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*Date:* April 13, 2023  
*Refer To:* N3B-2023-0078

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

**Subject: Class 1 Permit Modification Request to Add a Universal Drum Assay and Segregation System and Hydraulic Power Supply Unit at Technical Area 54, Area G, Pad 11 for the Los Alamos National Laboratory Hazardous Waste Facility Permit, EPA ID No. NM0890010515**

Dear Mr. Shean:

Enclosed is a Class 1 permit modification request to modify the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (the Permit) issued to the U.S. Department of Energy (DOE); Triad National Security, LLC; and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) (the Permittees). The Permittees request to modify figures and text to add a new Universal Drum Assay and Segregation System (UDASS) and a hydraulic power supply (HPS) unit at Technical Area 54 (TA-54), Area G, Pad 11. The enclosed permit modification provides proposed minor revisions to text and figures in Attachments A, G.12, and N.

This proposed permit modification request is required under 40 Code of Federal Regulations (CFR) Section 270.42, Appendix I, "Classification of Permit Modification," item A.1., Administrative and Informational Changes, and in accordance with Permit Section 3.1(3) as well as item A.3, Equipment Replacement or Upgrades with Functionally Equivalent Components. The Permittees are making administrative changes (i.e., updates to figures and minor text changes) to add a new UDASS and HPS unit at TA-54, Area G, Pad 11. As in previous Class 1 permit modifications (e.g., N3B-2022-0135, dated May 13, 2022), and in accordance with Permit Section 3.1(3), "[a]ny change to the location of a building or structure within which hazardous waste has not been managed shall be a Class 1 modification without prior approval (see 40 CFR § 270.42(a)(1))". The UDASS and HPS unit are new structures and have therefore not managed hazardous waste. Additionally, the Permittees are proposing to add equipment (i.e., the UDASS) to assist in waste processing and disposal activities.

The changes described in the request do not substantially alter the permitted container storage requirements or facility. It only updates figures to show the location of the UDASS and HPS unit, and makes minor revisions to text describing the new structures.

The Permittees' Class 1 permit modification consists of this letter and an enclosure containing a description of the permit modification, text edits of the Permit sections (Attachments A and G.12), the revised figures, and a signed certification page. This modification has been prepared in accordance with 40 CFR 270.42(a)(1). A notification of this permit modification will be sent to the New Mexico Environment Department Hazardous Waste Bureau-maintained LANL facility mailing list in accordance with 40 CFR 270.42(a)(1)(ii) within 90 days of incorporation of this permit modification.

If you have questions, please contact Christian Maupin at (505) 695-4281 (Christian.maupin@em-la.doe.gov) or Arturo Duran at (505) 257-7907 (arturo.duran@em.doe.gov).

Sincerely,



Robert Macfarlane  
Program Manager  
Environment, Safety, Health and Quality  
N3B-Los Alamos

Sincerely,

ARTURO  
DURAN

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Arturo Q. Duran, Compliance and Permitting Manager  
Office of Quality and Regulatory Compliance  
U.S. Department of Energy  
Environmental Management  
Los Alamos Field Office

Enclosure(s): Three hard copies with electronic files:

1. Class 1 Permit Modification Request to Add a Universal Drum Assay and Segregation System and a Hydraulic Power Supply Unit at Technical Area 54, Area G, Pad 11 for Los Alamos National Laboratory Hazardous Waste Facility Permit, EPA-03311D No. NM0890010515 (EM2023-0144)

cc (letter and enclosure[s] emailed):

Laurie King, EPA Region 6, Dallas, TX  
Steve Yanicak, NMED-DOE-OB  
Siona Briley, NMED-HWB  
Neelam Dhawan, NMED-HWB  
Mitchell Schatz, NMED-HWB  
Rick Shean, NMED-RPD  
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Public Reading Room (EPRR and HPRR)  
PRS website

April 2023  
EM2023-0144

**Class 1 Permit Modification Request to  
Add a Universal Drum Assay and  
Segregation System and a New  
Hydraulic Power Supply Unit at  
Technical Area 54, Area G, Pad 11 for  
Los Alamos National Laboratory  
Hazardous Waste Facility Permit,  
EPA ID No. NM0890010515**





Newport News Nuclear BWXT-Los Alamos, LLC (N3B), under the U.S. Department of Energy Office of Environmental Management Contract No. 89303318CEM000007 (the Los Alamos Legacy Cleanup Contract), has prepared this document. The public may copy and use this document without charge, provided that this notice and any statement of authorship are reproduced on all copies.

