Los Alamos
NATIONAL LABORATORY
EST. 1943

ESHID-601896

Environmental Protection and Compliance Division
Environmental Compliance Programs (EPC-CP)
PO Box 1663, K490
Los Alamos, New Mexico 87545
(505) 667-0666

National Nuclear Security Administration
Los Alamos Field Office, A316
3747 West Jemez Road
Los Alamos, New Mexico, 87544
(505) 665-7314/Fax (505) 667-5948

Date: OCT 19 2016
Symbol: EPC-DO-16-288
LA-UR: 16-27097
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 Request to Remove Dome 224 from the Los Alamos National Laboratory Hazardous Waste Facility Permit

The purpose of this letter is to submit a Class 1 permit modification request to remove a structure from the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit issued to the Department of Energy (DOE) and Los Alamos National Security, LLC (LANS), collectively the Permittees, in November 2010. The permit modification request provides proposed revisions to Permit Part 3 and Permit Attachments A, D, E, G.8, J, and N.

This permit modification request has been prepared as required by Permit Section 3.1(3) in accordance with the Code of Federal Regulations, Title 40 (40 CFR) § 270.42(a)(2) as a permit modification requiring prior approval from the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB). This Class 1 permit modification request consists solely of changes associated with the removal of a structure from a permitted unit and administrative changes associated with that removal in accordance with 40 CFR § 270.42, Appendix I, Item A.1. 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 request package are the transmittal letter, a signed certification page and an enclosure that provides a description of the proposed changes and pages of revised text and/or figures from Permit Part 3 and Permit Attachments A, D, E, G.8, J, and N.

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 the entire

Permit Part or Permit Attachment. 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 approval of this permit modification request. If you have comments or questions regarding this permit modification request, please contact Karen E. Armijo (DOE) at (505) 665-7314 or Mark 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:LVH/lm

Enclosure: 1) Class 1 Permit Modification Request to Remove a Structure from Technical Area 54, Area G, Pad 5

Cy: Laurie King, USEPA/Region 6, Dallas, TX (E-File)
Kathryn M. Roberts, NMED-HWB, Santa Fe, NM, (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)
Kimberly Davis Lebak, NA-LA, (E-File)
Peter Maggiore, NA-LA, (E-File)
Karen E. Armijo, NA-LA, (E-File)
Kirsten M. Laskey, EM-LA, (E-File)
Jody M. 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)
Michael T. Brandt, ADESH, (E-File)
Raeanna Sharp-Geiger, ADESH, (E-File)
Randall M. Erickson, ADEM, (E-File)
David J. Funk, ADEM, (E-File)
Enrique Torres, ADEM, (E-File)

Cy (continued):
Leslie Sonnenberg, EWMO-DO, (E-File)
Stephanie Q. Griego, EWMO-DO, (E-File)
Paul N. Newberry, WD-SRS (E-File)
Mark P. Haagenstad, EPC-CP, (E-File)
Victoria R. Baca, DESHS-EWMS (E-File)
James K. Stanton, EPC-CP (E-File)
lasomailbox@nnsa.doe.gov, (E-File)
locatesteam@lanl.gov, (E-File)
emla.docs@em.doe, (E-File)
epc-correspondence@lanl.gov, (E-File)
rcra-prr@lanl.gov, (E-File)

COPY

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PO Box 1663, K490
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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 Request to Remove Dome 224 from the Los Alamos National Laboratory Hazardous Waste Facility Permit**

The purpose of this letter is to submit a Class 1 permit modification request to remove a structure from the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit issued to the Department of Energy (DOE) and Los Alamos National Security, LLC (LANS), collectively the Permittees, in November 2010. The permit modification request provides proposed revisions to Permit Part 3 and Permit Attachments A, D, E, G.8, J, and N.

This permit modification request has been prepared as required by Permit Section 3.1(3) in accordance with the Code of Federal Regulations, Title 40 (40 CFR) § 270.42(a)(2) as a permit modification requiring prior approval from the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB). This Class 1 permit modification request consists solely of changes associated with the removal of a structure from a permitted unit and administrative changes associated with that removal in accordance with 40 CFR § 270.42, Appendix I, Item A.1. 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 request package are the transmittal letter, a signed certification page and an enclosure that provides a description of the proposed changes and pages of revised text and/or figures from Permit Part 3 and Permit Attachments A, D, E, G.8, J, and N.

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 the entire

ENCLOSURE 1

Class 1 Permit Modification Request to Remove a Structure from Technical Area 54, Area G, Pad 5

EPC-DO-16-288

LA-UR-16-27097

Date: OCT 19 2016

Class 1 Permit Modification Request to Remove a Structure from Technical Area 54, Area G, Pad 5

This document consists of a Class 1 permit modification request for the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit) issued to the Department of Energy and the Los Alamos National Security, LLC, collectively known as the Permittees, in November 2010 (EPA ID # NM0890010515). All proposed revisions are included with red editing marks to indicate changes within Permit Part 3, as well as Permit Attachments A, D, E, G.8, and J. These changes, as well as the replacement figures for Attachments G.8 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 provided with the transmittal letter.

Description

The purpose of this modification submittal is to describe the proposed removal of a structure (Dome 224) from Technical Area (TA) 54. The removal of Dome 224 will entail revisions to Permit Part 2, *General Requirements*; Permit Part 3, *Storage in Containers*; Attachment A, *Technical Area (TA) – Unit Descriptions*; Attachment D, *Contingency Plan*; Attachment E, *Inspection Plan*; Attachment G.8, *Technical Area 54, Area G, Pad 5 Outdoor Container Storage Unit Closure Plan*; Attachment J, *Hazardous Waste Management Units*, and Attachment N, *Figures*. This modification includes the proposed removal of a structure Dome 224 from TA-54, Area G, Pad 5. This structure was utilized for hazardous waste management and will be decommissioned, demolished, and removed from the permitted unit.

A thorough records review will be performed to determine if there were any releases associated with Dome 224. It is not expected that there have been any releases of hazardous material at the dome. The structure will be removed from the permitted unit and the structure material, concrete ring wall, asphalt, sump, liners, and soil removed from the area will be disposed of in accordance with LANL waste management procedures as required by Permit Attachment G.8, *Technical Area 54, Area G, Pad 5 Outdoor Container Storage Unit Closure Plan.* Documentation of these efforts will be kept as part of the Facility Operating Record as required by the Permit, and will be utilized when closures activities at the permitted unit begin. Additionally, as required within the closure plan for TA-54, Area G, Pad 5, a soil sample will be collected under the sump after removal. If liquid is present within the sump at the time of removal, it will be removed, sampled, characterized, and disposed of accordingly. Additionally, after removal of the dome, the area will be backfilled with clean fill and asphalt will cover the area of the permitted unit. The permitted unit will continue to be used for the storage of hazardous waste.

Basis

This modification has been prepared in accordance with 40 CFR § 270.42(a)(2) as required by Permit Section 3.1(3). The permit condition at Permit Section 3.1(3) requires that buildings or structures located at permitted units be accurately reflected within the figures in Attachments G and N of the Permit. Proposed changes to figures and text will reflect the removal of Dome 224 from figures within the Permit. Dome 224 was utilized for hazardous waste management at a permitted unit, therefore, the permit modification has been prepared as a Class 1 permit modification that requires prior approval from the NMED-HWB. Additionally, the request includes other administrative changes associated with the removal of Dome 224 from a permitted unit in accordance with 40 CFR § 270.42, Appendix I, Item A.1.

Discussion of Changes

Proposed Permit changes are described below and the applicable changes are shown within Attachment 1 of this document with red editing marks to indicate changes.

Permit Part 3, *Storage in Containers*

Changes include the removal of permit conditions associated specifically with the sump within Dome 224 (Permit Section 3.12.1(1), *Area G* and Permit Section 3.12.3.7, *Dome 224*) because the permit conditions will not be applicable after removal of the dome. Records generated in compliance with the permit conditions are kept by the Permittees in accordance with 2.12.2, *Facility Operating Record.*

Attachment A, *Technical Area (TA) – Unit Descriptions*

Section A.4.2.5, *Pad 5* reflects the removal of language related to Dome 224.

Attachment D, *Contingency Plan*

"TA-54-224" was removed from the list of locations of emergency equipment within Table D-2, *TA-54 Area G, Emergency Equipment.*

Attachment E, *Inspection Plan*

A note specific for the inspections conducted at Dome 224 was removed from the Inspection Record Form instructions, in the description of Item #15 of the form.

Attachment G.8, *Technical Area 54, Area G, Pad 5 Outdoor Container Storage Unit Closure Plan*

Proposed changes to the closure plan include changing the description of the dome within Section 2.0, *Description of Unit to be Closed,* to past tense and include the removal of the dome in Section 6.1, *Soil Sampling and Decontamination Verification Sampling Activities.* None of the required sample locations have been changed from the approved closure plan; however, the Dome 224 footprint has been removed from Figure G.8.1: *Technical Area 54, Area G, Pad 5, Outdoor Containers Storage Unit Soil Sampling Grid and Additional Sampling Locations.*

Attachment J, *Hazardous Waste Management Units*
Proposed revision to Table J-1, *Active Portion of the Facility*, reflects the removal of Dome 224 from TA-54, Area G, Pad 5.

Attachment N, *Figures*
Figure 27: *Technical Area 54, Area G, Container Storage Units*, was revised to remove Dome 224. Also, Figure 32, within Attachment N was revised to remove the Dome 224 structure from the permitted unit and the title of the figure was changed to "Figure 32: Technical Area (TA)-54, Area G, Pad 5 (Dome 49 and Storage Sheds 114, 145, 146, 177, 1027, 1028, 1030, and 1041)".

Attachment 1

Text Changes and Replacement Figures for Permit Part 3 and Permit Attachments A, D, E, G.8, J, and N

LA-UR-16-27097

3.12 TA-54 CONTAINER STORAGE REQUIREMENTS

3.12.1 General Operating Conditions

The Permittees shall ensure that storage of hazardous waste in containers at TA-54 occurs only in the permitted unit at Area L, the nine permitted units at Area G, the two permitted units at TA-54 West, and as identified in Attachment A (*Technical Area Unit Descriptions)* and Attachment J (*Hazardous Waste Management Units*).

