	0	1								
1	6	5	P	1	0	2	4,000	P	S	0	1								
1	6	6	P	1	0	3	4,000	P	S	0	1								
1	6	7	P	1	0	4	4,000	P	S	0	1								
1	6	8	P	1	0	5	4,000	P	S	0	1								
1	6	9	P	1	0	6	4,000	P	S	0	1								
1	7	0	P	1	0	8	4,000	P	S	0	1								
1	7	1	P	1	0	9	4,000	P	S	0	1								
1	7	2	P	1	1	0	4,000	P	S	0	1								
1	7	3	P	1	1	1	4,000	P	S	0	1								
1	7	4	P	1	1	2	4,000	P	S	0	1								
1	7	5	P	1	1	3	4,000	P	S	0	1								
1	7	6	P	1	1	4	4,000	P	S	0	1								
1	7	7	P	1	1	5	4,000	P	S	0	1								
1	7	8	P	1	1	6	4,000	P	S	0	1								
1	7	9	P	1	1	8	4,000	P	S	0	1								
1	8	0	P	1	1	9	4,000	P	S	0	1								
1	8	1	P	1	2	0	4,000	P	S	0	1								
1	8	2	P	1	2	1	4,000	P	S	0	1								
1	8	3	P	1	2	2	4,000	P	S	0	1								
1	8	4	P	1	2	3	4,000	P	S	0	1								
1	8	5	P	1	2	7	4,000	P	S	0	1								
1	8	6	P	1	2	8	4,000	P	S	0	1								
1	8	7	P	1	8	5	4,000	P	S	0	1								
1	8	8	P	1	8	8	4,000	P	S	0	1								
1	8	9	P	1	8	9	4,000	P	S	0	1								
1	9	0	P	1	9	0	4,000	P	S	0	1								
1	9	1	P	1	9	1	4,000	P	S	0	1								
1	9	2	P	1	9	2	4,000	P	S	0	1								
1	9	3	P	1	9	4	4,000	P	S	0	1								
1	9	4	P	1	9	6	4,000	P	S	0	1								
1	9	5	P	1	9	7	4,000	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area L (Continued)																			
1	9	6	P	1	9	8	4,000	P	S	0	1								
1	9	7	P	1	9	9	4,000	P	S	0	1								
1	9	8	P	2	0	1	4,000	P	S	0	1								
1	9	9	P	2	0	2	4,000	P	S	0	1								
2	0	0	P	2	0	3	4,000	P	S	0	1								
2	0	1	P	2	0	4	4,000	P	S	0	1								
2	0	2	P	2	0	5	4,000	P	S	0	1								
2	0	3	U	0	0	1	4,000	P	S	0	1								
2	0	4	U	0	0	2	4,000	P	S	0	1								
2	0	5	U	0	0	3	4,000	P	S	0	1								
2	0	6	U	0	0	4	4,000	P	S	0	1								
2	0	7	U	0	0	5	4,000	P	S	0	1								
2	0	8	U	0	0	6	4,000	P	S	0	1								
2	0	9	U	0	0	7	4,000	P	S	0	1								
2	1	0	U	0	0	8	4,000	P	S	0	1								
2	1	1	U	0	0	9	4,000	P	S	0	1								
2	1	2	U	0	1	0	4,000	P	S	0	1								
2	1	3	U	0	1	1	4,000	P	S	0	1								
2	1	4	U	0	1	2	4,000	P	S	0	1								
2	1	5	U	0	1	4	4,000	P	S	0	1								
2	1	6	U	0	1	5	4,000	P	S	0	1								
2	1	7	U	0	1	6	4,000	P	S	0	1								
2	1	8	U	0	1	7	4,000	P	S	0	1								
2	1	9	U	0	1	8	4,000	P	S	0	1								
2	2	0	U	0	1	9	4,000	P	S	0	1								
2	2	1	U	0	2	0	4,000	P	S	0	1								
2	2	2	U	0	2	1	4,000	P	S	0	1								
2	2	3	U	0	2	2	4,000	P	S	0	1								
2	2	4	U	0	2	3	4,000	P	S	0	1								
2	2	5	U	0	2	4	4,000	P	S	0	1								
2	2	6	U	0	2	5	4,000	P	S	0	1								
2	2	7	U	0	2	6	4,000	P	S	0	1								
2	2	8	U	0	2	7	4,000	P	S	0	1								
2	2	9	U	0	2	8	4,000	P	S	0	1								
2	3	0	U	0	2	9	4,000	P	S	0	1								
2	3	1	U	0	3	0	4,000	P	S	0	1								
2	3	2	U	0	3	1	4,000	P	S	0	1								
2	3	3	U	0	3	2	4,000	P	S	0	1								
2	3	4	U	0	3	3	4,000	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area L (Continued)																			
2	3	5	U	0	3	4	4,000	P	S	0	1								
2	3	6	U	0	3	5	4,000	P	S	0	1								
2	3	7	U	0	3	6	4,000	P	S	0	1								
2	3	8	U	0	3	7	4,000	P	S	0	1								
2	3	9	U	0	3	8	4,000	P	S	0	1								
2	4	0	U	0	3	9	4,000	P	S	0	1								
2	4	1	U	0	4	1	4,000	P	S	0	1								
2	4	2	U	0	4	2	4,000	P	S	0	1								
2	4	3	U	0	4	3	4,000	P	S	0	1								
2	4	4	U	0	4	4	4,000	P	S	0	1								
2	4	5	U	0	4	5	4,000	P	S	0	1								
2	4	6	U	0	4	6	4,000	P	S	0	1								
2	4	7	U	0	4	7	4,000	P	S	0	1								
2	4	8	U	0	4	8	4,000	P	S	0	1								
2	4	9	U	0	4	9	4,000	P	S	0	1								
2	5	0	U	0	5	0	4,000	P	S	0	1								
2	5	1	U	0	5	1	4,000	P	S	0	1								
2	5	2	U	0	5	2	4,000	P	S	0	1								
2	5	3	U	0	5	3	4,000	P	S	0	1								
2	5	4	U	0	5	5	4,000	P	S	0	1								
2	5	5	U	0	5	6	4,000	P	S	0	1								
2	5	6	U	0	5	7	4,000	P	S	0	1								
2	5	7	U	0	5	8	4,000	P	S	0	1								
2	5	8	U	0	5	9	4,000	P	S	0	1								
2	5	9	U	0	6	0	4,000	P	S	0	1								
2	6	0	U	0	6	1	4,000	P	S	0	1								
2	6	1	U	0	6	2	4,000	P	S	0	1								
2	6	2	U	0	6	3	4,000	P	S	0	1								
2	6	3	U	0	6	4	4,000	P	S	0	1								
2	6	4	U	0	6	6	4,000	P	S	0	1								
2	6	5	U	0	6	7	4,000	P	S	0	1								
2	6	6	U	0	6	8	4,000	P	S	0	1								
2	6	7	U	0	6	9	4,000	P	S	0	1								
2	6	8	U	0	7	0	4,000	P	S	0	1								
2	6	9	U	0	7	1	4,000	P	S	0	1								
2	7	0	U	0	7	2	4,000	P	S	0	1								
2	7	1	U	0	7	3	4,000	P	S	0	1								
2	7	2	U	0	7	4	4,000	P	S	0	1								
2	7	3	U	0	7	5	4,000	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area L (Continued)																			
2	7	4	U	0	7	6	4,000	P	S	0	1								
2	7	5	U	0	7	7	4,000	P	S	0	1								
2	7	6	U	0	7	8	4,000	P	S	0	1								
2	7	7	U	0	7	9	4,000	P	S	0	1								
2	7	8	U	0	8	0	4,000	P	S	0	1								
2	7	9	U	0	8	1	4,000	P	S	0	1								
2	8	0	U	0	8	2	4,000	P	S	0	1								
2	8	1	U	0	8	3	4,000	P	S	0	1								
2	8	2	U	0	8	4	4,000	P	S	0	1								
2	8	3	U	0	8	5	4,000	P	S	0	1								
2	8	4	U	0	8	6	4,000	P	S	0	1								
2	8	5	U	0	8	7	4,000	P	S	0	1								
2	8	6	U	0	8	8	4,000	P	S	0	1								
2	8	7	U	0	8	9	4,000	P	S	0	1								
2	8	8	U	0	9	0	4,000	P	S	0	1								
2	8	9	U	0	9	1	4,000	P	S	0	1								
2	9	0	U	0	9	2	4,000	P	S	0	1								
2	9	1	U	0	9	3	4,000	P	S	0	1								
2	9	2	U	0	9	4	4,000	P	S	0	1								
2	9	3	U	0	9	5	4,000	P	S	0	1								
2	9	4	U	0	9	6	4,000	P	S	0	1								
2	9	5	U	0	9	7	4,000	P	S	0	1								
2	9	6	U	0	9	8	4,000	P	S	0	1								
2	9	7	U	0	9	9	4,000	P	S	0	1								
2	9	8	U	1	0	1	4,000	P	S	0	1								
2	9	9	U	1	0	2	4,000	P	S	0	1								
3	0	0	U	1	0	3	4,000	P	S	0	1								
3	0	1	U	1	0	5	4,000	P	S	0	1								
3	0	2	U	1	0	6	4,000	P	S	0	1								
3	0	3	U	1	0	7	4,000	P	S	0	1								
3	0	4	U	1	0	8	4,000	P	S	0	1								
3	0	5	U	1	0	9	4,000	P	S	0	1								
3	0	6	U	1	1	0	4,000	P	S	0	1								
3	0	7	U	1	1	1	4,000	P	S	0	1								
3	0	8	U	1	1	2	4,000	P	S	0	1								
3	0	9	U	1	1	3	4,000	P	S	0	1								
3	1	0	U	1	1	4	4,000	P	S	0	1								
3	1	1	U	1	1	5	4,000	P	S	0	1								
3	1	2	U	1	1	6	4,000	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area L (Continued)																			
3	1	3	U	1	1	7	4,000	P	S	0	1								
3	1	4	U	1	1	8	4,000	P	S	0	1								
3	1	5	U	1	1	9	4,000	P	S	0	1								
3	1	6	U	1	2	0	4,000	P	S	0	1								
3	1	7	U	1	2	1	4,000	P	S	0	1								
3	1	8	U	1	2	2	4,000	P	S	0	1								
3	1	9	U	1	2	3	4,000	P	S	0	1								
3	2	0	U	1	2	4	4,000	P	S	0	1								
3	2	1	U	1	2	5	4,000	P	S	0	1								
3	2	2	U	1	2	6	4,000	P	S	0	1								
3	2	3	U	1	2	7	4,000	P	S	0	1								
3	2	4	U	1	2	8	4,000	P	S	0	1								
3	2	5	U	1	2	9	4,000	P	S	0	1								
3	2	6	U	1	3	0	4,000	P	S	0	1								
3	2	7	U	1	3	1	4,000	P	S	0	1								
3	2	8	U	1	3	2	4,000	P	S	0	1								
3	2	9	U	1	3	3	4,000	P	S	0	1								
3	3	0	U	1	3	4	4,000	P	S	0	1								
3	3	1	U	1	3	5	4,000	P	S	0	1								
3	3	2	U	1	3	6	4,000	P	S	0	1								
3	3	3	U	1	3	7	4,000	P	S	0	1								
3	3	4	U	1	3	8	4,000	P	S	0	1								
3	3	5	U	1	4	0	4,000	P	S	0	1								
3	3	6	U	1	4	1	4,000	P	S	0	1								
3	3	7	U	1	4	2	4,000	P	S	0	1								
3	3	8	U	1	4	3	4,000	P	S	0	1								
3	3	9	U	1	4	4	4,000	P	S	0	1								
3	4	0	U	1	4	5	4,000	P	S	0	1								
3	4	1	U	1	4	6	4,000	P	S	0	1								
3	4	2	U	1	4	7	4,000	P	S	0	1								
3	4	3	U	1	4	8	4,000	P	S	0	1								
3	4	4	U	1	4	9	4,000	P	S	0	1								
3	4	5	U	1	5	0	4,000	P	S	0	1								
3	4	6	U	1	5	1	4,000	P	S	0	1								
3	4	7	U	1	5	2	4,000	P	S	0	1								
3	4	8	U	1	5	3	4,000	P	S	0	1								
3	4	9	U	1	5	4	4,000	P	S	0	1								
3	5	0	U	1	5	5	4,000	P	S	0	1								
3	5	1	U	1	5	6	4,000	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area L (Continued)																			
3	5	4	U	1	5	7	4,000	P	S	0	1								
3	5	5	U	1	5	8	4,000	P	S	0	1								
3	5	6	U	1	5	9	4,000	P	S	0	1								
3	5	7	U	1	6	0	4,000	P	S	0	1								
3	5	8	U	1	6	1	4,000	P	S	0	1								
3	5	9	U	1	6	2	4,000	P	S	0	1								
3	6	0	U	1	6	3	4,000	P	S	0	1								
3	6	1	U	1	6	4	4,000	P	S	0	1								
3	6	2	U	1	6	5	4,000	P	S	0	1								
3	6	3	U	1	6	6	4,000	P	S	0	1								
3	6	4	U	1	6	7	4,000	P	S	0	1								
3	6	5	U	1	6	8	4,000	P	S	0	1								
3	6	6	U	1	6	9	4,000	P	S	0	1								
3	6	7	U	1	7	0	4,000	P	S	0	1								
3	6	8	U	1	7	1	4,000	P	S	0	1								
3	6	9	U	1	7	2	4,000	P	S	0	1								
3	7	0	U	1	7	3	4,000	P	S	0	1								
3	7	1	U	1	7	4	4,000	P	S	0	1								
3	7	2	U	1	7	6	4,000	P	S	0	1								
3	7	3	U	1	7	7	4,000	P	S	0	1								
3	7	4	U	1	7	8	4,000	P	S	0	1								
3	7	5	U	1	7	9	4,000	P	S	0	1								
3	7	6	U	1	8	0	4,000	P	S	0	1								
3	7	7	U	1	8	1	4,000	P	S	0	1								
3	7	8	U	1	8	2	4,000	P	S	0	1								
3	7	9	U	1	8	3	4,000	P	S	0	1								
3	8	0	U	1	8	4	4,000	P	S	0	1								
3	8	1	U	1	8	5	4,000	P	S	0	1								
3	8	2	U	1	8	6	4,000	P	S	0	1								
3	8	3	U	1	8	7	4,000	P	S	0	1								
3	8	4	U	1	8	8	4,000	P	S	0	1								
3	8	5	U	1	8	9	4,000	P	S	0	1								
3	8	6	U	1	9	0	4,000	P	S	0	1								
3	8	7	U	1	9	1	4,000	P	S	0	1								
3	8	8	U	1	9	2	4,000	P	S	0	1								
3	8	9	U	1	9	3	4,000	P	S	0	1								
3	9	0	U	1	9	4	4,000	P	S	0	1								
3	5	4	U	1	9	6	4,000	P	S	0	1								
3	5	5	U	1	9	7	4,000	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																		
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 54, Area L (Continued)																		
3	9	1	U	2	0	0	4,000	P	S	0	1							
3	9	2	U	2	0	1	4,000	P	S	0	1							
3	9	3	U	2	0	2	4,000	P	S	0	1							
3	9	4	U	2	0	3	4,000	P	S	0	1							
3	9	5	U	2	0	4	4,000	P	S	0	1							
3	9	6	U	2	0	5	4,000	P	S	0	1							
3	9	7	U	2	0	6	4,000	P	S	0	1							
3	9	8	U	2	0	7	4,000	P	S	0	1							
3	9	9	U	2	0	8	4,000	P	S	0	1							
4	0	0	U	2	0	9	4,000	P	S	0	1							
4	0	1	U	2	1	0	4,000	P	S	0	1							
4	0	2	U	2	1	1	4,000	P	S	0	1							
4	0	3	U	2	1	3	4,000	P	S	0	1							
4	0	4	U	2	1	4	4,000	P	S	0	1							
4	0	5	U	2	1	5	4,000	P	S	0	1							
4	0	6	U	2	1	6	4,000	P	S	0	1							
4	0	7	U	2	1	7	4,000	P	S	0	1							
4	0	8	U	2	1	8	4,000	P	S	0	1							
4	0	9	U	2	1	9	4,000	P	S	0	1							
4	1	0	U	2	2	0	7,000	P	S	0	1							
4	1	1	U	2	0	0	4,000	P	S	0	1							
4	1	2	U	2	0	1	4,000	P	S	0	1							
4	1	3	U	2	0	2	4,000	P	S	0	1							
4	1	4	U	2	0	3	4,000	P	S	0	1							
4	1	5	U	2	0	4	7,000	P	S	0	1							
4	1	6	U	2	0	5	4,000	P	S	0	1							
4	1	7	U	2	0	6	7,000	P	S	0	1							
4	1	8	U	2	0	7	4,000	P	S	0	1							
4	1	9	U	2	0	8	4,000	P	S	0	1							
4	2	0	U	2	0	9	4,000	P	S	0	1							
4	2	1	U	2	1	0	4,000	P	S	0	1							
4	2	2	U	2	1	1	4,000	P	S	0	1							
4	2	3	U	2	1	3	7,000	P	S	0	1							
4	2	4	U	2	1	4	4,000	P	S	0	1							
4	2	5	U	2	1	5	4,000	P	S	0	1							
4	2	6	U	2	1	6	4,000	P	S	0	1							
4	2	7	U	2	1	7	4,000	P	S	0	1							
4	2	8	U	2	1	8	4,000	P	S	0	1							
4	2	9	U	2	1	9	4,000	P	S	0	1							

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)															
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES							
	(1) PROCESS CODES (Enter code)								(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 54, Material Disposal Area L (Impoundments B and D/Shafts 1, 13-17, and 19-34) ^{a,b}															
1	D	0	0	1	82,000	P	D	8	0						
2	D	0	0	2	17,200	P	D	8	0						
3	D	0	0	3	750	P	D	8	0						
4	D	0	0	4	1,700	P	D	8	0						
5	D	0	0	6	650	P	D	8	0						
6	D	0	0	7	1,000	P	D	8	0						
7	D	0	0	8	1,250	P	D	8	0						
8	D	0	0	9	2,200	P	D	8	0						
9	D	0	1	1	100	P	D	8	0						
1	0	D	0	1	6	600	P	D	8	0					
1	1	F	0	0	2	1,400	P	D	8	0					
1	2	P	0	1	5	4,000	P	D	8	0					
1	3	P	0	8	7	15	P	D	8	0					
1	4	U	0	0	2	5,000	P	D	8	0					
1	5	U	0	1	9	200	P	D	8	0					
1	6	U	0	6	9	500	P	D	8	0					
1	7	U	0	8	0	2,000	P	D	8	0					
1	8	U	1	2	2	550	P	D	8	0					
1	9	U	1	5	1	35	P	D	8	0					
2	0	U	1	5	4	550	P	D	8	0					
2	1	U	1	5	9	300	P	D	8	0					
2	2	U	1	6	1	500	P	D	8	0					
2	3	U	1	6	5	140	P	D	8	0					
2	4	U	2	2	0	620	P	D	8	0					
2	5	U	2	2	6	10,000	P	D	8	0					
2	6	U	2	2	8	4,400	P	D	8	0					
2	7	U	2	3	9	345	P	D	8	0					
2	8														
2	9														
3	0														
3	1														
3	2														
3	3														
3	4														
3	5														
3	6														
3	7														
3	8														
3	9														

^a Based on historical data from waste operations personnel.
^b To be closed in accordance with Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested.

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES															
								(1) PROCESS CODES (Enter code)				(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))											
Technical Area 54, Area G																							
	1	D	0	0	1	330,000	P	S	0	1													
	2	D	0	0	2	395,000	P	S	0	1													
	3	D	0	0	3	185,000	P	S	0	1													
	4	D	0	0	4	2,525,000	P	S	0	1													
	5	D	0	0	5	82,000	P	S	0	1													
	6	D	0	0	6	515,000	P	S	0	1													
	7	D	0	0	7	3,775,000	P	S	0	1													
	8	D	0	0	8	5,400,000	P	S	0	1													
	9	D	0	0	9	100,000	P	S	0	1													
1	0	D	0	1	0	45,000	P	S	0	1													
1	1	D	0	1	1	2,540,000	P	S	0	1													
1	2	D	0	1	2	18,000	P	S	0	1													
1	3	D	0	1	3	4,000	P	S	0	1													
1	4	D	0	1	4	4,000	P	S	0	1													
1	5	D	0	1	5	7,000	P	S	0	1													
1	6	D	0	1	6	4,000	P	S	0	1													
1	7	D	0	1	7	4,000	P	S	0	1													
1	8	D	0	1	8	30,000	P	S	0	1													
1	9	D	0	1	9	25,000	P	S	0	1													
2	0	D	0	2	0	30,000	P	S	0	1													
2	1	D	0	2	1	15,000	P	S	0	1													
2	2	D	0	2	2	33,000	P	S	0	1													
2	3	D	0	2	3	4,000	P	S	0	1													
2	4	D	0	2	4	4,000	P	S	0	1													
2	5	D	0	2	5	4,000	P	S	0	1													
2	6	D	0	2	6	4,000	P	S	0	1													
2	7	D	0	2	7	22,000	P	S	0	1													
2	8	D	0	2	8	40,000	P	S	0	1													
2	9	D	0	2	9	7,000	P	S	0	1													
3	0	D	0	3	0	30,000	P	S	0	1													
3	1	D	0	3	1	22,000	P	S	0	1													
3	2	D	0	3	2	29,000	P	S	0	1													
3	3	D	0	3	3	29,000	P	S	0	1													
3	4	D	0	3	4	29,000	P	S	0	1													
3	5	D	0	3	5	30,000	P	S	0	1													
3	6	D	0	3	6	19,000	P	S	0	1													
3	7	D	0	3	7	7,000	P	S	0	1													
3	8	D	0	3	8	14,000	P	S	0	1													
3	9	D	0	3	9	20,000	P	S	0	1													

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES						
	(1) PROCESS CODES (Enter code)							(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 54, Area G (Continued)														
4	0	D	0	4	0	25,000	P	S	0	1				
4	1	D	0	4	1	17,000	P	S	0	1				
4	2	D	0	4	2	22,000	P	S	0	1				
4	3	D	0	4	3	25,000	P	S	0	1				
4	4	F	0	0	1	6,410,000	P	S	0	1				
4	5	F	0	0	2	3,450,000	P	S	0	1				
4	6	F	0	0	3	2,850,000	P	S	0	1				
4	7	F	0	0	4	35,000	P	S	0	1				
4	8	F	0	0	5	3,250,000	P	S	0	1				
4	9	F	0	0	6	7,000	P	S	0	1				
5	0	F	0	0	7	18,000	P	S	0	1				
5	1	F	0	0	8	7,000	P	S	0	1				
5	2	F	0	0	9	8,000	P	S	0	1				
5	3	F	0	1	0	4,000	P	S	0	1				
5	4	F	0	1	1	4,000	P	S	0	1				
5	5	F	0	1	2	4,000	P	S	0	1				
5	6	F	0	1	9	4,000	P	S	0	1				
5	7	F	0	2	0	4,000	P	S	0	1				
5	8	F	0	2	1	4,000	P	S	0	1				
5	9	F	0	2	2	4,000	P	S	0	1				
6	0	F	0	2	3	4,000	P	S	0	1				
6	1	F	0	2	4	4,000	P	S	0	1				
6	2	F	0	2	5	4,000	P	S	0	1				
6	3	F	0	2	6	4,000	P	S	0	1				
6	4	F	0	2	7	4,000	P	S	0	1				
6	5	F	0	2	8	4,000	P	S	0	1				
6	6	F	0	3	2	4,000	P	S	0	1				
6	7	F	0	3	4	4,000	P	S	0	1				
6	8	F	0	3	5	4,000	P	S	0	1				
6	9	F	0	3	7	4,000	P	S	0	1				
7	0	F	0	3	8	4,000	P	S	0	1				
7	1	F	0	3	9	4,000	P	S	0	1				
7	2	K	0	4	4	22,000	P	S	0	1				
7	3	K	0	4	5	4,000	P	S	0	1				
7	4	K	0	4	6	4,000	P	S	0	1				
7	5	K	0	4	7	4,000	P	S	0	1				
7	6	K	0	8	4	500	P	S	0	1				
7	7	K	1	0	1	500	P	S	0	1				
7	8	K	1	0	2	500	P	S	0	1				

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES							
	(1) PROCESS CODES (Enter code)								(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area G (Continued)																
7	9	P	0	0	1	4000	P	S	0	1						
8	0	P	0	0	2	4000	P	S	0	1						
8	1	P	0	0	3	4100	P	S	0	1						
8	2	P	0	0	4	4000	P	S	0	1						
8	3	P	0	0	5	4000	P	S	0	1						
8	4	P	0	0	6	4000	P	S	0	1						
8	5	P	0	0	7	4000	P	S	0	1						
8	6	P	0	0	8	4000	P	S	0	1						
8	7	P	0	0	9	4000	P	S	0	1						
8	8	P	0	1	0	4000	P	S	0	1						
8	9	P	0	1	1	4000	P	S	0	1						
9	0	P	0	1	2	4100	P	S	0	1						
9	1	P	0	1	3	4000	P	S	0	1						
9	2	P	0	1	4	4000	P	S	0	1						
9	3	P	0	1	5	4100	P	S	0	1						
9	4	P	0	1	6	4000	P	S	0	1						
9	5	P	0	1	7	4000	P	S	0	1						
9	6	P	0	1	8	4000	P	S	0	1						
9	7	P	0	2	0	4000	P	S	0	1						
9	8	P	0	2	1	4000	P	S	0	1						
9	9	P	0	2	2	4000	P	S	0	1						
1	0	0	P	0	2	3	4000	P	S	0	1					
1	0	1	P	0	2	4	4000	P	S	0	1					
1	0	2	P	0	2	6	4000	P	S	0	1					
1	0	3	P	0	2	7	4000	P	S	0	1					
1	0	4	P	0	2	8	4000	P	S	0	1					
1	0	5	P	0	2	9	4100	P	S	0	1					
1	0	6	P	0	3	0	4100	P	S	0	1					
1	0	7	P	0	3	1	4100	P	S	0	1					
1	0	8	P	0	3	3	4000	P	S	0	1					
1	0	9	P	0	3	4	4000	P	S	0	1					
1	1	0	P	0	3	6	4000	P	S	0	1					
1	1	1	P	0	3	7	4000	P	S	0	1					
1	1	2	P	0	3	8	4100	P	S	0	1					
1	1	3	P	0	3	9	4000	P	S	0	1					
1	1	4	P	0	4	0	4000	P	S	0	1					
1	1	5	P	0	4	1	4000	P	S	0	1					
1	1	6	P	0	4	2	4000	P	S	0	1					
1	1	7	P	0	4	3	4000	P	S	0	1					

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, Area G (Continued)														
1	1	8	P	0	4	4	4000	P	S	0	1			
1	1	9	P	0	4	5	4000	P	S	0	1			
1	2	0	P	0	4	6	4000	P	S	0	1			
1	2	1	P	0	4	7	4000	P	S	0	1			
1	2	2	P	0	4	8	4000	P	S	0	1			
1	2	3	P	0	4	9	4000	P	S	0	1			
1	2	4	P	0	5	0	4000	P	S	0	1			
1	2	5	P	0	5	1	4000	P	S	0	1			
1	2	6	P	0	5	4	4000	P	S	0	1			
1	2	7	P	0	5	6	4100	P	S	0	1			
1	2	8	P	0	5	7	4000	P	S	0	1			
1	2	9	P	0	5	8	4000	P	S	0	1			
1	3	0	P	0	5	9	4000	P	S	0	1			
1	3	1	P	0	6	0	4000	P	S	0	1			
1	3	2	P	0	6	2	4000	P	S	0	1			
1	3	3	P	0	6	3	4100	P	S	0	1			
1	3	4	P	0	6	4	4000	P	S	0	1			
1	3	5	P	0	6	5	4000	P	S	0	1			
1	3	6	P	0	6	6	4000	P	S	0	1			
1	3	7	P	0	6	7	4000	P	S	0	1			
1	3	8	P	0	6	8	4100	P	S	0	1			
1	3	9	P	0	6	9	4000	P	S	0	1			
1	4	0	P	0	7	0	4000	P	S	0	1			
1	4	1	P	0	7	1	4000	P	S	0	1			
1	4	2	P	0	7	2	4000	P	S	0	1			
1	4	3	P	0	7	3	4100	P	S	0	1			
1	4	4	P	0	7	4	4000	P	S	0	1			
1	4	5	P	0	7	5	4000	P	S	0	1			
1	4	6	P	0	7	6	4000	P	S	0	1			
1	4	7	P	0	7	7	4000	P	S	0	1			
1	4	8	P	0	7	8	4000	P	S	0	1			
1	4	9	P	0	8	1	4000	P	S	0	1			
1	5	0	P	0	8	2	4000	P	S	0	1			
1	5	1	P	0	8	4	4000	P	S	0	1			
1	5	2	P	0	8	5	4000	P	S	0	1			
1	5	3	P	0	8	7	4000	P	S	0	1			
1	5	4	P	0	8	8	4000	P	S	0	1			
1	5	5	P	0	8	9	4000	P	S	0	1			
1	5	6	P	0	9	2	4000	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, Area G (Continued)														
1	5	7	P	0	9	3	4,000	P	S	0	1			
1	5	8	P	0	9	4	4,000	P	S	0	1			
1	5	9	P	0	9	5	4,100	P	S	0	1			
1	6	0	P	0	9	6	4,100	P	S	0	1			
1	6	1	P	0	9	7	4,000	P	S	0	1			
1	6	2	P	0	9	8	4,100	P	S	0	1			
1	6	3	P	0	9	9	4,000	P	S	0	1			
1	6	4	P	1	0	1	4,000	P	S	0	1			
1	6	5	P	1	0	2	4,000	P	S	0	1			
1	6	6	P	1	0	3	4,000	P	S	0	1			
1	6	7	P	1	0	4	4,000	P	S	0	1			
1	6	8	P	1	0	5	4,000	P	S	0	1			
1	6	9	P	1	0	6	4,100	P	S	0	1			
1	7	0	P	1	0	8	4,000	P	S	0	1			
1	7	1	P	1	0	9	4,000	P	S	0	1			
1	7	2	P	1	1	0	4,000	P	S	0	1			
1	7	3	P	1	1	1	4,000	P	S	0	1			
1	7	4	P	1	1	2	4,000	P	S	0	1			
1	7	5	P	1	1	3	4,000	P	S	0	1			
1	7	6	P	1	1	4	4,000	P	S	0	1			
1	7	7	P	1	1	5	4,000	P	S	0	1			
1	7	8	P	1	1	6	4,000	P	S	0	1			
1	7	9	P	1	1	8	4,000	P	S	0	1			
1	8	0	P	1	1	9	4,000	P	S	0	1			
1	8	1	P	1	2	0	4,100	P	S	0	1			
1	8	2	P	1	2	1	4,000	P	S	0	1			
1	8	3	P	1	2	2	4,000	P	S	0	1			
1	8	4	P	1	2	3	4,000	P	S	0	1			
1	8	5	P	1	2	7	4,000	P	S	0	1			
1	8	6	P	1	2	8	4,000	P	S	0	1			
1	8	7	P	1	8	5	4,000	P	S	0	1			
1	8	8	P	1	8	8	4,000	P	S	0	1			
1	8	9	P	1	8	9	4,000	P	S	0	1			
1	9	0	P	1	9	0	4,000	P	S	0	1			
1	9	1	P	1	9	1	4,000	P	S	0	1			
1	9	2	P	1	9	2	4,000	P	S	0	1			
1	9	3	P	1	9	4	4,000	P	S	0	1			
1	9	4	P	1	9	6	4,000	P	S	0	1			
1	9	5	P	1	9	7	4,000	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, Area G (Continued)														
1	9	6	P	1	9	8	4,000	P	S	0	1			
1	9	7	P	1	9	9	4,000	P	S	0	1			
1	9	8	P	2	0	1	4,000	P	S	0	1			
1	9	9	P	2	0	2	4,000	P	S	0	1			
2	0	0	P	2	0	3	4,000	P	S	0	1			
2	0	1	P	2	0	4	4,000	P	S	0	1			
2	0	2	P	2	0	5	4,000	P	S	0	1			
2	0	3	U	0	0	1	4,100	P	S	0	1			
2	0	4	U	0	0	2	7,100	P	S	0	1			
2	0	5	U	0	0	3	4,100	P	S	0	1			
2	0	6	U	0	0	4	4,000	P	S	0	1			
2	0	7	U	0	0	5	4,000	P	S	0	1			
2	0	8	U	0	0	6	4,000	P	S	0	1			
2	0	9	U	0	0	7	4,000	P	S	0	1			
2	1	0	U	0	0	8	4,000	P	S	0	1			
2	1	1	U	0	0	9	4,000	P	S	0	1			
2	1	2	U	0	1	0	4,000	P	S	0	1			
2	1	3	U	0	1	1	4,000	P	S	0	1			
2	1	4	U	0	1	2	4,100	P	S	0	1			
2	1	5	U	0	1	4	4,000	P	S	0	1			
2	1	6	U	0	1	5	4,000	P	S	0	1			
2	1	7	U	0	1	6	4,000	P	S	0	1			
2	1	8	U	0	1	7	4,000	P	S	0	1			
2	1	9	U	0	1	8	4,000	P	S	0	1			
2	2	0	U	0	1	9	4,100	P	S	0	1			
2	2	1	U	0	2	0	4,000	P	S	0	1			
2	2	2	U	0	2	1	4,000	P	S	0	1			
2	2	3	U	0	2	2	4,100	P	S	0	1			
2	2	4	U	0	2	3	4,000	P	S	0	1			
2	2	5	U	0	2	4	4,000	P	S	0	1			
2	2	6	U	0	2	5	4,000	P	S	0	1			
2	2	7	U	0	2	6	4,000	P	S	0	1			
2	2	8	U	0	2	7	4,000	P	S	0	1			
2	2	9	U	0	2	8	4,000	P	S	0	1			
2	3	0	U	0	2	9	4,100	P	S	0	1			
2	3	1	U	0	3	0	4,000	P	S	0	1			
2	3	2	U	0	3	1	4,100	P	S	0	1			
2	3	3	U	0	3	2	4,000	P	S	0	1			
2	3	4	U	0	3	3	4,000	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, Area G (Continued)														
2	3	5	U	0	3	4	4,000	P	S	0	1			
2	3	6	U	0	3	5	4,000	P	S	0	1			
2	3	7	U	0	3	6	4,000	P	S	0	1			
2	3	8	U	0	3	7	4,100	P	S	0	1			
2	3	9	U	0	3	8	4,000	P	S	0	1			
2	4	0	U	0	3	9	4,000	P	S	0	1			
2	4	1	U	0	4	1	4,000	P	S	0	1			
2	4	2	U	0	4	2	4,000	P	S	0	1			
2	4	3	U	0	4	3	4,000	P	S	0	1			
2	4	4	U	0	4	4	4,100	P	S	0	1			
2	4	5	U	0	4	5	4,100	P	S	0	1			
2	4	6	U	0	4	6	4,000	P	S	0	1			
2	4	7	U	0	4	7	4,000	P	S	0	1			
2	4	8	U	0	4	8	4,000	P	S	0	1			
2	4	9	U	0	4	9	4,000	P	S	0	1			
2	5	0	U	0	5	0	4,000	P	S	0	1			
2	5	1	U	0	5	1	4,000	P	S	0	1			
2	5	2	U	0	5	2	4,100	P	S	0	1			
2	5	3	U	0	5	3	4,000	P	S	0	1			
2	5	4	U	0	5	5	4,000	P	S	0	1			
2	5	5	U	0	5	6	4,100	P	S	0	1			
2	5	6	U	0	5	7	4,100	P	S	0	1			
2	5	7	U	0	5	8	4,000	P	S	0	1			
2	5	8	U	0	5	9	4,000	P	S	0	1			
2	5	9	U	0	6	0	4,000	P	S	0	1			
2	6	0	U	0	6	1	4,000	P	S	0	1			
2	6	1	U	0	6	2	4,000	P	S	0	1			
2	6	2	U	0	6	3	4,000	P	S	0	1			
2	6	3	U	0	6	4	4,000	P	S	0	1			
2	6	4	U	0	6	6	4,000	P	S	0	1			
2	6	5	U	0	6	7	4,000	P	S	0	1			
2	6	6	U	0	6	8	4,000	P	S	0	1			
2	6	7	U	0	6	9	4,000	P	S	0	1			
2	6	8	U	0	7	0	4,000	P	S	0	1			
2	6	9	U	0	7	1	4,000	P	S	0	1			
2	7	0	U	0	7	2	4,000	P	S	0	1			
2	7	1	U	0	7	3	4,000	P	S	0	1			
2	7	2	U	0	7	4	4,000	P	S	0	1			
2	7	3	U	0	7	5	4,100	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area G (Continued)																			
2	7	4	U	0	7	6	4,000	P	S	0	1								
2	7	5	U	0	7	7	4,100	P	S	0	1								
2	7	6	U	0	7	8	4,000	P	S	0	1								
2	7	7	U	0	7	9	4,000	P	S	0	1								
2	7	8	U	0	8	0	12,000	P	S	0	1								
2	7	9	U	0	8	1	4,000	P	S	0	1								
2	8	0	U	0	8	2	4,000	P	S	0	1								
2	8	1	U	0	8	3	4,000	P	S	0	1								
2	8	2	U	0	8	4	4,000	P	S	0	1								
2	8	3	U	0	8	5	4,000	P	S	0	1								
2	8	4	U	0	8	6	4,000	P	S	0	1								
2	8	5	U	0	8	7	4,000	P	S	0	1								
2	8	6	U	0	8	8	4,000	P	S	0	1								
2	8	7	U	0	8	9	4,000	P	S	0	1								
2	8	8	U	0	9	0	4,000	P	S	0	1								
2	8	9	U	0	9	1	4,000	P	S	0	1								
2	9	0	U	0	9	2	4,000	P	S	0	1								
2	9	1	U	0	9	3	4,000	P	S	0	1								
2	9	2	U	0	9	4	4,000	P	S	0	1								
2	9	3	U	0	9	5	4,000	P	S	0	1								
2	9	4	U	0	9	6	4,000	P	S	0	1								
2	9	5	U	0	9	7	4,000	P	S	0	1								
2	9	6	U	0	9	8	4,000	P	S	0	1								
2	9	7	U	0	9	9	4,000	P	S	0	1								
2	9	8	U	1	0	1	4,000	P	S	0	1								
2	9	9	U	1	0	2	4,000	P	S	0	1								
3	0	0	U	1	0	3	4,000	P	S	0	1								
3	0	1	U	1	0	5	4,000	P	S	0	1								
3	0	2	U	1	0	6	4,000	P	S	0	1								
3	0	3	U	1	0	7	4,000	P	S	0	1								
3	0	4	U	1	0	8	4,100	P	S	0	1								
3	0	5	U	1	0	9	4,000	P	S	0	1								
3	0	6	U	1	1	0	4,000	P	S	0	1								
3	0	7	U	1	1	1	4,000	P	S	0	1								
3	0	8	U	1	1	2	4,100	P	S	0	1								
3	0	9	U	1	1	3	4,000	P	S	0	1								
3	1	0	U	1	1	4	4,000	P	S	0	1								
3	1	1	U	1	1	5	4,100	P	S	0	1								
3	1	2	U	1	1	6	4,000	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area G (Continued)																			
3	1	3	U	1	1	7	4,100	P	S	0	1								
3	1	4	U	1	1	8	4,000	P	S	0	1								
3	1	5	U	1	1	9	4,000	P	S	0	1								
3	1	6	U	1	2	0	4,000	P	S	0	1								
3	1	7	U	1	2	1	4,100	P	S	0	1								
3	1	8	U	1	2	2	7,100	P	S	0	1								
3	1	9	U	1	2	3	4,100	P	S	0	1								
3	2	0	U	1	2	4	4,000	P	S	0	1								
3	2	1	U	1	2	5	4,000	P	S	0	1								
3	2	2	U	1	2	6	4,000	P	S	0	1								
3	2	3	U	1	2	7	4,000	P	S	0	1								
3	2	4	U	1	2	8	4,000	P	S	0	1								
3	2	5	U	1	2	9	4,000	P	S	0	1								
3	2	6	U	1	3	0	4,000	P	S	0	1								
3	2	7	U	1	3	1	4,100	P	S	0	1								
3	2	8	U	1	3	2	4,000	P	S	0	1								
3	2	9	U	1	3	3	4,100	P	S	0	1								
3	3	0	U	1	3	4	12,100	P	S	0	1								
3	3	1	U	1	3	5	4,100	P	S	0	1								
3	3	2	U	1	3	6	4,000	P	S	0	1								
3	3	3	U	1	3	7	4,000	P	S	0	1								
3	3	4	U	1	3	8	4,000	P	S	0	1								
3	3	5	U	1	4	0	4,100	P	S	0	1								
3	3	6	U	1	4	1	4,000	P	S	0	1								
3	3	7	U	1	4	2	4,000	P	S	0	1								
3	3	8	U	1	4	3	4,000	P	S	0	1								
3	3	9	U	1	4	4	4,100	P	S	0	1								
3	4	0	U	1	4	5	4,000	P	S	0	1								
3	4	1	U	1	4	6	4,000	P	S	0	1								
3	4	2	U	1	4	7	4,000	P	S	0	1								
3	4	3	U	1	4	8	4,000	P	S	0	1								
3	4	4	U	1	4	9	4,000	P	S	0	1								
3	4	5	U	1	5	0	4,000	P	S	0	1								
3	4	6	U	1	5	1	7,100	P	S	0	1								
3	4	7	U	1	5	2	4,000	P	S	0	1								
3	4	8	U	1	5	3	4,000	P	S	0	1								
3	4	9	U	1	5	4	4,100	P	S	0	1								
3	5	0	U	1	5	5	4,000	P	S	0	1								
3	5	1	U	1	5	6	4,000	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, Area G (Continued)																			
3	5	2	U	1	5	7	4,000	P	S	0	1								
3	5	3	U	1	5	8	4,000	P	S	0	1								
3	5	4	U	1	5	9	4,100	P	S	0	1								
3	5	5	U	1	6	0	4,100	P	S	0	1								
3	5	6	U	1	6	1	4,100	P	S	0	1								
3	5	7	U	1	6	2	4,000	P	S	0	1								
3	5	8	U	1	6	3	4,000	P	S	0	1								
3	5	9	U	1	6	4	4,000	P	S	0	1								
3	6	0	U	1	6	5	4,100	P	S	0	1								
3	6	1	U	1	6	6	4,000	P	S	0	1								
3	6	2	U	1	6	7	4,000	P	S	0	1								
3	6	3	U	1	6	8	4,000	P	S	0	1								
3	6	4	U	1	6	9	4,100	P	S	0	1								
3	6	5	U	1	7	0	4,000	P	S	0	1								
3	6	6	U	1	7	1	4,000	P	S	0	1								
3	6	7	U	1	7	2	4,000	P	S	0	1								
3	6	8	U	1	7	3	4,000	P	S	0	1								
3	6	9	U	1	7	4	4,000	P	S	0	1								
3	7	0	U	1	7	6	4,000	P	S	0	1								
3	7	1	U	1	7	7	4,000	P	S	0	1								
3	7	2	U	1	7	8	4,000	P	S	0	1								
3	7	3	U	1	7	9	4,000	P	S	0	1								
3	7	4	U	1	8	0	4,000	P	S	0	1								
3	7	5	U	1	8	1	4,000	P	S	0	1								
3	7	6	U	1	8	2	4,000	P	S	0	1								
3	7	7	U	1	8	3	4,000	P	S	0	1								
3	7	8	U	1	8	4	4,000	P	S	0	1								
3	7	9	U	1	8	5	4,000	P	S	0	1								
3	8	0	U	1	8	6	4,000	P	S	0	1								
3	8	1	U	1	8	7	4,000	P	S	0	1								
3	8	2	U	1	8	8	4,100	P	S	0	1								
3	8	3	U	1	8	9	4,000	P	S	0	1								
3	8	4	U	1	9	0	4,100	P	S	0	1								
3	8	5	U	1	9	1	4,000	P	S	0	1								
3	8	6	U	1	9	2	4,000	P	S	0	1								
3	8	7	U	1	9	3	4,000	P	S	0	1								
3	8	8	U	1	9	4	4,000	P	S	0	1								
3	8	9	U	1	9	6	4,100	P	S	0	1								
3	9	0	U	1	9	7	4,000	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, Area G (Continued)														
3	9	1	U	2	0	0	4,000	P	S	0	1			
3	9	2	U	2	0	1	4,000	P	S	0	1			
3	9	3	U	2	0	2	4,000	P	S	0	1			
3	9	4	U	2	0	3	4,000	P	S	0	1			
3	9	5	U	2	0	4	4,100	P	S	0	1			
3	9	6	U	2	0	5	4,000	P	S	0	1			
3	9	7	U	2	0	6	4,000	P	S	0	1			
3	9	8	U	2	0	7	4,000	P	S	0	1			
3	9	9	U	2	0	8	4,000	P	S	0	1			
4	0	0	U	2	0	9	4,000	P	S	0	1			
4	0	1	U	2	1	0	4,100	P	S	0	1			
4	0	2	U	2	1	1	4,100	P	S	0	1			
4	0	3	U	2	1	3	4,100	P	S	0	1			
4	0	4	U	2	1	4	4,000	P	S	0	1			
4	0	5	U	2	1	5	4,000	P	S	0	1			
4	0	6	U	2	1	6	4,100	P	S	0	1			
4	0	7	U	2	1	7	4,000	P	S	0	1			
4	0	8	U	2	1	8	4,100	P	S	0	1			
4	0	9	U	2	1	9	4,100	P	S	0	1			
4	1	0	U	2	2	0	7,100	P	S	0	1			
4	1	1	U	2	2	1	4,000	P	S	0	1			
4	1	2	U	2	2	2	4,000	P	S	0	1			
4	1	3	U	2	2	3	4,000	P	S	0	1			
4	1	4	U	2	2	5	4,100	P	S	0	1			
4	1	5	U	2	2	6	7,100	P	S	0	1			
4	1	6	U	2	2	7	4,100	P	S	0	1			
4	1	7	U	2	2	8	7,100	P	S	0	1			
4	1	8	U	2	3	4	4,000	P	S	0	1			
4	1	9	U	2	3	5	4,000	P	S	0	1			
4	2	0	U	2	3	6	4,000	P	S	0	1			
4	2	1	U	2	3	7	4,000	P	S	0	1			
4	2	2	U	2	3	8	4,000	P	S	0	1			
4	2	3	U	2	3	9	7,100	P	S	0	1			
4	2	4	U	2	4	0	4,000	P	S	0	1			
4	2	5	U	2	4	3	4,000	P	S	0	1			
4	2	6	U	2	4	4	4,000	P	S	0	1			
4	2	7	U	2	4	6	4,100	P	S	0	1			
4	2	8	U	2	4	7	4,000	P	S	0	1			
4	2	9	U	2	4	8	4,000	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter code)										(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))					
Technical Area 54, Material Disposal Area G (Shaft 124 and Pit 29) ^{a, b}																
1	D	0	0	4	850	P	D	8	0							
2	D	0	0	5	2,100	P	D	8	0							
3	D	0	0	6	4,250	P	D	8	0							
4	D	0	0	7	4,450	P	D	8	0							
5	D	0	0	8	507,100	P	D	8	0							
6	D	0	0	9	850	P	D	8	0							
7	D	0	1	0	15	P	D	8	0							
8	D	0	1	1	530	P	D	8	0							
9																
1	0															
1	1															
1	2															
1	3															
1	4															
1	5															
1	6															
1	7															
1	8															
1	9															
2	0															
2	1															
2	2															
2	3															
2	4															
2	5															
2	6															
2	7															
2	8															
2	9															
3	0															
3	1															
3	2															
3	3															
3	4															
3	5															
3	6															
3	7															
3	8															
3	9															

^a Based on total estimated hazardous waste chemical inventory from the TA-54 RFI Report, Los Alamos National Laboratory, Los Alamos, New Mexico, March 2000.

^b To be closed in accordance with Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested.

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)													
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
	(1) PROCESS CODES (Enter code)							(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))					
Technical Area 54, West													
1	D	0	0	1	1	74,252	P	S	0	1			
2	D	0	0	2	2	38,448	P	S	0	1			
3	D	0	0	3	3	3,528	P	S	0	1			
4	D	0	0	4	4	24,692	P	S	0	1			
5	D	0	0	5	5	22,576	P	S	0	1			
6	D	0	0	6	6	3,627,220	P	S	0	1			
7	D	0	0	7	7	3,784,544	P	S	0	1			
8	D	0	0	8	8	8,589,208	P	S	0	1			
9	D	0	0	9	9	261,732	P	S	0	1			
1	0	D	0	1	0	27,160	P	S	0	1			
1	1	D	0	1	1	30,336	P	S	0	1			
1	2	D	0	1	2	36,000	P	S	0	1			
1	3	D	0	1	3	8,000	P	S	0	1			
1	4	D	0	1	4	8,000	P	S	0	1			
1	5	D	0	1	5	14,000	P	S	0	1			
1	6	D	0	1	6	8,000	P	S	0	1			
1	7	D	0	1	7	8,000	P	S	0	1			
1	8	D	0	1	8	1,412	P	S	0	1			
1	9	D	0	1	9	28,220	P	S	0	1			
2	0	D	0	2	0	60,000	P	S	0	1			
2	1	D	0	2	1	4,880	P	S	0	1			
2	2	D	0	2	2	6,704	P	S	0	1			
2	3	D	0	2	3	8,000	P	S	0	1			
2	4	D	0	2	4	8,000	P	S	0	1			
2	5	D	0	2	5	8,000	P	S	0	1			
2	6	D	0	2	6	8,000	P	S	0	1			
2	7	D	0	2	7	4,056	P	S	0	1			
2	8	D	0	2	8	1,158,400	P	S	0	1			
2	9	D	0	2	9	1,152,576	P	S	0	1			
3	0	D	0	3	0	26,100	P	S	0	1			
3	1	D	0	3	1	352	P	S	0	1			
3	2	D	0	3	2	16,580	P	S	0	1			
3	3	D	0	3	3	11,112	P	S	0	1			
3	4	D	0	3	4	5,820	P	S	0	1			
3	5	D	0	3	5	528	P	S	0	1			
3	6	D	0	3	6	1,764	P	S	0	1			
3	7	D	0	3	7	2,820	P	S	0	1			
3	8	D	0	3	8	352	P	S	0	1			
3	9	D	0	3	9	7,760	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES						
	(1) PROCESS CODES (Enter code)							(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 54, West (Continued)														
4	0	D	0	4	0	17,460	P	S	0	1				
4	1	D	0	4	1	352	P	S	0	1				
4	2	D	0	4	2	5,644	P	S	0	1				
4	3	D	0	4	3	2,116	P	S	0	1				
4	4	F	0	0	1	2,225,608	P	S	0	1				
4	5	F	0	0	2	288,012	P	S	0	1				
4	6	F	0	0	3	137,856	P	S	0	1				
4	7	F	0	0	4	8,640	P	S	0	1				
4	8	F	0	0	5	1,296,844	P	S	0	1				
4	9	F	0	0	6	14,000	P	S	0	1				
5	0	F	0	0	7	36,000	P	S	0	1				
5	1	F	0	0	8	14000	P	S	0	1				
5	2	F	0	0	9	8,000	P	S	0	1				
5	3	F	0	1	0	8,000	P	S	0	1				
5	4	F	0	1	1	8,000	P	S	0	1				
5	5	F	0	1	2	8,000	P	S	0	1				
5	6	F	0	1	9	8,000	P	S	0	1				
5	7	F	0	2	0	8,000	P	S	0	1				
5	8	F	0	2	1	8,000	P	S	0	1				
5	9	F	0	2	2	8,000	P	S	0	1				
6	0	F	0	2	3	8,000	P	S	0	1				
6	1	F	0	2	4	8,000	P	S	0	1				
6	2	F	0	2	5	8,000	P	S	0	1				
6	3	F	0	2	6	8,000	P	S	0	1				
6	4	F	0	2	7	8,000	P	S	0	1				
6	5	F	0	2	8	8,000	P	S	0	1				
6	6	F	0	3	2	8,000	P	S	0	1				
6	7	F	0	3	4	8,000	P	S	0	1				
6	8	F	0	3	5	8,000	P	S	0	1				
6	9	F	0	3	7	8,000	P	S	0	1				
7	0	F	0	3	8	8,000	P	S	0	1				
7	1	F	0	3	9	8,000	P	S	0	1				
7	2	K	0	4	4	4,000	P	S	0	1				
7	3	K	0	4	5	8,000	P	S	0	1				
7	4	K	0	4	6	8,000	P	S	0	1				
7	5	K	0	4	7	8,000	P	S	0	1				
7	6	K	0	8	4	1,000	P	S	0	1				
7	7	K	1	0	1	1,000	P	S	0	1				
7	8	K	1	0	2	1,000	P	S	0	1				

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)															
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES						
	(1) PROCESS CODES (Enter code)								(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 54, West (Continued)															
7	9	P	0	0	1	176	P	S	0	1					
8	0	P	0	0	2	176	P	S	0	1					
8	1	P	0	0	3	176	P	S	0	1					
8	2	P	0	0	4	176	P	S	0	1					
8	3	P	0	0	5	176	P	S	0	1					
8	4	P	0	0	6	176	P	S	0	1					
8	5	P	0	0	7	176	P	S	0	1					
8	6	P	0	0	8	176	P	S	0	1					
8	7	P	0	0	9	176	P	S	0	1					
8	8	P	0	1	0	176	P	S	0	1					
8	9	P	0	1	1	176	P	S	0	1					
9	0	P	0	1	2	176	P	S	0	1					
9	1	P	0	1	3	176	P	S	0	1					
9	2	P	0	1	4	176	P	S	0	1					
9	3	P	0	1	5	176	P	S	0	1					
9	4	P	0	1	6	176	P	S	0	1					
9	5	P	0	1	7	176	P	S	0	1					
9	6	P	0	1	8	176	P	S	0	1					
9	7	P	0	2	0	176	P	S	0	1					
9	8	P	0	2	1	176	P	S	0	1					
9	9	P	0	2	2	176	P	S	0	1					
1	0	0	P	0	2	3	176	P	S	0	1				
1	0	1	P	0	2	4	176	P	S	0	1				
1	0	2	P	0	2	6	176	P	S	0	1				
1	0	3	P	0	2	7	176	P	S	0	1				
1	0	4	P	0	2	8	176	P	S	0	1				
1	0	5	P	0	2	9	176	P	S	0	1				
1	0	6	P	0	3	0	176	P	S	0	1				
1	0	7	P	0	3	1	176	P	S	0	1				
1	0	8	P	0	3	3	176	P	S	0	1				
1	0	9	P	0	3	4	176	P	S	0	1				
1	1	0	P	0	3	6	176	P	S	0	1				
1	1	1	P	0	3	7	176	P	S	0	1				
1	1	2	P	0	3	8	176	P	S	0	1				
1	1	3	P	0	3	9	176	P	S	0	1				
1	1	4	P	0	4	0	176	P	S	0	1				
1	1	5	P	0	4	1	176	P	S	0	1				
1	1	6	P	0	4	2	176	P	S	0	1				
1	1	7	P	0	4	3	176	P	S	0	1				

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																	
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES								
	(1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, West (Continued)																	
1	1	8	P	0	4	4	176	P	S	0	1						
1	1	9	P	0	4	5	176	P	S	0	1						
1	2	0	P	0	4	6	176	P	S	0	1						
1	2	1	P	0	4	7	176	P	S	0	1						
1	2	2	P	0	4	8	176	P	S	0	1						
1	2	3	P	0	4	9	176	P	S	0	1						
1	2	4	P	0	5	0	176	P	S	0	1						
1	2	5	P	0	5	1	176	P	S	0	1						
1	2	6	P	0	5	4	176	P	S	0	1						
1	2	7	P	0	5	6	176	P	S	0	1						
1	2	8	P	0	5	7	176	P	S	0	1						
1	2	9	P	0	5	8	176	P	S	0	1						
1	3	0	P	0	5	9	176	P	S	0	1						
1	3	1	P	0	6	0	176	P	S	0	1						
1	3	2	P	0	6	2	176	P	S	0	1						
1	3	3	P	0	6	3	176	P	S	0	1						
1	3	4	P	0	6	4	176	P	S	0	1						
1	3	5	P	0	6	5	176	P	S	0	1						
1	3	6	P	0	6	6	176	P	S	0	1						
1	3	7	P	0	6	7	176	P	S	0	1						
1	3	8	P	0	6	8	176	P	S	0	1						
1	3	9	P	0	6	9	176	P	S	0	1						
1	4	0	P	0	7	0	176	P	S	0	1						
1	4	1	P	0	7	1	176	P	S	0	1						
1	4	2	P	0	7	2	176	P	S	0	1						
1	4	3	P	0	7	3	176	P	S	0	1						
1	4	4	P	0	7	4	176	P	S	0	1						
1	4	5	P	0	7	5	176	P	S	0	1						
1	4	6	P	0	7	6	176	P	S	0	1						
1	4	7	P	0	7	7	176	P	S	0	1						
1	4	8	P	0	7	8	176	P	S	0	1						
1	4	9	P	0	8	1	176	P	S	0	1						
1	5	0	P	0	8	2	176	P	S	0	1						
1	5	1	P	0	8	4	176	P	S	0	1						
1	5	2	P	0	8	5	176	P	S	0	1						
1	5	3	P	0	8	7	176	P	S	0	1						
1	5	4	P	0	8	8	176	P	S	0	1						
1	5	5	P	0	8	9	176	P	S	0	1						
1	5	6	P	0	9	2	176	P	S	0	1						

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, West (Continued)														
1	5	7	P	0	9	3	176	P	S	0	1			
1	5	8	P	0	9	4	176	P	S	0	1			
1	5	9	P	0	9	5	176	P	S	0	1			
1	6	0	P	0	9	6	176	P	S	0	1			
1	6	1	P	0	9	7	176	P	S	0	1			
1	6	2	P	0	9	8	176	P	S	0	1			
1	6	3	P	0	9	9	176	P	S	0	1			
1	6	4	P	1	0	1	176	P	S	0	1			
1	6	5	P	1	0	2	176	P	S	0	1			
1	6	6	P	1	0	3	176	P	S	0	1			
1	6	7	P	1	0	4	176	P	S	0	1			
1	6	8	P	1	0	5	176	P	S	0	1			
1	6	9	P	1	0	6	176	P	S	0	1			
1	7	0	P	1	0	8	176	P	S	0	1			
1	7	1	P	1	0	9	176	P	S	0	1			
1	7	2	P	1	1	0	176	P	S	0	1			
1	7	3	P	1	1	1	176	P	S	0	1			
1	7	4	P	1	1	2	176	P	S	0	1			
1	7	5	P	1	1	3	176	P	S	0	1			
1	7	6	P	1	1	4	176	P	S	0	1			
1	7	7	P	1	1	5	176	P	S	0	1			
1	7	8	P	1	1	6	176	P	S	0	1			
1	7	9	P	1	1	8	176	P	S	0	1			
1	8	0	P	1	1	9	176	P	S	0	1			
1	8	1	P	1	2	0	176	P	S	0	1			
1	8	2	P	1	2	1	176	P	S	0	1			
1	8	3	P	1	2	2	176	P	S	0	1			
1	8	4	P	1	2	3	176	P	S	0	1			
1	8	5	P	1	2	7	176	P	S	0	1			
1	8	6	P	1	2	8	176	P	S	0	1			
1	8	7	P	1	8	5	176	P	S	0	1			
1	8	8	P	1	8	8	176	P	S	0	1			
1	8	9	P	1	8	9	176	P	S	0	1			
1	9	0	P	1	9	0	176	P	S	0	1			
1	9	1	P	1	9	1	176	P	S	0	1			
1	9	2	P	1	9	2	176	P	S	0	1			
1	9	3	P	1	9	4	176	P	S	0	1			
1	9	4	P	1	9	6	176	P	S	0	1			
1	9	5	P	1	9	7	176	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)			B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES													
						(1) PROCESS CODES (Enter code)				(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))									
Technical Area 54, West (Continued)																			
1	9	6	P	1	9	8	176	P	S	0	1								
1	9	7	P	1	9	9	176	P	S	0	1								
1	9	8	P	2	0	1	176	P	S	0	1								
1	9	9	P	2	0	2	176	P	S	0	1								
2	0	0	P	2	0	3	176	P	S	0	1								
2	0	1	P	2	0	4	176	P	S	0	1								
2	0	2	P	2	0	5	176	P	S	0	1								
2	0	3	U	0	0	1	176	P	S	0	1								
2	0	4	U	0	0	2	176	P	S	0	1								
2	0	5	U	0	0	3	176	P	S	0	1								
2	0	6	U	0	0	4	176	P	S	0	1								
2	0	7	U	0	0	5	176	P	S	0	1								
2	0	8	U	0	0	6	176	P	S	0	1								
2	0	9	U	0	0	7	176	P	S	0	1								
2	1	0	U	0	0	8	176	P	S	0	1								
2	1	1	U	0	0	9	176	P	S	0	1								
2	1	2	U	0	1	0	176	P	S	0	1								
2	1	3	U	0	1	1	176	P	S	0	1								
2	1	4	U	0	1	2	176	P	S	0	1								
2	1	5	U	0	1	4	176	P	S	0	1								
2	1	6	U	0	1	5	176	P	S	0	1								
2	1	7	U	0	1	6	176	P	S	0	1								
2	1	8	U	0	1	7	176	P	S	0	1								
2	1	9	U	0	1	8	176	P	S	0	1								
2	2	0	U	0	1	9	176	P	S	0	1								
2	2	1	U	0	2	0	176	P	S	0	1								
2	2	2	U	0	2	1	176	P	S	0	1								
2	2	3	U	0	2	2	176	P	S	0	1								
2	2	4	U	0	2	3	176	P	S	0	1								
2	2	5	U	0	2	4	176	P	S	0	1								
2	2	6	U	0	2	5	176	P	S	0	1								
2	2	7	U	0	2	6	176	P	S	0	1								
2	2	8	U	0	2	7	176	P	S	0	1								
2	2	9	U	0	2	8	176	P	S	0	1								
2	3	0	U	0	2	9	176	P	S	0	1								
2	3	1	U	0	3	0	176	P	S	0	1								
2	3	2	U	0	3	1	176	P	S	0	1								
2	3	3	U	0	3	2	176	P	S	0	1								
2	3	4	U	0	3	3	176	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, West (Continued)																			
2	3	5	U	0	3	4	176	P	S	0	1								
2	3	6	U	0	3	5	176	P	S	0	1								
2	3	7	U	0	3	6	176	P	S	0	1								
2	3	8	U	0	3	7	176	P	S	0	1								
2	3	9	U	0	3	8	176	P	S	0	1								
2	4	0	U	0	3	9	176	P	S	0	1								
2	4	1	U	0	4	1	176	P	S	0	1								
2	4	2	U	0	4	2	176	P	S	0	1								
2	4	3	U	0	4	3	176	P	S	0	1								
2	4	4	U	0	4	4	176	P	S	0	1								
2	4	5	U	0	4	5	176	P	S	0	1								
2	4	6	U	0	4	6	176	P	S	0	1								
2	4	7	U	0	4	7	176	P	S	0	1								
2	4	8	U	0	4	8	176	P	S	0	1								
2	4	9	U	0	4	9	176	P	S	0	1								
2	5	0	U	0	5	0	176	P	S	0	1								
2	5	1	U	0	5	1	176	P	S	0	1								
2	5	2	U	0	5	2	176	P	S	0	1								
2	5	3	U	0	5	3	176	P	S	0	1								
2	5	4	U	0	5	5	176	P	S	0	1								
2	5	5	U	0	5	6	176	P	S	0	1								
2	5	6	U	0	5	7	176	P	S	0	1								
2	5	7	U	0	5	8	176	P	S	0	1								
2	5	8	U	0	5	9	176	P	S	0	1								
2	5	9	U	0	6	0	176	P	S	0	1								
2	6	0	U	0	6	1	176	P	S	0	1								
2	6	1	U	0	6	2	176	P	S	0	1								
2	6	2	U	0	6	3	176	P	S	0	1								
2	6	3	U	0	6	4	176	P	S	0	1								
2	6	4	U	0	6	6	176	P	S	0	1								
2	6	5	U	0	6	7	176	P	S	0	1								
2	6	6	U	0	6	8	176	P	S	0	1								
2	6	7	U	0	6	9	176	P	S	0	1								
2	6	8	U	0	7	0	176	P	S	0	1								
2	6	9	U	0	7	1	176	P	S	0	1								
2	7	0	U	0	7	2	176	P	S	0	1								
2	7	1	U	0	7	3	176	P	S	0	1								
2	7	2	U	0	7	4	176	P	S	0	1								
2	7	3	U	0	7	5	176	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, West (Continued)														
2	7	4	U	0	7	6	176	P	S	0	1			
2	7	5	U	0	7	7	176	P	S	0	1			
2	7	6	U	0	7	8	176	P	S	0	1			
2	7	7	U	0	7	9	176	P	S	0	1			
2	7	8	U	0	8	0	176	P	S	0	1			
2	7	9	U	0	8	1	176	P	S	0	1			
2	8	0	U	0	8	2	176	P	S	0	1			
2	8	1	U	0	8	3	176	P	S	0	1			
2	8	2	U	0	8	4	176	P	S	0	1			
2	8	3	U	0	8	5	176	P	S	0	1			
2	8	4	U	0	8	6	176	P	S	0	1			
2	8	5	U	0	8	7	176	P	S	0	1			
2	8	6	U	0	8	8	176	P	S	0	1			
2	8	7	U	0	8	9	176	P	S	0	1			
2	8	8	U	0	9	0	176	P	S	0	1			
2	8	9	U	0	9	1	176	P	S	0	1			
2	9	0	U	0	9	2	176	P	S	0	1			
2	9	1	U	0	9	3	176	P	S	0	1			
2	9	2	U	0	9	4	176	P	S	0	1			
2	9	3	U	0	9	5	176	P	S	0	1			
2	9	4	U	0	9	6	176	P	S	0	1			
2	9	5	U	0	9	7	176	P	S	0	1			
2	9	6	U	0	9	8	176	P	S	0	1			
2	9	7	U	0	9	9	176	P	S	0	1			
2	9	8	U	1	0	1	176	P	S	0	1			
2	9	9	U	1	0	2	176	P	S	0	1			
3	0	0	U	1	0	3	176	P	S	0	1			
3	0	1	U	1	0	5	176	P	S	0	1			
3	0	2	U	1	0	6	176	P	S	0	1			
3	0	3	U	1	0	7	176	P	S	0	1			
3	0	4	U	1	0	8	176	P	S	0	1			
3	0	5	U	1	0	9	176	P	S	0	1			
3	0	6	U	1	1	0	176	P	S	0	1			
3	0	7	U	1	1	1	176	P	S	0	1			
3	0	8	U	1	1	2	176	P	S	0	1			
3	0	9	U	1	1	3	176	P	S	0	1			
3	1	0	U	1	1	4	176	P	S	0	1			
3	1	1	U	1	1	5	176	P	S	0	1			
3	1	2	U	1	1	6	176	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, West (Continued)														
3	1	3	U	1	1	7	176	P	S	0	1			
3	1	4	U	1	1	8	176	P	S	0	1			
3	1	5	U	1	1	9	176	P	S	0	1			
3	1	6	U	1	2	0	176	P	S	0	1			
3	1	7	U	1	2	1	176	P	S	0	1			
3	1	8	U	1	2	2	176	P	S	0	1			
3	1	9	U	1	2	3	176	P	S	0	1			
3	2	0	U	1	2	4	176	P	S	0	1			
3	2	1	U	1	2	5	176	P	S	0	1			
3	2	2	U	1	2	6	176	P	S	0	1			
3	2	3	U	1	2	7	176	P	S	0	1			
3	2	4	U	1	2	8	176	P	S	0	1			
3	2	5	U	1	2	9	176	P	S	0	1			
3	2	6	U	1	3	0	176	P	S	0	1			
3	2	7	U	1	3	1	176	P	S	0	1			
3	2	8	U	1	3	2	176	P	S	0	1			
3	2	9	U	1	3	3	176	P	S	0	1			
3	3	0	U	1	3	4	176	P	S	0	1			
3	3	1	U	1	3	5	176	P	S	0	1			
3	3	2	U	1	3	6	176	P	S	0	1			
3	3	3	U	1	3	7	176	P	S	0	1			
3	3	4	U	1	3	8	176	P	S	0	1			
3	3	5	U	1	4	0	176	P	S	0	1			
3	3	6	U	1	4	1	176	P	S	0	1			
3	3	7	U	1	4	2	176	P	S	0	1			
3	3	8	U	1	4	3	176	P	S	0	1			
3	3	9	U	1	4	4	176	P	S	0	1			
3	4	0	U	1	4	5	176	P	S	0	1			
3	4	1	U	1	4	6	176	P	S	0	1			
3	4	2	U	1	4	7	176	P	S	0	1			
3	4	3	U	1	4	8	176	P	S	0	1			
3	4	4	U	1	4	9	176	P	S	0	1			
3	4	5	U	1	5	0	176	P	S	0	1			
3	4	6	U	1	5	1	1,060	P	S	0	1			
3	4	7	U	1	5	2	176	P	S	0	1			
3	4	8	U	1	5	3	176	P	S	0	1			
3	4	9	U	1	5	4	176	P	S	0	1			
3	5	0	U	1	5	5	176	P	S	0	1			
3	5	1	U	1	5	6	176	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																			
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))							
Technical Area 54, West (Continued)																			
3	5	2	U	1	5	7	176	P	S	0	1								
3	5	3	U	1	5	8	176	P	S	0	1								
3	5	4	U	1	5	9	528	P	S	0	1								
3	5	5	U	1	6	0	176	P	S	0	1								
3	5	6	U	1	6	1	176	P	S	0	1								
3	5	7	U	1	6	2	176	P	S	0	1								
3	5	8	U	1	6	3	176	P	S	0	1								
3	5	9	U	1	6	4	176	P	S	0	1								
3	6	0	U	1	6	5	176	P	S	0	1								
3	6	1	U	1	6	6	176	P	S	0	1								
3	6	2	U	1	6	7	176	P	S	0	1								
3	6	3	U	1	6	8	176	P	S	0	1								
3	6	4	U	1	6	9	176	P	S	0	1								
3	6	5	U	1	7	0	176	P	S	0	1								
3	6	6	U	1	7	1	176	P	S	0	1								
3	6	7	U	1	7	2	176	P	S	0	1								
3	6	8	U	1	7	3	176	P	S	0	1								
3	6	9	U	1	7	4	176	P	S	0	1								
3	7	0	U	1	7	6	176	P	S	0	1								
3	7	1	U	1	7	7	176	P	S	0	1								
3	7	2	U	1	7	8	176	P	S	0	1								
3	7	3	U	1	7	9	176	P	S	0	1								
3	7	4	U	1	8	0	176	P	S	0	1								
3	7	5	U	1	8	1	176	P	S	0	1								
3	7	6	U	1	8	2	176	P	S	0	1								
3	7	7	U	1	8	3	176	P	S	0	1								
3	7	8	U	1	8	4	176	P	S	0	1								
3	7	9	U	1	8	5	176	P	S	0	1								
3	8	0	U	1	8	6	176	P	S	0	1								
3	8	1	U	1	8	7	176	P	S	0	1								
3	8	2	U	1	8	8	176	P	S	0	1								
3	8	3	U	1	8	9	176	P	S	0	1								
3	8	4	U	1	9	0	176	P	S	0	1								
3	8	5	U	1	9	1	176	P	S	0	1								
3	8	6	U	1	9	2	176	P	S	0	1								
3	8	7	U	1	9	3	176	P	S	0	1								
3	8	8	U	1	9	4	176	P	S	0	1								
3	8	9	U	1	9	6	176	P	S	0	1								
3	9	0	U	1	9	7	176	P	S	0	1								

