ESHID-601023

Environmental Protection Division
Environmental Compliance Programs (ENV-CP)
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National Nuclear Security Administration
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3747 West Jemez Road
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(505) 667-5794/Fax (505) 667-5948

Date: DEC 0 1 2015
Symbol: ENV-DO-15-0325
LAUR: 15-28585
Locates Action No.: N/A

Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Dear Mr. Kieling:

Subject: **Request for Approval of Class 1 Modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA ID # NM0890010515**

The purpose of this letter is to request approval by the New Mexico Environment Department's Hazardous Waste Bureau (NMED-HWB) of a Class 1 permit modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit). This Permit was issued to the Department of Energy (DOE) and Los Alamos National Security, LLC (LANS), the Permittees, in November 2010. The permit modification provides revisions to figures in Permit Attachments N and G.12 and updates that are related to figure changes in Permit Attachments A, G.12 and J.

The proposed permit modification has been prepared in accordance with the Code of Federal Regulations [CFR], Title 40 (40 CFR) § 270.42(a). This modification includes the addition of two structures within the boundary of the permitted unit at Technical Area (TA) 54, Pad 11, Dome 375. The two structures will be used for the storage of hazardous waste in the future. Permit Section 3.1(3) requires prior approval as a Class 1 permit modification of figures in Attachment N and the closure plan in Attachment G. Based on future studies, the two structures may be used for temperature control of the waste. However, prior to utilizing the structures for temperature control, the Permittees will seek separate approval from the NMED-HWB.

This permit modification includes this letter and two enclosures. Enclosure 1 contains a description of the permit modification, text edits of the Permit sections and figure edits. Enclosure 2 contains a signed certification page. 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.

Upon approval of this Class 1 permit modification, the modification will be put into effect and notice 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 Gene E. Turner, DOE, at (505) 667-5794 or Mark P. Haagenstad, LANS, at (505) 665-2014.

Sincerely,

Alison M. Dorries
Division Leader
Environmental Protection Division
Los Alamos National Security, LLC

Sincerely,

Kimberly Davis Lebak
Manager
Los Alamos Field Office
U.S. Department of Energy

AMD:KDL:MPH:TAD/lm

Enclosures: (1) Description of the Permit Modification and Proposed Permit Changes
(2) Certification

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)
Peter Maggiore, LASO-OOM, (E-File)
Gene E. Turner, LASO-NS-LP, (E-File)
Jordan Arnswald, LASO-NS-PI, (E-File)
Kirsten Laskey, EM-LA, (E-File)
Craig S. Leasure, PADOPS, (E-File)
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RECEIVED

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2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

RECEIVED
DEC 01 2015
NMED
Hazardous Waste Bureau

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The purpose of this letter is to request approval by the New Mexico Environment Department's Hazardous Waste Bureau (NMED-HWB) of a Class 1 permit modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit). This Permit was issued to the Department of Energy (DOE) and Los Alamos National Security, LLC (LANS), the Permittees, in November 2010. The permit modification provides revisions to figures in Permit Attachments N and G.12 and updates that are related to figure changes in Permit Attachments A, G.12 and J.

The proposed permit modification has been prepared in accordance with the Code of Federal Regulations [CFR], Title 40 (40 CFR) § 270.42(a). This modification includes the addition of two structures within the boundary of the permitted unit at Technical Area (TA) 54, Pad 11, Dome 375. The two structures will be used for the storage of hazardous waste in the future. Permit Section 3.1(3) requires prior approval as a Class 1 permit modification of figures in Attachment N and the closure plan in Attachment G. Based on future studies, the two structures may be used for temperature control of the waste. However, prior to utilizing the structures for temperature control, the Permittees will seek separate approval from the NMED-HWB.

This permit modification includes this letter and two enclosures. Enclosure 1 contains a description of the permit modification, text edits of the Permit sections and figure edits. Enclosure 2 contains a signed certification page. 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

ENCLOSURE 1

Description of the Permit Modification and Proposed Permit Changes

ENV-DO-15-0325

LA-UR-15-28585

Date: DEC 0 1 2015

Class 1 Permit Modification Request

This document contains a Class 1 Permit Modification 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 Enclosure 1.

