



Los Alamos National Laboratory  
 P.O. Box 1663, MS M969  
 Los Alamos, NM 87545  
 505-667-8160

## EPC-Waste Management Programs

**Symbol:** EPC-DO: 23-093

**Date:** March 8, 2023

**LA-UR:** 23-22442

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

**Subject: Final Report – Destruction of Unstable Containers at TA-03, Los Alamos National Laboratory**

Dear Mr. Cobrain:

On March 2, 2023, Triad National Security, LLC, in coordination with the U.S. Department of Energy National Nuclear Security Administration Los Alamos Field Office, requested approval from the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) to treat three unstable chemical containers at Technical Area 03 (TA-03) at the Los Alamos National Laboratory (EPA ID# NM0890010515) by emergency detonation. On March 3, 2023, the NMED-HWB granted Emergency Authorization for treatment by detonation, *Emergency Permit # 2023-01*.

While performing a routine assessment of time-sensitive chemical containers at TA-03, Building 1698, and TA-03, Building 1819, three unstable chemical containers were determined to have hazardous concentrations of peroxides: tetrahydrofuran, non-stabilized (peroxide levels >1000 parts per million [ppm]), benzyl ether (peroxide levels >200 ppm), and cyclopentene (peroxide levels > 200 ppm). The Emergency Management Operations Group and the Emergency Management Response Group determined the safest response was onsite emergency treatment in a NABCO Total Containment Vessel, given the current state of the three containers and the inherent hazard of the respective peroxides properties that make the containers shock sensitive. Treatment was conducted at TA-03 in accordance with Title 40 of the Code of Federal Regulations §270.61. Because the emergency treatment was conducted in a gas tight vessel, there was no release to the environment. The destruction was completed on March 3, 2023, at 3:02 p.m., in a controlled and safe manner. Emergency treatment was effective and no residue or other hazardous materials remained after treatment.

The emergency permit application, submitted via email to the NMED-HWB on March 2, 2023, is included as Attachment 1 of this letter. Please contact Patrick L. Padilla at (505) 412-0462 or by email at [plpadilla@lanl.gov](mailto:plpadilla@lanl.gov) if you have questions.

Sincerely,

JESSICA  
 MOSELEY (Affiliate)  
 Digitally signed by JESSICA  
 MOSELEY (Affiliate)  
 Date: 2023.03.07 10:14:05  
 -0700'

Jessica Moseley  
 Group Leader

Attachment: Emergency Permit Application

Copy: Rick Shean, NMED-HWB, Santa Fe, NM, [rick.shean@env.nm.gov](mailto:rick.shean@env.nm.gov)  
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Date: March 8, 2023

Mr. Dave Cobrain, Acting Chief  
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New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
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### Subject: Final Report – Destruction of Unstable Containers at TA-03, Los Alamos National Laboratory

Dear Mr. Cobrain:

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Sincerely,

JESSICA  
MOSELEY (Affiliate)

Digitally signed by JESSICA  
MOSELEY (Affiliate)  
Date: 2023.03.07 10:14:05  
-07'00'

Jessica Moseley  
Group Leader

# **Attachment 1**

## **Emergency Permit Application**

EPC-DO-23-093  
LA-UR-23-22442



|   |  |   |
|---|--|---|
| <p><b>Email Application To:</b><br/> <a href="mailto:stephen.connolly@env.nm.gov">stephen.connolly@env.nm.gov</a><br/> <a href="mailto:dave.cobrain@env.nm.gov">dave.cobrain@env.nm.gov</a></p> <p>NMED-Hazardous Waste Bureau<br/> 2905 Rodeo Park Drive East, Bldg. 1<br/> Santa Fe, New Mexico, 87505</p> <p>Phone: 505-470-8495<br/> Fax: 505-476-6030</p> <p><a href="https://www.env.nm.gov/hazardous-waste/">https://www.env.nm.gov/hazardous-waste/</a></p> | <p><b>Emergency Permit Application</b></p>  | <p><b>For Department use only:</b></p> <p><b>Date Received:</b></p> <p><b>Reviewed/Issued by:</b></p> <p><b>Date Issued:</b></p> <p><b>ER Permit No.:</b></p> <p><b>Final Report Submitted:</b></p> <p><b>Public Notice Date:</b></p> |
|---|--|---|

**This application is submitted for the destruction of:**

Unstable Hazardous Waste

Other \_\_\_\_\_

Emergency destruction of waste materials is allowed when performed in accordance with 20.4.1.900 NMAC, incorporating 40 CFR § 270.1(c)(3), under an emergency permit issued by the New Mexico Environment Department (NMED) in accordance with 20.4.1.900 NMAC incorporating 40 CFR § 270.61.

