ESHID-601818

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Environmental Compliance Programs (EPC-CP)
PO Box 1663, MS K491
Los Alamos, New Mexico 87545
(505) 667-2211

National Nuclear Security Administration
Los Alamos Field Office, A316
3747 West Jemez Road
Los Alamos, New Mexico, 87544
(505) 665-7314 (FAX) 665-5948

Date: SEP 2 1 2016
Symbol: EPC-DO-16-259
LA-UR: 16-25495
Locates Action No.: N/A

Mr. John E. Kieling
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Dear Mr. Kieling:

Subject: **Transmittal of Class 1 Permit Modification to Clarify Structure Installation and Equipment Use in the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA ID No. NM0890010515**

The purpose of this letter is to provide updates for the Class 1 Permit Modification previously submitted to the New Mexico Environment Department – Hazardous Waste Bureau (NMED-HWB) on December 1, 2015. The *Request for Approval of Class 1 Modification to the Los Alamos Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA ID No. NM0890010515* (ENV-DO-15-0325), approved on January 8, 2016, provided updates to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit issued to the Department of Energy and Los Alamos National Security, LLC (DOE/LANS) in November 2010. This modification submittal replaces figures and language included in the permit modification submitted on December 1, 2015, regarding two refrigeration units located within the boundary of the permitted unit at Technical Area (TA) 54, Pad 11, Dome 375. Only one unit has been installed and will be used to manage hazardous waste for temperature controlled storage. Additionally, two other corrections are provided in this modification.

This permit modification includes revisions to figures in Permit Attachments N and G.12, and text changes in Permit Attachments A, J and G.12 related to these figures. In addition, this permit modification includes the addition of drum handling equipment to TA-50-69, and the correction of a typographical error within Attachment A. The proposed modifications have been prepared in accordance with the Code of Federal

Regulations [CFR], Title 40 (40 CFR) § 270.42(a). The modifications to the permit are being requested in accordance with 40 CFR § 270.42(a)(1), Appendix I, Items A.1, A.2, A.3 and Permit Section 3.1(3).

This permit modification package includes this transmittal letter and an enclosure with a description of changes, including replacement figures and pages of the revised text in Attachments A, N and G.12. Accordingly, a signed certification page has also been provided.

Three hard copies and one electronic copy of this submittal will be delivered to the NMED-HWB. The hardcopy submittal contains pages or sections where text has been changed rather than copies of full attachments of the Permit. The electronic copy that will only be distributed to 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.

Notification of this 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 the transmittal of this permit modification request.

If you have comments or questions regarding this permit modification, please contact Karen E. Armijo, NA-LA, at (505) 665-7314 or Mark P. Haagenstad, LANS, at (505) 665-2014.

Sincerely,

John C. Bretzke
Division Leader
Environmental Protection and Compliance Division
Los Alamos National Security, LLC

Sincerely,

Karen E. Armijo
Permitting and Compliance Program Manager
National Nuclear Security Administration
Los Alamos Field Office
U.S. Department of Energy

JCB:KEA:MPH:AMME/lm

Enclosure: (1) Class 1 Permit Modification to Clarify Structure Installation and Equipment Use

Cy: Laurie King, USEPA/Region 6, Dallas, TX (E-File)
Dave Cobrain, NMED/HWB, Santa Fe, NM, (E-File)
Neelam Dhawan, NMED-HWB, Santa Fe, NM, (E-File)
Siona Briley, NMED-HWB, Santa Fe, NM (E-File)
Kirsten M. Laskey, EM-LA, (E-File)
Jody N. Pugh, NA-LA, (E-File)
David S. Rhodes, EM-LA, (E-File)
David J. Nickless, EM-WM, (E-File)
Craig S. Leasure, PADOPS, (E-File)
William R. Mairson, PADOPS, (E-File)

Cy (continued):
Michael T. Brandt, ADESH, (E-File)
Raeanna Sharp-Geiger, ADESH, (E-File)
David J. Funk, ADEM, (E-File)
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Paul N. Newberry, WD-SRS (E-File)
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Angela M. Martinez-Edwards, EPC-CP, (E-File)
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Subject: **Transmittal of Class 1 Permit Modification to Clarify Structure Installation and Equipment Use in the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA ID No. NM0890010515**

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This permit modification includes revisions to figures in Permit Attachments N and G.12, and text changes in Permit Attachments A, J and G.12 related to these figures. In addition, this permit modification includes the addition of drum handling equipment to TA-50-69, and the correction of a typographical error within Attachment A. The proposed modifications have been prepared in accordance with the Code of Federal

ENCLOSURE 1

Class 1 Permit Modification to Clarify Structure Installation and Equipment Use

EPC-DO-16-259

LA-UR-16-25495

Date: SEP 2 1 2016

Class 1 Permit Modification Clarify Structure Installation and Equipment Use

This document contains a Class 1 Permit Modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit) issued to the Department of Energy and the Los Alamos National Security, LLC, (LANS) collectively known as the Permittees, in November 2010. All proposed changes are shown in red text for Permit Attachments A, J, and G.12. These changes as well as the replacement figures for Attachments N and G.12 are included in this enclosure.

Permit Modification Summary

The purpose of this permit modification submittal is:

- To replace the "as installed" location of two structures (124B and 124C) inside Dome 375 as well as the associated language previously added to the Permit. A single structure was deemed necessary for temperature controlled storage, therefore only structure 124C was installed.
- To add additional drum handling equipment to Technical Area (TA)-50-69.
- The correction of a typographical error within Attachment A.

Basis

This Class 1 permit modification notification is being submitted in accordance with Permit Section 3.1(3) and 40 CFR 270.42, Appendix I, Items A.1, A.2 and A.3. As stated in Permit Section 3.1(3) the changes included in this permit modification shall be reflected in Attachment N and in the closure plan in Attachment G.12. In addition, changes to the text regarding the two structures are shown in Permit Attachment A, Attachment J, and Attachment G.12. Item A.3 allows for equipment replacement or upgrading with functionally equivalent components, and clarifying language has been added to Attachment A to include functionally equivalent equipment for forklifts. The typographical error that is corrected within Attachment A falls under Appendix I, Item A.2.

Permit Changes

Permit Attachment A

Attachment A, Section A.4.2.9, *Pad 11* (page 23), was modified to reflect that only one structure (124C) was installed within Dome 375.

Attachment A, Section A.3.3, *Security and Access* (page 11), was modified to include the use of additional drum handling equipment that is functionally equivalent to forklifts, which were the only equipment originally reflected within the description of drum movement equipment.

Attachment A, Section TA 54-0498, LANL HENC (page 19), second paragraph, was revised to correct a typographical error.

Permit Attachment G

Attachment G.12, Section 2.0, *Description of Unit to be Closed (page 1)*, was modified to reflect that only one structure (124C) was installed within Dome 375.

Permit Attachment J

Attachment J, *Hazardous Waste Management Units* (page 5), was modified to reflect that only one structure (124C) was installed within Dome 375.

Permit Figures in Attachments G and N

Figure 36, *TA-54, Area G, Pad 11* and Figure G.12, *Technical Area 54, Area G, Pad 11 Outdoor Closure Plan,* were revised to reflect the final location of the structure in Dome 375.

Attachment 1

Text revisions for Attachments A, J and G.12 and replacement figures for Attachments N and G.12

ATTACHMENT A

TECHNICAL AREA (TA) - UNIT DESCRIPTIONS

The exterior walls of TA-50-69 are load-bearing and constructed of structural steel framing with a plastic veneer finish on polystyrene insulation and gypsum wallboard. The interior walls are similarly constructed. The epoxy-painted floor of the building is a reinforced concrete slab on compacted fill.