## CERTIFICATION

### NEWPORT NEWS NUCLEAR BWXT-LOS ALAMOS, LLC

**Class 1 Permit Modification Request to Add a Universal Drum Assay and Segregation System  
and a Hydraulic Power Supply Unit at Technical Area 54, Area G, Pad 11  
for Los Alamos National Laboratory  
Hazardous Waste Facility Permit, EPA ID No. NM0890010515**

### CERTIFICATION STATEMENT OF AUTHORIZATION

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In accordance with the New Mexico Administrative Code Title 20, Chapter 4, Part 1 (incorporating the Code of Federal Regulations, Title 40 CFR § 270.11):

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."



March 30, 2023

Robert Macfarlane, Program Manager  
Environment, Safety, Health and Quality  
Newport News Nuclear BWXT-Los Alamos, LLC

Date

**ARTURO  
DURAN**

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Arturo Q. Duran, Compliance and Permitting Manager  
Office of Quality and Regulatory Compliance  
U.S. Department of Energy  
Environmental Management  
Los Alamos Field Office

Date



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### **Appendices**

Appendix A	Redline Pages of Hazardous Waste Facility Permit, Attachment A and Attachment G.12
Appendix B	Replacement Figures for Hazardous Waste Facility Permit, Attachment G.12, Figure G.12-1, and Attachment N, Figure 27 and Figure 36
Appendix C	Microsoft Word Files of Revised Hazardous Waste Facility Permit, Attachment A and Attachment G.12 (on CD included with this document)



## 1.0 INTRODUCTION

This document requests a Class 1 permit modification to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit) issued to the U.S. Department of Energy (DOE), Triad National Security, LLC; and Newport News Nuclear BWXT-Los Alamos, LLC (N3B), collectively the Permittees.

The U.S. Environmental Protection Agency (EPA) ID number for this facility is NM0890010515. This Class 1 permit modification request has been prepared in accordance with 40 Code of Federal Regulations (CFR) 270.42(a)(1), Appendix I, Item A.1 and Item A.3 as well as Permit Section 3.1(3). Item A.1 in 40 CFR 270.42(a)(1), Appendix I, allows for administrative and informational changes to be made to the Permit. The Permittees are making administrative changes (i.e., updates to figures and minor text changes) to add a Universal Drum Assay and Segregation System (UDASS) and a hydraulic power supply (HPS) unit at TA-54, Area G, Pad 11. Item A.3 in 40 CFR 270.42(a)(1), Appendix I, allows for equipment replacement or upgrades with functionally equivalent components. The Permittees are proposing to add equipment (i.e., the UDASS) to assist in waste processing and disposal.

## 2.0 BACKGROUND

The Permittees are installing a UDASS and an HPS unit at Technical Area 54 (TA-54) Area G, Pad 11. The UDASS is an integrated drum inspection and assay system that more accurately characterizes waste drums, enabling sentencing of the drum at the lowest acceptable level and potentially resulting in fewer drums being classified as transuranic (TRU). The HPS will power the hydraulic shear used to cut the corrugated metal pipes (CMPs) in the PermaCon® in TA-54, Area G, Dome 54-0375.

## 3.0 PERMIT MODIFICATION BASIS

This permit modification is required under 40 CFR 270.42(a)(1) and 40 CFR 270.42, Appendix I, "Classification of Permit Modification," item A.1., Administrative and Informational Changes, in accordance with Permit Section 3.1(3) and item A.3., "Equipment Replacement or Upgrades with Functionally Equivalent Components." The Permittees are adding a UDASS to Pad 11, a permitted hazardous waste management unit in TA-54, Area G, to enhance segregation of radioactive waste, potentially resulting in fewer drums being classified as TRU.

The Permittees will also be installing an HPS to power the hydraulic shear within Dome 54-0375. The HPS (i.e., diesel engine) is housed in a prefabricated steel shed, which will be installed on the southwest corner of Pad 11.

As in previous Class 1 permit modifications (e.g., N3B-2022-0135, dated May 13, 2022) and in accordance with Permit Section 3.1(3), "[a]ny change to the location of a building or structure within which hazardous waste has not been managed shall be a Class 1 modification without prior approval (see 40 CFR § 270.42(a)(1))." The UDASS and HPS unit are new structures and have therefore not managed hazardous waste.