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES					
									(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))		
Technical Area 54, West (Continued)														
3	9	1	U	2	0	0	176	P	S	0	1			
3	9	2	U	2	0	1	176	P	S	0	1			
3	9	3	U	2	0	2	176	P	S	0	1			
3	9	4	U	2	0	3	176	P	S	0	1			
3	9	5	U	2	0	4	176	P	S	0	1			
3	9	6	U	2	0	5	176	P	S	0	1			
3	9	7	U	2	0	6	176	P	S	0	1			
3	9	8	U	2	0	7	176	P	S	0	1			
3	9	9	U	2	0	8	176	P	S	0	1			
4	0	0	U	2	0	9	176	P	S	0	1			
4	0	1	U	2	1	0	176	P	S	0	1			
4	0	2	U	2	1	1	176	P	S	0	1			
4	0	3	U	2	1	3	176	P	S	0	1			
4	0	4	U	2	1	4	176	P	S	0	1			
4	0	5	U	2	1	5	176	P	S	0	1			
4	0	6	U	2	1	6	176	P	S	0	1			
4	0	7	U	2	1	7	176	P	S	0	1			
4	0	8	U	2	1	8	176	P	S	0	1			
4	0	9	U	2	1	9	176	P	S	0	1			
4	1	0	U	2	2	0	176	P	S	0	1			
4	1	1	U	2	2	1	176	P	S	0	1			
4	1	2	U	2	2	2	176	P	S	0	1			
4	1	3	U	2	2	3	176	P	S	0	1			
4	1	4	U	2	2	5	176	P	S	0	1			
4	1	5	U	2	2	6	4,584	P	S	0	1			
4	1	6	U	2	2	7	176	P	S	0	1			
4	1	7	U	2	2	8	176	P	S	0	1			
4	1	8	U	2	3	4	176	P	S	0	1			
4	1	9	U	2	3	5	176	P	S	0	1			
4	2	0	U	2	3	6	176	P	S	0	1			
4	2	1	U	2	3	7	176	P	S	0	1			
4	2	2	U	2	3	8	176	P	S	0	1			
4	2	3	U	2	3	9	352	P	S	0	1			
4	2	4	U	2	4	0	176	P	S	0	1			
4	2	5	U	2	4	3	176	P	S	0	1			
4	2	6	U	2	4	4	176	P	S	0	1			
4	2	7	U	2	4	6	176	P	S	0	1			
4	2	8	U	2	4	7	176	P	S	0	1			
4	2	9	U	2	4	8	176	P	S	0	1			

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)															
Line Number	A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES								
	(1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))											
Technical Area 54, Material Disposal Area H (Shaft 9) ^a															
	1	D	0	0	3	0	P	D	8	0					
	2														
	3														
	4														
	5														
	6														
	7														
	8														
	9														
1	0														
1	1														
1	2														
1	3														
1	4														
1	5														
1	6														
1	7														
1	8														
1	9														
2	0														
2	1														
2	2														
2	3														
2	4														
2	5														
2	6														
2	7														
2	8														
2	9														
3	0														
3	1														
3	2														
3	3														
3	4														
3	5														
3	6														
3	7														
3	8														
3	9														

^b To be closed in accordance with Code of Federal Regulations (CFR), Title 40, Part 265, Subpart G. Permitted status is not requested.

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
	(1) PROCESS CODES (Enter code)							(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))									
Technical Area 55																	
	1	D	0	0	1	75,000	P	S	0	1							
	2	D	0	0	2	150,000	P	S	0	1	S	0	2	T	0	4	
	3	D	0	0	3	42,000	P	S	0	1							
	4	D	0	0	4	5,000	P	S	0	1	S	0	2	T	0	4	
	5	D	0	0	5	11,000	P	S	0	1	S	0	2	T	0	4	
	6	D	0	0	6	400,500	P	S	0	1	S	0	2	T	0	4	
	7	D	0	0	7	605,000	P	S	0	1	S	0	2	T	0	4	
	8	D	0	0	8	900,000	P	S	0	1	S	0	2	T	0	4	
	9	D	0	0	9	26,000	P	S	0	1	S	0	2	T	0	4	
1	0	D	0	1	0	2,500	P	S	0	1	S	0	2	T	0	4	
1	1	D	0	1	1	11,000	P	S	0	1	S	0	2	T	0	4	
1	2	D	0	1	2	1,000	P	S	0	1				T	0	4	
1	3	D	0	1	8	4,500	P	S	0	1				T	0	4	
1	4	D	0	1	9	4,500	P	S	0	1				T	0	4	
1	5	D	0	2	1	4,500	P	S	0	1				T	0	4	
1	6	D	0	2	2	1,500	P	S	0	1				T	0	4	
1	7	D	0	2	7	1,500	P	S	0	1				T	0	4	
1	8	D	0	2	8	2,500	P	S	0	1				T	0	4	
1	9	D	0	3	0	1,500	P	S	0	1				T	0	4	
2	0	D	0	3	2	1,500	P	S	0	1				T	0	4	
2	1	D	0	3	3	1,500	P	S	0	1				T	0	4	
2	2	D	0	3	4	1,500	P	S	0	1				T	0	4	
2	3	D	0	3	5	12,000	P	S	0	1				T	0	4	
2	4	D	0	3	6	1,500	P	S	0	1				T	0	4	
2	5	D	0	3	7	1,500	P	S	0	1				T	0	4	
2	6	D	0	3	8	1,500	P	S	0	1				T	0	4	
2	7	D	0	3	9	11,000	P	S	0	1				T	0	4	
2	8	D	0	4	0	11,000	P	S	0	1				T	0	4	
2	9	D	0	4	2	1,500	P	S	0	1				T	0	4	
3	0	D	0	4	3	1,500	P	S	0	1				T	0	4	
3	1	F	0	0	1	110,000	P	S	0	1							
3	2	F	0	0	2	110,000	P	S	0	1							
3	3	F	0	0	3	110,000	P	S	0	1							
3	4	F	0	0	5	110,000	P	S	0	1							
3	5	F	0	0	6	500	P	S	0	1							
3	6	F	0	0	7	500	P	S	0	1							
3	7	F	0	0	9	500	P	S	0	1							
3	8	P	0	0	3	1,500	P	S	0	1							
3	9	P	0	1	2	1,500	P	S	0	1							

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)																
Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES								
	(1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))						
Technical Area 55 (Continued)																
4	0	P	0	1	5	6,000	P	S	0	1						
4	1	P	0	2	9	1,500	P	S	0	1						
4	2	P	0	3	0	1,500	P	S	0	1						
4	3	P	0	3	1	1,500	P	S	0	1						
4	4	P	0	3	8	1,500	P	S	0	1						
4	5	P	0	5	6	3,000	P	S	0	1						
4	6	P	0	6	3	1,500	P	S	0	1						
4	7	P	0	6	8	1,500	P	S	0	1						
4	8	P	0	7	3	1,500	P	S	0	1						
4	9	P	0	7	6	1,500	P	S	0	1						
5	0	P	0	7	8	1,500	P	S	0	1						
5	1	P	0	9	5	1,500	P	S	0	1						
5	2	P	0	9	6	1,500	P	S	0	1						
5	3	P	0	9	8	1,500	P	S	0	1						
5	4	P	0	9	9	500	P	S	0	1						
5	5	P	1	0	6	1,500	P	S	0	1						
5	6	P	1	1	3	1,500	P	S	0	1						
5	7	P	1	2	0	1,500	P	S	0	1						
5	8	U	0	0	1	3,000	P	S	0	1						
5	9	U	0	0	2	1,500	P	S	0	1						
6	0	U	0	0	3	1,500	P	S	0	1						
6	1	U	0	1	2	1,500	P	S	0	1						
6	2	U	0	1	9	3,000	P	S	0	1						
6	3	U	0	2	2	1,500	P	S	0	1						
6	4	U	0	2	9	1,500	P	S	0	1						
6	5	U	0	3	1	1,500	P	S	0	1						
6	6	U	0	3	7	1,500	P	S	0	1						
6	7	U	0	4	4	1,500	P	S	0	1						
6	8	U	0	4	5	1,500	P	S	0	1						
6	9	U	0	5	2	1,500	P	S	0	1						
7	0	U	0	5	6	1,500	P	S	0	1						
7	1	U	0	5	7	1,500	P	S	0	1						
7	2	U	0	7	5	1,500	P	S	0	1						
7	3	U	0	7	7	1,500	P	S	0	1						
7	4	U	0	8	0	6,000	P	S	0	1						
7	5	U	1	0	3	500	P	S	0	1						
7	6	U	1	0	8	1,500	P	S	0	1						
7	7	U	1	1	2	1,500	P	S	0	1						
7	8	U	1	1	5	1,500	P	S	0	1						

9. Descriptions of Hazardous Wastes (Continued. Use the Additional Sheet(s) as necessary; number pages as 5 a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)						B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES												
	(1) PROCESS CODES (Enter code)										(2) PROCESS DESCRIPTION (If a code is not entered in 9.D(1))										
Technical Area 55 (Continued)																					
7	9	U	1	1	7	1,500	P	S	0	1											
8	0	U	1	2	1	1,500	P	S	0	1											
8	1	U	1	2	2	1,500	P	S	0	1											
8	2	U	1	2	3	1,500	P	S	0	1											
8	3	U	1	3	1	1,500	P	S	0	1											
8	4	U	1	3	3	1,500	P	S	0	1											
8	5	U	1	3	4	6,000	P	S	0	1											
8	6	U	1	3	5	1,500	P	S	0	1											
8	7	U	1	4	0	1,500	P	S	0	1											
8	8	U	1	4	4	1,500	P	S	0	1											
8	9	U	1	5	1	6,000	P	S	0	1											
9	0	U	1	5	4	6,000	P	S	0	1											
9	1	U	1	5	9	6,000	P	S	0	1											
9	2	U	1	6	0	1,500	P	S	0	1											
9	3	U	1	6	1	1,500	P	S	0	1											
9	4	U	1	6	5	1,500	P	S	0	1											
9	5	U	1	6	9	1,500	P	S	0	1											
9	6	U	1	8	8	1,500	P	S	0	1											
9	7	U	1	9	0	1,500	P	S	0	1											
9	8	U	1	9	6	1,500	P	S	0	1											
9	9	U	2	0	4	1,500	P	S	0	1											
1	0	0	U	2	1	0	6,000	P	S	0	1										
1	0	1	U	2	1	1	6,000	P	S	0	1										
1	0	2	U	2	1	3	1,500	P	S	0	1										
1	0	3	U	2	1	6	1,500	P	S	0	1										
1	0	4	U	2	1	8	1,500	P	S	0	1										
1	0	5	U	2	1	9	1,500	P	S	0	1										
1	0	6	U	2	2	0	6,000	P	S	0	1										
1	0	7	U	2	2	5	1,500	P	S	0	1										
1	0	8	U	2	2	6	6,000	P	S	0	1										
1	0	9	U	2	2	7	1,500	P	S	0	1										
1	1	0	U	2	2	8	1,500	P	S	0	1										
1	1	1	U	2	3	9	1,500	P	S	0	1										
1	1	2	U	2	4	6	1,500	P	S	0	1										
1	1	3																			
1	1	4																			
1	1	5																			
1	1	6																			
1	1	7																			

10. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

11. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

12. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

13. Comments

Empty text area for comments.

ATTACHMENT 3
Supplemental Information on Applicability of the Seismic Location Standards



memorandum

Earth and Environmental Sciences Division

To/MS: Mark Haagenstad, ENV-RCRA, MS K404
From/MS: Emily S. Schultz-Fellenz, EES-14, MS D452
Elizabeth Miller, EES-14, MS D452
Phone/Fax: 7-3605/Fax 7-1628
Document No: EES14-12-018
Date: December 18, 2012

Evaluation of potential seismic hazards from Holocene-age surface-rupturing faults at the Radioassay and Nondestructive Testing Facility (RANT), Building 38, Technical Area 54, Los Alamos National Laboratory

This memorandum summarizes geologic investigations at and around the Radioassay and Nondestructive Testing Facility, herein referred to as RANT or the RANT facility, Building 38, at Technical Area 54 (TA-54) of the Los Alamos National Laboratory (LANL) in Los Alamos County, New Mexico.

When selecting a site for a hazardous waste treatment, storage, and/or disposal facility, the owner/operator (in this case, LANS, LLC and NNSA) must adhere to certain location standards, as identified in the Code of Federal Regulations, Title 40 (40 CFR), Part 264.18. The guidelines used to demonstrate compliance with the seismic location standard are presented in 40 CFR, Part 270.14(b)(11).

In this document, we address compliance with the seismic location standard through published geologic data, beginning with a regional view of the Pajarito Plateau and ending with specific focus on the area to be permitted. We present a Pajarito Plateau-scale map of faults and aerial photographic lineaments located within a five-mile radius of the area to provide an overview of the structural setting and state of knowledge of the area. We discuss recent published mapping of the Pajarito fault system to determine the presence or absence of Holocene-aged surface-rupturing faults. We also include the following: field reconnaissance and analysis of aerial photography covering a 3,000-ft radius of the area; a discussion of microseismic monitoring at LANL; and a summarization of relevant published geologic studies completed in and around TA-54. These items are included to help evaluate Holocene seismic hazards, and provide important control on the known extent of faults in the area.

Definitions

The following technical terms are used frequently throughout this document. Definitions are taken from The Dictionary of Geological Terms (Bates and Jackson, eds., 1984).

Displacement: a general term for the relative movement of the two sides of a fault, measured in any chosen direction; also, the specific amount of such movement. [Within this report, “displacement” and “offset” are interchangeable terms.]

Holocene: an epoch of the Quaternary period, from the end of the Pleistocene, approximately 8 thousand years ago [*sic*; recent studies have updated the beginning of the Holocene to 11,700 years ago; *cf.* Gradstein et al. (2008); Ogg et al. (2008)] to the present time.

Lineament: a linear topographic feature of regional extent that is believed to reflect crustal structure. Examples are fault lines, aligned volcanoes, and straight stream courses.

Note that the definition of “lineament” used in this report primarily in the context of faulting does not imply that such an identified feature is actually a surficial manifestation of crustal structure with recent tectonic activity until the local geology is carefully considered.

General Geologic Setting

LANL and the Los Alamos townsite sit atop the Pajarito Plateau, which is bounded on its western edge by the Pajarito fault system, a 50-km-long system locally comprised of the down-to-the-east Pajarito fault (the master fault) and subsidiary down-to-the-west Rendija Canyon, Guaje Mountain, and Sawyer Canyon faults (Figure 1). This fault system forms the local active western margin of the Rio Grande rift near Los Alamos.

The RANT facility at TA-54 is situated on Mesita del Buey in the eastern part of LANL between Pajarito Canyon to the south and Cañada del Buey to the north (Figure 2). As mapped by Goff et al. (2002) on the Frijoles 7.5-minute quadrangle, the RANT facility is immediately underlain by highly-disturbed mesa top deposits of manmade origin, usually consisting of a mixture of older alluvium, tuffaceous rubble, native soil, and imported fill. Below this fill deposit, the local bedrock is the Quaternary Bandelier Tuff, formed in two eruptive pulses from nearby Valles caldera, the eastern edge of which is located approximately 8 miles (13.2 km) west of TA-54. The older member (Otowi Member) of the Bandelier Tuff has been dated at 1.61 Ma (Izett and Obradovich 1994). The younger member (Tshirege Member) of the Bandelier Tuff has been dated at 1.256 Ma (age from Phillips et al. 2007) and is widely exposed as the mesa-forming unit around Los Alamos. Several discrete subunits comprise the Tshirege Member. Commonly accepted stratigraphic nomenclature for the subunits of the Tshirege Member is described in detail by Broxton and Reneau (1995), Gardner et al. (2001), and Lewis et al. (2009). The Tshirege Member subunit exposed at the ground surface at TA-54 is Qbt2, and in select locations along Mesita del Buey, the underlying Qbt1 is also exposed in cliff faces. Unit Qbt3 pinches out immediately west of the RANT facility. Understanding the subtle differences between Tshirege Member cooling units and the nature of the contacts between cooling units is critical to identifying fault-generated displacements around the Pajarito Plateau.

Regional Structural and Seismic Studies

Lineament mapping

Before the campaign of detailed geologic mapping began at LANL in the mid 1990s, geologic studies performed prior to this time dominantly used lineament mapping from aerial photographs to infer the surface traces of the Rendija Canyon and Guaje Mountain faults as southward structural continuations through the Los Alamos townsite and through TA-55 and TA-63, respectively (including Rogers et al. 1996; Dransfield and Gardner 1985; Vaniman and Wohletz 1990; Wong et al. 1995; Olig et al. 1996; and Wohletz 2004). The traces of these faults are important, as they have been interpreted as the easternmost structural extent of the Pajarito fault system in the Los Alamos area (Lewis et al., 2009). For reference, the TA-55 and TA-63 technical areas are located approximately 2 miles (3.1 km) northwest of the RANT facility.

Studies by Gardner et al. (1998, 1999, 2008), Lewis et al. (2002, 2009), and Lavine et al. (2003, 2005) utilized the most widely-accepted and detailed published stratigraphy of the Bandelier Tuff (that of Broxton and Reneau 1995; published in peer-reviewed literature by Lewis et al. 2009) to map small displacements across Tshirege Member cooling unit contacts throughout much of western and central LANL for the purpose of identifying potential seismic surface rupture hazards in LANL technical areas. These relatively-recent studies acquired information on fault locations and amount of displacement using high-precision geodetic mapping of Tshirege Member subunit contacts along canyon exposures. These detailed mapping studies have shown that lineaments in this area are not expressed as young surface-rupturing components of the Rendija Canyon and Guaje Mountain faults through the TA-55 and TA-63 areas. In fact, the surface trace of the Rendija Canyon fault bends southwesterly at Los Alamos Canyon and splays into TA-3 instead of continuing southerly through TA-55 (Gardner et al., 1999). The surface expression of the Guaje Mountain fault is not identifiable in contact displacement to the south of Pueblo Canyon (Lavine et al., 2003).

While lineament mapping has been completed at a regional scale across much of the Pajarito Plateau, we emphasize that for determining the presence of Holocene faults at a given location, conventional field geologic mapping or paleoseismic trenching must be consulted or performed to confirm that (1) a lineament is truly a fault, and (2) that it displaces young units. Olig et al. (1998) supports this:

“The lineaments [from Wong et al. (1995), Plate 1] were identified on aerial photographs or observed during an aerial reconnaissance and field-checked at a reconnaissance level. However, this generalized map ... should be considered preliminary in nature until a more comprehensive and detailed surficial mapping of LANL is completed.”

Geologic quadrangle mapping

The New Mexico Bureau of Geology and Mineral Resources, in conjunction with the US Geological Survey’s National Cooperative Geologic Mapping Program (STATEMAP), published a geologic and structural map of the Frijoles 7.5-minute quadrangle (LANL and Bandelier National Monument area) at 1:24,000 scale (Goff et al. 2002). This investigation did not find surficial geologic faults that disrupt the Bandelier Tuff or younger units in the vicinity (e.g., within 3,000 ft) of the proposed facilities at TA-54. As noted above, the RANT facility is immediately underlain by highly-disturbed mesa top deposits of manmade origin, on the order of three to six feet (1-2 m) thick.

Other geologic mapping

The Pajarito fault system was mapped at 1:1,200 scale by personnel with a detailed knowledge of structural geology and Tshirege Member subunits, and that work published by Lewis et al. (2009) represents a culmination of considerable detailed geologic investigations by the LANL Seismic Hazards Geology Team performed on the Pajarito Plateau since the mid 1990s. Plate 1 shows the RANT facility at TA-54, a 3,000-foot buffer, a five-mile buffer around the facility (as mandated by 40 CFR 270.14(b)(11)(A)(2)), published mapped surface faults from Goff et al. (2002) and Lewis et al. (2009), and mapped lineaments from Vaniman and Wohletz (1990) and Wong et al. (1995). The surficial faults mapped by Lewis et al. (2009) and seen on Plate 1 represent the most recent and detailed state of published knowledge of the Pajarito fault system near LANL.

No surficial faults with lateral continuity associated with the Pajarito fault system fall within the 3,000 ft buffer surrounding the RANT facility, as shown on Figure 4 and Plate 1. The closest mapped fault associated with the main trace of the master Pajarito fault is approximately 5.5 miles (8.8 km) to the west of the RANT facility. The closest mapped fault with lateral surface continuity in proximity to RANT is a trace of the antithetic Rendija Canyon fault mapped through TA-41 and TA-2, approximately 2.7 miles (4.3 km) northwest of the RANT facility. The closest mapped point-offset (an individual location where offset on a geologic contact was identified but lateral or vertical continuity of displacement along a fault plane was not visible) is a site in TA-66 approximately 1.9 miles (3 km) west-northwest of the RANT facility. Points of offset were found to be notable features in geologic field investigations (e.g., Gardner et al. 1999, 2001; Lavine et al., 2003), but these features were also found to have little to no lateral continuity, could not be traced down or up through the stratigraphic section, were not visible as surficial offset, could not be followed across mesa-tops through conventional geologic mapping, and were not found to displace geologic units younger than the tuff (younger than 1.256 Ma).

Microseismic monitoring

The Los Alamos Seismic Network (LASN) continuously monitors local earthquake activity in the Los Alamos area in support of LANL’s Seismic Hazards program. Seismic monitoring of LANL facilities is a requirement of DOE Order 420.1B (Facility Safety). LASN currently consists of several permanent seismic instrument field stations that telemeter real-time sensitive ground motion data to a central recording facility. These stations include broadband microseismic, broadband seismo-acoustic, broadband strong motion, short-period microseismic, and short-period

seismo-acoustic monitoring stations. Four short-period microseismic monitoring stations are located on LANL property, and five seismic stations (including a strong-motion vertical array) are located within five miles of TA-54. Other stations are in remote locations in the Jemez Mountains, St Peters Dome, and the Caja del Rio Plateau across the Rio Grande, with additional stations currently under construction or in various stages of installation. The network has been detecting and archiving seismic events from 1973 to present, and the most recent earthquake catalogue is described by Roberts et al. (2012)(a) and (b). During the operational duration of LASN through 2011, over 750 clearly locatable earthquakes were recorded in northern New Mexico. Over 200 of these were located within a 50-km radius of Los Alamos, and roughly 90 of those were within 20 km. Figure 3 shows the current LASN station locations and the seismic events recorded in the area from 1973 to 2011. Because the LASN station spatial coverage is limited, and stations on LANL property are plagued by cultural noise (e.g., construction activities, explosive shots), there can be issues with earthquake identification and location errors. Misidentification of recorded events as local earthquakes is very rare. When it does occur, the most common cause is that LANL test explosions and distant earthquakes occasionally generate signals that can mimic the characteristics of local earthquakes. The events are then reviewed and revised as necessary. A revised version of the LASN earthquake catalogue has been presented by Roberts et al. 2012(a) and (b).

No earthquakes detected by LASN have been epicentered within 3,000 feet of TA-54 during the network's 39 years of operation.

Published geologic studies of relevance to seismic hazards issues at TA-54

Several geologic investigations have taken place at LANL with specific focus on TA-54. Data from some of these area-specific studies provide constraint on the location, size, distribution, and implications of known faults with relation to the RANT facility. This document summarizes some key geological studies below, in chronological order by publication date.

- **Purtymun and Kennedy 1971**, Geology and Hydrology of Mesita del Buey [report number LA-4660]

This report describes the geology, structure, and hydrology of the TA-54 area for basic background and geologic site characterization. Purtymun and Kennedy (1971) identified three dominant joint sets at field sites around TA-54: 310° to 330° (N50W to N30W); 280° to 300° (N80W to N60W); and 40° to 60° (N40E to N60E). The authors described these joints as tensional, formed by the contraction of the tuff as it cooled, based upon the joints' near-vertical attitudes and curvilinear trends. Purtymun and Kennedy (1971) used borehole data to identify a sequence of basalts underlying the Bandelier Tuff that thin towards the west across Mesita del Buey. They describe the older, Cerros del Rio-aged basalts as a paleo-topographic high over which the Bandelier Tuff was deposited.

- **Rogers 1977**, History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T): A Source Document [report number LA-6848-MS, 2 vols.]

This report consolidated a vast amount of historic and geologic information on the beginnings and growth of material disposal areas around LANL. Here, we discuss in general geologic characterizations of pits located at TA-54 that were available at the time of Rogers' (1977) report publication. MDAs H and J, nearest to the RANT facility, were not yet developed at the time of this publication.

Some faults were identified in pits at TA-54; however, the displacements on these faults are quite small (less than 6 in), they did not have lateral continuity (could not be correlated to larger fractures or geologic structures), and the age of displacement could only be determined as younger than 1.2 Ma (the age of the

Bandelier Tuff). The characterized pits that were investigated provided geologic data suggesting a wide range of fracture orientations, near-vertical fracture dips, narrow apertures, and some minor faulting with offsets of less than a foot since the deposition of the Bandelier Tuff. These small-displacement faults with no documented lateral continuity do not pose a seismic hazard to the RANT facility, and can be attributed to cooling and compaction of the tuff shortly after emplacement.

- **Dransfield and Gardner 1985**, Subsurface Geology of the Pajarito Plateau, Española Basin, New Mexico [report number LA-10455-MS]

This report provides a description of geologic structure in units predating the Bandelier Tuff, based upon drill cores and geophysical surveys across the Pajarito Plateau. They note the presence of numerous down-to-the-west faults averaging 100 ft of displacement within basalts below TA-54. Cumulatively, 600 ft of displacement was identified along the sequence of pre-Bandelier Tuff faults. One of the easterly subsurface faults, near to the TA-54 area, correlates to a gravity inflection. This gravity anomaly may indicate the western margin of the thick basalt sequence underlying the Bandelier Tuff, as identified in the cross-section from Purtymun and Kennedy (1971). None of these pre-Bandelier Tuff faults propagate upwards into the Bandelier Tuff or younger units.

- **Reneau et al. 1998**, Structure of the Tshirege Member of the Bandelier Tuff at Mesita del Buey, Technical Area 54, Los Alamos National Laboratory [report number LA-13538-MS]

This study was performed to determine the presence or absence of faults at TA-54 through use of high-precision geodetic surveying of the Qbt1v – Qbt2 contact along the flanks of Mesita del Buey. Reneau et al. (1998) identified widely-distributed, small-scale faults at Mesita del Buey along a 2.2 mile traverse of the north wall of Pajarito Canyon and a 0.4 mile traverse of the north wall of a tributary to Cañada del Buey. A total of 37 faults with offsets ranging from 5 to 65 cm (2 to 25 in) were recorded in a zone between the eastern edge of MDA J in the west and MDA G in the east, with the highest density of observed faults in the vicinity of MDA L where pyroclastic surge beds were well exposed and continuous. The western boundary of MDA L is approximately 4500 ft (1400 m) southeast of the RANT facility. Typical fault offset across the study area was 20 to 30 cm (8 to 12 in) and all observed fault planes were steeply dipping. Since the exposure of the Qbt1 – Qbt2 contact was incomplete along the canyon wall traverses, Reneau et al. (1998) postulate that several additional faults of similar magnitude to those identified may exist in obscured areas. 65% of observed offset on identified faults was down-to-the-west, while the remaining 35% of observed offset was down-to-the-east. Opposing fault displacements partially compensate for each other, reducing cumulative offset along the surveyed transects. These identified faults were not concentrated in discrete areas or zones.

The general absence of large (> 2ft) displacements along the Qbt1v – Qbt2 contact suggests that these small-displacement structures are not associated with major fault zones. Reneau et al. (1998) suggest that these small-displacement faults may record secondary deformation across the Pajarito Plateau associated with large earthquakes on the main Pajarito fault, several miles to the west, or even perhaps earthquakes on other regional faults. The small single offsets, reduced cumulative offset due to opposing fault displacements, lack of lateral continuity of these small faults across the mesa, no displacements of units younger than the Bandelier Tuff along similar fractures, and lack of mapped laterally-continuous faults in other geologic studies correlative to these identified faults support the statement that these small faults do not pose a seismic hazard to the RANT facility.

- **Various borehole studies**

To constrain groundwater flow patterns and directions and for monitoring purposes, a number of wells exist around TA-54. During drilling, these wells were logged and core recovered. This section describes geologic information from wells within 3,000 ft of the RANT facility.

Well logs from water supply hole PM-2 (Purtymun, 1995) help constrain the subsurface geology beneath TA-54 and the nearby RANT facility. Well PM-2 is located approximately 2650 ft (807 m) south-southeast of the RANT facility. The logs for well PM-2 from Purtymun (1995) and used by Goff et al. (2002) demonstrate that the Tshirege Member of the Bandelier Tuff is over 200 ft thick at this location, and the Otowi Member (including the Guaje Pumice) is approximately 200 ft thick. The Cerro Toledo interval, a volcanoclastic unit variably present above the Otowi Member and below the Tshirege Member, is less than 10 ft thick at this location. Nearly 2,000 ft of Cerros del Rio basaltic units of variable thickness interbedded with Santa Fe Group sediments underlie the Bandelier Tuff units in this area. No faults were identified through this borehole characterization effort.

Stratigraphic descriptions from borehole PM-4 (G. WoldeGabriel, personal communication, 11/15/2012) show similar subsurface geology to that identified in borehole PM-2. This borehole is located approximately 2000 ft (610 m) north of the RANT facility. No faults were identified in this borehole.

One of the nearby regional characterization wells is R-20, located approximately 3700 ft (1.3 km) southeast of the RANT facility, east of TA-18 on the south side of Pajarito Road, in the bottom of Pajarito Canyon. This well was drilled as part of the Groundwater Protection Program. The well summary data sheet indicates the drilling efforts encountered a significant thickness (68 ft) of alluvium, nearly 100 ft of Tshirege Member, approximately 15 ft of Cerro Toledo Interval, nearly 200 ft of Otowi Member, 18 ft of Guaje Pumice, and large thicknesses of Cerros del Rio basalts underlain by Puye Formation deposits to a depth of 1242 ft. No faults were identified in the completion report for this well.

Another nearby regional characterization well is R-37, located approximately 2000 ft (610 m) east of the RANT facility, along the north side of Mesita del Buey and adjacent to the southern side of Cañada del Buey, about 0.25 mi east of MDA J. This well was drilled as part of the Groundwater Protection Program. The well summary data sheet indicates the drilling efforts encountered nearly 230 ft of Tshirege Member, approximately 3 ft of sediments attributed to the Cerro Toledo Interval, nearly 260 ft of Otowi Member, 11 ft of Guaje Pumice, and large thicknesses of Cerros del Rio basalts (433 ft) underlain by Puye Formation deposits to a total depth of 1100 ft. No faults were identified in the completion report for this well.

Also nearby is regional characterization well R-40, located approximately 2100 ft (640 m) south-southeast of the RANT facility, east of TA-18 on the north side of Pajarito Road, near the bottom of Pajarito Canyon. This well was drilled for the LANL Water Stewardship Program to monitor potential releases from MDA H. The well summary data sheet indicates the drilling efforts encountered 40 ft of alluvium, 114 ft of Tshirege Member, approximately 18 ft of sediments attributed to the Cerro Toledo Interval, nearly 260 ft of Otowi Member, 18 ft of Guaje Pumice, and large thicknesses of Cerros del Rio basalts (nearly 350 ft) underlain by Puye Formation deposits to a total depth of 910 ft. No faults were identified in the completion report for this well.

Local Lineament Mapping and Field Reconnaissance at TA-54 and Surrounding Canyons

We present a local lineament map (Plate 2) of the 3,000-ft buffer area surrounding the RANT facility at TA-54. Present on both Plates 1 and 2 are lineaments from Wong et al. (1995; yellow lines) and Vaniman and Wohletz (1990; orange lines) that trend roughly north-south, as well as lineaments mapped in this study using color orthophotography (red dotted lines). The lineaments mapped by Wong et al. (1995) and Vaniman and Wohletz

(1990) were identified using aerial photographs.

Plate 2 shows two northeast-striking lineament traces, one mapped by Wong et al. (1995) and the other mapped by this study, transecting the 3,000 ft buffer around the RANT facility. These lineaments project through the northwestern quadrant of the buffer area. The lineaments identified on Plate 2 do not correlate to any Holocene faults or measured point-locations of offset on Bandelier Tuff subunit contacts.

Figure 4 is a map showing faults in the vicinity of the proposed RCRA-permitted RANT facility area, with 200-ft (orange) and 3,000-ft (blue) buffers for RCRA seismic considerations. This map shows there are no faults within the 200-ft or 3,000-ft buffers around the RANT facility.

Discussion

Site-specific geologic investigations in the TA-54 area, described above, show that the lineaments mapped through TA-54 on Plates 1 and 2 do not correlate with any Holocene faults. Neither geologic investigations in the TA-54 area, nor geologic mapping in the Los Alamos and White Rock areas show Holocene faults in areas where lineaments have been identified on Plates 1 and 2. Detailed geodetic surveying of the Qbt1 – Qbt2 contact by Reneau et al (1998) did find small-displacement faulting along the mesa edge between the eastern edge of MDA J and MDA L, but did not locate faults within 200 ft of the RANT facility. Lineaments found in the TA-54 area do not appear to correlate with displacement of the Bandelier Tuff or younger units.

Goff et al. (2002) notes that the RANT facility area is largely underlain by highly-disturbed fill units of manmade origin. The creation of these fill deposits likely has modified or removed any undisturbed post-Bandelier Tuff deposits. Without undisturbed native deposits younger than the Bandelier Tuff, conducting future geologic field investigations with the purpose of identifying Holocene movement across faults (e.g., paleoseismic trenching, borehole investigations) would be challenging, if not unachievable, in the immediate area around the RANT facility.

Conclusions

No faults have been documented within 200 ft of the RANT facility in western TA-54. Two lineaments, mapped by Wong et al. (1995) and this study, project within the 3,000 ft buffer around the RANT facility. These mapped lineaments do not correlate to identifiable displacements on Tshirege Member subunit contacts. Additionally, these lineaments do not correspond to faults that exhibit movement in Holocene time, and they do not have clear connections to small local faults or major regional faults. Therefore, these features do not pose a seismic hazard to the RANT facility. Based on the data presented in this memo using information from published geologic studies at and around TA-54, aerial reconnaissance of the area within a five-mile radius from the RANT facility, an analysis of aerial photographs, and field reconnaissance of lineaments and contact elevations, we demonstrate that no faults with Holocene displacement are present within 200 ft of the RANT facility. Aerial reconnaissance, detailed geologic mapping of portions of LANL, and paleoseismic trenching investigations show that the focus of possible Holocene faulting is concentrated along the main Pajarito fault, over five miles west of the RANT facility.

Figure Captions

Figure 1. Map of the RANT facility with respect to the Pajarito fault system in the vicinity of Los Alamos National Laboratory (green outline). Location of TA-54 is highlighted as a red bordered area; RANT facility location labeled and shown as pink polygon within TA-54. Inset map shows approximate location of Rio Grande rift. Proposed RCRA-permitted RANT facility area is shown in greater detail in Figure 2. **PF** = Pajarito fault; **RCF** = Rendija Canyon

fault; **GMF** = Guaje Mountain fault; **SCF** = Sawyer Canyon fault. Fault mapping (bold black lines) from Goff et al. (2002) and Lewis et al. (2009).

Figure 2. Map view of the location of the RANT facility within TA-54. The TA-54 technical area shown in inset map. The region proposed for RCRA permitting is shown as a pink shaded area with a red ball-bar border. The 200 ft buffer is a bold orange line surrounding the RANT facility. The Pajarito Canyon watershed lies to the south of the technical area; Cañada del Buey and its tributaries lie north of the RANT facility. MDAs H and J are shaded green with a black border.

Figure 3. Map of earthquakes recorded by the Los Alamos Seismic Network (LASN) from 1973 to 2011. Individual earthquake epicenters shown as purple circles; relative circle size indicates earthquake magnitude. Recent, news-worthy October 2011 Cuyamungue earthquake labeled and shown in red. TA-54 and approximate location of RANT facility location shown. Active LASN stations shown as blue triangles. See report text for further discussion.

Figure 4. Mapped faults and point-locations of offset, with respect to the 200 ft (orange) and 3,000 ft (blue) buffers surrounding the RANT facility (red polygon at center of map). No faults are mapped within the 200 ft or 3,000 ft buffers. See text for further discussion.

Plate 1. Mapped faults, mapped lineaments, and color orthophotographic map of the Pajarito Plateau. Buffers of 3,000 feet (blue circle) and five miles (pink circle) around the RANT facility at TA-54 are shown. Structural mapping (bold black lines) from Goff et al. (2002) and Lewis et al. (2009). Mapped lineaments from Vaniman and Wohletz (1990; orange lines), Wong et al. (1995; yellow lines), and this study (red dotted lines). TA-54 is east of the main trace of the Pajarito fault system. See text for further discussion.

Plate 2. Mapped faults, mapped lineaments, and orthophotography in the area surrounding the RANT facility. Lineaments from Vaniman and Wohletz (1990; orange lines), Wong et al. (1995; yellow lines), and this study (red dotted lines). Two separate lineaments project into the 3,000 ft buffer (blue circle) around the RANT facility. These lineaments do not project within the 200 ft buffer (red line) surrounding the facility. See text for further discussion.

References

- Bates, RL and JA Jackson, eds., 1984, *Dictionary of Geological Terms*; American Geological Institute, 571 pp.
- Broxton, DE and SL Reneau, 1995, Stratigraphic nomenclature of the Bandelier Tuff for the Environmental Restoration Project at Los Alamos National Laboratory; Los Alamos National Laboratory report LA-13010-MS, 21 pp.
- Dransfield, BJ, and JN Gardner, 1985, Subsurface geology of the Pajarito Plateau, Española Basin, New Mexico; Los Alamos National Laboratory report LA-10455-MS, 15 pp.
- Gardner, JN, A Lavine, D Vaniman, and G WoldeGabriel, 1998, High-precision geologic mapping to evaluate the potential for seismic surface rupture at TA-55, Los Alamos National Laboratory; Los Alamos National Laboratory report LA-13456-MS, 13 pp.
- Gardner, JN, A Lavine, G WoldeGabriel, D Krier, D Vaniman, FA Caporuscio, CJ Lewis, SL Reneau, E Kluk, and MJ Snow, 1999, Structural geology of the northwestern portion of Los Alamos National Laboratory, Rio Grande rift, New Mexico: Implications for seismic surface rupture potential from TA-3 to TA-55; Los Alamos National Laboratory report LA-13589-MS, 112 pp.
- Gardner, JN, ES Schultz-Fellenz, FA Caporuscio, CJ Lewis, RE Kelley, and MK Greene, 2008, Geology and structure of the Chemistry and Metallurgy Research Facility Replacement Site, Los Alamos National Laboratory, New Mexico; Los Alamos National Laboratory report LA-14378, 295 pp.

