



Department of Energy
 Los Alamos Area Office
 Albuquerque Operations Office
 Los Alamos, New Mexico 87544

MAY 31 1994

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Matthew Stebleton
 Air Pollution Control Bureau
 New Mexico Environment Department
 Harold Runnels Building
 1190 St. Francis Drive
 P. O. Box 26110
 Santa Fe, New Mexico 87502

TA-11

Dear Mr. Stebleton:

Enclosed for your approval is an open-burning permit application for burn tests to be conducted at the Los Alamos National Laboratory, Technical Area 11, Site K, as part of ongoing research directed at risk assessment of transportation accidents. The permit application involves fuel fire testing in combination with high explosives. Depleted uranium and polyurethane foam packing material will be exposed to the test fires.

A radioactive air emissions modeling study was conducted to determine the concentration of depleted uranium at the nearest receptor site (State Road 4) during fuel fire testing. The results of the modeling study support that the 10 mrem/yr effective dose equivalent standard under 40 CFR Part 61, Subpart H of the National Emission Standards for Hazardous Air Pollutants will not be exceeded. The potential for toxic air pollutant emissions from burning of polyurethane foam packing material was evaluated to be below the threshold established by Air Quality Control Regulation (AQCR) 702, Part 3 - Permits for Toxic Air Pollutant Emissions.

This application meets all necessary provisions set forth in AQCR 301 - Regulation to Control Open Burning.

If you have any questions concerning this application, please contact Steve Fong of my staff at (505) 665-5534.

Sincerely,

ORIGINAL SIGNED BY
JOSEPH C. VOZELLA

Joseph C. Vozella, Chief
 Environment, Safety and Health
 Branch

LESH:9SF-037

Enclosure

cc:
 See page 2



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Attachment G

The pan burning pad handles waste oils and solvents that are considered to be contaminated with HE. Small volumes are handled in metal containers, and the contents are poured by hand into the burn pans. Larger volumes are delivered with a vacuum truck and drained through a hose into the pans.

The waste handled at the sand filter is HE-contaminated wastewater delivered to the site with a vacuum truck and drained from the truck through a hose into the filter.

Burning HE wastes can leave a residual that is EP Toxic for barium. The concentration of barium in the residual varies with the concentration of barium nitrate in the waste.

9.2.2.3 TA-16 Open Burning Units Closure Procedure

For each pad, (388 and 399) an analytical survey will be conducted to determine the nature and extent of contamination. Decontamination of the facility will include removal of contaminated soil and cleaning of equipment. Adequate decontamination will be verified by additional sampling and analysis.

The sand on the sand pad is to be handled as a regulated waste and not sampled. One composite soil sample will be taken six inches off each edge of each pad to determine if surface drainage has moved contamination off the pad. The composite will be three soil cores, one on the pad centerline and two, ten feet from centerline. To determine if unplanned detonations have caused significant contamination, twelve composite soil samples will be taken at each pad. These composite samples will be made up of three cores each taken in each direction at 25-foot intervals, the first sample 25 feet off the pad edge. One core will be taken on the centerline, the other two at the pad ends. The sampling locations are shown in Figure 9-6.

At the liquid burn pad, ⁽³⁹⁴⁾ the sand in the large pan and the fire bricks will be handled as a regulated waste and need not be sampled. Soil samples will be taken around the pan perimeter as shown in Figure 9-7 to determine if materials have splashed out of the pan and caused contamination. Composite soil

samples of three cores will be taken along each edge of the large pan six inches and 1.5 feet off the pan edge.

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The sand and gravel in the soil filters will be considered a regulated waste, packed in drums, and transported to Area L for storage and ultimate disposal at a permitted landfill. Composite soil sampling will be conducted outside the filters as shown in Figure 9-8 to determine if contamination outside the vessel has occurred. Each composite will be three cores, equally spaced, to represent a quadrant of the circumference of the vessel. Cores will be taken six inches and 1.5 feet off the vessel edge.

If contamination is found at the outside samples, the limits of the sampling area will be expanded by the same distance intervals to determine the outside perimeter of the contamination. If any soil sample shows contamination, additional sampling will be conducted at the sampler's discretion to determine the extent of contamination.

Six background samples will be taken around the site no closer than 600 feet from any pad. The exact sites for background samples will be field selected based on similar topography characteristics and geologic structure to the site and the lack of possible interference of other operating Laboratory sites.

Field relocation of sample points may be required by topographic features. In such a case, the sample will be taken as closely as possible to the designated sample point and the new location will be documented.