A forklift or other manual, mechanical, and hydraulic drum handling equipment will be used to move containers stored at the permitted units at TA-50-69. Fiberglass-reinforced plywood boxes and palletized drums will be handled with a forklift equipped with tines or other types of mechanical or hydraulic drum handling equipment. Individual drums of waste will be manipulated with a drum-grapple attachment on the forklift or other manual, mechanical, and hydraulic drum handling eqipment. Small containers may be handled manually or with a dolly. Inside TA-50-69 two cranes are available to move heavy objects.

TA-50 is patrolled by security personnel during non-operational hours to ensure that unauthorized entry has not occurred. The locations of the security fences and entry gates at TA-50 are shown on Figure 6 in Permit Attachment N (*Figures*).

TA-50-69 access is controlled through a centralized Operations Center located in TA-50-84. The Indoor permitted unit is always locked and access is gained by a badge reader. Doors to the building and transportainers are locked. Keys to these doors are distributed to designated personnel only. A chain is installed at the east end of the operations area and adjacent to TA-50-84 and is posted with the bilingual hazardous waste sign.

All personnel involved in waste management activities at the TA-50-69 indoor and outdoor permitted units have immediate access to an internal alarm or emergency communication device. In the event of an emergency, this communication equipment allows personnel to contact the operating group management, the Emergency Management and Response personnel, or the Central Alarm Station operator.

TA-50-69 is equipped with an audible alarm system to alert personnel to evacuate the area. The alarm system may be activated by one of the fire alarm pull stations located throughout the building. Personnel can also use phones to summon assistance from local emergency response teams in case of an emergency. Personnel may carry pagers, two-way radios, or cellular telephones so they can contact, or be contacted by, on-site and the Facility emergency support personnel at all times.

TA-50-69 is equipped with fire extinguishers and fire suppression systems. Depending on the size of a fire and the fuel source, fire extinguishers may be used by on-site personnel. However, the Facility policy encourages immediate evacuation of the area and notification of appropriate emergency personnel. The fire alarm control panel continuously monitors all fire suppression and detection systems and transmits signals to the Los Alamos County Fire Department through the Facility's central alarm system.

A fire hydrant installed according to National Fire Protection Association standards is located approximately 55 feet west of TA-50-69. Water is supplied to the fire hydrant by a municipal water system through eight inch pipes at an adequate volume and pressure (*i.e.*, 200 gallons

with a double-panel rolling door at the south end of the dome and eight personnel doors located approximately every 80 feet along the dome's length mainly to allow for adequate access both by vehicles and personnel. The interior perimeter of the dome is surrounded by a 6-inch-high, 8-inch-wide asphalt curb which helps prevent run-on into, and runoff from, the dome. An asphalt ramp located at the vehicle entrance allows vehicles and container handling equipment to pass safely over the curb. The dome is anchored to Pad 3 with standard drift pins.

A.4.2.4 Pad 10 (former Pads 2 and 4)

Pad 10 is constructed at the location of former Pads 2 and 4. The asphalt pad measures approximately 350 feet long by 250 feet wide and is constructed of asphalt (*see* Figure 31 in Attachment N (*Figures)*). The transuranic waste characterization facilities and container storage area are located on this pad. The transuranic waste characterization facilities consist of mobile and modular units equipped with instruments and equipment for waste characterization and repackaging. The transuranic waste characterization facilities include the following: drum-loading or receiving unit(s); equilibration units(s); gas mobile characterization unit(s); mobile repack units; and nondestructive radioassay unit(s). External containment is provided by the trailers and transportainers because waste characterization activities take place inside the structures. The characterization provided by the non-destructive assay radioactivity monitoring techniques described does not involve opening the waste containers. Activities at Pad 10 include the following:

TA 54-0498, LANL HENC

The Canberra Facility High Efficiency Neutron Counter (HENC) is designed to provide a passive neutron and gamma measurement of transuranic waste drums in 55-gal containers. The trailer housing the HENC is Structure #498. The HENC supported the Facility's TWCP and Project 2010 and subsequently CCP operations beginning in 2004 to the present.

TA 54-0547, Super High Efficiency Neutron Coincidence (SuperHENC) counter

Trailer TA-0547 houses a high efficiency neutron counter designed to handle large waste containers. It is designed to provide a passive neutron and gamma measurement of large transuranic waste containers like standard waste boxes. The SuperHENC will support the Facility's TWCP and the CCP operations beginning in 2010.

TA 54-0497, RTR2

The Real-Time Radiography (RTR) system #2 is designed to provide X-ray examination of the contents of a waste drum. The unit, RTR2, has been located on Pad 10 in support of the Department of Energy Carlsbad Central Characterization Project (CCP) operations.

TA 54-0506, MCS HENC

The steel sump is located within a concrete basin that has 8-inch-thick walls, a 9-inch-thick base and measures approximately 15 ft long by 7 ft wide by 6 ft deep. The sump is approximately 14 ft long by 6.5 ft wide by 5 ft deep and has a capacity of 3,473 gallons. A primary holding tank associated with the sump is located in a concrete basin that is 15 ft long by 12 ft wide by 5.5 ft deep and has a capacity of approximately 7,405 gallons. A secondary holding tank associated with the sump is located in a separate concrete basin that is 12 ft long by 12 ft wide by 5.5 ft deep and has a capacity of approximately 5,924 gallons. These basins have the capacity to contain any spills or leaks resulting from a potential overflow or breach of the holding tanks.

A maintenance gate is located along the fence-line north of the TA-54-33 dome. The gate is not used for general access to the area, but is used by authorized personnel to access areas outside of the Area G fence-line to clear vegetation necessary to minimize fire hazards. The gate is chain-link and approximately eight feet tall with razor wire on the top. The gate is not equipped with a badge reader and is locked at all times unless used by authorized personnel for maintenance purposes.

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. Dome 375 also has an~~two~~ additional structure~~s~~ (~~124B and~~ 124 C). The external dimensions of the structure~~s~~ is~~are~~ approximately 20 feet long, 8 feet wide and 8.5 feet high. The structure~~s~~ is a ~~are~~ refrigeration unit~~s~~, electrically driven and is~~are~~ constructed of stainless steel internal and external panels. S~~The s~~tructure~~s~~ 124C is~~are~~ connected to the roll-up door opening for the modular containment structure, with the doors ~~for each of the units~~ facing into the modular containment structure. The Real-Time Radiography system #1 (RTR1) (TA-54-0362) 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

ATTACHMENT J

HAZARDOUS WASTE MANAGEMENT UNITS

Unit Identifier	Process Codes	Operating Capacity	General Information	Type of Unit
			Approximately 89,600 square feet	
TA-54 Area G Pad 11	S01	682,440 gal	Includes Storage Dome 375 (including 124C) and RTR1. ~~124B and 124C.~~ 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)

ATTACHMENT G.12
TECHNICAL AREA 54, AREA G, PAD 11
OUTDOOR CONTAINER STORAGE UNIT
CLOSURE PLAN

1.0 INTRODUCTION

This closure plan describes the activities necessary to close the outdoor hazardous waste container storage unit at Technical Area (TA)-54, Area G, Pad 11 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 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 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 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.