Permit Modification Summary

The purpose of this permit modification submittal is to add two structures (124B and 124C) inside of Dome 375. The structures consist of two Klinge Conex refrigeration units that are 480v 3 phase with dimensions for both units collectively of 20-ft long x 8-ft wide x 8.5-ft high. The structures will be co-located adjacent to the roll-up door opening for the modular containment structure (box process area) within Dome 375, which is located on Pad 11, at TA-54, Area G. The doors for each unit will be facing into the box process area. Stainless steel panels, similar to the Permacon will join the two structures and the 375 box process area to integrate the gap between the structures and the roll-up door opening. This will the HEPA filtration capability of the box process area ventilation system. The structures will be fully integrated into the box process area. The two units will be used for the storage of hazardous waste in the future. In addition, based on applicability, the units will be used for either freezing or refrigeration; however, prior to utilizing the structures for freezing or refrigeration, the Permittees will seek approval from the NMED-HWB under separate cover of this permit modification request.

Basis

This Class 1 permit modification request is being submitted in accordance with Permit Section 3.1(3). As stated in Permit Section 3.1(3) the changes included in this permit modification shall be reflected in Attachment N (Figures) and in the closure plan in Attachment G.12. In addition, changes to the text reflecting the addition of the two structures are shown in Permit Sections A, J and Attachment G.12.

Permit Changes

Permit Attachment A

Attachment A, Section A.4.2.9, *Pad 11* (page 24), was modified to state the following: *Dome 375 also has two additional structures (124B and 124C). The external dimensions of the structures are approximately 20 feet ft long, 8 ft wide and 8.5 ft high. The structures are refrigeration units, electrically driven, and are constructed of stainless steel internal and external panels. The structures 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.*

Permit Attachment G

Attachment G.12, Section 2.0, *Description of Unit to be Closed*, was modified to add the following language related to the addition of two structures in Dome 375: *Two structures (124B and 124C) are connected to the modular panel containment structure. The external dimensions of the structures are approximately 20 feet ft long, 8 ft wide and 8.5 ft high. The structures are refrigeration units, electrically driven, and are constructed of stainless steel internal and external panels. The structures 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.*

Permit Attachment J

Attachment J, *Hazardous Waste Management Units, page 5, TA-54, Area G, Pad 11,* was modified to include structure numbers (124B and 124C) for both Klinge Conex units.

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 include the location of both the Klinge Conex units.

ATTACHMENT A

TECHNICAL AREA (TA) - UNIT DESCRIPTIONS

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 two additional structures (124B and 124C). The external dimensions of the structures are approximately 20 feet ft long, 8 ft wide and 8.5 ft high. The structures are refrigeration units, electrically driven, and are constructed of stainless steel internal and external panels. The structures 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 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.

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. Two structures (124B and 124C) are connected to the modular panel containment structure. The external dimensions of the structures are approximately 20 feet ft long, 8 ft wide and 8.5 ft high. The structures are refrigeration units,

electrically driven, and are constructed of stainless steel internal and external panels. The structures 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.

Dome 375 also contains four structures that serve as an office area, a control area, a nd rooms for donning and doffing anti-contamination clothing. These structures are support structures and will not be used to store hazardous waste.

The RTR1 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.

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

To date, no hazardous waste has been stored at the permitted unit. The estimated volume for the maximum inventory of waste managed over the projected lifespan of the permitted unit is 1,501,000 gallons.

4.0 GENERAL CLOSURE REQUIREMENTS

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.

