Legacy Waste Cleanup Contract (LWCC)

Waste Streams at Los Alamos National Laboratory (LANL)

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Legacy Cleanup Overview

Groundwater monitoring & remediation
Surface water management
Surface/stormwater sampling controls

Surface & subsurface investigation & remediation
Material Disposal Areas (MDAs) remediation
Disposition of remediation waste

Above-ground transuranic (TRU) waste
Below-ground TRU waste
Low-level waste (LLW) & mixed LLW

Waste Streams

Contact-Handled Transuranic (TRU) Waste

- Above ground and below ground waste stored or retrieved within Technical Area (TA) 54 (TA-54), which is > 100 nanocuries per gram of transuranic alpha emitting nuclides with half lives > 20 years

Low-Level Radioactive Waste (LLW)

Waste that contains radioactivity and is not classified as:

- TRU Waste
- High-Level Waste (not present at LANL)
- NORM and NARM
- By-product material

Mixed Low-Level Waste (MLLW)

- Waste that contains both Hazardous Waste and LLW

Non-Rad Waste Streams

- Industrial Waste
- Hazardous Waste
- Universal Waste
- New Mexico Special Waste

Non-Rad Waste Streams

Hazardous Waste

- There are two kinds of Hazardous Waste as determined by the U.S. Environmental Protection Agency (EPA) and found in 40 CFR 261:
  - "Characteristic" waste meets the scientific criteria for being ignitable, corrosive, reactive, or toxic (D codes)
  - "Listed" waste is determined to be a hazardous waste if it is specifically identified on one of four lists in the regulations (F, K, P, and U)

Physical / Chemical Property	EPA Code
Ignitability	D001
Corrosivity	D002
Reactivity	D003
Toxicity	D004-D043

EPA List	Definition
F	Nonindustry or Process Specific Waste
K	Industry or Nonprocess Specific Waste
P	Discarded Commercial Chemical Products
U	Acutely Hazardous Discarded Commercial Chemical Products

Industrial Waste

- Non-Rad and non-hazardous material generated during work activities Examples:
  - Construction debris
  - Non-contaminated materials

Industrial waste does not require the same rigor for transportation and disposal as other hazardous materials discussed

Non-Rad Waste Streams (continued)

Universal Waste

Hazardous waste, but commonly found in nonhazardous waste landfills, as it is exempt from the hazardous waste standards under the household hazardous waste exclusion

- Batteries (such as nickel-cadmium and lead-acid)
- Pesticides
- Mercury-containing equipment
- Lamps that exhibit a hazardous characteristic

New Mexico Special Waste

Regulated Non-Hazardous Waste that has unique handling, transportation, or disposal requirements

- Polychlorinated Biphenyls (PCB) waste
- Treated (formerly hazardous) waste
- Asbestos
- Petroleum contaminated soil
- Infectious waste
- Other solid waste types that require unique handling, transportation, or disposal methods due to the potential to cause harm to public health or the environment

Waste Generation Sites

TA-54 Area G

- TRU Waste Processing ~30% of TRU waste will be reclassified as LLW based on past experience
- Legacy waste containers
- Trailers with internal radiological contamination
- Graphite shielding blocks
- Newly generated LLW (PPE, equipment, cellulose material)
- Drum compactors

Note: EM-LA requires N3B to disposition LLW/MLLW offsite within 180 days of generation

Environmental Remediation (ER)

- Aggregate Area investigations sampling and remediation (Lower Water Canyon, Twomile Canyon, Threemile Canyon)
- Middle DP Road site investigation and remediation
- Various well drilling and monitoring activities

Sampling at Twomile Canyon

Universal Waste Streams

Electronics

Lamps

Pesticides

Batteries

Mercury

Various TA-54 and ER Non-TRU Waste Streams

Twenty cubic yard roll-off with ~18 cubic meters of LLW soil debris generated from Middle DP Road Site Cleanup

TA-33 Supersacks

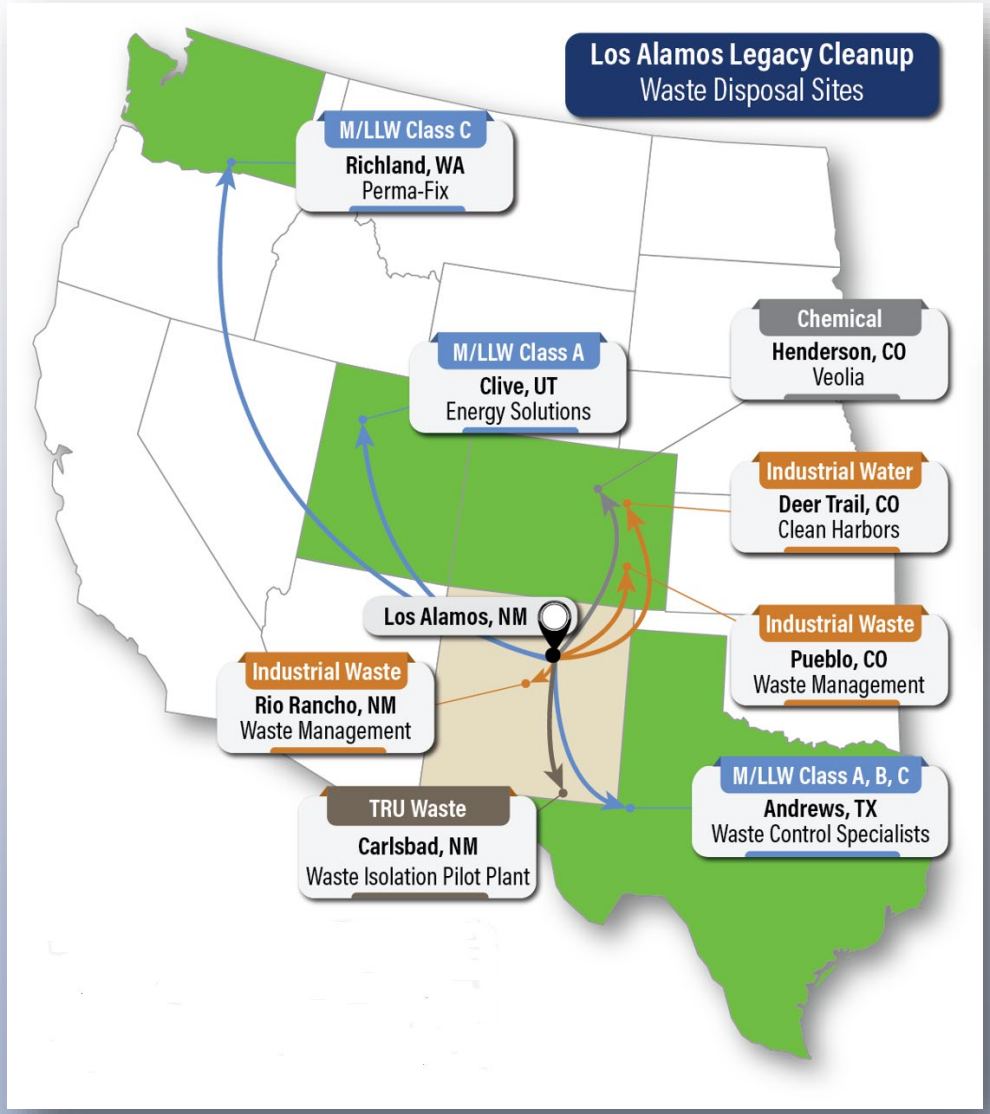
ER Well Drilling Water

Various TA-54 and ER Non-TRU Waste Streams

TA-54 MLLW

TA-54 LLW Trailer

Primary Waste Disposal Sites



Low-level radioactive waste (LLW) is classified by its radiological hazard -- Class A, B, and C, with Class A being the least hazardous. Nuclear Regulatory Commission (NRC) regulations require progressively greater controls as the waste class and hazard increase. See Code of Federal Regulation, Title 10, Section 61.55, "Waste Classification" for more information.

Questions