#### **4.0 DESCRIPTION**

This permit modification request proposes changes to a permitted unit at TA-54, Area G, Pad 11. All proposed changes are shown in redline-strikeout format for proposed revisions to text in the following Permit attachments:

- Attachment A, Technical Area (TA) - Unit Descriptions (changes shown in redline). Language was added to Section A.4.2.9 describing the UDASS and HPS at Pad 11.
- Attachment G.12, Technical Area 54, Area G, Pad 11, Outdoor Container Storage (changes shown in redline). This attachment also includes the revised Figure G.12-1.
- Revised Figures (Attachment N, Figures 27 and 36, and Figure G.12-1). Figures 27 and 36 were revised to show the UDASS and HPS on Pad 11. Figure G.12-1 was revised to show the location of the UDASS and HPS on Pad 11.

Appendix A contains redline text changes to Permit Attachments A and G.12. Appendix B contains the replacement figures. Microsoft Word files of the proposed permit revisions are included on CD as Appendix C.

No other revisions to the permit are necessary as a result of this permit modification request.

# **Appendix A**

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*Redline Pages of Hazardous Waste Facility Permit,  
Attachment A, and Attachment G.12*



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

Mobile equipment such as gantry cranes, fume hoods, dedicated ventilation units, drum shakers and drum lifts are used in the treatment and repackaging processes. Containers holding hazardous or mixed waste with free liquids is stored on portable spill pallets or pans. Containers vary in size and determine the quantity of waste to be treated. These include 55-gallon drums, 85-gallon drums and SWBs.

Waste characterization data is used to determine whether waste is amenable to stabilization and whether pretreatment via neutralization is necessary. Neutralization may be performed as a pretreatment option via pH adjustment to facilitate subsequent treatment via stabilization with zeolite.

When deemed necessary, neutralization is performed in containers within the Perma-Con® in TA-54-0375. The neutralization step consists of verifying pH and adding HCl or NaOH to bring the waste within a 3 to 10 pH range to ensure waste is amenable to stabilization with zeolite. The liquids are stabilized with zeolite in a minimum ratio of 3:1 (three-parts zeolite to one-part liquid waste). In cases where there is insufficient volume of liquid waste, the neutralization step of the treatment process is performed, and these minute quantities of liquids are stabilized with zeolite or a WIPP-approved absorbent.

Debris waste (i.e., waste containing no liquids) which do not require additional treatment are either be placed back into the parent container or placed directly into the daughter container with the treated waste.

A Universal Drum Assay and Segregation System (UDASS) is located on the southeast corner of Pad 11, housed in a standard size transportainer, 20' high, 8' wide and 9'6" long. The UDASS is an integrated drum inspection and assay system that more accurately characterizes waste drums, enabling sentencing of the drum at the lowest acceptable level and potentially resulting in fewer drums being classified as transuranic (TRU).

A hydraulic power supply (HPS) unit (i.e., diesel engine) is housed in a prefabricated steel shed on the southwest corner of Pad 11. The HPS will power the hydraulic shear used to cut the corrugated metal pipes (CMPs) in the PermaCon® in TA-54, Area G, Dome 54-0375.

#### **A.4.3 TA-54 West**

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

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

Waste is generally brought into the TA-54-38 West Outdoor Pad through the south-eastern vehicle gate and placed in storage on the northern portion of the TA-54-38 West Outdoor Pad. At the outdoor unit, waste is not stored in front of gates or within 10 feet of the fence line or within 60

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

room 124. The pipe rollers/pipe racks moved the CMP through room 124 and into room 123 where a hydraulic shear and gantry cranes were used to cut the CMP into approximately 4-ft sections and then placed the cut sections into standard waste boxes (SWBs) (see Figure 36). A containment tray was installed under the shear and under the cutting location on the CMP to collect the small amounts of debris and dust that resulted from the shearing operation. Room 121 was used to temporarily stage SWBs for shipment to permitted on-site storage where they awaited characterization prior to shipment for off-site disposal. This process was repeated for all 158 CMPs. Structure 124 C was connected to the PermaCon®. The external dimensions of the structure was approximately 20 feet long, by 8 feet wide and 8.5 feet high. 124C was a refrigeration unit, electrically driven, and is constructed of stainless steel internal and external panels. The structure 124 C was connected to the roll-up door opening for the PermaCon® with the doors facing into the PermaCon®.

The permitted treatment process within the PermaCon® within Dome 375 was used to treat mixed transuranic waste from the S3000 (homogenous solids), S4000 (Soil/Gravel) and S5000 (Debris) waste matrices to deactivate the RCRA hazardous waste characteristics of D001, D002, and D003. Treatment occurred within the PermaCon® for 55-gallon and 85-gallon drums. The PermaCon® was equipped with high-efficiency particulate air filtration and was under negative pressure during waste processing activities. Permit Attachment A (Technical Area [TA] Unit Descriptions), Permit Attachment B (Part A Application), and Permit Attachment C (Waste Analysis Plan) include information regarding waste treatment practices and hazardous waste constituents treated at the permitted unit.