Area G

~~(1) The Permittees shall remove all fluids above the HDPE liner at Area G, Dome 224 within 24 hours of discovery (*see* 40 CFR § 270.32(b)(2)). The Permittees shall include a record of the evacuation in the Facility's Operating Record including a complete chemical analysis of the fluid.~~

(~~2~~1) The Permittees shall ensure that at Area G, all containers storing hazardous waste with free liquids are stored on secondary containment pallets, except inside the following structures: Domes 230, and Sheds 144, 145, 146, 177, 1027, 1028, 1029, and 1041.

Area L

(1) The 10,000 gallon holding tank at Area L, Dome 215 shall be inspected monthly and any detected fluids shall be characterized and removed within 3 days. The Permittees shall include a record of all holding tank inspections and evacuations in the Facility's Operating Record, including a complete chemical analysis of the tank contents (*see* 40 CFR § 270.32(b)(2)).

(2) The Permittees shall ensure that at Area L, all containers storing hazardous waste with free liquids are stored on secondary containment pallets, except when inside the following structures: Sheds 31, 68, 69, 70; concrete pad with canopy TA-54-32; concrete pads TA-54-35, TA-54-36, TA-54-58; and building TA-54-39 (Room 101 and South Containment Pad).

TA-54 West

The Permittees may store mixed TRU wastes in sealed Nuclear Regulatory Commission (NRC) certified Type-B shipping containers at the TA-54 West Outdoor permitted unit without secondary containment and weather protection.

The Permittees may use the Outdoor Pad excess storage capacity listed in Attachment J, Table J-1, only as specified in Permit Attachment A, Section A.4.3.2 (see 40 CFR § 270.32(b)(2)).

3.12.3.3 TA-54-36

The Permittees shall treat the concrete berms and the base of the concrete pad with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.

3.12.3.4 TA-54-58

The Permittees shall treat the concrete berms and the base of the concrete pad with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.

3.12.3.5 TA-54-39 and Containment Pad

3.12.3.5.i Room 101

The Permittees shall treat the curb and floor of this 878 square foot room with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.

3.12.3.5.ii Containment Pad

The Permittees shall treat the concrete floor and curb with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.

3.12.3.6 Storage Sheds 144, 145, 146, and 177

The Permittees shall ensure the interior of each shed and sump is treated with chemically-resistant epoxy paint. The Permittees shall maintain the chemically-resistant epoxy paint 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 containers holding free liquids on secondary containment pallets.~~

ATTACHMENT A

TECHNICAL AREA (TA) - UNIT DESCRIPTIONS

Heated transportainer for transuranic and mixed transuranic waste storage prior to characterization

TA 54-0546, Storage

Heated transportainer for transuranic and mixed transuranic waste storage prior to characterization

Pad 10 asphalt

Pad 10 is primarily used for storage of feed stock and empty drums for the transuranic waste characterization activities. Additionally, storage of oversized mixed wastes in transportainers and metal boxes can occur on the pad.

A.4.2.5 Pad 5

This asphalt pad consists of former pads 5, 7, and 8, located on the south-central portion of Area G, has two domes and eight sheds (*see* Figure 32 in Attachment N (*Figures)*) associated with it. Former Pad 5 is approximately 500 feet long, 65 feet-wide, and 4 inches thick. It is sloped approximately 2% from north to south. Former Pad 8 is approximately 150 feet long, 95 feet-wide, and 3 inches thick. It is sloped approximately 1% from west to east. Former Pad 7 is approximately 200 feet long, 64 feet-wide, and 4 inches thick. It is sloped approximately 1% from west to east.

Dome 49

Storage dome 49, located on former Pad 5, is 440 feet long and 60 feet wide and has a peak height of approximately 26 feet (*see* Figure 32 in Attachment N (*Figures)*). The design and materials of construction for Dome 49 are the same as the other domes at TA-54. The dome is equipped with a double-panel rolling door at the north end of the dome and six personnel doors to allow for adequate access both by vehicles and by 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 to Dome 49 allows vehicles and container handling equipment to pass safely over the curb. The dome is anchored to Pad 5 with standard drift pins.

A maintenance gate is located along the fence-line west of Dome 49. 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.

~~**Dome 224**~~

~~Storage Dome 224, located on former pad 8, is approximately 110 feet long and 60 feet wide, with a peak height of 26 feet (*see* Figure 32 in Attachment N (*Figures)*). The design and~~

~~materials of construction for dome 224 are the same as other domes at TA-54. This dome is anchored to Pad 8 with anchor bolts. It is equipped with a single-panel roll-up door at the north end and four personnel doors to allow adequate access by vehicles and by personnel. A 1-foot, 8-inch wide by 2-feet, 4-inch deep concrete ring wall surrounds the interior of dome 224. A high-density polyethylene (HDPE) liner exists below the asphaltic pad within the dome.~~

Storage Sheds

Storage sheds 144, 145, 146, and 177 are prefabricated sheds constructed of steel. Each shed measures 6 feet long, 5 feet-wide, and 9 feet high. Access to each shed is obtained through a single door. The sheds are elevated by design, which prevents run-on and each shed is constructed with a liquid-tight sump to ensure containment of any potential leaks or spills and to prevent runoff. The floor of each shed is constructed of steel and has a metal grate that covers the entire sump area. Containers are placed directly on the metal grates, which prevent contact with liquids that may have accumulated in the sumps. The designed sump storage capacity of each shed is 120 gallons which exceeds the amount necessary to hold 10% of the total storage capacity of each shed (330 gallons).

Storage sheds 1027, 1028, 1030, and 1041 are equipped with three sets of double doors on one side of the shed for ease of access. Sheds 1027, 1028, 1030, and 1041 contain a single compartment and sump within each shed (*see* Figure 32 in Attachment N (*Figures)*). The designed storage capacity of each sump is 750 gallons which exceeds the amount necessary to hold 10% of the total capacity of each shed (1,760 gallons).

A.4.2.6 Pad 6

This permitted asphalt pad, approximately 633 ft long, 99 ft wide and 4 inches thick, is sloped approximately 1.2% from west to east and is located in the north-central portion of Area G. Storage domes 153 and 283 are located on Pad 6 (*see* Figure 33 in Attachment N (*Figures)*) and the design and materials of construction for domes 153 and 283 are the same as the other domes at TA-54.

Dome 153

Dome 153 is approximately 326 ft long and 60 ft wide, with a peak height of 26 ft (*see* Figure 33 in Attachment N (*Figures)*). A double-panel rolling door is located at the west end of the dome and 10 personnel doors are located approximately every 40 to 125 ft along the dome's length. Dome 153 is equipped with a fire detection and alarm system.

Dome 283

Dome 283 is approximately 260 ft long and 60 ft wide with a peak height of 26 ft (*see* Figure 33 in Attachment N (*Figures)*). A double-panel rolling door is located at the east end of the dome and 10 personnel doors are located approximately every 50 ft along the dome's length. These accesses allow adequate traffic flow of vehicles and personnel into and out of the dome. An asphalt ramp is located at the vehicle entrance of each dome to allow vehicles and

ATTACHMENT D

CONTINGENCY PLAN

Table D-2

TA-54 AREA G

Emergency Equipment

FIRE CONTROL EQUIPMENT

ABC and/or BC rated fire extinguishers are available at TA-54-8, TA-54-33, TA-54-48, TA-54-49, TA-54-153, ~~TA-54-224,~~ TA-54-229, TA-54-230, TA-54-231, TA-54-232, TA-54-283, TA-54-375, and TA-54-412, and on Pads 1, 9 and 10.

Description of General Capabilities:
These portable, manually operated fire extinguishers may be used by any qualified employee in the event of a small fire. For larger fires, security personnel and the Los Alamos Fire Department (LAFD) are alerted.

Flame or smoke detection equipment and fire alarm pull stations are located within structures at TA-54-229, TA-54-230, TA-54-231, and TA-54-232.

Ultra-violet detectors, smoke and audible devices are located within structure TA-54-153.

Dry-chemical fire suppression systems are available at TA-54-1027, TA-54-1028, TA-54-1030, and TA-54-1041.

A dry-pipe fire suppression system is available at TA-54-412.

Fire alarm pull stations are available at TA-54-33, TA-54-48, TA-54-49, TA-54-153, ~~TA-54-224,~~ TA-54-229, TA-54-230, TA-54-231, TA-54-232, TA-54-283, TA-54-375, and TA-54-412.

Description of General Capabilities:
Fire alarms may be activated by any employee in the event of a fire to notify the LAFD and security personnel. Security personnel and LAFD are also notified upon activation of the flame or smoke detectors.

Several fire hydrants are located in Area G. These fire hydrants will supply water at an adequate volume and pressure to satisfy the requirements of 40 CFR 264.32(d)

SPILL CONTROL EQUIPMENT

Spill control stations and/or portable spill kits are located at TA-54-8, TA-54-33, TA-54-48, TA-54-49, TA-54-153, ~~TA-54-224,~~ TA-54-229, TA-54-230, TA-54-231, TA-54-232, TA-54-283, TA-54-375, and TA-54-412.

Each spill kit generally includes bags of absorbent and an inventory of tools and supplies.

COMMUNICATION EQUIPMENT

Alpha-numeric emergency pagers are given to employees working in the area. Additional equipment includes portable two-way radios and cellular telephones. Personnel will carry cellular telephones, pagers, to two-way radios or will have immediate access to communication equipment through visual or voice contact with another employee.

Emergency paging system- loud speakers located throughout the site.

Evacuation alarm buttons are located at or near TA-54-33, TA-54-48, TA-54-49, TA-54-153, ~~TA-54-224,~~ TA-54-229, TA-54-230, TA-54-231, TA-54-232, TA-54-283, TA-54-375, TA-54-412, Pads 1, 9 and 10 and at various muster stations.

Description of General Capabilities:
Loud speakers, paging telephones equipped with public address capabilities, and alarms located throughout Area G can be used to notify personnel of an emergency. The emergency paging system can also be utilized to alert workers of appropriate response actions. Evacuation alarms have horns mounted on telephone poles throughout Area G that emit an audible alarm that can be heard throughout Area G. Employees can also be notified of an emergency situation and appropriate response action through the use of a text message sent on the emergency alpha-numeric pagers or cellular telephone, or by two-way radio.

DECONTAMINATION EQUIPMENT

Portable eyewash stations are located at permitted units located at TA-54 Area G during waste management operations involving free liquids.

One permanent, hard-plumbed eyewash station and a safety shower is located in TA-54-33.

Safety Data Sheets (SDSs) are available hard copy or via online database.

Description of General Capabilities:
Emergency shower and eyewash stations are used by personnel who receive a chemical splash to the skin or eyes. Specific SDSs for the chemical(s) being managed should be obtained prior to working with hazardous or mixed waste to determine if the application of water is indicated for decontamination.

PERSONAL PROTECTIVE EQUIPMENT

Personnel at Area G are required to use appropriate personal protective equipment (PPE) to protect themselves from the hazards found in the workplace under normal conditions. This PPE may include gloves, steel-toed shoes, and safety glasses. Additional PPE may be required during an unusual hazardous situation and can be found in the spill kits or at various locations throughout the site.

ATTACHMENT E

INSPECTION PLAN

8. Communication equipment must be inspected in order to ensure availability and proper operating condition for each piece of equipment (*e.g.,* telephones, radios, and alarms). Equipment must be present in accordance with the appropriate contingency plan.
9. Required signs must be legible and prominently posted in accordance with 40 CFR § 264.14(c) and/or the permit as applicable. Warning signs at all gates and perimeter fences where present around permitted units, must be posted in bilingual (In English and Spanish), must be visible from a distance of at least 25 feet and from all angles. Warning signs along shared boundaries with the Facilities permitted unit and the pueblo of San Ildefonso shall be posed in the appropriate dialect of Tewa, equivalent to the bilingual warning signs (See Permit Section 2.5.1 (Warning Signs)). Signs at large outdoor storage areas will be inspected no less than two times per year to evaluate for deterioration.
10. Site security must be verified. Items such as fences, gates, locks, and other access control equipment (as appropriate) should be checked for proper operating condition or mitigative measures (e.g., attendants, locks, prohibited or controlled roadway access). (See Permit Section 2.5 (Security))
11. Roads, process floors, and other work surfaces at TSDs must be inspected for any conditions that could lead to a spill or an accident. Inspection includes structures and base materials and malfunctions, deterioration (e.g., tears in dome fabric), operator errors, and discharges.
12. Hazardous or mixed waste TSDs must have fire control and spill control equipment. Equipment must be present, in proper operating condition, and appropriate for the material in question. Hose bibs, where present, should be inspected for proper operating condition and adequate pressure. Outdoor fire-water supply systems must be checked for freezing and damage. Equipment must be inspected and present in accordance with the appropriate inspection and contingency plans. (Attachment D (contingency Plan) of the Permit includes a list of required equipment specific to each permitted unit.)
13. Where present, eyewashes and safety showers must be inspected to ensure proper operating condition or that scheduled routine inspections have been conducted and documented as indicated at the eyewash or safety shower. Outdoor locations must be checked for freezing.
14. Wind socks, where present at outside TSDs, must be inspected to ensure that they are in proper operating condition/functional and checked for damage.
15. Secondary containment structures for hazardous or mixed waste operations must be inspected to verify proper operating condition and to ensure adequate capacity. Structures must also be inspected for the presence of standing water or hazardous/mixed waste or any other indication of a spill (*i.e.* discolored vegetation, soil, or concrete). For certain operations, secondary containment includes inspection of gloves, gloveboxes, hoods, and ventilation systems. For locations where inflatable "Porta Berms" are used, inspectors must ensure that they are adequately inflated. All monitoring and leak detection systems must also be checked. ~~(Note: Dome 224 must be checked for liquids even though a liner is not considered secondary containment.)~~
16. Loading and unloading areas must be inspected daily when in use for signs of damage or deterioration that may lead to an accident or spill. This includes asphalt covered areas and areas where containers or tanks are handled or the contents thereof are transferred, including doorways or entry ways (Permit Section 2.6.1).

ATTACHMENT G.8
TECHNICAL AREA 54, AREA G, PAD 5
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 5 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 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, which measures 850 feet long and 224 feet wide, is located in the western portion of Area G. It is four inches thick, is sloped 1-2%, and is comprised of three asphalt pads (Pad 5 and older Pads 7 and 8). There have beenare ten structures associated with the permitted unit: two domes (former Domes 224 and Dome 49) and eight sheds (sheds 144, 145, 146, 177, 1027, 1028, 1030, and 1041). Rainwater flow at the permitted unit is directed across the pad by slope and drainage structures (*i.e.*, supplemental check berm, culvert, and sediment traps).

Storage Domes 49 and 224 areis used for the storage of hazardous waste. They are It is built of an aluminum framework of trusses covered with tension-fitted ultraviolet resistant, fire-retardant coated, polyester fabric and are is anchored to the permitted unit with drift pins and anchor bolts.

Dome 49 is 440 ft long and 60 ft wide, and has a peak height of approximately 26 ft. The dome is equipped with a double-panel rolling door at its north end and has six personnel doors to allow for adequate access both by vehicles and by 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 run-off from, the dome.

Dome 224 was used for storage of hazardous waste at the unit. It was is approximately 110 ft long and 60 ft wide, with a peak height of 26 ft and . was built of an aluminum framework of trusses covered with tension-fitted ultraviolet resistant, fire-retardant coated, polyester fabric and was anchored to the permitted unit with drift pins and anchor bolts. It iswas equipped with a single-panel roll-up door at the north end and four personnel doors to allow adequate access by vehicles and by personnel. A 1-ft, 8-inch wide by 2-ft, 4-inch deep concrete ring wall originally designed for secondary containment of liquids surroundedsing the interior of Dome 224. The asphalt floor wasis sloped 0.5% towards a concrete sump in the center of the dome. The floor, sump, and curbs wereare lined with a double layer of HDPE to contain any liquids that might accumulate. The dome, concrete ring wall, and HDPE liners were removed from the permitted unit, demolished, and disposed of in 2016.

6.1 Soil Sampling and Decontamination Verification Sampling Activities

Soil sampling and decontamination verification sampling activities will be conducted at the permitted unit in order to verify that soils at the permitted unit, that structures, such as the storage sheds situated on the permitted unit, and equipment related to 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 related to the permitted unit. In compliance with Permit Section 9.4.7.1.i, this closure plan will ensure the collection of at least one wipe sample from the following areas in each of the eight storage sheds:

a. every wall;

b. each floor;

c. each ceiling; and

d. each sump.

A total of 56 wipe samples will be collected. If there is liquid found in any of the sumps at the time of sample collection, liquid samples will be collected in accordance with Section 6.2.1 of this closure plan.

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

e. one soil sample in front of each of the storage sheds for a total of eight samples (*see* Permit Section 9.4.7.1.ii(1));

~~f.~~ one soil sample every 900 square feet of the permitted unit for a total of 95 samples (*see* Permit Section 9.4.7.1.ii(2));

~~g.~~f. ~~one sample at the sump located in Dome 224 (*see* Permit Section 9.4.7.1.ii(5));~~ and

~~h.~~g. nine samples to address stormwater runoff (*see* Permit Section 9.4.7.1.ii(3) and discussion below for rationale of sample locations).

Figure G.8-1 illustrates these sampling locations.

At the time of removal of Dome 224, a~~If there is~~ liquid sample was collected from ~~found in~~ the sump in Dome 224 ~~at the time of the assessment a liquid sample will be collected~~ in accordance with Section 6.2.1 of this closure plan. Additionally, one soil sample was collected at the sump location in Dome 224 (*see* Permit Section 9.4.7.1.ii(5)). Documentation of these sampling and analysis are kept as part of the Facility Operating Record and will be reviewed as part of closure of the permitted unit.

At the time of sampling, the precise locations of the grid samples will be selected randomly from within each 900 square foot sampling box (*see* Figure G.8-1). These locations will be determined by applying a sub-grid of potential sampling points and randomly choosing one. If the review or assessment determines the need to obtain additional samples within the area of the sampling box (*e.g.*, at asphalt cracks), these sample locations will be in addition to the grid sample locations.

Individual sample locations to address stormwater runoff have been sited by the specific drainage conditions at the permitted unit and are numbered from '1-9' on Figure G.8-1. Sample numbers '1' and '2'are situated to intercept water drainage from former Pad 7; '1' is located at a small supplemental check berm while '2' is at the main culvert draining from former Pad 7. Sample numbers '3', '8', and '9' address drainage from former Pad 8; '3' is located in the area in front of the former location of the main door of Dome 224 while 8 and 9 address the drainage from the rest of former Pad 8 on the east side where it is directed by the slope of that pad. Sample numbers '4', '5', '6', and '7' address the potential discharge points for drainage from the permitted unit (Pad 5) and Dome 49; '4' is located on the north side of the main door of Dome 49, '5' and '6' are situated in sediment traps located in the drainage from the west side of the permitted unit; and '7' is located in a combined drainage area for the east side of the permitted unit and west side of former '7.'

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 incorporates guidance from the United States Environmental Protection Agency (USEPA) (EPA, 1986 and EPA, 2002), DOE (DOE, 1995), and other Department-approved procedures.

6.2.1 Liquid Sampling

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

6.2.2 Wipe Sampling

Wipe samples will be collected and analyzed to determine if residual hazardous constituents remain on structures or 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 Soil and Sediment Sampling

Soil and sediment samples will be collected and analyzed to determine if hazardous constituents are present in the soils and sediment at the permitted unit. 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.8-4.

6.2.4 Cleaning of Sampling Equipment

Reusable sampling equipment will be cleaned and rinsed prior to use. Sampling equipment rinsate blanks will be collected and analyzed only if reusable sampling equipment is used. Reusable decontamination

ATTACHMENT J

HAZARDOUS WASTE MANAGEMENT UNITS

TABLE J-1

Active Portion of the Facility

Includes units permitted to store and treat hazardous waste, interim status units, and the Material Disposal Areas.

Process codes and associated process descriptions:

- S01-storage in containers
- S02-storage in tanks
- S99-other storage
- D80-landfill
- T04 – other treatment
- X01*-open burning
- X01**-open detonation

Unit Identifier	Process Codes	Operating Capacity	General Information	Type of Unit
TA-3-29	S01	18,500 gal	Includes Room 9010 and portions of Room 9020 and 9030 Located in Wing 9 of the basement of Building 29 Total square footage – 3,040	Indoor
TA-14-23	X01*	50 lbs HE/burn	Near Structure TA-14-23 Interim Status Unit	NA
TA-14-23	X01**	20 lbs HE/ detonation	Near Structure TA-14-23 Interim Status Unit	NA
TA-16-388	X01*		Flash Pad Total square footage - 484 Interim Status Unit not authorized to treat hazardous waste and undergoing closure	Outdoor (associated with a open burn unit)

Unit Identifier	Process Codes	Operating Capacity	General Information	Type of Unit
TA-54 Area G Pad 3	S01	213,840 gal	Includes Storage Dome 48 Approximately 17,000 square feet	Outdoor (associated with a regulated unit)
TA-54 Area G Pad 5	S01	623,480 gal	Includes Storage Domes 49 ~~and 224~~ and~~;~~ Storage Sheds 144, 145, 146, 177, 1027, 1028, 1030, and 1041 Pad 5 is a consolidation of former Pads 5, 7, and 8. Total square footage – 59,900	Outdoor (associated with a regulated unit)
TA-54 Area G Pad 6	S01	597,300 gal	Includes Storage Domes 153 and 283; Transportainer 491; and Storage Sheds 486, 522, 523, and 492. 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; and Storage Sheds 574 and 484. 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), TA-54-0365 (Office Building Formerly MTGS), TA-54-0483 (Source Storage Trailer), and TA-54-1059 (Storage Trailer) Pad 10 is a consolidation of former Pads 2 and 4.	Outdoor (associated with a regulated unit)