- Goff, F, JN Gardner, and SL Reneau, 2002, Geologic map and structure of the Frijoles 7.5-minute Quadrangle, Los Alamos and Sandoval Counties, New Mexico; New Mexico Bureau of Geology and Mineral Resources, Geologic Open-File Map OF-GM 42, scale 1:24,000.
- Gradstein, FM, JG Ogg, and M van Kranendonk, 2008, On the Geologic Time Scale 2008; *Newsletters on Stratigraphy* **43**, 5-13.
- Izett, GA, and JD Obradovich, 1994, $^{40}\text{Ar}/^{39}\text{Ar}$ age constraints for the Jaramillo normal subchron and the Matuyama-Brunhes geomagnetic boundary; *J Geophys Res* **99** (B2), pp. 2925-2934.
- Kolbe, T, J Sawyer, A Gorton, S Olig, D Simpson, C Fenton, S Reneau, J Carney, J Bott, and I Wong, 1994, Evaluation of the potential for surface faulting at the proposed Mixed Waste Disposal Facility, TA-67; unpublished consulting report prepared for Los Alamos National Laboratory by Woodward-Clyde Federal Services, Oakland, California.
- Kolbe, T, J Sawyer, J Springer, S Olig, S Reneau, M Hemphill-Haley, and I Wong, 1995, Evaluation of the potential for surface faulting at TA-63; unpublished consulting report prepared for Los Alamos National Laboratory by Woodward-Clyde Federal Services, Oakland, California.
- LANL, 2003, Characterization Well R-20 Completion Report; Los Alamos National Laboratory document LA-UR-03-1839, Los Alamos, New Mexico.
- LANL, 2009, Completion Report for Regional Aquifer Well R-37; Los Alamos National Laboratory document LA-UR-09-5371, Los Alamos, New Mexico.
- LANL, 2010, Completion Report for Regional Aquifer Well R-40, Revision 1; Los Alamos National Laboratory document LA-UR-10-0127, Los Alamos, New Mexico.
- Lavine, A, CJ Lewis, DK Katcher, and J Wilson, 2003, Geology of the north-central to northeastern portion of Los Alamos National Laboratory, New Mexico; Los Alamos National Laboratory report LA-14043-MS, 44 pp.
- Lavine, A, JN Gardner, and ES Schultz, 2005, Evaluation of faulting at the Chemistry and Metallurgy Research Facility Replacement (CMRR) site based on examination of core from geotechnical drilling studies, TA-55, Los Alamos National Laboratory; Los Alamos National Laboratory report LA-14170, 21 pp.
- Lewis, CJ, A Lavine, SL Reneau, JN Gardner, R Channell, and CW Criswell, 2002, Geology of the western part of Los Alamos National Laboratory (TA-3 to TA-16), Rio Grande rift, New Mexico; Los Alamos National Laboratory report LA-13960-MS, 98 pp.
- Lewis, CJ, JN Gardner, ES Schultz-Fellenz, A Lavine, SL Reneau, and S Olig, 2009, Fault interaction and along-strike variation in throw in the Pajarito fault system, north-central New Mexico; *Geosphere* **5**, pp. 252-269.
- Ogg, JG, G Ogg, and FM Grandstein, eds., 2008, *The Concise Geologic Time Scale*; Cambridge University Press, 184 pp.
- Olig, SS, KI Kelson, JN Gardner, SL Reneau, and M Hemphill-Haley, 1996, The earthquake potential of the Pajarito fault system, New Mexico; in Goff, F, BS Kues, MA Rogers, LD McFadden, and JN Gardner, eds., *New Mexico Geological Society 47th Annual Fall Field Conference Guidebook; The Jemez Mountains Region*, p. 143-152.
- Olig, S, R Youngs, and I Wong, 1998, Probabilistic seismic hazard analysis for surface fault displacement at TA-3, Los Alamos National Laboratory; unpublished consulting report prepared for Los Alamos National Laboratory by Woodward-Clyde Federal Services, Oakland, California.
- Phillips, EH, F Goff, PR Kyle, WC McIntosh, NW Dunbar, and JN Gardner, 2007, The $^{40}\text{Ar}/^{39}\text{Ar}$ age constraints on the duration of resurgence at the Valles caldera, New Mexico; *J Geophys Res* **112** (B09201), DOI: 10.1029/2006JB004511.
- Purtymun, WD, 1995, Geologic and hydrologic records of observation wells, test holes, test wells, supply wells, springs, and surface water stations in the Los Alamos area; Los Alamos National Laboratory report LA-12883-MS, 339 pp.
- Reneau, SL, TR Kolbe, DT Simpson, JS Carney, JN Gardner, S Olig, and DT Vaniman, 1995, Surficial materials and structure at Pajarito Mesa; in *Geological Site Characterization for the proposed Mixed Waste Disposal Facility*,

Los Alamos National Laboratory, SL Reneau and R Raymond, eds.; Los Alamos National Laboratory report LA-13089-MS, 31-69.

- Roberts, PM, ES Schultz-Fellenz, and RE Kelley, 2012(a), Addressing concerns related to geologic hazards at the site of the proposed Transuranic Waste Facility, Technical Area 63, Los Alamos National Laboratory; memorandum #EES16-12-004 for TA-63 TWF Permit Modification Request submitted to NMED; LA-UR-12-20321.
- Roberts, PM, LS House, MK Greene, JA Ten Cate, ES Schultz-Fellenz, and RE Kelley, 2012(b), The Los Alamos Seismic Network (LASN): Recent Network Upgrades and North-Central New Mexico Earthquake Catalog Updates: Abstract S51C-2444 presented at 2012 Fall Meeting, American Geophysical Union, San Francisco, California, 3-7 December.
- Rogers, MA, KE Budding, and CVL Christie, 1996, Distinguishing tectonic joints from cooling joints in the Bandelier Tuff (Pleistocene), Pajarito Plateau, Los Alamos county, New Mexico; *New Mexico Geological Society Guidebook 47*, 293-302.
- Vaniman, D and K Wohletz, 1990, Results of geological mapping and fracture studies: TA-55 area; unpublished memo report, Los Alamos National Laboratory, EES1-SH90-17.
- Wohletz, K, 2004, Tuff fracture characterization along Mortandad Canyon between OU-1114 and OU-1129; Los Alamos National Laboratory report LA-UR-04-8337, 29 pp.
- Wong, I, M Hemphill-Haley, K Kelson, T Kolbe, R Green, H Kanakari, J Bott, W Silva, C Haraden, J Gardner, L House, and S Reneau, 1993, Seismic hazards evaluation of the Los Alamos National Laboratory; unpublished consulting report prepared for Los Alamos National Laboratory by Woodward-Clyde Federal Services, Oakland, California.
- Wong, I, K Kelson, S Olig, T Kolbe, M Hemphill-Haley, J Bott, R Green, H Kanakari, J Sawyer, W Silva, C Stark, C Haraden, C Fenton, J Unruh, J Gardner, S Reneau, and L House, 1995, Seismic hazards evaluation of the Los Alamos National Laboratory; unpublished consulting report prepared for Los Alamos National Laboratory by Woodward-Clyde Federal Services, Oakland, California.

Distribution

Gian Bacigalupa, ENV-RCRA, LANL
 Luciana Vigil-Holterman, ENV-RCRA, LANL
 Claudia Mora, EES-14, LANL

Attachments (4 figures; 2 plates)

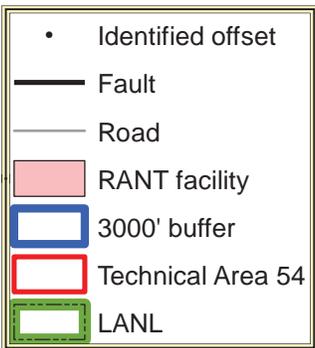
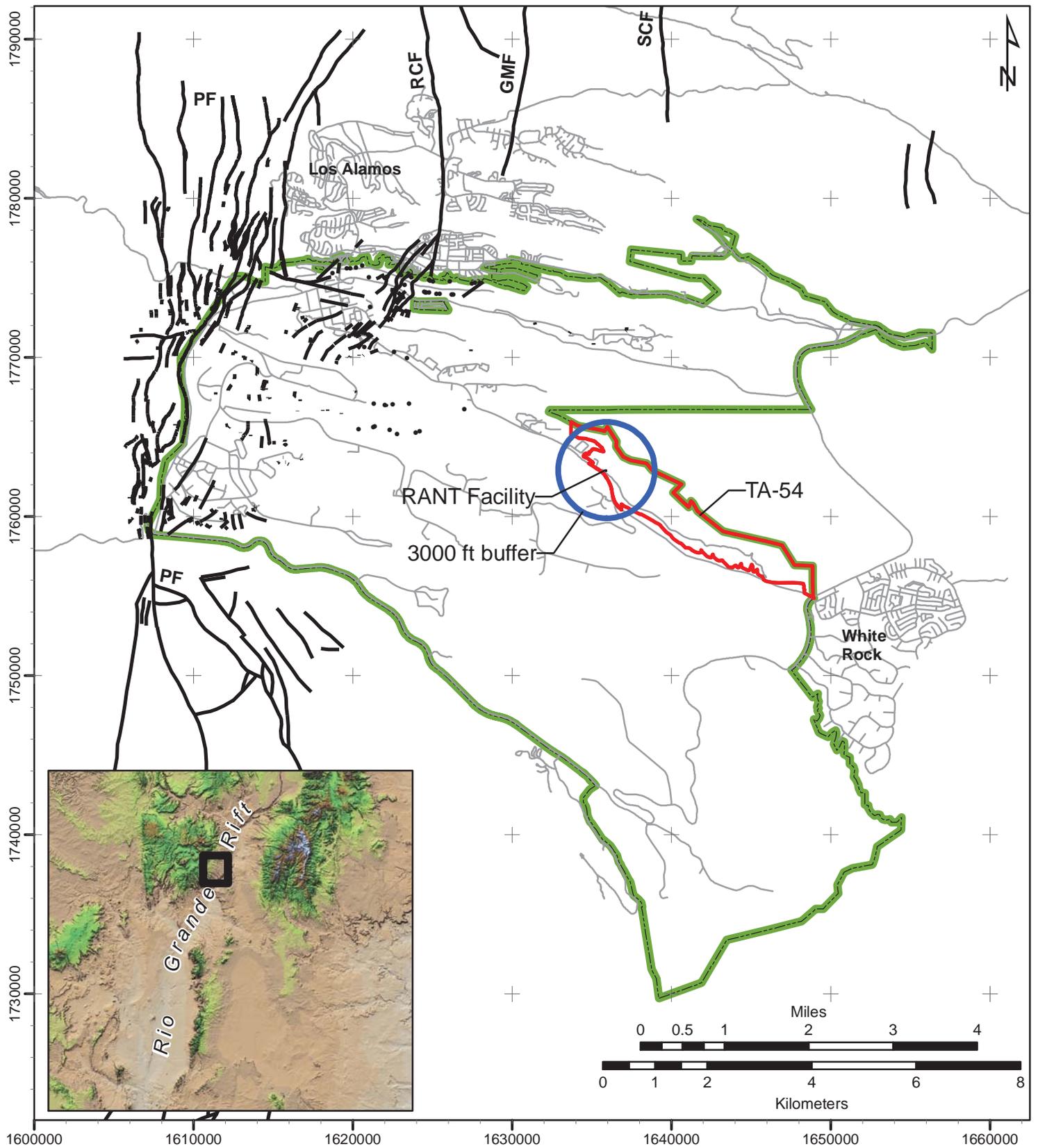


Figure 1: Map of the RANT facility with respect to the Pajarito Fault System in the vicinity of Los Alamos National Laboratory

State Plane Coordinate System
 New Mexico Central Zone
 1983 North American Datum
 Grid Provides Units in Feet

LA-UR-12-27035
 GISLab Map No. m202391
 GISLab Req. No. 14388
 Document No. EES14-12-018
 Cartography by Liz Miller
 December 17, 2012



Work Performed on Behalf of ENV-RCRA, Los Alamos National Laboratory, Los Alamos, NM 87545
 Neither the United States Government nor Los Alamos National Security (LANS), LLC nor any of their employees makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

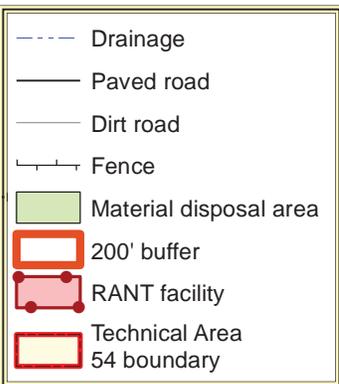
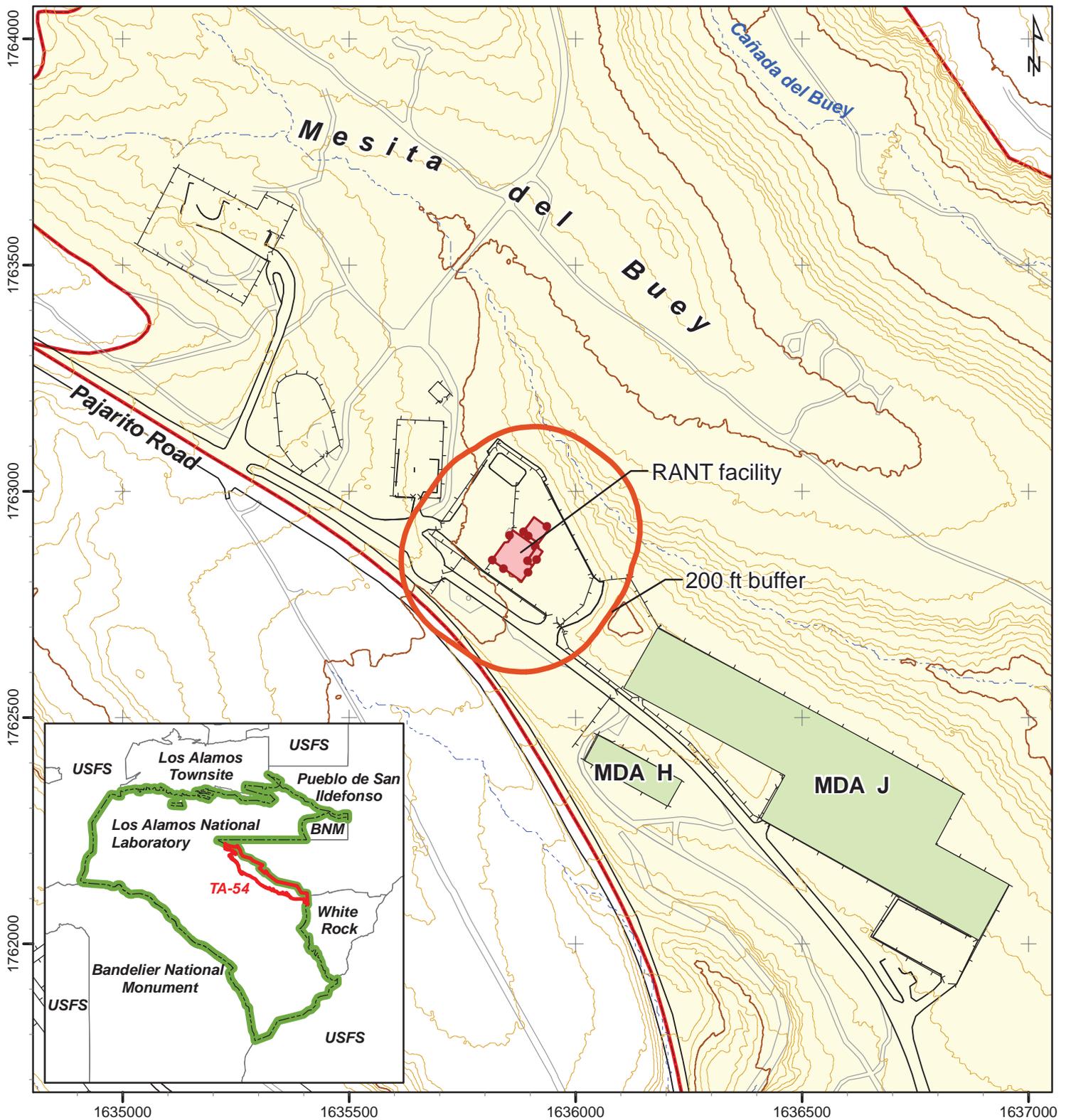


Figure 2. Details of RCRA-Permitted Area of RANT facility, TA-54

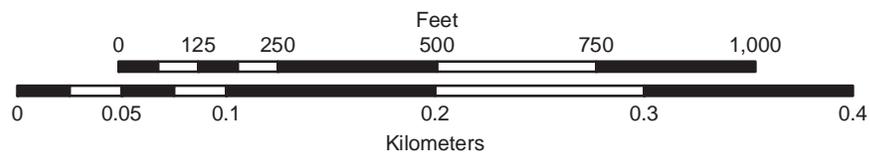
State Plane Coordinate System
 New Mexico Central Zone
 1983 North American Datum
 Grid Provides Units in Feet
 Contour interval = 10 feet

LA-UR-12-27035
 GISLab Map No. m202392
 GISLab Req. No. 14388
 Document No. EES14-12-018
 Cartography by Liz Miller
 December 17, 2012



Work Performed on Behalf of ENV-RCRA, Los Alamos National Laboratory, Los Alamos, NM 87545

Neither the United States Government nor Los Alamos National Security (LANS), LLC nor any of their employees makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.



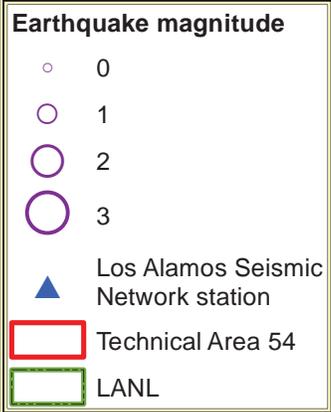
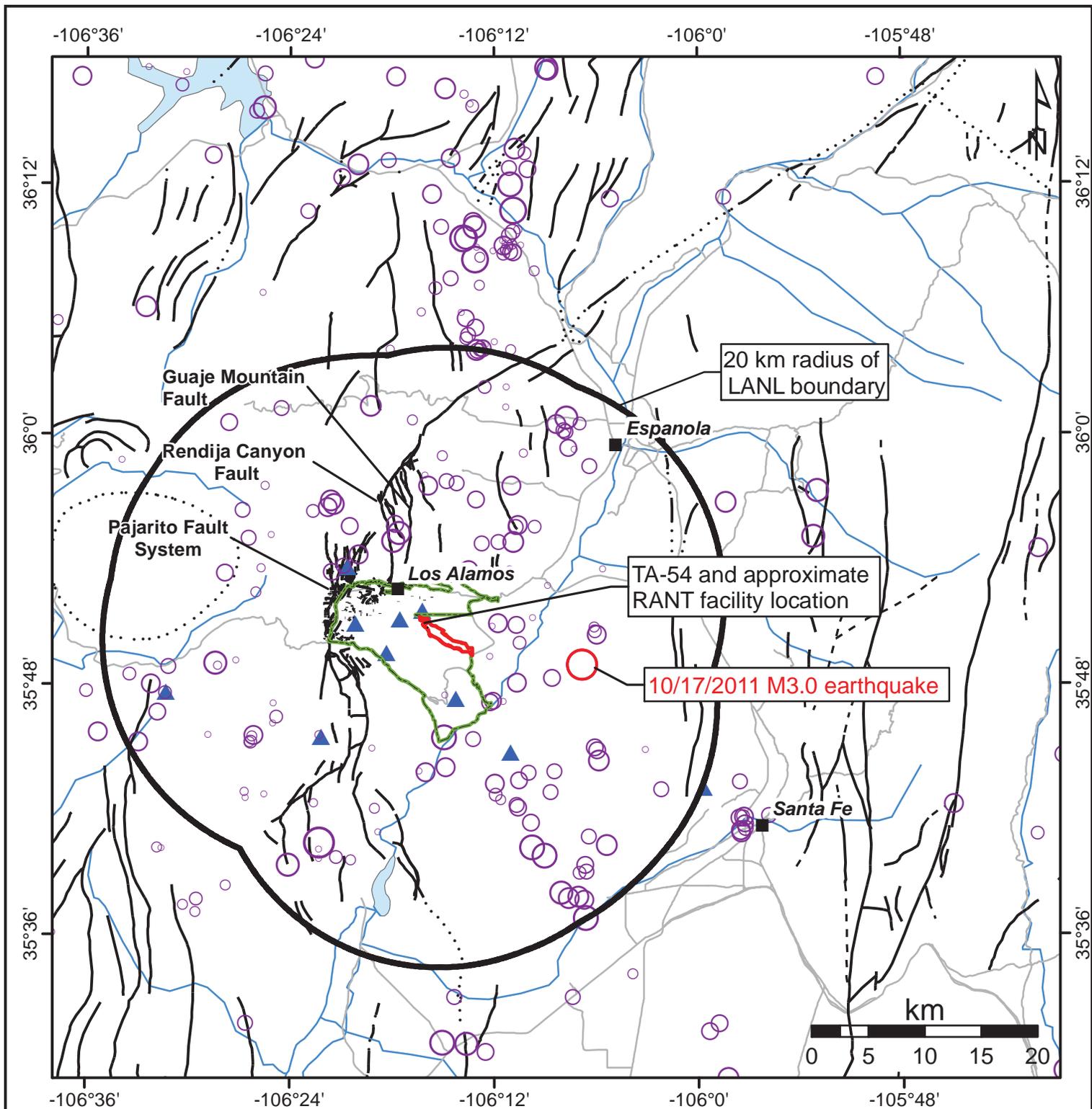


Figure 3. Greater Los Alamos Area Seismic Events

218 Total Local Earthquakes (1973 - 2011)

87 Earthquakes within 20-km Radius of LANL

Purple Circles: Earthquake Locations and Magnitudes

State Plane Coordinate System
New Mexico Central Zone
1983 North American Datum
Grid Provides Units in Feet

LA-UR-12-27035
GISLab Map No. m202393
GISLab Req. No. 14388
Document No. EES14-12-018
Cartography by Liz Miller
December 17, 2012

Work Performed on Behalf of ENV-RCRA, Los Alamos National Laboratory, Los Alamos, NM 87545

Neither the United States Government nor Los Alamos National Security (LANS), LLC nor any of their employees makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.