Dome 375 also contains four structures that served as an office area, a control area, and rooms for donning and doffing anti-contamination clothing. These structures were support structures and were not used to store hazardous waste. A single non-intrusive waste characterization structure, TA-54-0362, Real-Time Radiography (RTR) system #1 (RTR1), was removed from TA-54 Pad 11 in 2016.

The RTR1 design provided X-ray examination of waste drum contents without opening waste containers.

A Universal Drum Assay and Segregation System (UDASS) is located on the southeast corner of Pad 11. The UDASS is housed in a standard size transportainer, 20 ft high, 8 ft wide, and 9 ft 6 in. long. The UDASS is an integrated drum inspection and assay system that more accurately characterizes waste drums, enabling sentencing of the drum at the lowest acceptable level and potentially resulting in fewer drums being classified as transuranic (TRU).

A hydraulic power supply (HPS) unit (i.e., diesel engine) is housed in a prefabricated steel shed on the southwest corner of Pad 11. The HPS will power the hydraulic shear used to cut the corrugated metal pipes (CMPs) in the PermaCon® in TA-54, Area G, Dome 54-0375.

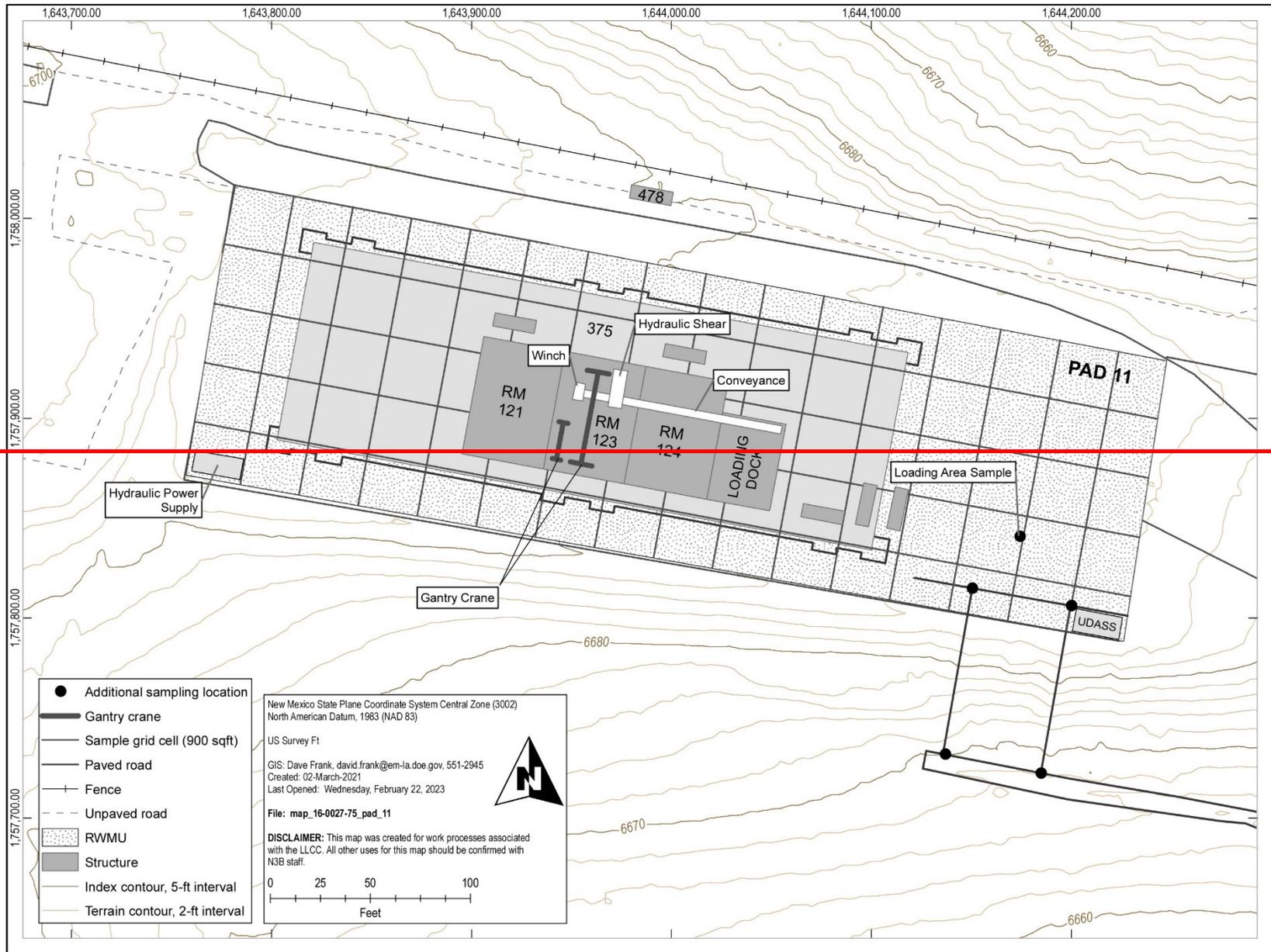
Permit Part 3 (Storage in Containers), Permit Attachment A (Technical Area Unit Descriptions), Permit Attachment B (Part A Application), and Permit Attachment C (Waste Analysis Plan), include information about waste management procedures and hazardous waste constituents stored at the permitted unit.

### **3.0 ESTIMATE OF MAXIMUM WASTE STORED ESTIMATE OF MAXIMUM WASTE STORED**

The estimated volume for the maximum inventory of waste managed over the projected lifespan of the permitted unit is 1,501,000 gallons.

**Table G.12-6**  
**List of Equipment at the Technical Area 54, Area G, Pad 11 Outdoor Container Storage Unit**

Equipment	Decontamination	Disposal
Waste-handling equipment (e.g., conveyance system, hydraulic shear, winch, and gantry crane)	X	X
Equipment and spill kit cabinets	X	X
Container pallets	X	X
Communication equipment	X	X
Access barriers and chains	X	X
<u>Universal Drum Assay and Segregation System (UDASS)</u>	<u>X</u>	
<u>Hydraulic Power Supply (HPS) Unit</u>		



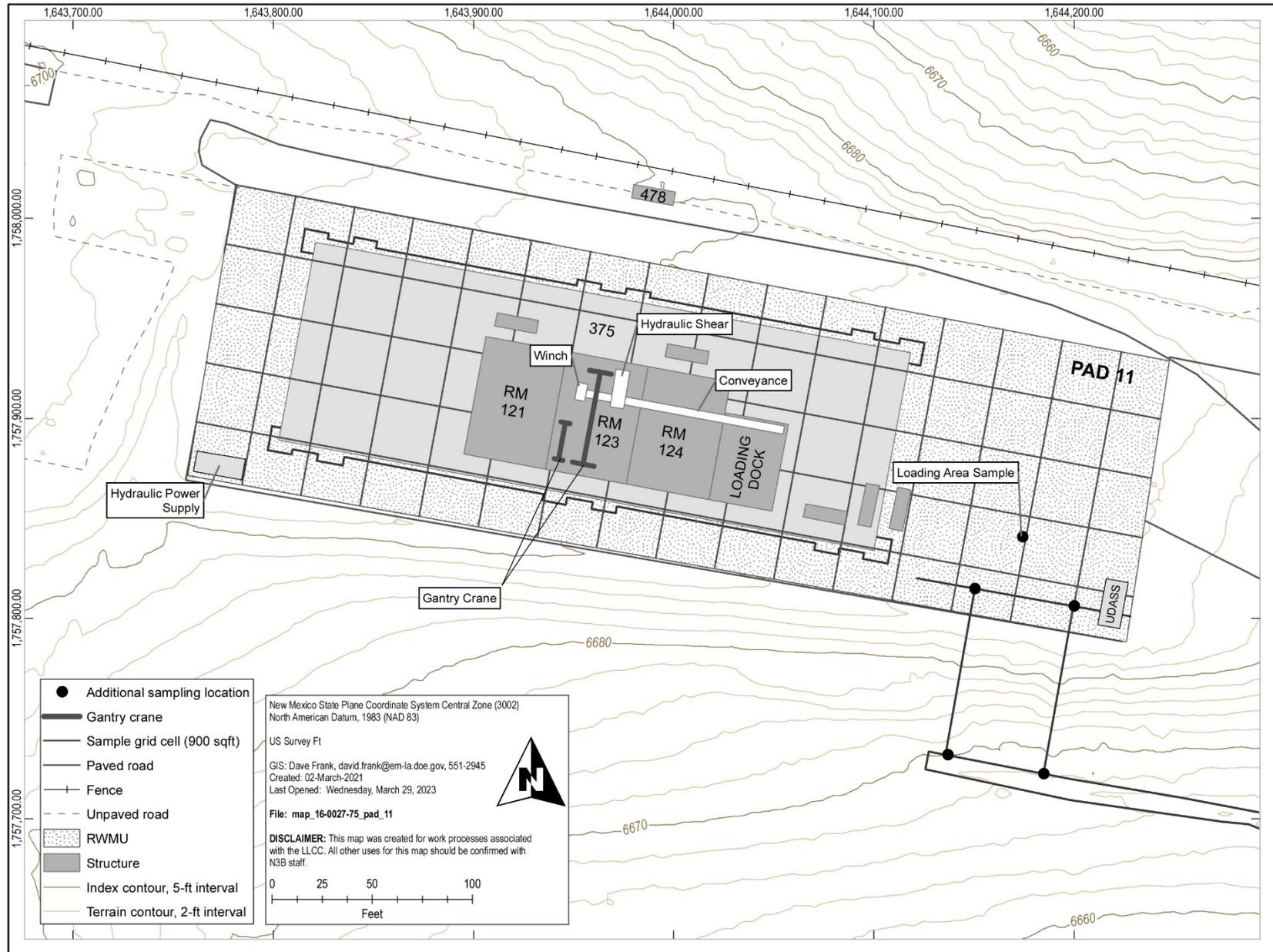


Figure G.12-1: Technical Area 54, Area G, Pad 11 Outdoor Container Storage Unit Grid Sampling and Additional Sampling Locations