Soil and samples will be analyzed for the constituents listed in Table 9-2. Barium is a possible contaminant because it is in several HE mixtures. The other toxic metals are included to ensure that the materials were not included in past burns. A scan for volatile and semivolatile organics is conducted to ensure that residual from solvents used in HE preparation are not present. Analysis is not conducted for HE constituents because these are a regulated waste based on reactivity, and detonation of burning renders them nonreactive. Furthermore, none of the HE materials used at this site are 40 CFR 261 Appendix VIII (NMHWMR 201 Appendix III) constituents. Analysis, quality assurance, and quality control will follow methods defined in SW 846.

9.2.2.4 TA-16 Open Burning Units Decontamination

Sand from the burn pads, liquid burn pans, and the filters will be manually shoveled into drums and transported to Area L for storage. The pads, pans, and equipment will be scraped, swept, or brushed clean, and the resulting residue picked up and placed in drums for transport to Area L.

The sand and any fire brick will be removed manually from the burn pads and liquid burn pans with a shovel and containerized for transport to Area L. The burn pans will be scraped, swept, and/or brushed to remove residuals, which will be placed in drums for transport to Area L. The pans will then be washed internally with the warm Liquinox or Alconox solution, the dirty wash water sampled to determine decontamination, then transported to Area L in drums for evaporation. Washing will be repeated until decontamination is demonstrated by testing the wash water. The decontaminated pan is a nonregulated waste and will be sold as scrap, or landfilled.

The filter vessels will be manually emptied of sand and gravel with shovels, and the sand and gravel will be placed in drums for transport to Area L. Residues will be removed by scraping, wiping, and/or brushing, and the residues placed in drums for transport to Area L. The internal walls of the filter vessels will be washed with warm Liquinox or Alconox solution in

water. The wash water will be drained from the bottom of the vessels through existing drain piping into drums. The dirty water will be sampled to determine the adequacy of decontamination, and the washing will be repeated until decontamination is demonstrated. The wash water will be evaporated in treatment tanks at Area L. The decontaminated vessels are not a regulated waste and can be landfilled or disassembled and sold as scrap.

Soil decontamination is similar for all burn pads. The approach to decontamination depends on the extent of contamination, as determined by the sampling. If the sampling survey indicates that there are no contaminated soil areas, no further action will be taken at the site. Should a small soil area be affected, the contaminated soil will be removed with shovels or a backhoe, loaded into drums, and transferred in a stake truck to Area L for storage with ultimate off-site disposal at a permitted facility.

Large contaminated soil volumes will dictate the use of sealed and covered dump trucks. In this event, the Laboratory will contract with a permitted transporter and disposal site contractor who will provide sealed gondola trucks and provide for decontamination of the trucks at the off-site disposal site.

Personnel involved in soil sampling and soil decontamination will wear rubber gloves, safety glasses, and coveralls. Personnel involved in dust-generating activities, such as digging and filling drums, will wear dust masks to prevent inhalation of contaminated dust. Personnel washing down equipment will wear rubber gloves, neoprene acid/solvent-resistant coveralls, rubber boots, and a face shield. The Laboratory's Industrial Hygiene Group, HSE-5, will review the site survey analytical data and recommend additional protective clothing.

Small equipment used to pick up soil will be scraped and brushed clean, and the dust accumulated will be placed in drums for transport to Area L. The equipment will be taken to the decontaminated liquid burn pan, which will function as a trough to collect run-off wash water. The backhoe will be scraped and brush-cleaned, the shovel positioned over the liquid burn pan. The shovel and small equipment will be washed with warm Liquinox or Alconox in

water solution. The wash water will be placed in drums for transport to Area L where the water will be evaporated in open tanks.

The residues from evaporating wash water at Area L will be placed in drums and disposed of off-site at a permitted facility.

The Laboratory recognizes that if extensive contamination has occurred, the closure plan presented here may be impractical. If the site analytical survey proves this to be true, the Laboratory will provide the survey data to the Director of NMEID within 30 days of the completion of the analytical work. Within 60 days of submission of the survey data, the Laboratory will provide an amended closure plan. The plan may also be amended under other circumstances as per 40 CFR 265.112(b) [NMHWMR 206.C.2.c.(2)].

9.2.2.5 Decontamination Verification

Decontamination of the site soil will be demonstrated by additional sampling. Because removal of contaminated soil will leave an exposed surface, the disturbed surface will be resampled in the same places used to define the contaminated area. Analysis and the determination of contamination are as discussed in Section 9.2.1.7, and an analysis will be conducted only for those constituents that caused the area to be contaminated.