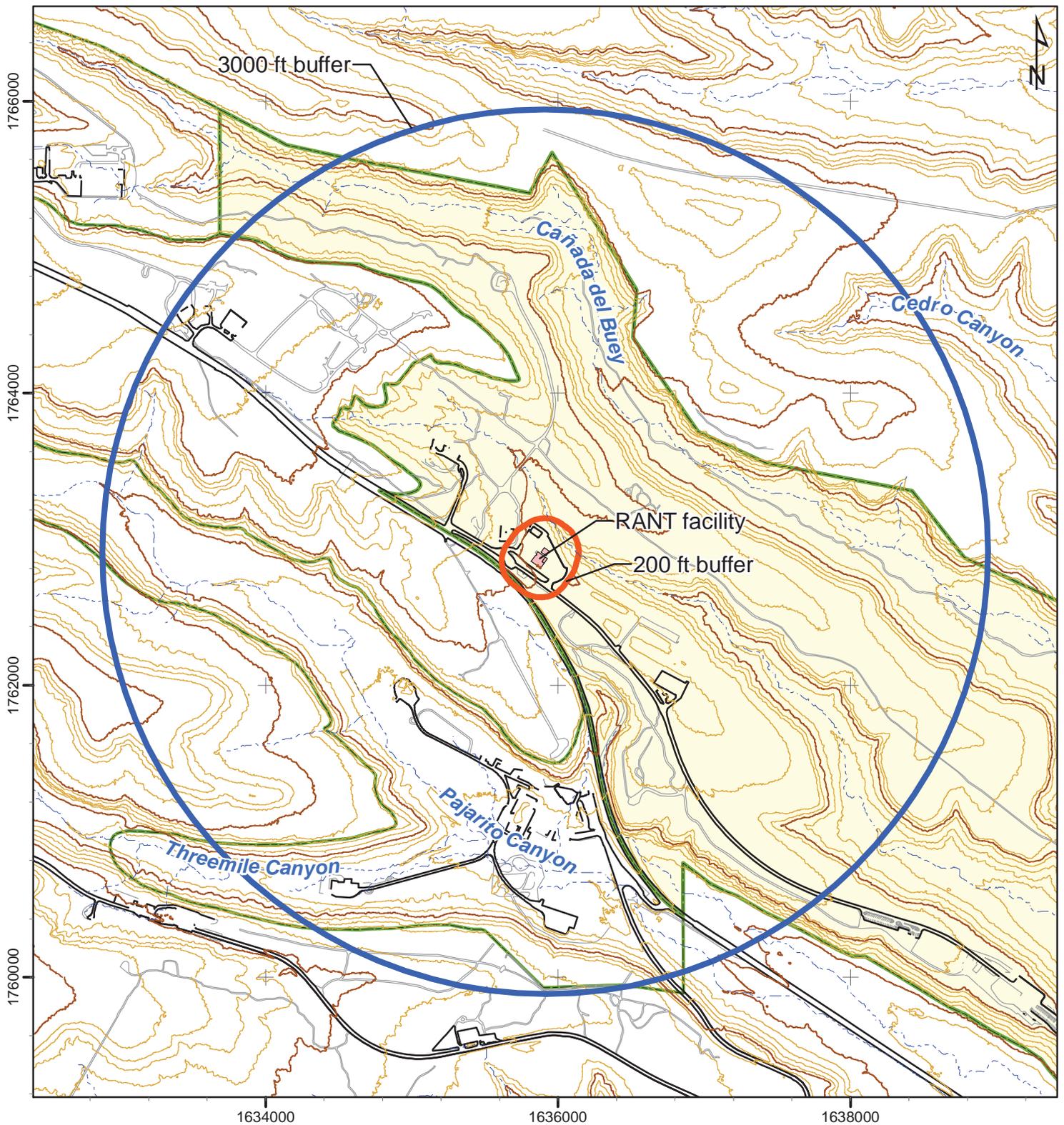
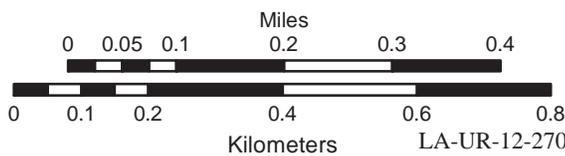
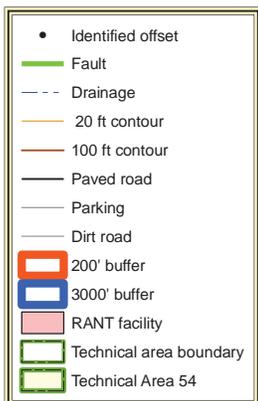


Figure 4. Mapped faults with respect to 200' and 3000' RCRA buffers surrounding the RANT facility, TA-54



State Plane Coordinate System
 New Mexico Central Zone
 1983 North American Datum
 Grid Provides Units in Feet
 Contour interval = 20 feet

LA-UR-12-27035
 GISLab Map No. m202394
 GISLab Req. No. 14388
 Document No. EES14-12-018
 Cartography by Liz Miller
 December 17, 2012



Work Performed on Behalf of the ENV-RCRA Project, Los Alamos National Laboratory, Los Alamos, NM 87545

Neither the United States Government nor Los Alamos National Security (LANS), LLC nor any of their employees makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

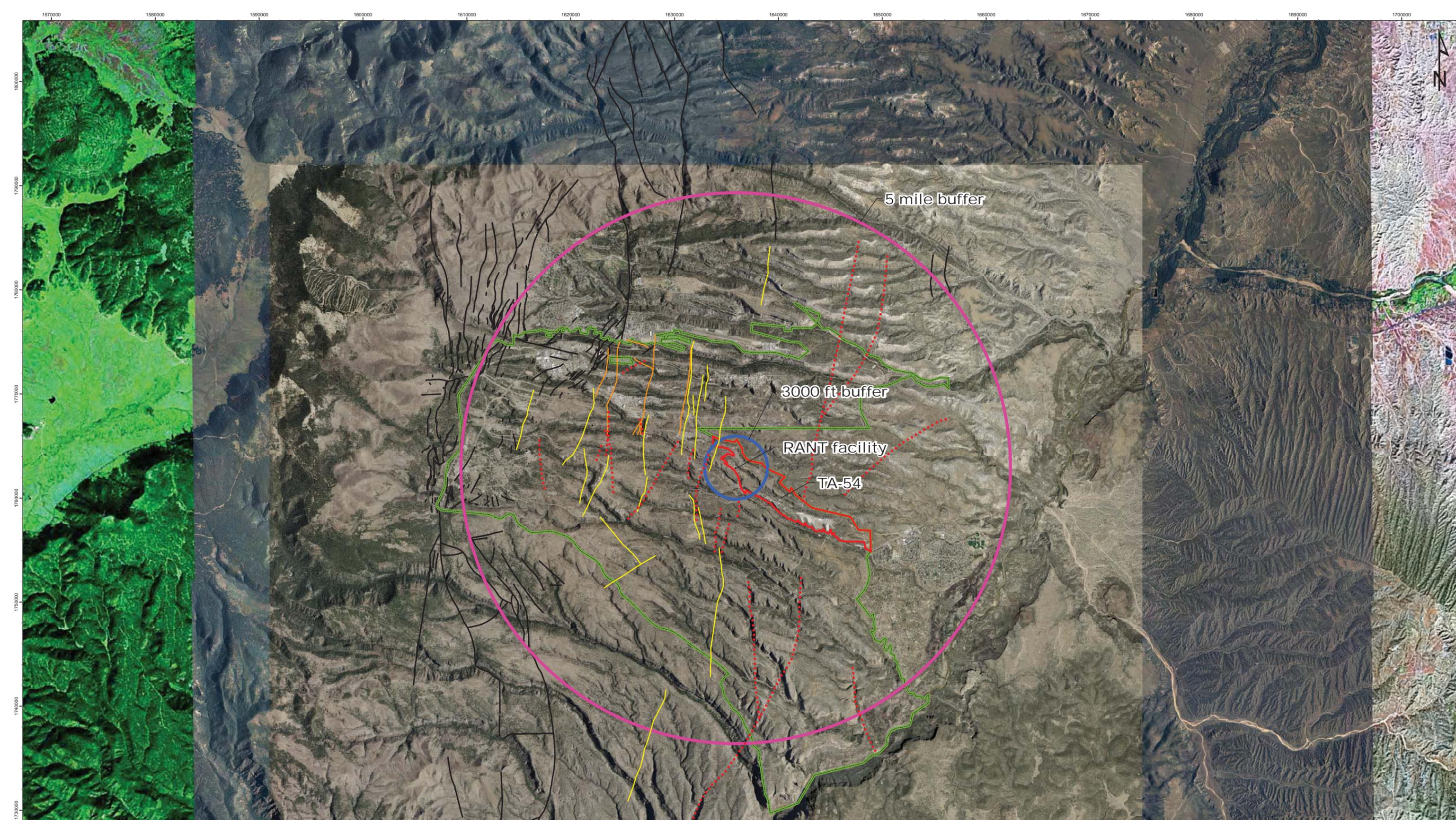
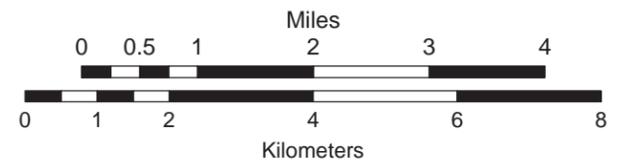


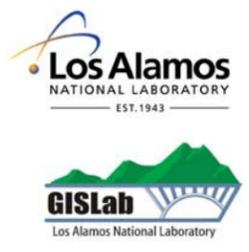
Plate 1: Faults, lineaments, and color orthophotographic map of the Pajarito Plateau

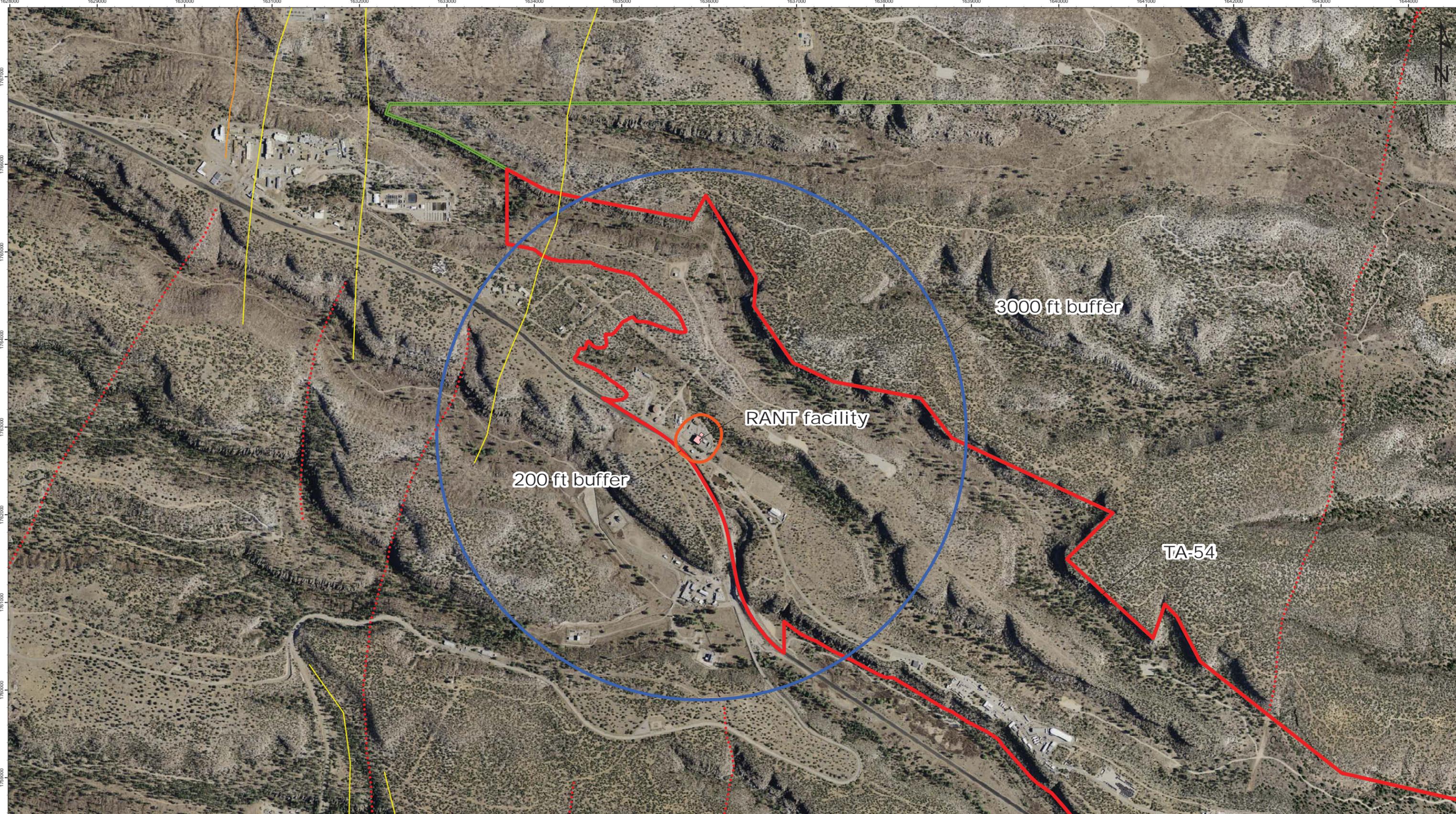


State Plane Coordinate System
 New Mexico Central Zone
 1983 North American Datum
 Grid Provides Units in Feet

LA-UR-12-27035
 GISLab Map No. m202395
 GISLab Req. No. 14388
 Document No. EES14-12-018
 Cartography by Liz Miller
 December 17, 2012

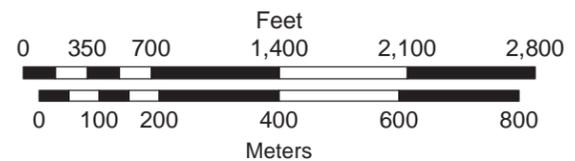
Work Performed on Behalf of ENV-RCRA, Los Alamos National Laboratory, Los Alamos, NM 87545
 Neither the United States Government nor Los Alamos National Security (LANS), LLC nor any of their employees makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.





● Identified Offsets	■ RANT facility
— Faults	■ 200' buffer
⋯ Linear features	■ 3000' buffer
— Lineaments, Vaniman & Wohletz, 1990	■ TA-54
— Lineaments, Wong, et al, 1995	■ LANL

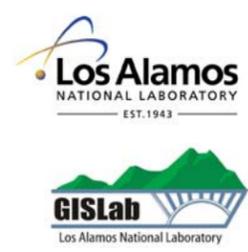
Plate 2: Faults and lineaments with respect to the RANT facility, TA-54



State Plane Coordinate System
 New Mexico Central Zone
 1983 North American Datum
 Grid Provides Units in Feet

L.A-UR-12-27035
 GISLab Map No. m202396
 GISLab Reg. No. 14388
 Document No. EE514-12-018
 Cartography by Liz Miller
 December 17, 2012

Work Performed on Behalf of ENV-RCRA, Los Alamos National Laboratory, Los Alamos, NM 87545
 Neither the United States Government nor Los Alamos National Security (LANS), LLC nor any of their employees makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.



ATTACHMENT 4
Permittees' Response to Pre-Application Submittal Comments

ATTACHMENT 4

Response to NMED and Stakeholder Comments Draft Class 2 Permit Modification Request TA-54-38 West

The Permittees appreciate the opportunity to consider and incorporate, as appropriate, comments received from NMED-HWB and stakeholders during the pre-application submittal time period. To facilitate expedited approval of the revised permit modification request (Rev. 1, June 2013), this document addresses pre-application comments. NMED's written comments are provided verbatim and denoted in italics; stakeholder comments were oral and every attempt has been made to capture stakeholder concerns within this document.

NMED-HWB

1. *NMED concurs with the stakeholder comments and questions during the stakeholder meeting on March 14, 2013, with the following exceptions and/or additional comments:*
 - a. *Closure Plan capacity. 40 CFR 264.112(b)(3) requires "An estimate of the maximum inventory of hazardous waste ever on-site over the active life of the facility..." to be included in closure plans. The current closure plans for TA-54-38 West estimate the total volume of waste that has been and will be stored at the units during the lifetime of the unit. Revise Section 3.0 of Attachments G.16 and G.17 to show the maximum inventory of hazardous waste that will be stored at the units at any given time (e.g., for the indoor unit: 4,950 gallons (90 DE); and for the outdoor unit: 42,570 gallons (774 DE)).*

Changes have been made as suggested to Section 3.0 of Attachments G.16 and G.17.

- b. *Construction, addition of second crane, and other physical changes at the RANT. During the meeting, the Permittees stated that the PMR would propose no construction or physical changes to the RANT. The Fiscal Year 2013 First Quarter 3,706 TRU Campaign Status Report, however, states that a second crane has been added to the facility and that there has been construction on the RANT Transportation Center to support the FY2013 shipping schedule. 40 CFR 270.42, Appendix I, Item F.2.a states that a "Modification of a container unit without increasing the capacity of the unit" is a Class 2 PMR. Adding a crane to the RANT facility is a modification of the container unit, and therefore requires a Class 2 PMR. Also, if the cited construction on the RANT Transportation Center is within the Permitted Unit, that also requires a Class 2 PMR. Include this additional information in the PMR, including revised figures. In the future, a PMR must be submitted prior to modifying any Permitted Unit at LANL.*

NMED-HWB raises two primary issues: (1) the regulatory status of a second bridge crane added to assist in waste management operations at RANT; and (2) construction and physical changes at the RANT that may necessitate a Class 2 permit modification request. The Permittees would like to clarify the record on

both of these issues, and are hopeful that the following fully and adequately responds to NMED-HWB's concerns.

The Regulatory Status of the Second Crane at RANT

For the reasons set forth below, the Permittees respectfully do not agree that the addition of a second crane installed in the High Bay at the RANT TA-54-38 West Indoor Unit requires a Class 2 permit modification. The purpose of the second bridge crane was not clearly described in the original permit modification request and, as suggested by NMED-HWB (comment no.2, on page 6 below), was revised to clarify and specifically describe waste handling operations at RANT as it relates to equipment, such as forklifts and cranes. The revised permit modification request states:

Page 4: As previously described, a bridge crane is used within the High Bay at TA-54-38 West Indoor Unit to load Type A containers into TRUPACT II Type B shipping containers. The Permittees installed a second crane as a back-up to minimize operational disruption by ensuring that functioning equipment is available at all times in the event of a malfunction. Language has been added to clarify that the two bridge cranes are intended to be interchangeable and are capable of being utilized on the existing system.

Page 6: The installation of a second crane at TA-54-38 West Indoor Unit is directly related to the permit modification request for increased storage capacity and also facilitates expedited off-site disposal of TRU mixed waste to WIPP under the *Framework Agreement* (see Attachment 4, *Permittees' Response to Pre-Application Submittal Comments*).

Page 8: Normal operations for making the individual waste containers ready for shipment include stretch wrapping fourteen drum configurations (or drum payloads) and ratchet strapping SWBs one on top of the other. Generally, these Type A container configurations are then moved by forklift into the High Bay where they are loaded into TRUPACT II Type B shipping containers using a bridge crane.

Page 9: The bridge crane is utilized in the High Bay to place drum payloads directly into the TRUPACT II containers. A second bridge crane provides redundancy and ensures that a back-up crane is available while the original is undergoing maintenance activities. A switch mechanism ensures that only a single crane will be used at one time.

A general description of the operations and equipment at the unit, including descriptions of the crane system and function has also been added to Section A.4.3 of Permit Attachment A, *Technical Area (TA) – Unit Descriptions* (See response to Comment 2 on page 6).

As shown above, the second bridge crane was clearly intended to be used as “equipment” to place drum payloads directly into the TRUPACT II containers. The second crane was installed both as a preventative and improved waste management measure: to provide continued on-going waste management by ensuring that a functioning crane is available at all times as necessary to avoid disruption at RANT operations and to manage the increase in container storage capacity at RANT. It is intended to facilitate expedited off-site shipment of TRU waste to WIPP under the *Los Alamos National Laboratory*

Framework Agreement: Realignment of Environmental Priorities established between NMED and DOE/NNSA . The second crane is an upgrade to the existing crane system and improves the waste transport capability of the loading system in the RANT facility. The support structure, including rails, has not been altered. The area covered by the crane system for waste transport will not be increased. The upgrade is intended to handle the same categories of waste containers and waste types already approved in the Permit. The addition of the second crane will also assist to prevent disruption or delay of waste management operations at RANT in the event the crane fails or malfunctions (only a single crane will be used at any one time). No other waste management function is affected.

Based on the above, it is clear that the addition of equipment – a second bridge crane – to assist in waste management operations at the RANT facility would not qualify or require a Class 2 permit modification request. The second bridge crane is a type of waste management equipment that is analogous to a forklift that is, equipment used to assist in the transport or movement of hazardous waste. The addition of upgraded equipment to assist in waste management is not denoted as a Class 2 permit modification in 40 CFR §270.42, Appendix I. Further, it is not reasonable to conclude that LANL would be required to halt all waste management operations at RANT to wait for NMED-HWB approval under the Class 2 process (up to 180-days or more) in order to use back-up equipment like a crane to place drum payloads directly into the TRUPACT II containers.

Under the circumstances, it is not clear that a permit modification is necessary to enable the Permittees to use the second bridge crane. The Permit describes waste management operations, including the use of forklifts and a crane. Only one crane can be used at a time to place drum payloads directly into the TRUPACT II containers. The addition of a second crane, like a forklift or other device to transport waste items, simply reflects good waste management practice to ensure operational equipment at all times. EPA and NMED rules do not clearly require facilities to go through the RCRA permit modification process if they chose to purchase “additional” waste management equipment to facilitate improved operations. The bridge crane has a similar function to other equipment such as forklifts, i.e., the transport of waste containers. Nothing in the approved Permit limits the number or size of other waste container transport equipment at permitted units nor imposes additional specific permit conditions for the use of waste handling equipment or requirements to identify the location and quantity of equipment located at the permitted units.