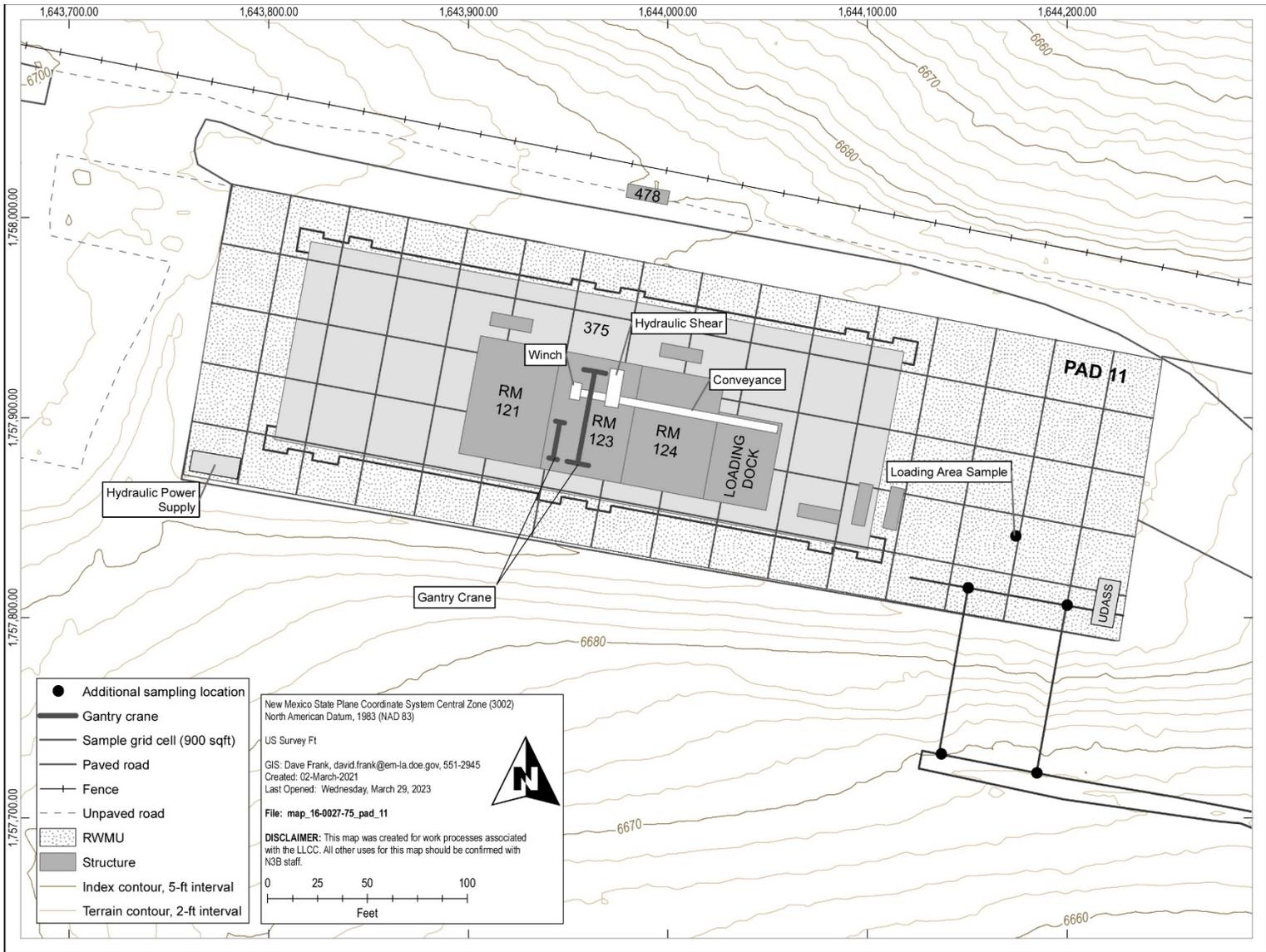


## **Appendix B**

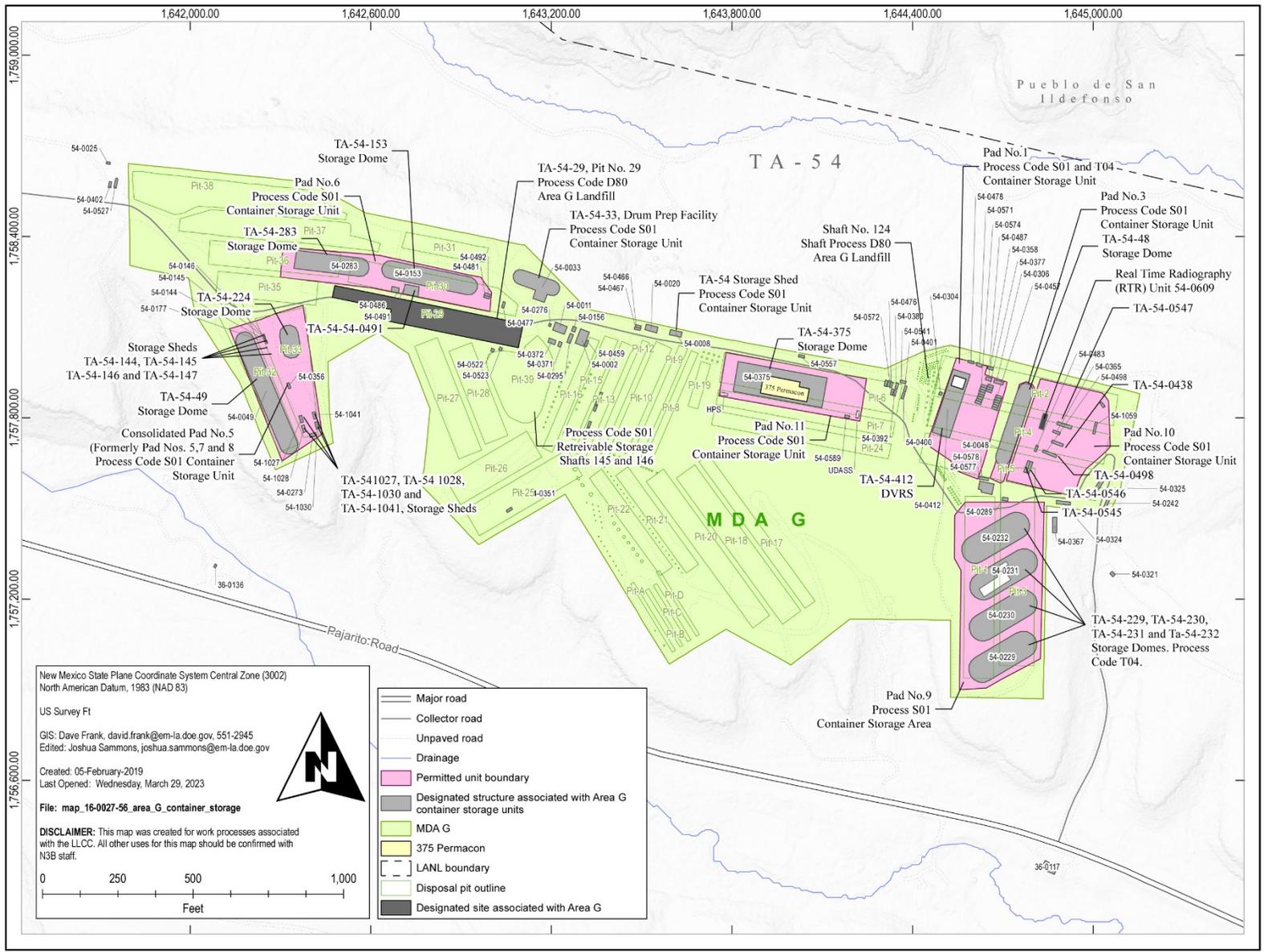
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*Replacement Figures for Hazardous Waste  
Facility Permit, Attachment G.12, Figure G.12-1,  
and Attachment N, Figure 27 and Figure 36*