For a washed surface, a minimum of two samples of the clean Liquinox or Alconox solution will be sampled and, along with the wash water samples, analyzed for the constituents shown as discussed in Section 9.2.2.3. Equipment will be considered contaminated if the dirty wash water analyses show a significant increase over the clean wash solution. A significant increase is determined using statistical methods defined in SW 846.

9.2.2.6 Closure Schedule for TA-16 Open Burning Units

The year of closure is 2100. All pads and equipment at TA-16 will be closed at the same time. The time required for individual survey and closure steps are shown in Table 9-6.

Because wastes are not stored on site and closure will not start until the last wastes are treated, no time is allowed for treatment or removal of final

wastes. Closure will not commence until the last wastes from generating organizations have been received and treated and further acceptance of waste will cease. Soil sampling and contractor selection will be completed before closure begins. Closure including decontamination and decontamination verification, will take 180 days.

Contracts for analytical work and soil removal are expected to exceed \$100,000. Because laboratory procedures require that the work be put out for bid, 90 days are required to solicit and process the bids.

The location of the site is prone to snow cover in the winter months. Depending on the date NMEID approves the closure plan, the sampling survey may be delayed until the site is free of snow and the ground is thawed adequately to allow the core sampling. The schedule includes a weather contingency to allow for this potential delay.

9.2.2.7 Closure Certification for TA-16 Open Burning Units

An independent registered professional engineer and the owner/operator of the facility shall witness the closure and ensure that the closure follows this plan. Upon completion of closure, the engineer and the DOE shall prepare a letter certifying that the area has been closed in accordance with this plan. The letter shall be dated and signed by each party and stamped by the registered engineer, and the original copy submitted by the DOE to the Director of the NMEID. One copy shall be maintained by the HSE-8 Regulatory Compliance Section.

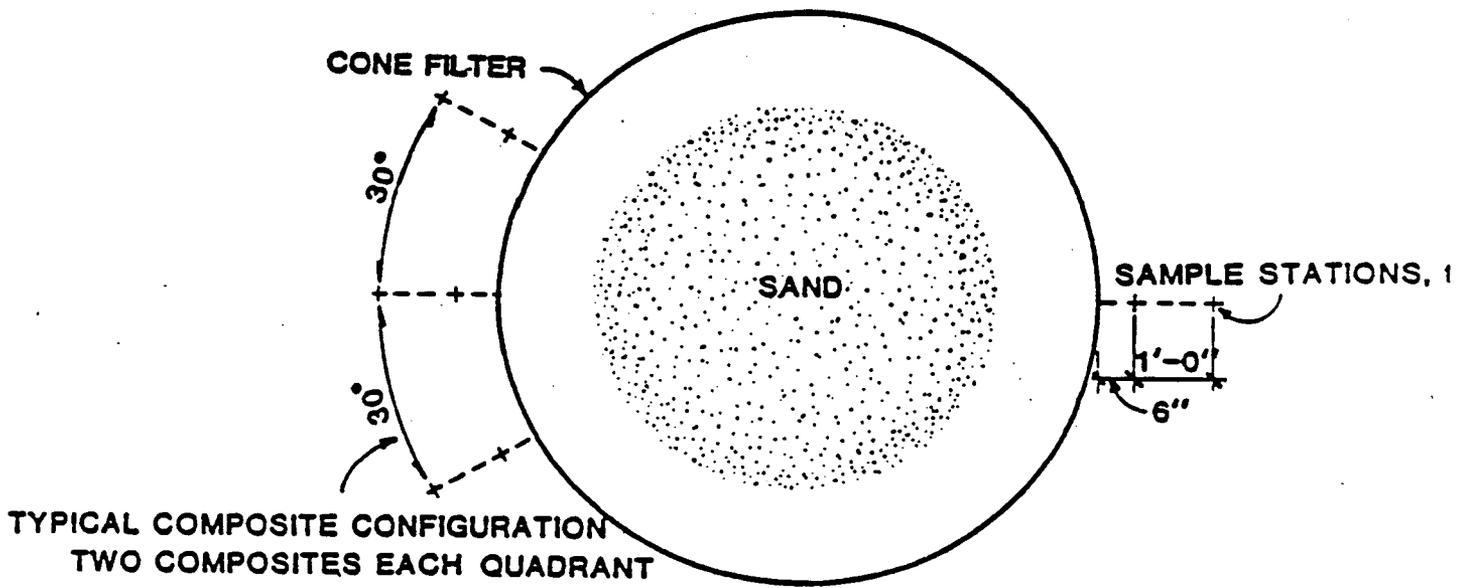
9.2.2.8 Post-Closure for TA-16 Open Burning Units

Post-closure plans are not required for these units because all wastes, residues, and contaminated equipment will be removed during closure.