**40 CFR § 270.61 Emergency Permits.**

- a) Notwithstanding any other provision of this part or part 124, in the event NMED finds an imminent and substantial endangerment to human health or the environment NMED may issue a temporary emergency permit:
- (1) To a non-permitted facility to allow treatment, storage, or disposal of hazardous waste or
  - (2) to a permitted facility to allow treatment, storage, or disposal of a hazardous waste not covered by an effective permit.
- (b) This emergency permit:
- (1) May be oral or written. If oral, it shall be followed in five days by a written emergency permit;
  - (2) Shall not exceed 90 days in duration;
  - (3) Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage, or disposal;
  - (4) May be terminated by the NMED at any time without process if he or she determines that termination is appropriate to protect human health and the environment;
  - (5) Shall be accompanied by a public notice published under § 124.10(b) including:
    - (i) Name and address of the office granting the emergency authorization;
    - (ii) Name and location of the permitted Hazardous Waste Management (HWM) facility;
    - (iii) A brief description of the wastes involved;
    - (iv) A brief description of the action authorized and reasons for authorizing it; and
    - (v) Duration of the emergency permit; and
  - (6) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this part and 40 CFR parts 264 and 266.

|  |  |  |  |
|--|--|--|--|
| <b>Section 1: Facility Information</b>   |  | <b>EPA ID #:</b><br>NM0890010515                               |  |
| Facility Name:<br><b>Los Alamos National Laboratory</b>  |  | Name of Person Requesting Permit:<br><b>Patrick L. Padilla</b> |  |
| Facility Address (If no facility address, please provide latitude/longitude):<br><b>Bikini Atoll Road, Bldg SM-30 Los Alamos, NM 87545</b> |  |  |  |
| E-mail Address: ppadilla@lanl.gov  |  | Phone Number: 505-412-0462                                     |  |

### Section 2: Description of Emergency Situation:

The Los Alamos National Laboratory (LANL) Environmental Protection and Compliance Division (EPC-DO) personnel were notified on March 2, 2023 by the Emergency Management Operations Group (EM-OPS) personnel that 3 unstable chemicals/containers were identified in adjacent locations at Technical Area (TA) 03, Building 1698, and TA 03, Building 1819. On Wednesday March 1, 2023, EM-OPS was called to assess several different time sensitive/peroxide forming chemicals. Upon assessment and testing for peroxide concentration the following information was discovered: three chemical containers were determined to have hazardous concentrations of peroxides: tetrahydrofuran (peroxide levels >1000 parts per million [ppm]), benzyl ether (peroxide levels >200 ppm), and cyclopentene (peroxide levels > 200ppm) that will have to be destructed on-site using a total containment vessel. EM-OPS has determined that there is no safe or viable path forward to dispose of the three containers of concern outside of destruction, given their current state and their inherent properties that make them shock sensitive. See the table below for materials and levels. LANL EM-OPS personnel have determined the unstable chemicals/containers are shock sensitive and poses an imminent and substantial endangerment to human health and the environment and is requesting permission from the NMED-HWB to conduct emergency treatment in accordance with 40 CFR 270.1(c)(3). Upon completion of emergency treatment, all remaining residual material, if any, will be collected and properly managed.

### Section 3: Specific List of Waste to be Destroyed:

The waste description must consist of the following information:

- Container volume and description (e.g. glass bottles, metal cans, steel tanks)
- the chemical name
- the manufacturer (if available)
- the hazardous waste codes
- the quantity (liters, gallons, etc.) to be treated
- approximate age of the material
- a description of the physical state of the chemical. (e.g. solid, liquid, crystalized, etc.).

| Container Size | Type    | *Chemical       | CAS #    | Manufacturer  | Waste Code | Quantity | Age        | Physical State |
|----------------|---------|-----------------|----------|---------------|------------|----------|------------|----------------|
| 100 mL         | Glass   | Cyclopentene    | 142-29-0 | Sigma-Aldrich |            | 1        | 02/01/2022 | Liquid         |
| 1L             | Glass   | Tetrahydrofuran | 109-99-9 | Sigma-Aldrich |            | 1        | 06/12/2019 | Liquid         |
| 1kg            | Plastic | Benzyl Ether    | 103-50-4 | Sigma-Aldrich |            | 1        | 07/09/2021 | Liquid         |
|                |         |                 |          |               |            |          |            |                |

**\*Provide NMED with Safety Data Sheets /Waste Profiles and pictures of chemicals to be destroyed, if possible.**

### Section 4: Final Report:

Please be advised that a Final Report must be submitted to NMED within 5 days after destruction is completed and include the following elements:

1. Name, EPA ID #, and location of the permitted facility;
2. A brief description of the wastes involved;
3. A brief description of the action authorized and reasons for request;
4. Location of the destruction, and
5. A brief description of disposal of residue, if applicable.