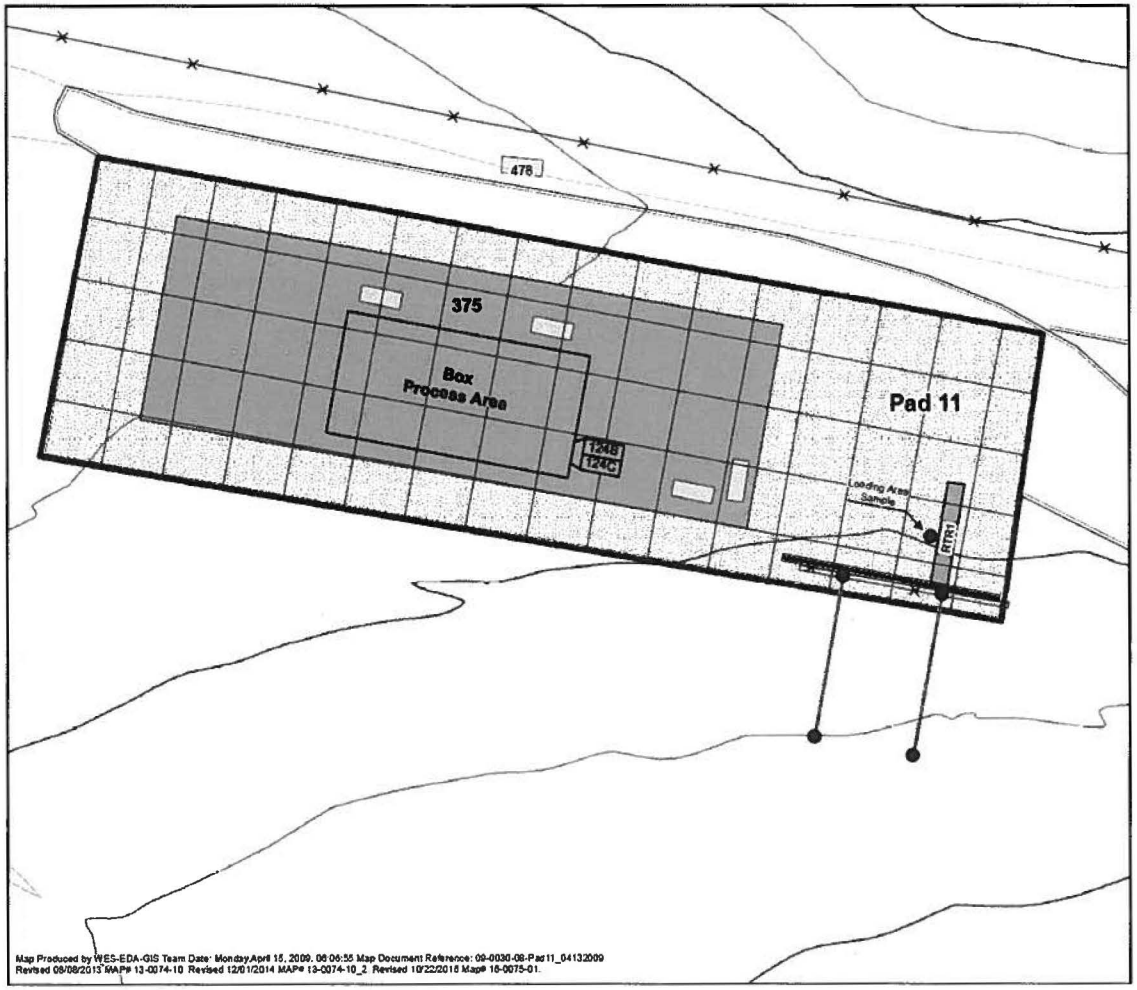
If the Permittees are unable to achieve either of the clean closure standards above, they must:

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.



Map Produced by WES-EDA-GIS Team Date: Monday,April 15, 2009, 08:06:55 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 10/22/2018 Map# 18-0075-01.

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

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.

Attachment G.12 – TA-54 Area G Pad 11 Outdoor Closure Plan

ATTACHMENT J

HAZARDOUS WASTE MANAGEMENT UNITS

Unit Identifier	Process Codes	Operating Capacity	General Information	Type of Unit
			Pad 5 is a consolidation of former Pads 5, 7, and 8. Total square footage – 59,900	
TA-54 Area G Pad 6	S01	597,300 gal	Includes Storage Domes 153 and 283; and Transportainer 491. Approximately 62,700 square feet	Outdoor (associated with an regulated unit)
TA-54 Area G Pad 9	S01	1,446,720 gal	Includes Storage Domes 229, 230, 231, and 232. Total square footage – 158,000	Outdoor (associated with a regulated unit)
TA-54 Area G Pad 10	S01	159,770 gal	Includes Transuranic (TRU) Waste Characterization Facilities: TA-54-0547 (SuperHENC), TA-54-0497 (RTR2), TA-54-0498 (LANL HENC), TA-54-0506 (MCS HENC), TA-54-0545 and 546 (Storage trailers). Pad 10 is a consolidation of former Pads 2 and 4. Approximately 89,600 square feet	Outdoor (associated with a regulated unit)
TA-54 Area G Pad 11	S01	682,440 gal	Includes Storage Dome 375 and TA-54-0362 (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