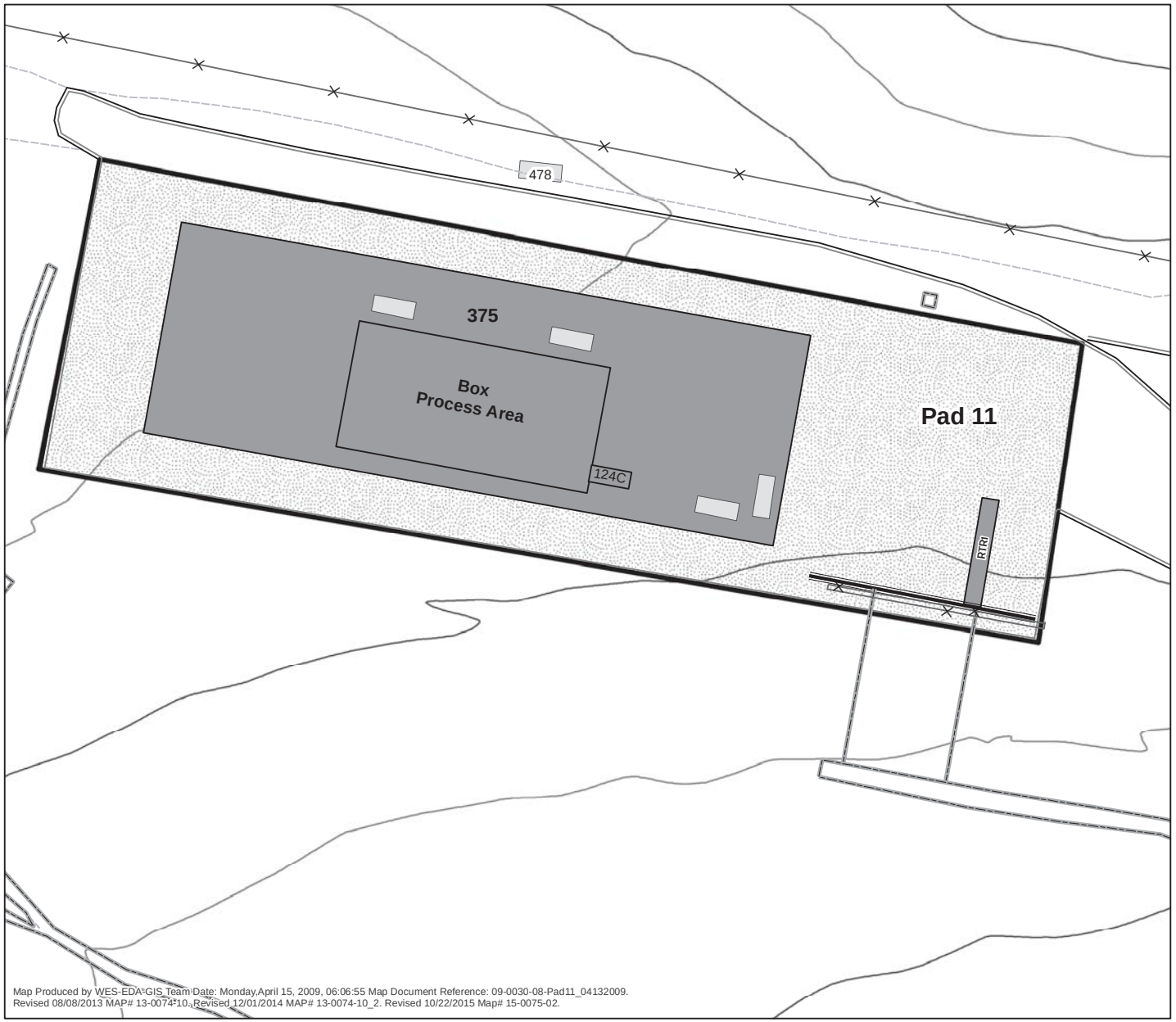
2.0 DESCRIPTION OF UNIT TO BE CLOSED

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

The permitted unit, which was constructed in 1998, is located in the western portion of Area G and consists of an asphalt pad that measures 478 feet long and 137 feet wide or approximately 65,500 square feet. It consists of four inches of asphalt built over underlying base course which overlies a minimum of six inches of tuff fill. It also has a dome (Dome 375) and a Real-Time Radiography (RTR) system #1 situated on it. Hazardous waste is stored only in the Dome 375.

The permitted unit is sloped from 1% to 2% to the south/southeast for drainage and has curbing on the south and east sides as well. Drainage is directed to a series of four 5 inch-wide by 27 foot-long drains, all connected to two underground 8-inch diameter polyvinyl chloride pipes which discharge to a concrete lined ditch located near the southeast corner of the pad.