9.2.3 Technical Area 16 (TA-16) Industrial Incinerator

The industrial incinerator is located outdoors in the northeastern part of TA-16 (Figure 9-19) and is equipped for combustion of potentially HE-contaminated trash and machine oils. The incinerator consists of a primary combustion chamber, a secondary combustion chamber, and a settling chamber. Both primary and secondary chambers are equipped with gas/oil fired power burners supplied by small volumes of waste oil and propane. The outer shell

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TYPICAL COMPOSITE CONFIGURATION
TWO COMPOSITES EACH QUADRANT

FIGURE 9-8 TA-16 PRESSURE VESSEL SAMPLE LOCATIONS

TABLE 9-2
ANALYTICAL PARAMETERS AND METHODS FOR
TA-14, TA-15, TA-16, AND TA-39

<u>EPA Hazardous Waste Number</u>	<u>Metals</u>	<u>EPA Analytical Method¹</u>
D004	Arsenic	6010
D005	Barium	6010
D006	Cadmium	6010
D007	Chromium	6010
D008	Lead	6010
D009	Mercury	6010
D010	Selenium	7470 or 7471
D011	Silver	6010
--	Nickel	6010
 <u>Organic Scan</u>		
	GC/MS for volatiles	8240
	GC/MS for semivolatiles	8250 or 8270
 <u>Other</u>		
	Cyanide	9010
	Nitrates	9200

¹Analytical methods are taken from Test Methods for Evaluating Solid Waste, EPA SW 846, and may be superceded by more current or alternate methods from SW 846.



BRUCE KING
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

Attachment H

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

June 7, 1994

Mr. Earl Bean
Department of Energy
Los Alamos Area Office
528 35th Street
Los Alamos, New Mexico 87545

Dear Mr. Bean:

**RE: APPROVAL OF TA-16 SURFACE IMPOUNDMENT SITE FINAL CLOSURE
NM0890010515**

The New Mexico Environment Department (NMED) has determined, pursuant to the requirements of New Mexico Hazardous Waste Management Regulations (HWMR-7), Part IX, § 270.1(c)(5)(6), that the Department of Energy/Los Alamos National Laboratory (DOE)/LANL has successfully demonstrated clean closure for the former site of a Surface Impoundment located in Technical Area 16 (TA-16).

This determination was based on:

- THE ADMINISTRATIVE AND TECHNICAL REVIEW OF A CLOSURE REPORT WITH ACCOMPANYING CERTIFICATION THAT WAS SUBMITTED TO NMED ON SEPTEMBER 19, 1990.
- RISK ASSESSMENT FOR TETRACHLOROETHYLENE WHICH NMED CONDUCTED ON TUESDAY, MAY 8, 1990 AND DETERMINED THAT THE RESIDUES OF TETRACHLOROETHYLENE FOUND IN SAMPLE 12 DO NOT PRESENT A THREAT TO THE ENVIRONMENT OR HUMAN HEALTH.

Based on the above report and findings, NMED has determined that the soil and groundwater beneath the closed site has no demonstrated potential to be impacted by the hazardous waste once treated at the former site of the Surface Impoundment at TA-16.

In addition, DOE/LANL has successfully demonstrated under HWMR-7,

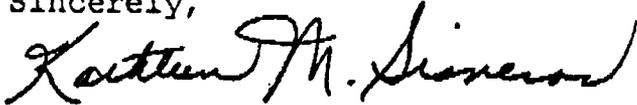
Mr. Bean
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Part V, Section 264.90(c)(1) that all waste, waste residues, contaminated containment system components, and contaminated subsoils were removed or decontaminated at closure. Groundwater monitoring waiver requirements were not considered in this TA-16 Surface Impoundment clean closure decision.

NMED hereby approves clean closure of the former Surface Impoundment Site located in Technical Area 16. The effective date of approval of clean closure for this unit is June 7, 1994.

If you have any questions concerning this issue, please contact Barbara Hoditschek or Cornelius Amindyas at (505) 827-4308.

Sincerely,



Kathleen M. Sisneros, Director
Water and Waste Management Division

cc: Benito Garcia, Chief HRMB