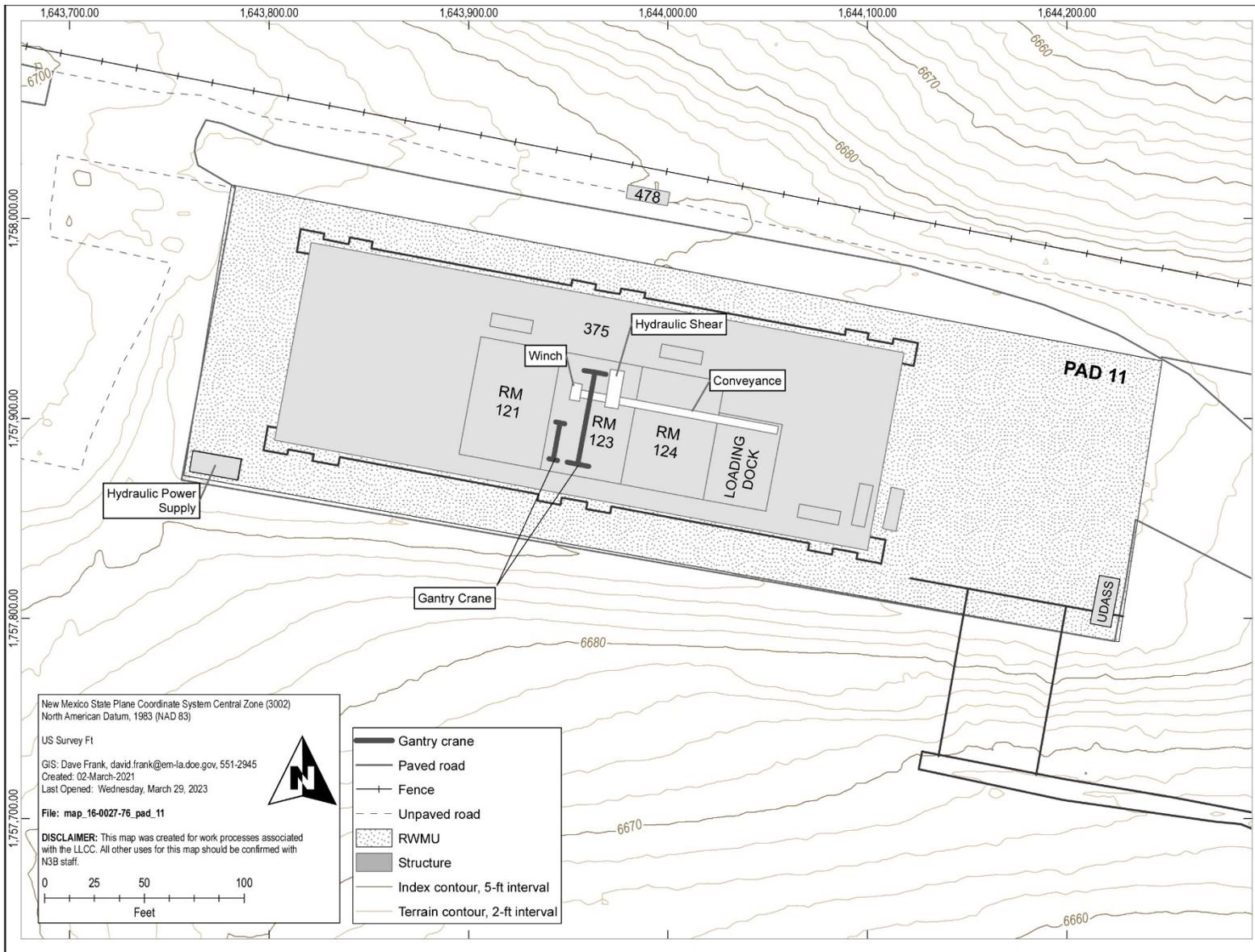




**Figure G.12-1 Figure G.12-1: Technical Area 54, Area G, Pad 11 Outdoor Container Storage/Treatment Unit Grid Sampling and Additional Sampling Locations**



**Figure 27 TA-54, Area G, Container Storage and Treatment Units**



**Figure 36 TA-54, Area G, Pad 11 (Dome 375)**



## **Appendix C**

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*Microsoft Word Files of Revised Hazardous Waste Facility  
Permit, Attachment A, and Attachment G.12  
(on CD included with this document)*