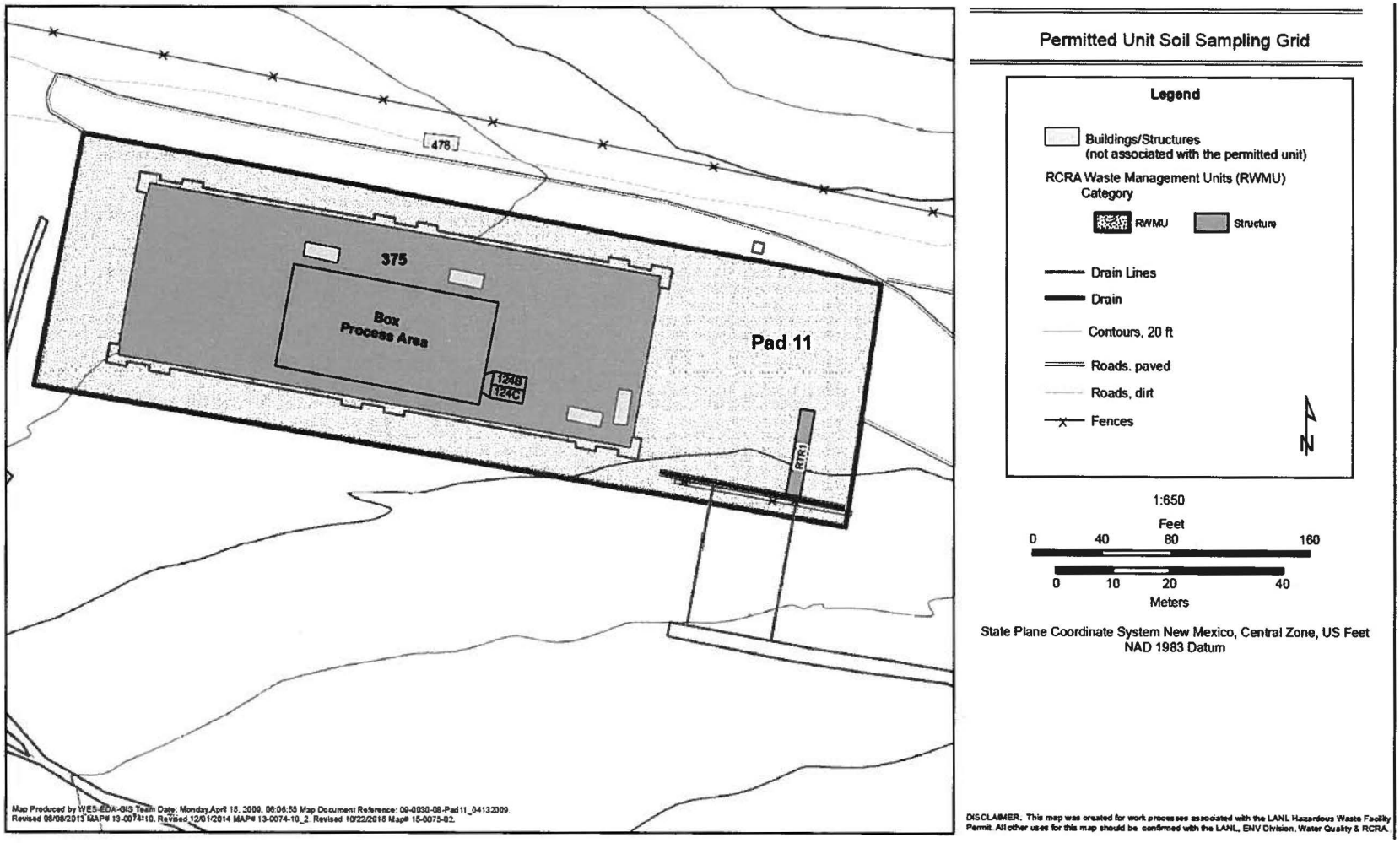


Figure 36: TA-54, Area G, Pad 11

ENCLOSURE 2

Certifications

ENV-DO-15-0325

LA-UR-15-28585

Date: DEC 0 1 2015

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.

11/24/15

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

Date Signed

11/25/15

Kimberly Davis Lebak
Manager
Los Alamos Field Office
U.S. Department of Energy

Date Signed