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# Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

EPA REGION VI  
HAZARDOUS WASTE  
RCRA PERMITS BRANCH

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## memorandum

2090  
Permit

TO: 1991 IWP Distribution

DATE: January 30, 1992

THRU: Lars Soholl/EM-13

MAIL STOP/TELEPHONE: MS D417/5-6048

FROM: Patricia Leyba, IS-5 *PL*

SYMBOL:

SUBJECT: **REPLACEMENT PAGE IN 1991 INSTALLATION WORK PLAN**

Attached is a new page 2-5/2-6 for replacement in Chapter 2 of your 1991 Installation Work Plan. Please remove old page and discard.

Thanks.

1992 JAN 34 PM 12: 22  
EPA REGION VI  
HAZARDOUS WASTE  
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TABLE 2-1

## HAZARDOUS WASTES AT LOS ALAMOS IDENTIFIED BY GENERATION PROCESS AND WASTE CHARACTERIZATION

Process or Operation Generating Hazardous Wastes	Wastes Generated	Approximate Annual Volume (lb)	Hazard Code	EPA Hazardous Waste Number <sup>a</sup>
<b>Basic and Applied Chemistry R&amp;D Program</b>				
Chemistry and Metallurgy Research Building Radiochemistry Laboratory Health Research Laboratory	Numerous chemical wastes	Organic 50,000 Inorganic 40,000	Varies	Many
<b>Electrochemistry Processing</b>				
Materials Technology Group	Cyanide and chromate plating solutions	2,000	Toxic, reactive	F007, F009
Printed Circuit Board Shop	Acid/base copper etching/plating solutions	40,000	Corrosive	D002
<b>Isotope Separation</b>				
Isotope and Structural Chemistry Group	Concentrated nitric and sulfuric acid	80,000	Corrosive	D001, D002
<b>Shops (Mechanical Fabrication Division)</b>				
	Lithium hydride, lithium metal	3,500	Reactive	D003
	Halogenated solvents	<1,000	Toxic	F001, F002
	Nonhalogenated solvents	<1,000	Ignitable	F003
<b>Explosives</b>				
Dynamics Testing and Design Engineering	High explosives, potential for barium	50,000	Ignitable, reactive	D001, D003, D005, and K044
	Contaminated burn pad sand	10,000	TCLP <sup>b</sup> toxic	D005
<b>Chemically Contaminated Equipment</b>				
LANL Facilities	Empty drums, tanks, cylinders, etc.	12,000	Varies	Many

a. 40 CFR Part 261, Identification and Listing of Hazardous Wastes.

b. Toxicity characteristic leaching procedure.

wastes, which also meet the definition of hazardous chemical waste in 40 CFR 261 (EPA 1989, 0092), transuranic wastes (TRU), and by-product materials that are excluded from the definition of mixed wastes. Existing information from this radioactive waste management program will be used to assist in cleaning up MDAs that fall under the Environmental Restoration (ER) Program.

Radioactive waste management facilities include liquid and solid waste treatment plants and associated effluent control systems (filtration units and monitoring equipment), waste storage and disposal sites, and sources of airborne contaminants. Most of the Laboratory's radioactive and hazardous liquid wastes are treated at TA-50. Until recently, radioactive liquid wastes have been treated in Building 257 at TA-21. The use of this plant has ceased as generating operations are phased out of the TA-21 buildings. Some liquid radioactive wastes are generated at the Los Alamos Meson Physics Facility accelerator and are held in lagoons at TA-53. The Laboratory is currently using one solid waste disposal site, Area G in TA-54, for disposal of radioactive solid waste. Hazardous and mixed wastes are currently stored at Area L in TA-54, a site for processing, treating, and storing hazardous wastes.

Liquid waste treatment processes at TA-50 typically produce a solid waste with a few radioactive residuals in the liquid and gaseous effluents. Liquid effluents are treated to comply with the radioactive release limits specified in DOE Order 5400.5 (DOE 1990, 0080) before discharge into Mortandad Canyon north of TA-50. Gaseous effluents at each generation site are managed in compliance with radioactive release limits before release to the atmosphere in accordance with DOE Order 5400.5. These effluents are also monitored continuously, using particulate- and/or gas-monitoring methods. Solid radioactive wastes are packaged at the site of generation for shipment to Area G in TA-54. All low-level wastes are buried in pits or shafts. Chemical wastes are shipped from generation sites to Area L in TA-54 for packaging, storage, and treatment.

Since 1971, the DOE has required that TRU solid wastes be segregated from low-level wastes and that they be specially packaged, handled, and stored retrievably. TRU solid wastes at Los Alamos include essentially the same materials as those in low-level waste but contain contamination in excess of specified levels. Through FY82, this level was 10 nanocuries of alpha activity per gram (nCi/g) of waste. After 1982, the regulated level for TRU wastes was set at 100 nCi/g. Originally, TRU wastes were stored in a cement mix, which was poured into asphalt-lined corrugated metal pipes. Since 1982, uncertified TRU wastes have been stored in drums and crates on asphalt pads. These containers are stacked 12 to 16 ft high. Their tops and sides are covered with plywood, and the entire area is enclosed by 0.5-mm nylon-reinforced vinyl sheeting and covered with 3 to 6 ft of tuff. TRU wastes originally certified for disposal at the Waste Isolation Pilot Plant (WIPP) in southern New Mexico have been stored in appropriate drums indoors. Because they have been stored for an extended period, these drums will require recertification. TRU material will be transported to the WIPP site when it opens. All waste shipped to the WIPP site will meet WIPP's waste acceptance criteria.

In May 1985, the DOE/UC applied to the New Mexico Environmental Department (NMED) and Environmental Protection Agency (EPA) for a permit to operate the Laboratory under the provisions of the Resource Conservation and Recovery Act (RCRA). The NMED granted the permit for current waste operations in November 1989. Under this permit, the following facilities may operate: