



**Environmental, Safety, Health, and Quality  
Directorate**

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**National Nuclear Security Administration**

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**Symbol:** EPC-DO-24-331

**Date:** December 20, 2024

**LA-UR:** 24-31442

Mr. JohnDavid Nance, Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6313

**Subject: Transmittal of Class 1 Permit Modification to Remove Structures from the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA ID #NM0890010515**

Dear Mr. Nance:

The United States Department of Energy (DOE) National Nuclear Security Administration, Los Alamos Field Office (NA-LA), in association with Triad National Security, LLC (Triad), submit to the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) this Class 1 permit modification. The permit modification provides proposed revisions to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, within Permit Section 3.14.1 and Attachments A, J, G.27, and N.

The proposed modifications have been prepared in accordance with the Code of Federal Regulations, Title 40 (40 CFR) § 270.42(a)(1). This Class 1 permit modification request consists solely of administrative changes in accordance with 40 CFR § 270.42, Appendix 1, Item A.1 and Permit Section 3.1(3). Permit Section 3.1(3) requires that all figures accurately reflect the location of all buildings and structures, regardless of whether they manage hazardous waste.

Included in this permit modification package are the transmittal letter and one enclosure that includes a signed certification page. Enclosure 1 provides a description of the proposed changes and pages of revised text and/or figures from Permit Section 3.14.1 and Attachments A, J, G.27, and N.

Included herein are three hard copies and one electronic copy of this submittal. The hardcopy submittal contains pages or sections where text has been changed, rather than copies of the entire collection of Permit attachments. The electronic copy, provided only to the NMED-HWB, contains a reproduction of the hardcopy in portable document format (PDF) along with all the word processing files used to create the hardcopy.

Upon approval by the NMED-HWB, this permit modification will be sent to the NMED-HWB maintained LANL facility mailing list in accordance with 40 CFR § 270.42(a)(1)(ii) within ninety days of incorporation of this modification into the Permit by the NMED-HWB.

If you have any questions or comments concerning this permit modification, please contact Robert A. Gallegos (NA-LA) at (505) 901-3824 or by email at [robert.gallegos@nnsa.doe.gov](mailto:robert.gallegos@nnsa.doe.gov) or Jason Hill (Triad) at (505) 551-2218 or by email at [jshill@lanl.gov](mailto:jshill@lanl.gov).

Sincerely,

STEVEN A.  
COLEMAN (Affiliate)

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Steven A. Coleman  
Associate Laboratory Director  
Environmental, Safety, Health, and Quality  
Triad National Security, LLC  
Los Alamos National Laboratory

Sincerely,

Theodore A.  
Wyka

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Theodore A. Wyka  
Manager  
National Nuclear Security Administration  
Los Alamos Field Office  
U.S. Department of Energy

SAC/TAW

Enclosure: *Class 1 Permit Modification for Removal of Structures from Technical Area 63*

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## ENCLOSURE

### *Class 1 Permit Modification for Removal of Structures from Technical Area 63*

Date: December 20, 2024

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EPC-DO-24-331  
LA-UR-24-31442

U.S. Department of Energy,  
National Nuclear Security Administration Los Alamos Field Office, and  
Triad National Security, LLC

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# CERTIFICATION

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## Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to 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.

STEVEN A.  
COLEMAN (Affiliate)

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A. COLEMAN (Affiliate)  
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**Steven A. Coleman**

Associate Laboratory Director  
Environment, Safety, Health, and Quality  
Triad National Security, LLC  
Operator

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**Date Signed**

Theodore A.  
Wyka

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**Theodore A. Wyka**

Manager, Los Alamos Field Office  
National Nuclear Security Administration  
U.S. Department of Energy  
Owner/Operator

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**Date Signed**

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## **Class 1 Permit Modification**

### **Removal of Structures from Technical Area 63**

This document consists of a Class 1 permit modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit) issued to the United States Department of Energy (DOE) National Nuclear Security Administration, Los Alamos Field Office (NA-LA), in association with Triad National Security, LLC (Triad). All changes are shown in redline strikeout for Permit Section 3.14.1 and Attachments A, J, N, and G.27 and replacement figures for Permit Attachments G.27 and N are provided in this modification. A signed certification, as required by Title 40 of the Code of Federal Regulations (40 CFR) § 270.11, is also provided.

#### **Description**

The purpose of this modification submittal is to describe the removal of a modular characterization equipment trailer (e.g., structure), to remove a trailer that was never placed at the site from TA-63, and to update Permit Section 3.14.1 and Attachments A, *Technical Area (TA) – Unit Descriptions*; J, *Hazardous Waste Management Units*; N, *Figures*; and G.27, *Technical Area 63, Transuranic Waste Facility Closure Plan*; and N, *Figures*; to reflect the changes. This modification includes the removal of structure TA-63-0155, a Real-time Radiography (RTR) trailer that was never used at the permitted unit and removal of structure TA-63-0156, a characterization trailer that was never placed at the site.

On October 9, 2024, the RTR trailer was successfully moved out of TA-63. The trailer will be temporarily staged outside TA-63 in the cul-de-sac and is planned to be recycled offsite before the end of 2024. A separate initiative will ensue to install a new RTR trailer. There is no timeline yet established for the installation of the new trailer.

Additionally, an anticipated structure (TA-63-0156) that was included in the initial TA-63 permit modification request was never placed at the unit and the Permittees are removing references to this structure at this time.

#### **Basis**

The proposed modification has been prepared in accordance with 40 CFR § 270.42(a)(1). This Class 1 permit modification consists solely of administrative changes in accordance with 40 CFR § 270.42, Appendix 1, Item A.1 and Permit Section 3.1(3). Permit Section 3.1(3) requires that all figures accurately reflect the location of all buildings and structures, regardless of whether they manage hazardous waste.

## **Discussion of Changes**

Part 3, *Storage in Containers*, Section 3.14.1, revision is provided in redline-strikeout format and reflects the removal of structures TA-63-0155 and TA-63-0156. “Characterization trailers” was changed to singular to reflect TA-63-0157 trailer.

Attachment A, *Technical Area (TA) – Unit Descriptions*, Section A.6, revision is provided in redline-strikeout format and reflects the removal of structure TA-63-0155 and TA-63-0156. “Characterization trailers” was changed to singular to reflect TA-63-0157 trailer. Structure TA-63-0155 was never used to manage (i.e., characterize) hazardous waste and Structure TA-63-0156 was never placed at TA-63.

Attachment A, *Technical Area (TA) – Unit Descriptions*, Section A.6.4, revision is provided in redline-strikeout format and reflects the removal of structures TA-63-0155 and TA-63-0156.

Attachment G.27, *Technical Area 63, Transuranic Waste Facility Closure Plan*, revision reflects the removal of structures TA-63-0155 and TA-63-0156 from the description of unit to be closed and an updated Figure G.27-1 is provided.

Attachment J, Table J-1, *Hazardous Waste Management Units*, revision is provided in redline-strikeout format and reflects the removal of structures TA-63-0155 and TA-63-0156.

Attachment N, *Figures*, revision reflects the removal of structures TA-63-0155 and TA-63-0156 from Figure 55, *Technical Area (TA) 63 Transuranic Waste Facility*, and Figure 56, *Transuranic Waste Facility Subsurface Vapor Monitoring Network*.



## **REDLINE TEXT AND REPLACEMENT FIGURES**

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in accordance with Permit Section 3.7.1 of this Permit Part and the manufacturer's specifications.

### **3.12.3.7 Dome 224**

The Permittees shall not rely on the engineered high-density polyethylene (HDPE) liner in Dome 224 as a method of secondary containment and shall instead store all hazardous waste container holding free liquids on secondary containment pallets.

## **3.13 TA-55 CONTAINER STORAGE REQUIREMENTS**

The Permittees (DOE and Triad) co-operate hazardous waste management units at TA-55 and have a duty to meet the additional permit requirements in this Section.

### **3.13.1 General Operating Conditions**

The Permittees shall ensure that storage of hazardous or mixed waste in containers at TA-55 occurs only in the permitted units B13, B45, B40, B05, G12, K13, the vault located at TA-55-4, TA-55-0355 Pad and the outdoor container storage pad located northwest of TA-55-4, and as identified in Attachment A (*Technical Area Unit Descriptions*) and Attachment J (*Hazardous Waste Management Units*).

## **3.14 TA-63 CONTAINER STORAGE REQUIREMENTS**

The Permittees (DOE and Triad) co-operate hazardous waste management units at TA-63 and have a duty to meet the additional permit requirements in this Section.

### **3.14.1 General Operating Conditions**

The Permittees shall ensure that storage and characterization of hazardous waste in containers at the Transuranic Waste Facility (TWF) occurs only on the permitted unit pad at TA-63, and as identified in Attachment A (*Technical Area Unit Descriptions*) and Attachment J (*Hazardous Waste Management Units*). This includes five storage buildings, the storage and characterization building, the characterization trailers, and the outside areas of the concrete pad within the unit boundary subject to the provisions of Permit Section 3.5.1, *Storage Configuration and Minimum Aisle Space*.

- (1) The Permittees shall store all hazardous waste containers known or suspected of holding free liquids on secondary containment pallets. If containers with free liquid are stored in the characterization trailers without secondary containment pallets for longer than 24 hours, the Permittees shall follow the reporting conditions of Permit Section 1.9.14, Other Noncompliance.
- (2) The Permittees shall not store containers with ignitable or reactive waste (E.P.A. Hazardous Waste Numbers D001 or D003) within 15 meters of the permitted unit's security barrier system shown in Figure 55 (*see* 40 CFR §264.176 and

**ATTACHMENT A**  
**TECHNICAL AREA (TA) - UNIT DESCRIPTIONS**



## A.6 TA-63

The following section describes the Transuranic Waste Facility (TWF). Detailed descriptions of the unit's structures are included in the subsections. The TWF is located at TA-63 on a mesa between Ten-Site Canyon, a tributary of Mortandad Canyon, on the north and Pajarito Canyon on the south in the central portion of the Facility (*see* Figure 54 in Attachment N (*Figures*)). The unit is built at the intersection of Pajarito Road and Puye Road, within the triangle formed by Building 63-111 to the east, Puye Road to the north, and Pajarito Road to the southwest.

The TWF consists of one hazardous waste management unit that is used to store containers of newly generated hazardous, mixed low-level, and mixed TRU waste. Waste containers may be characterized at the TWF, as described in Permit Sections A.6.4 and A.6.5, and in applicable sections of Permit Attachment C, *Waste Analysis Plan*. Characterization activities at the TWF include review of generator acceptable knowledge (AK) documentation, head-space and flammable gas sampling, non-destructive assay (NDA), and non-destructive examination (NDE). Waste containers will be accepted at the TWF only if they are closed and equipped with Waste Isolation Pilot Plant (WIPP) approved filter vents. Waste containers are not opened during storage or characterization at the TWF, although their filter vents may be replaced if necessary. Remote-handled TRU waste is not managed at the TWF.

The types of waste containers holding hazardous or mixed waste that are stored at the TWF include: 55- and 85-gallon drums; 55-gallon pipe overpack containers (POCs); Standard Waste Boxes (SWBs); Oversize Waste Boxes (OWBs); and Standard Large Box 2s (SLB2s).

Some TRU waste containers are determined through final waste characterization not to meet the WIPP requirements for TRU waste. Depending on the presence of hazardous constituents, these waste containers are reclassified as either low-level waste or mixed low-level waste and stored at the TWF until they are dispositioned appropriately.

Waste shipments are made from the LANL waste generating facilities to the TWF for storage and characterization. TRU waste is then shipped to the RCRA permitted Radioactive Assay and Nondestructive Testing (RANT) Facility at TA-54-38 West. The RANT Facility is used to load the TRU waste containers into TRUPACTs (steel shipment containers) required for off-site shipment to the WIPP. TRU waste may also be shipped from TWF to the RCRA permitted TA-50-0069 Waste Characterization, Reduction, and Repackaging Facility (WCRRF) for repackaging and/or remediation of prohibited items if necessary. Low-level waste may be shipped from TWF to other LANL facilities or to off-site treatment or disposal facilities.

The TWF permitted storage unit is constructed on 1.82 acres (79,239 square feet). The layout of the unit is depicted in Figure 55. The main structure for the unit is a concrete pad providing a physical base for six waste storage buildings, ~~three~~ waste characterization trailers, and outside storage of waste containers that are too large for placement in the buildings. The pad is surrounded by a security barrier system fence. The boundary of the hazardous waste management unit is limited to the northern portion of the concrete pad defined by those areas that drain to a retention basin. Along the northern and western sides of the unit, this is the edge of the concrete pad along the bottom of the retaining walls. On the east side, the edge of the curbing for the concrete pad is the boundary. The southern side of the boundary is defined by a painted line

*Loads for Buildings and Other Structures.* The steel frame is an ordinary moment frame with joists to attach roof panels and girts to attach wall panels. The walls of the facility are rigid to provide protection from the elements and external forces. Gypsum board on light gauge metal studs with industrial coating finish the interior walls. The roof is a high quality metal standing seam. Batt insulation in the ceiling and on the inside of the walls reduces heat loss and gain inside the buildings. Electric heaters heat the interior to prevent fire suppression systems and eyewash stations from freezing. Cooling is provided by venting fans. In order to drain the building in the event of a fire, the floors are constructed to provide a shallow slope (1/8 inch to 1 foot) from the back end of the building towards the front, and then out the roll-up door opening and a loading ramp to the concrete pad outside the building.

The building floors (i.e., mat slabs) are six inches higher than the outside surface of the concrete pad to prevent run-on, and are sloped toward the roll-up door at the building entrances for drainage, in accordance with 40 CFR §264.175(b)(2) and (c).

The concrete floors are coated to provide a sealed surface and chemical resistance, although secondary containment pallets are used to meet the containment requirements of the Permit for potential liquid containing waste containers in the storage buildings and in compliance with 40 CFR §264.175(b)(1). The floor coating standards include:

- Minimum Class B per National Fire Protection Association (NFPA);
- Radiation resistant as determined by American Society for Testing and Materials, International specification ASTM D 4082; and
- Decontaminable to at least 95 percent of total activity removed and certified for Nuclear Coating Service level II.

### **A.6.3 Storage and Characterization Building**

The sixth storage building is divided into a storage area, a staging room used for the thermal equilibrium of containers to prepare for head space gas sampling, and additional support and analytical equipment rooms. The storage area in this building is used for a variety of containers including SWBs and SLB2s. In order to accurately analyze headspace gas, the container temperature must be allowed to equilibrate to a minimum of 64 degrees Fahrenheit for 72 hours. Sampling equipment is stored in the building for use in obtaining headspace gas samples and flammable gas samples from waste containers. Gas chromatography and mass spectrometry on the flammable gas sample occurs in an adjacent room.

The building dimensions are 80 x 33 ft (approximately 2640 square feet) and 15 feet high. The building is constructed to the same standards as the other storage buildings. The building is numbered 63-0154.

### **A.6.4 Characterization Trailers**

The TWF facility includes pads with utility hook-ups for the characterization trailers used to certify containers as meeting DOE WIPP waste acceptance criteria (WAC). The NDE and NDA equipment, when installed is provided for the TWF in mobile modified commercial trailers

brought to the facility. The characterization trailers will house the following characterization equipment:

- Real Time Radiography (RTR) unit. The NDE equipment in the trailer is designed to provide X-ray examination of the contents of TRU waste drums.
- High-Efficiency Neutron Counter (HENC) unit. The NDA equipment in the trailer is designed to provide a passive neutron and gamma measurement of 55-gallon TRU waste drums.
- SuperHENC unit. The NDA equipment in the trailer is similar to the HENC but includes a high efficiency neutron counter and a gamma counter that are both designed to handle SWBs.

AnThe RTR is a self-contained, non-intrusive X-ray unit, physically housed in a trailer 48 feet in length by 8 feet wide used to X-ray waste containers up to 85 gallons in volume. Radiography is a nondestructive qualitative and semi-quantitative technique that involves X-ray scanning of waste containers to identify and verify waste container contents. Radiography is used to examine the waste container to verify its physical form. This technique can detect prohibited items such as liquid wastes and gas cylinders, which are prohibited for WIPP disposal. Radiography examination must achieve the following to meet the WIPP WAC:

- Verify and document the physical form of each waste container.
- Identify any prohibited items in the waste container.
- Confirm that the physical form of the waste matches its waste stream description (i.e., homogeneous solids, soil/gravel, or debris waste [including uncategorized metals]).

The HENC is a self-contained, non-intrusive, passive assay unit, physically housed in a trailer 48 feet in length by 8 ½ feet wide by 12 ¾ feet high. The HENC is designed to assay 55-gallon (208 liter) drums containing fissionable radionuclides. The system simultaneously performs passive neutron counts and gamma spectrometry to detect gamma-emitting radionuclides for the purpose of determining quantitative concentrations of TRU constituents. The equipment and mobile container only require electrical power to operate. Approximately 10 to 13 drums a day can be processed through the HENC, with each drum taking approximately 45 minutes for examination. The HENC is a large rectangular-shaped neutron counter that is specifically designed to assay the container in a fixed geometry. The HENC system uses passive and add-a-source neutron analysis methods to assay the nuclide mass contained in 55-gal drums of TRU waste. Waste containers to be assayed are placed on a conveyor that feeds them into the system.

AThe SuperHENC operates on the same principle as the HENC, within a similar tractor trailer. The process however, is applicable to the assay of TRU radionuclides in waste packages such as SWBs. Data from this process is used to assay the radioactive content of SWBs containing TRU waste, sorting SWBs based on the 100 nanocurie per gram (nCi/g) TRU limit, and confirming radioisotopes identified using acceptable knowledge (AK).

The currently installed trailers ~~are is~~ numbered ~~63-0155, 63-0156, and~~ 63-0157 at TA-63 and is the HENC. ~~The a~~Additional trailers may be needed as characterization needs for the facility

**ATTACHMENT G.27**  
**TECHNICAL AREA 63**  
**TRANSURANIC WASTE FACILITY**  
**CLOSURE PLAN**

## 1.0 INTRODUCTION

This closure plan describes the activities necessary to close the permitted mixed waste Transuranic Waste Facility (TWF) at Technical Area (TA)-63 at the Los Alamos National Laboratory (Facility) hereinafter referred to as the “Unit To Be Closed,” or 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 waste management units operated at the Facility under the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act.

The TWF unit will be closed by removal of all structures and equipment. Until closure is complete and has been certified in accordance with Permit Part 9.5 and 40 CFR §264.115, a copy of the approved closure plan or the hazardous waste facility permit containing the plan, any approved revisions to the plan, 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 unit, this closure plan may be amended in accordance with Permit Section 9.4.8 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 (the Department) for approval prior to implementing closure activities.

## 2.0 DESCRIPTION OF UNIT TO BE CLOSED

The TWF is located at TA-63 at the junction of Pajarito Road and Puye Road, within the triangle formed by Building 63-111 to the east, Puye Road to the north, and Pajarito Road to the southwest. It was designed, constructed, and commissioned as a Hazard Category (HC)-2 nuclear facility and permitted as Resource Conservation and Recovery Act (RCRA) Storage Facility for TRU, mixed TRU and hazardous wastes. This site is shown on Permit Figure 55. Permit Attachment A.6, Technical Area (TA), Unit Descriptions contains additional site information and building numbers.

### STRUCTURES THAT HAVE MANAGED HAZARDOUS WASTE TO BE REMOVED AT CLOSURE:

- Storage Buildings: 63-0149, 63-0150, 63-0151, 63-0152, and 63-0153
- Storage and Characterization Building: 63-0154
- Characterization Trailers: ~~63-0155, 63-0156, and 63-0157~~6
- Concrete Storage Pad

Six buildings are designated for storage of TRU and Mixed TRU wastes in support of LANL programs and missions. One of the storage structures is used for both storage of larger-sized waste containers and for head space gas sampling and analysis. Certification of containers in accordance with Waste Isolation Pilot Plant (WIPP) Waste Acceptance Criteria (WAC) occurs at three characterization and testing trailers. A concrete pad underlies the storage and characterization buildings and trailers. The boundaries of the pad will be used to designate the RCRA-permitted portion of the TWF.

### OTHER TWF STRUCTURES TO BE REMOVED AT CLOSURE:

- Retention Basin
- Calibration Source and Matrix Module (CSMM) Building: 63-0158

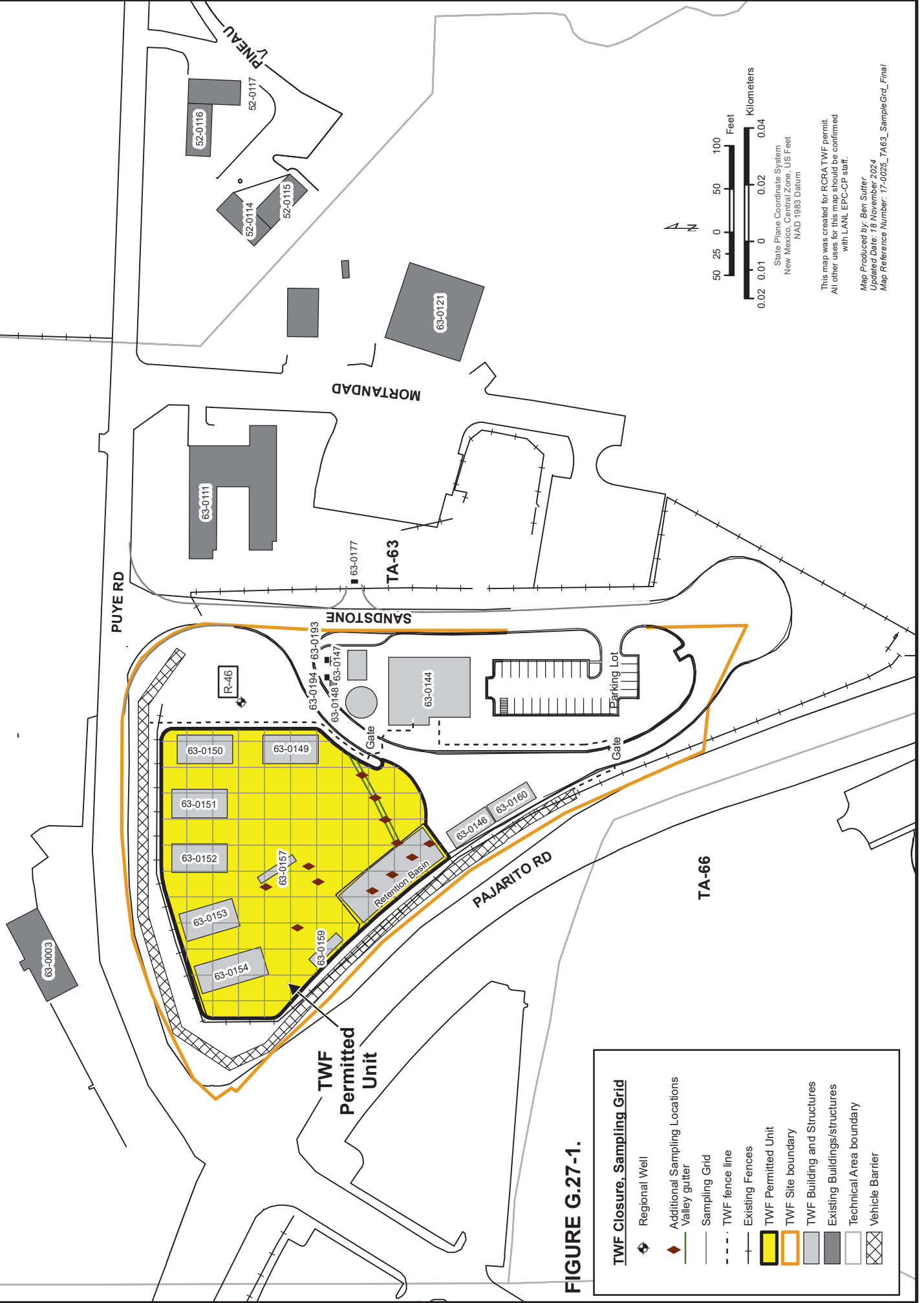


FIGURE G.27-1.

**TWF Closure, Sampling Grid**

- ◆ Regional Well
- ◆ Additional Sampling Locations
- Valley gutter
- Sampling Grid
- - - TWF fence line
- Existing Fences
- TWF Permitted Unit
- TWF Site boundary
- TWF Building and Structures
- Existing Buildings/structures
- Technical Area boundary
- ▤ Vehicle Barrier

**ATTACHMENT J**  
**HAZARDOUS WASTE MANAGEMENT UNITS**

Unit Identifier	Process Codes	Operating Capacity	General Information	Type of Unit
	T04	3,441 gal/day	Includes treatment process for macroencapsulation Total square footage -3,480	
TA-63 Transuranic Waste Facility	S01  T04	105,875 gal  23, 160 gal/day	Includes TA-63-0149 through 0153 Storage Buildings, TA-63-0154 Storage and Characterization Building, TA-63- <del>0155 through</del> 0157 Characterization Trailers, and Outside Storage Pad  Includes treatment process for macroencapsulation Total square footage—79,239	Outdoor (not associated with a regulated unit)



## **ATTACHMENT N**

### **FIGURES**

TA-63

PUYE ROAD

PAJARITO ROAD

TWF  
Container Storage/  
Treatment Unit

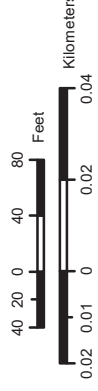
**KEYED NOTES:**

- ① Vehicle entrance via north gate
- ② Vehicle exit via south gate.
- ③ Personnel entry and exit via Operations Building 63-0144
- ④ Emergency personnel exit gates

**Figure 55**

**Technical Area (TA) 63 Transuranic Waste Facility**

- ◆ Regional Well
- TWF Security Fence
- Valley Gutter
- ▤ Vehicle Barrier
- ▤ Existing Buildings/Structures
- ▤ TWF Building and Structures
- ▤ TWF Hazardous Waste Management Unit
- ▤ TWF Site boundary



Updated October 2024  
Map # 19-182-38

This map was created for RCRA TWF permit. All other uses for this map should be confirmed with LANL ENV-RCRA staff.

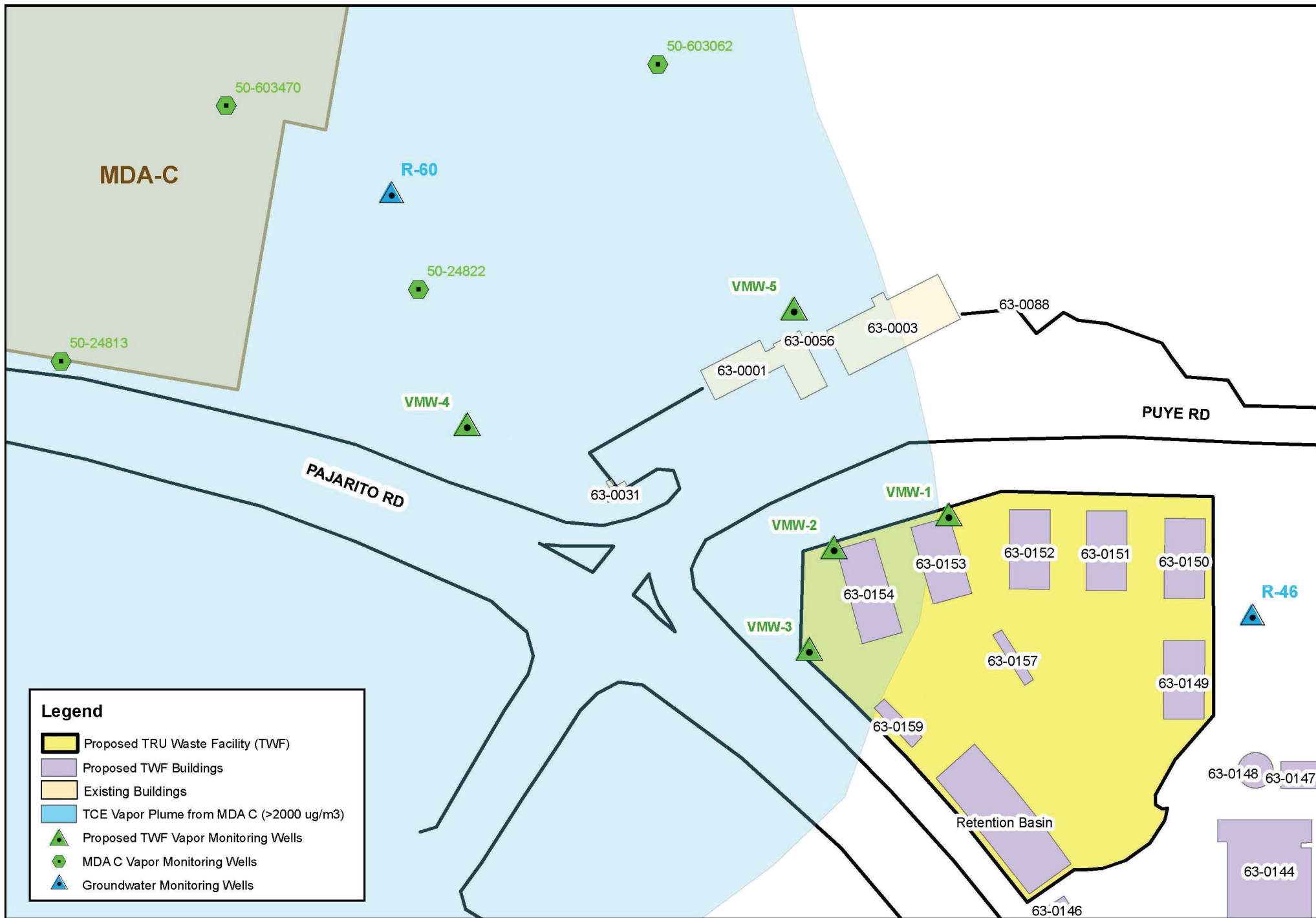


Figure 56

## Transuranic Waste Facility Subsurface Vapor Monitoring Network

1:1,200

0 25 50 100 150 200 Feet