This review leads the Permittees to the conclusion that the addition of the second bridge crane at TA-54 will not lead to revisions of any of the existing waste management conditions of the Permit or affect the Attachments to the Permit other than as descriptions. EPA permitting guidance (53 FR 37925) indicates that a permit modification is not required as long as a specific permit condition is not affected. This analysis would not support the need for a permit modification for this purpose. However, although a permit modification has been deemed to be necessary by NMED, it does not merit the imposition of the substantive requirements associated with a Class 2 modification review process.

If a permit modification is necessary, the second bridge crane may more appropriately be processed as a Class 1 permit modification under of 40 CFR §270.42, Appendix I, Item A.3. Item A.3 in Appendix I states that “equipment replacement or upgrading with functionally equivalent components” is a Class 1

change. The second bridge crane is new upgraded equipment and “functionally equivalent” to the original crane. The second crane does not alter the structure of the unit, and is a descriptive change to the Permit. For all these reasons, if a permit modification is required, it should be considered a Class 1 permit modification.

Construction and Physical Changes at the RANT that May Require a Class 2 Permit Modification

The Permittees would like to clarify that no construction activities have occurred at the RANT Facility that warrant a Class 2 permit modification. The newly constructed RANT Transportation Center, as mentioned in the FY 2013 First Quarter 3,706 TRU Campaign Status Report, is not located within the RANT Facility (TA-54 West Building 38). The Transportation Center is located across Mesita Del Buey Road south of the permitted units that are located at TA-54-38 West. No construction activities have been conducted at the permitted units in support of the FY2013 shipping schedule.

- c. *Part A Application. The Part A Permit Application must be submitted as part of the proposed changes to the Permit (Attachment B) and should show changes in redline/strikeout to facilitate review. Page 14 does not address the two storage units added to Attachment B in the Part A Application of the Permit, and Page 15 mentions them in passing. These units are not associated with the PMR to increase storage capacity at TA-54-38 West, and therefore these modifications to Attachment B of the Permit should be submitted under separate cover as a Class 1 Permit modification to avoid possible delays related to the RANT PMR.*

To facilitate review, the Part A permit application (Attachment B) has been submitted with all changes denoted in yellow-highlight. The EPA form distributed to facilities in a fillable portable document format (PDF) was not designed to be edited. Further, as suggested by NMED-HWB, the Permittees submitted, under separate cover, the referred to Class 1 permit modification (LANL Class 1 Permit Modification Request, submitted June 14, 2013).

- d. *The impact and necessity of increased capacity on operations at the RANT.*
 - i. *Page 13 of the PMR states that the reason for increasing the capacity at TA-54 West is to increase the number of TRU waste shipments from the RANT to WIPP (3rd paragraph). Presumably, an increase in storage capacity means there will be an increase in the number of intra-site shipments of waste to the RANT as well. Page 13 also states that the increased shipping operations will not impact traffic volumes (6th paragraph). Resolve this discrepancy and provide updated traffic patterns, volumes, and controls at the RANT facility, including figures as applicable.*

The permit modification request has been revised to address these concerns. There will be an increase in the number of shipments of waste to RANT from within LANL, however, the increased shipping operations are not expected to significantly impact traffic at the site or change the light-to-moderate traffic volume designation. The traffic description in the permit modification request has been revised as follows on page 9:

Increased shipping operations both off-site and intra-site will not significantly impact traffic volumes at the site. The increase will not change the designation of the roadways from the light-to-moderate overall traffic volume designation that has been assigned to the areas.

The additional waste shipments (5-10 per week) will not have a measured impact to the average number of vehicles per day at the closest intersections with publicly accessible roadways (Pajarito Road and NM 4 as well as Pajarito Road and Diamond Drive). The most recent LANL traffic study for Pajarito Road (CMRR Traffic Impact Analysis Study, dated September 30, 2008) focuses primarily on impacts to intersections in an approximately two-mile stretch of Pajarito Road, extending from northwest of the entrance to TA-64 to southeast of the TA-46 entrance. RANT is located approximately one mile from the entrance to TA-46. However, the study also notes that the only vehicle access to this area is via the guard stations that limit public entry to the Pajarito corridor. This means any vehicles accessing the CMRR project traffic focus area would have to travel up or down Pajarito Road. The same is true of the RANT facility - the only off-site vehicle access to RANT is via Pajarito Road. Therefore, the traffic estimates used for the CMRR project in the traffic study are also applicable to current traffic flow at RANT.

Pajarito Road has an average daily traffic volume of 4,555 vehicles per day in the northwest portion of the corridor and 4,373 vehicles per day in the southeast portion of the corridor measured in the traffic study. The study estimated that there would be approximately 100 dirt hauls per day and an additional 100 personal vehicles parked at the CMRR project site and that all 200 of these vehicles will access the project site via Pajarito Road. The traffic study concluded that the increase in vehicles would not result in any "degradation to overall level of service" or adverse safety impacts. Currently, RANT makes one shipment per day off-site to WIPP. Should the permit modification be approved, shipments would likely increase to two per day (10 total shipments per week). The estimates from the 2008 Traffic Study far exceed the estimated number of trucks that will leave the RANT facility. Therefore, the addition of five trucks per week will not significantly impact traffic patterns on Pajarito Road.

Mesita del Buey Road, the road that runs most of the length of TA-54, will have a minor increase in local traffic volume due to expedited waste shipments. For informational purposes, there are approximately 2-3 waste transfers per week from Area G to RANT. Each waste transfer requires closure of Mesita del Buey Road between Area G and RANT, and therefore, has no potential to affect other non-related traffic movement. The increased storage capacity at RANT facility will also enable less back and forth between permitted units at TA-54, Area G and RANT because it will allow for more than a current single shipment's worth of waste volume to be staged at the RANT facility at one time. The number of shipments per week will not increase but they will be larger. The road will continue to have light-to-moderate traffic volumes overall.

- ii. Page 13 of the PMR states that the current storage capacity allows for five shipments of waste per week, and that the increased storage capacity would allow for up to ten shipments per week (4th paragraph). The PMR, however, requests more than a 400% increase in storage capacity (from 11,660 gallons to 47,520 gallons). The 4th paragraph also states: "The ability to store a volume of waste that is greater than the number of shipments expected within a week is vital to expediting the loading/shipping of waste to WIPP." Explain why a 400% increase in storage capacity is vital to increase shipment capacity by only 200%. Explain how long pre-loaded shipments are/will be typically stored at the facility prior to shipping. Also*

explain how long waste containers are/will be typically stored at the RANT before they are loaded into shipping containers.

As discussed in the permit modification request, the basis for requesting a 400 % increase in storage capacity is more closely related to the physical capacity for waste storage at the TA-54-38 West permitted storage units. This is consistent with the basis for the approved capacities in the Permit for related storage areas in storage units at TA-54. Additionally, storage capacity in excess of 200% may be essential if the transport capability between LANL and WIPP is adversely affected by events such as transport equipment availability problems, storm events, security concerns, or receiving facility delays as short as two weeks. The 200% capacity increase is based on a waste management estimate for one week and may be conservative as discussed in the permit modification request at page 8. A doubling of that figure for a two week delay in throughput results in the 400% figure. Realistic delays could exceed two weeks and have occurred. Therefore, the potential for a need for more than 400% capacity can be justified. However, the requested volume represents the total capacity available at TWF based on the physical capacity available in accordance with the Permit storage conditions. This is a more realistic request and, as stated, is consistent with previous capacity requests for permitted units at TA-54.

iii. The entries in Table 2 of the PMR for Attachment J (pages 20-21) state: "Capacity of the unit was increased to allow the flexibility of managing shipments of larger containers." Page 13 of the PMR states that "the overall plan requires the need for an increase in the number and size of containers allowed to be temporarily stored at the RANT facility." However, the Permittees already store and ship SWBs, and this will not change; the Permittees are proposing to ship more SWBs. Revise the entries in Table 2 to indicate that the increased capacity will allow for more shipments of waste to WIPP, as opposed to shipment of larger containers to WIPP.

Changes have been made as suggested to Table 2.

2. *Attachment A of the Permit should be revised to provide more detailed descriptions of the processes at TA-54 West, including:*
 - a. *Equipment (e.g., cranes) that is used to load waste containers into shipping containers*
 - b. *Specific locations on the outdoor storage unit where waste containers are stored*
 - c. *Traffic flow, patterns, and controls into and out of the facility*

A detailed description is provided within the revised permit modification request (page 8). The description includes an expanded discussion of waste management activities within the permitted unit including locations for storage and waste handling activities:

Waste is generally brought into the TA-54-38 West Outdoor Pad through the south-eastern vehicle gate and placed in storage on the northern portion of the TA-54-38 West Outdoor Pad. At the outdoor unit, waste is not stored in front of gates or within 10 feet of the fence line or within 60 ft of the building. No paved or unpaved roadways are located within 5-ft of the waste storage area. From the outdoor permitted unit, containers are generally moved into the Low Bay at TA-54-38 West and made amenable for placement in a WIPP-compliant shipping container. Normal operations for making the individual waste

containers ready for shipment include stretch wrapping fourteen drum configurations (or drum payloads) and ratchet strapping SWBs one on top of the other. Generally, these Type A container configurations are then moved by forklift into the High Bay where they are loaded into TRUPACT II Type B shipping containers using a bridge crane.

Empty TRUPACT II containers that are received from WIPP are usually moved into the High Bay using the western bay door and are opened and inspected prior to waste being placed within the High Bay. After the containers are opened, the drum payloads or SWBs are placed into the containers. The TRUPACT II containers are then closed. Metal loading platforms allow for personnel access to the top of the TRUPACT II containers so that the TRUPACT II containers can be opened or closed, and to ensure that there is no issue while placing the shipping containers within the TRUPACT II containers.

After the TRUPACT II containers are loaded and the trailer is prepared for shipment, the trailer is moved via trailer jockey or other approved vehicle through the eastern bay door and to the TA-54-38 West Outdoor Storage Pad for storage prior to shipment to WIPP or out the southeastern gate of the TA-54-38 West Outdoor Pad to a staging area to await inspection and shipment to WIPP. When a loaded trailer of TRUPACT II containers is stored at the TA-54-38 West Outdoor Pad, the trailer is not placed in front of a gate and is not stored within 10 feet of the fence line. Gates at the TA-54-38 West Outdoor Pad are locked when not in use.

Containers are handled with forklifts (using drum grapplers, when appropriate) or drum dollies while present at TA-54-38 West and are placed directly in the appropriate permitted unit when active packaging is not underway. The bridge crane is utilized in the High Bay to place drum payloads directly into the TRUPACT II containers. A second bridge crane provides redundancy and ensures that a back-up crane is available while the original is undergoing maintenance activities. A switch mechanism ensures that only a single crane will be used at one time. A description of the operations and equipment at the unit has been added to Section A.4.3 of Permit Attachment A, *Technical Area (TA) – Unit Descriptions*.

Typical storage times for waste containers at the RANT facility are currently a few days. These times may increase to up to a few weeks as more waste can be staged prior to shipment off-site. No hazardous waste will be stored at the unit for greater than one year in accordance with 40 CFR §268.505(b).

While waste is present at the outdoor unit, traffic is limited to vehicles that are approved and necessary to deliver, manage, or ship waste inventory off-site. Most vehicles enter or exit through the TA-54-38 bay doors in the High Bay or through the southwest and southeast vehicle gates. Routine traffic controls and patterns at TA-54-38 West will not change due to this permit modification.

Text additions have been made to incorporate this discussion into Section A.4.3 in Permit Attachment A as follows:

The permitted units at TA-54-38 West may receive any container that may be stored at the units in accordance with Permit Section 3.3 (e.g. 85-gallon drums, 100-gallon drums, and ten-drum overpacks); however, most often the units receive WIPP-ready 55-gallon drums and SWBs for final preparation and packaging. All waste containers are handled in a manner that will not cause them to rupture.

Waste is generally brought into the TA-54-38 West Outdoor Pad through the south-eastern vehicle gate and placed in storage on the northern portion of the TA-54-38 West Outdoor Pad. At the outdoor unit, waste is not stored in front of gates or within 10 feet of the fence line or within 60 ft of the building. No

paved or unpaved roadways are located within 5-ft of the waste storage area. From the outdoor permitted unit, containers are generally moved into the Low Bay at TA-54-38 West and made amenable for placement in a WIPP-compliant shipping container. Normal operations for making the individual waste containers ready for shipment include stretch wrapping fourteen drum configurations (or drum payloads) and ratchet strapping SWBs one on top of the other. Generally, these Type A container configurations are then moved by forklift into the High Bay where they are loaded into TRUPACT II Type B shipping containers using a bridge crane.

Empty TRUPACT II containers that are received from WIPP are usually moved into the High Bay using the western bay door and are opened and inspected prior to waste being placed within the High Bay. After the containers are opened, the drum payloads or SWBs are placed into the containers. The TRUPACT II containers are then closed. Metal loading platforms allow for personnel access to the top of the TRUPACT II containers so that the TRUPACT II containers can be opened or closed, and to ensure that there is no issue while placing the shipping containers within the TRUPACT II containers.

After the TRUPACT II containers are loaded and the trailer is prepared for shipment, the trailer is moved via trailer jockey or other approved vehicle through the eastern bay door and to the TA-54-38 West Outdoor Storage Pad for storage prior to shipment to WIPP or out the southeastern gate of the TA-54-38 West Outdoor Pad to a staging area to await inspection and shipment to WIPP. When a loaded trailer of TRUPACT II containers is stored at the TA-54-38 West Outdoor Pad, the trailer is not placed in front of a gate and is not stored within 10 feet of the fence line. Gates at the TA-54-38 West Outdoor Pad are locked when not in use.

Containers are handled with forklifts (using drum grapplers, when appropriate) or drum dollies while present at TA-54-38 West and are placed directly in the appropriate permitted unit when active packaging is not underway. The bridge crane is utilized in the High Bay to place drum payloads directly into the TRUPACT II containers. A second bridge crane provides redundancy and ensures that a back-up crane is available while the original is undergoing maintenance activities. A switch mechanism ensures that only a single crane will be used at one time.

The closure plan was also revised to include the second bridge crane in the facility description (Attachment G.16, *Technical Area 54 West, Building 38 Indoor Container Storage Unit Closure Plan*).

3. *40 CFR 270.14(b)(10) requires the Permittees to provide traffic patterns, estimated volume, and controls. Table 1 references application documents that are ten years old, which in turn reference traffic studies that are 10 and 20 years old. It is presumed that these are outdated traffic studies, i.e., there have been changes at the LANL facility since they were conducted, and therefore they are no longer relevant. Provide updated traffic studies or a justification that these older studies are still relevant.*

Please see response to Comment 1.d above.

4. *Table 1 of the PMR states that the requirements at 40 CFR 270.15(a) and (b) and 264.17(a-c) are addressed in Permit Attachment A, Section A.4.3, and Permit Sections 3.7 and 3.12.1. Permit Section A.4.3 does not, however, address containment at the unit, and Section 3.12.1 simply exempts NRC-certified shipping containers (i.e., TRUPACTs and HalfPACTs) from these requirements. Include a*

discussion in the PMR describing how the Permittees comply with the above regulatory requirements and the requirements in Permit Section 3.7 at the RANT facility. This discussion must be included in the PMR because waste containers stored at the facility may contain up to 1% free liquid by volume of the container and still comply with the WIPP Waste Acceptance Criteria.

Please see Section II.5 of the permit modification request, page 10, for the following inserted discussion:

Waste containment measures at the TA-54 RANT are in place to meet the requirements of 40 CFR §264.175 and Permit Section 3.7, *Containment Systems*. Controlling run-on and run-off at the TA-54 RANT locations where waste management operations will regularly occur is accomplished by the design of the buildings and the use of control structures with appropriate contouring of surface areas. Run-on of storm water into the storage buildings will not occur. The building walls are on raised floors, and surface contouring slopes away from the building to prevent storm water from pooling against the foundations, doors, and loading areas. Storm water run-on/run-off controls for the general site will meet requirements pursuant to the TA-54 RANT Multi-Sector General Permit Storm Water Plan for the facility. Additional storm water and precipitation measures will be in compliance with Permit Section 3.5.1(5) for weather protective equipment or design.

Secondary containment will be provided where potential liquid-bearing containers are stored in the buildings to prevent run-off. Every effort is made to remove all liquids from drums in the waste container remediation lines at Area G, prior to shipment to RANT. However, should a container not achieve full remediation (i.e., it contains up to the 1% liquid level allowable under WIPP waste acceptance criteria), that container would be managed in accordance with Permit Section 3.7.1, *Containers with Free Liquids*, while stored at the RANT facility. Secondary containment systems (e.g., pallets) will be used, as needed, and will have sufficient capacity to contain at least 10 percent (%) of the volume of potential liquid-bearing containers or the volume of the largest container stored in the system, whichever is greater, pursuant to the requirements of 40 CFR §264.175(b)(3). Containers with liquids will be identified with "Free Liquids" labels in conformance with Permit Section 3.6(2).

5. *Page 13 of the PMR states: "The permitted units at TA-54-38 West are container storage units that are used to receive, stage, and assemble payload containers of transuranic (TRU) waste for shipment to the Waste Isolation Pilot Plant (WIPP)." Page 14 of the PMR states that standard waste boxes and standard sized drums will be stored at the facility (1st paragraph), but the 2nd paragraph states: "Expansion of the footprint for the TA-54-38 West Indoor Unit is necessary to accommodate larger waste containers inside the building." Attachment G.16, Section 2.0, states that fiberglass-reinforced plywood boxes and B25 boxes are stored in the High Bay. The Permittees have not proposed revisions to remove these types of containers from the language in Attachment G.16. Since these containers cannot be shipped to WIPP, and the Permittees are not authorized to open and repackage waste at TA-54-38 into containers that can be shipped to WIPP, explain why these types of containers are stored at the unit and how they will be ultimately dispositioned.*

The information in the closure plan is designed to encompass all operations that occur at the unit over the lifetime of the unit. Containers such as fiberglass-reinforced plywood boxes and B25 boxes have been stored at the unit previously as part of the purpose for which the units at TA-54-38 West were

originally permitted in 1994. For the purposes of flexibility allowed at the unit, these containers could feasibly be stored at the facility as part of some future use of the unit; therefore, a change to the closure plan was not deemed necessary. The discussion in Section 2.0 of Attachment G.16 has been revised to describe the present history of the waste management activities at TA-54-38 West as follows: "...The High Bay has been used to store fiberglass-reinforced plywood boxes, standard waste boxes (SWBs), B25 boxes, and drums of various sizes, is 40 feet (ft) wide and 80 ft long ..."

6. *Table 2, first row: Justification column should clarify that waste containers stored at TA-54 West outdoor unit are subject to the secondary containment and weather protection requirements in the Permit; only NRC-certified shipping containers (i.e., TRUPACTs and HalfPACTs) are exempt from these requirements. See Comment 4 above.*

Please see response to Comment 4 above. A reference to the appropriate Permit Section 3.5.1(5) has been added.

7. *Revised Figure G.16-1 was not included in the DRAFT PMR.*

The figure was included within the closure plan on the same page as the figure that it is replacing. The modification request has been revised to present the figures on separate pages for clarity.

ATTACHMENT 5
Certification Statement

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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 violations.



Alison M. Dorries
Division Leader
Environmental Protection Division
Los Alamos National Laboratory
Operator

6/25/13
Date Signed

for 

Geoffrey L. Beausoleil
Acting Manager
Los Alamos Field Office
National Nuclear Security Administration
U.S. Department of Energy
Owner/Operator

Jun 26, 2013
Date Signed

ATTACHMENT 6
Draft Public Notice



June 2013
Public Notice of Class 2 Permit Modification Request and Public Meeting
for Technical Area 54, Building 38 (TA-54-38) West

Los Alamos National Laboratory Hazardous Waste Facility Permit, EPA ID No. NM0890010515

Activity: The U.S. Department of Energy (DOE) and the Los Alamos National Security, LLC (LANS), have requested to modify the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit via a Class 2 permit modification request. The modification supports increases in container storage capacity at the two permitted units located at TA-54-38, West; increases the footprint of the indoor unit at TA-54-38 West; and updates and clarifies text within the Permit.

Facility: LANL is owned by DOE, and is operated jointly by DOE and LANS. Under authority of the New Mexico Hazardous Waste Act (Section 74-4-1 et seq., NMSA 1978, as amended, 1992) and the New Mexico Hazardous Waste Management Regulations (20.4.1 NMAC), the New Mexico Environment Department (NMED) can approve or deny hazardous waste permits and closure plans, permit modifications, and amendments.

Availability: The proposed permit modification is available for public review weekdays between 8:00 am and 5:00 pm at

NMED - Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313

Copies are also available at the LANL Hardcopy Public Reading Room weekdays from 9:00 am to 4:00 pm at

Northern New Mexico Citizens' Advisory Board Office
94 Cities of Gold Road in Pojoaque, New Mexico
<http://www.lanl.gov/community-environment/environmental-stewardship/public-reading-room.php>

Electronic copies of the permit modification request can also be found in the

LANL Electronic Public Reading Room (EPRR) at <http://epr.lanl.gov>.

The LANL Hazardous Waste Facility Permit can be found on the NMED LANL Permit web page at:
<http://www.nmenv.state.nm.us/HWB/Permit.htm>

Meeting: A public meeting about the permit modification will be held from **5:30 pm to 7:30 pm** on

July 31, 2013 at Betty Ehart Senior Center, 1101 Bathtub Row, Los Alamos, NM.

Comments: Any person who would like to comment on the proposed Class 2 permit modification may do so by contacting:

Dave Cobrain
NMED-Hazardous Waste Bureau,
2905 Rodeo Park Drive East, Building 1, Santa Fe, New Mexico 87505-6313
Telephone (505) 476-6000 or e-mail: dave.cobrain@state.nm.us.

The Permittee's compliance history during the life of the permit being modified is available from the NMED contact person. The 60-day public comment period for this permit modification will run from June 25, 2013 through August 26, 2013. Any person who wishes to comment on this action should submit written or e-mail comments with the commenter's name and address to the address above. Only written comments received on or before August 26, 2013, will be considered.

Facility Contact: If you have questions, please contact Los Alamos National Laboratory.

Lorrie Bonds Lopez
Environmental Communication & Public Involvement
P.O. Box 1663, MS M996
Los Alamos, NM 87545
Phone/email: 505-667-0216 / envoutreach@lanl.gov





Waste Management Programs
P.O. Box 1663, Mail Stop K404
Los Alamos, NM 87545