The permitted unit stores hazardous waste in both liquid and solid form in Dome 375. The dome, which is an aluminum framework of trusses covered with tension-fitted ultraviolet resistant, fire-retardant coated, polyester fabric, is 300 feet long by 100 feet wide and covers a surface area of approximately 30,000 square feet. It is anchored with anchor bolts to the interior concrete ring wall and is equipped with two double-panel rolling doors, one at the east end of the dome and the other on the west end. It also has 14 personnel doors located approximately every 31 to 57 feet along the dome's length. These doors allow for adequate access both by vehicles and by personnel. The interior perimeter of the dome is surrounded by a concrete ring wall, which helps prevent run-on into and runoff from the dome. Asphalt ramps located at the vehicle entrances allow vehicles and container handling equipment to pass safely over the curb. 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. S~~T~~two s~~tructures~~ ~~(124B and~~ 124 ~~C)~~ is~~are~~ connected to the modular panel containment structure. The external dimensions of the structure~~s~~ is~~are~~ approximately 20 feet long, 8 feet wide and 8.5 feet high. The structure~~s~~ is a~~are~~ refrigeration unit~~s~~, electrically driven, and is~~are~~ constructed of stainless steel internal and external panels. S~~T~~he s~~tructures~~ 124C is~~are~~ connected to the roll-up door opening for the modular containment structure, with the doors ~~for each of the units~~ facing into the modular containment structure.



Permitted Unit Soil Sampling Grid

Legend

Buildings/Structures
(not associated with the permitted unit)

RCRA Waste Management Units (RWMU)
Category

RWMU

Structure

Drain Lines

Drain

Contours, 20 ft

Roads. paved

Roads, dirt

Fences

N

1:650

Feet

0 40 80 160

0 10 20 40

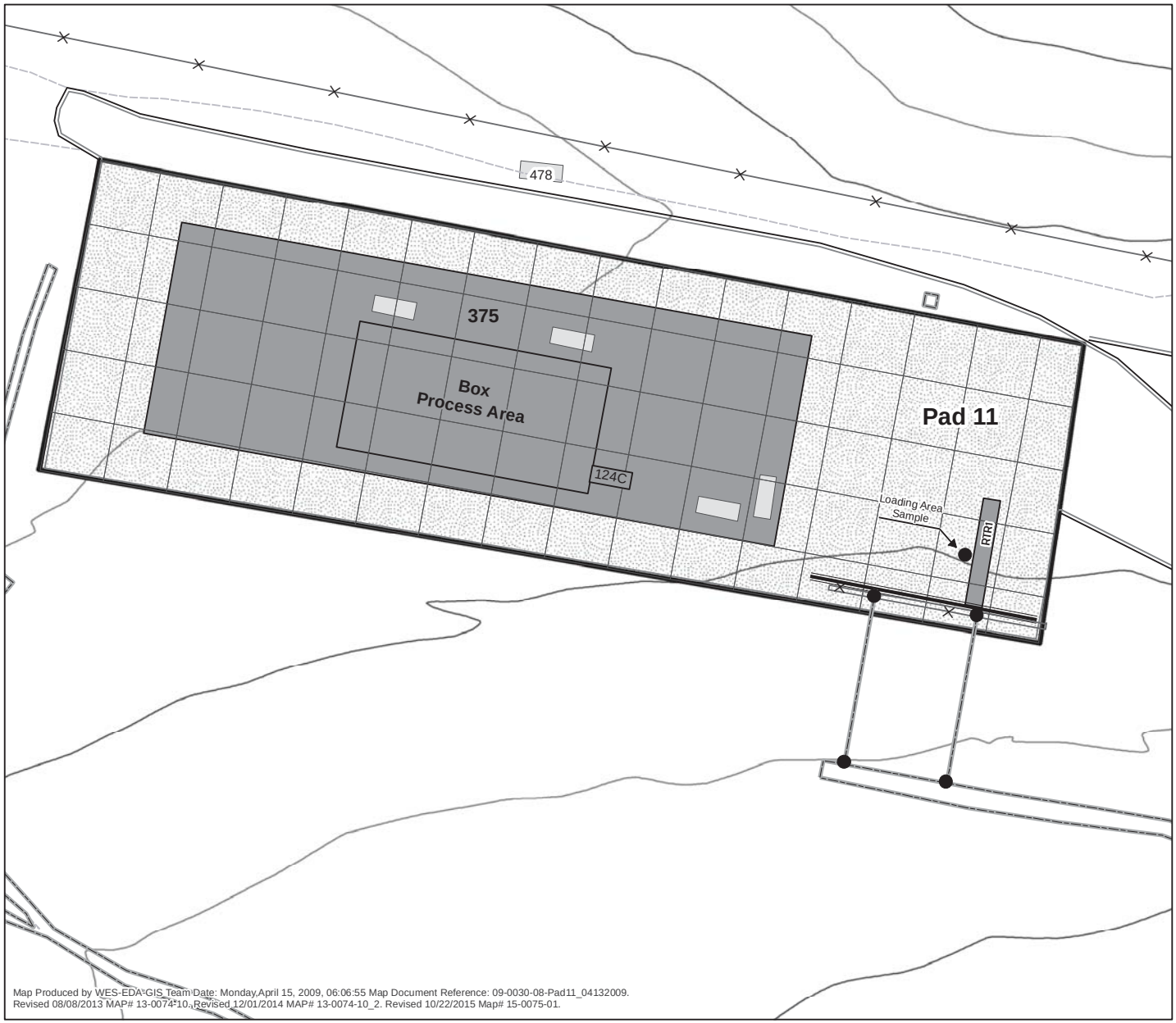
Meters

State Plane Coordinate System New Mexico, Central Zone, US Feet
NAD 1983 Datum

Map Produced by WES-EDA-GIS Team Date: Monday,April 15, 2009, 06:06:55 Map Document Reference: 09-0030-08-Pad11_04132009.
Revised 08/08/2013 MAP# 13-0074-10., Revised 12/01/2014 MAP# 13-0074-10_2. Revised 10/22/2015 Map# 15-0075-02.

DISCLAIMER: This map was created for work processes associated with the LANL Hazardous Waste Facility Permit. All other uses for this map should be confirmed with the LANL, ENV Division, Water Quality & RCRA..

Figure 36: Technical Area (TA)-54, Area G, Pad 11



Map Produced by WES-EDA-GIS Team Date: Monday,April 15, 2009, 06:06:55 Map Document Reference: 09-0030-08-Pad11_04132009.
Revised 08/08/2013 MAP# 13-0074-10., Revised 12/01/2014 MAP# 13-0074-10_2. Revised 10/22/2015 Map# 15-0075-01.

Permitted Unit Soil Sampling Grid

Legend

- Additional Sampling Locations
- Buildings/Structures (not associated with the permitted unit)
- RCRA Waste Management Units (RWMU) Category
  - RWMU
  - Structure
- Sample grid (cell size = 900 sqft)
- Drain Lines
- Drain
- Contours, 20 ft
- Roads. paved
- Roads, dirt
- Fences

N

1:650

Feet
0 40 80 160

0 10 20 40
Meters

State Plane Coordinate System New Mexico, Central Zone, US Feet
NAD 1983 Datum

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Figure G.12-1: Technical Area 54, Area G, Pad 11 Outdoor Container Storage Unit Grid Sampling and Additional Sampling Locations

Attachment 2

Certification

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.

9-9-16

John C. Bretzke
Division Leader
Environmental Protection and Compliance Division
Los Alamos National Security, LLC

Date Signed

12 Sept 2016

Karen E. Armijo
Permitting and Compliance Program Manager
National Nuclear Security Administration
Los Alamos Field Office
U.S. Department of Energy

Date Signed