ATTACHMENT N

FIGURES

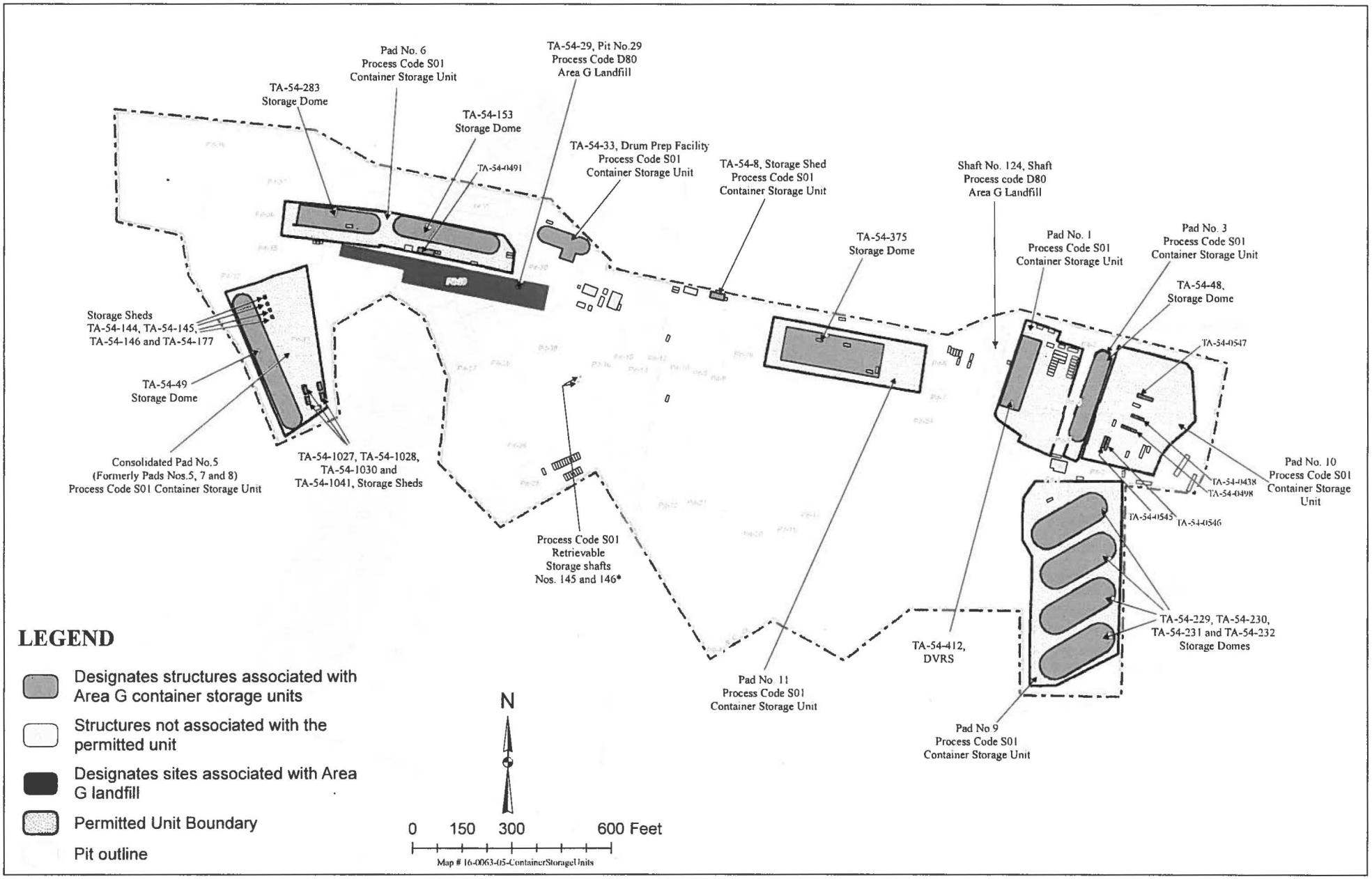

Figure 27: Technical Area 54, Area G, Container Storage Units

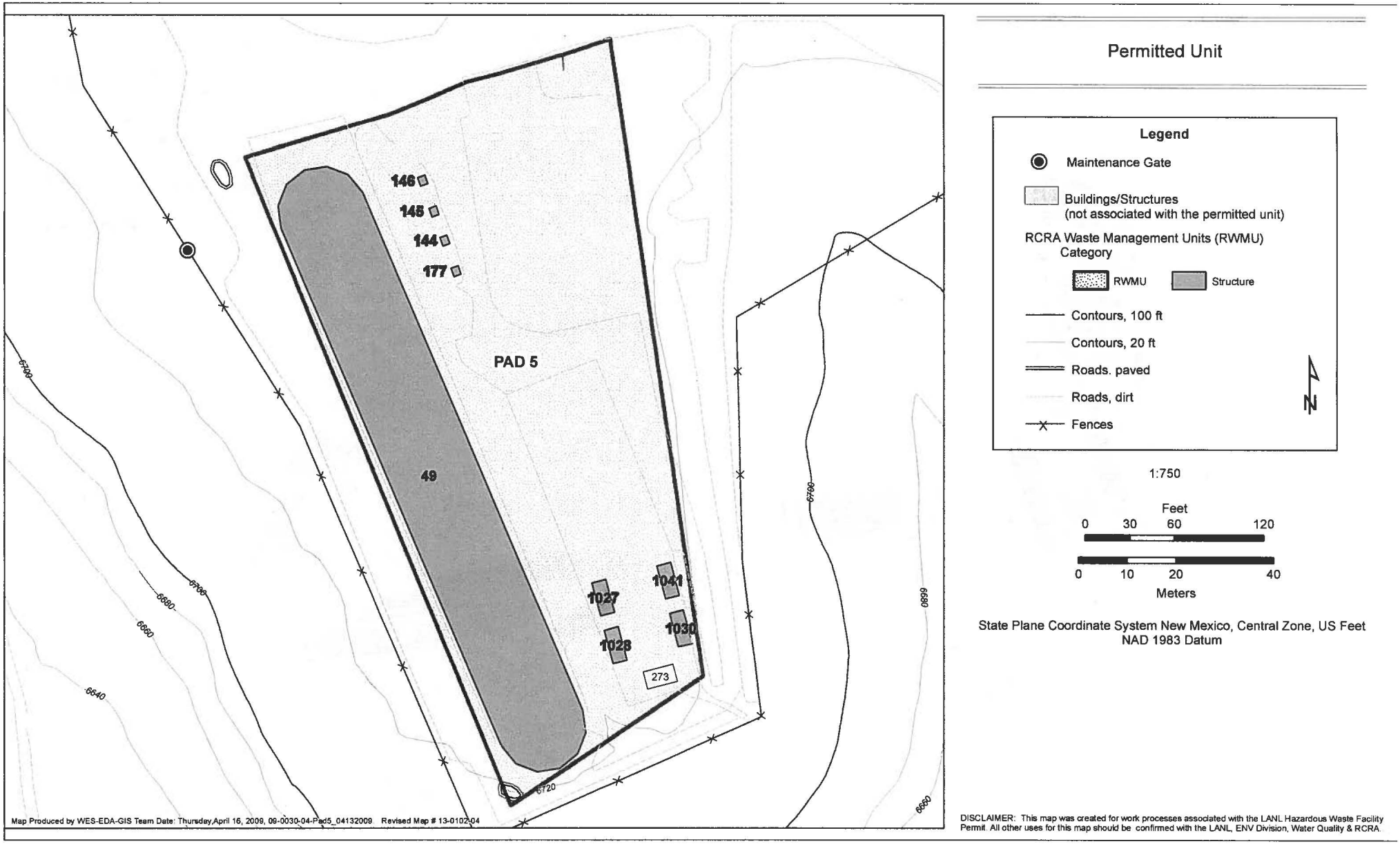

Figure 32: Technical Area (TA)-54, Area G, Pad 5 (Dome 49; and Storage Sheds 144, 145, 146, 177, 1027, 1028, 1030, and 1041)

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.

10/4/16

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

Date Signed

13 Oct 2016

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

Date Signed