



Risk Reduction and Environmental Stewardship
Solid Waste Regulatory Compliance (SWRC)
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Date: September 13, 2002
Refer to: SWRC:02-067

Mr. Steve Pullen
Permits Management Program
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Dear Mr. Pullen:

Subject: Waste Characterization Organization Information Request

The purpose of this letter is to respond to your information request regarding the waste characterization roles and responsibilities of Los Alamos National Laboratory (LANL) waste generation and management organizations. We received your request in our telephone conversation on August 22, 2002. The following information is derived from the LANL Laboratory Implementation Requirement (LIR) 404-00-02.3, "*General Waste Management Requirements.*" A copy of the complete LIR is provided with this letter.

Waste characterization requirements at LANL are divided between the waste generators subject to the requirements of the New Mexico Administrative Code, Title 20, Chapter 4, Part 1 (20.4.1 NMAC), §262.11, and the Resource Conservation and Recovery Act (RCRA) treatment, storage, and disposal facilities (TSDFs) subject to the requirements of 20.4.1 NMAC §264.13 and the waste analysis plans included in the LANL hazardous waste facility permit. Additional laboratory groups also provide support services to meet these requirements. The following lists of responsibilities have been obtained by isolating waste characterization activities for these groups from the general waste management activities given in Section 5 of the above referenced LIR.

1. Generators [Section 5.4] are responsible to:

- Provide accurate and complete waste characterization information as required by the TSDF's acceptance criteria, ensuring that regulated constituents in waste streams are identified.
- Implement the acceptance criteria requirements of the receiving facility or facilities.



- Certify waste in accordance with the requirements of the receiving facility or facilities.
2. Waste Management Coordinators (WMC) [Section 5.2] are members of the waste generating organizations who are trained to assist waste generators in preparing waste shipments and characterization information to meet the TSDF waste acceptance criteria. They are responsible to:
- Serve as the primary point of contact on waste related issues.
 - Demonstrate knowledge of the waste generating activities within the waste generating organization and the waste disposal process.
 - Assist waste generators with completing waste documentation.
 - Prepare, sign, and submit waste documentation to the Solid Waste Operations Group of the Facility and Waste Operations Division (FWO-SWO).
3. TSDFs shall:
- Provide guidance to waste management personnel, WMCs, and generators regarding completion of waste characterization documentation and acceptance criteria requirements.
 - Review waste characterization documentation and authorize waste transfers.
 - Reject or order remediation of waste that is not packaged or characterized in accordance with the acceptance criteria or otherwise violates Laboratory or regulatory requirements.
 - Develop acceptance criteria that explicitly define requirements for and restrictions on characterization, waste form, packaging, and handling and provisions for exemptions/exceptions.
 - Demonstrate implementation of the acceptance criteria by reviewing waste documentation and inspecting waste containers upon arrival at the TSDF.
 - Establish a verification program. The level of documentation and formality shall be determined by the TSDF with due consideration to the TSDF's operating basis.
4. FWO-SWO is the primary RCRA TSDF at LANL. Direct waste characterization and acceptance responsibilities [Section 5.5.1] include:
- Review and approve waste documentation such as the Waste Profile Form, Chemical Waste Disposal Request and Transuranic Waste Storage Record.
 - Provide guidance on the LANL waste acceptance criteria.
 - Provide guidance on waste characterization, acceptance, certification, minimization, storage, segregation, packaging, and transportation.



- Maintain the Transuranic Waste, Waste Profile, and Chemical and Low-level Waste databases.
5. The Solid Waste Regulatory Compliance Group of the Risk Reduction and Environmental Stewardship Division (RRES-SWRC) serves as the point of contact for LANL RCRA issues [Section 5.5.3]. Waste characterization and acceptance responsibilities include:
- Maintain required records and data (Note: as defined by the LANL hazardous waste facility permit).
 - Provide waste sampling, characterization, and environmental monitoring services.
 - Provide technical and regulatory support to operating groups.

If you should have any further questions concerning this issue, please contact me at (505) 667-1579.

Sincerely,



Gian Bacigalupa
Solid Waste Regulatory Compliance Group

GB/vh

Enc. (1) LIR 404-00-02.3, "General Waste Management Requirements"

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Attachment 1

LANL Laboratory Implementation Requirement (LIR) 404-00-02.3, *“General Waste Management Requirements.”*

The LIR was previously provided to the Hazardous Waste Bureau as a portion of Appendix G of the “Response to Request for Supplemental Information: Technical Adequacy Review, RCRA Permit Application; General Part A, April 1998, Revision 0.0; General Part B, October 1998, Revision 1.0; Los Alamos National Laboratory, EPA ID No. NM0890010515,” submitted in November 2001.

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1.0 INTRODUCTION

LESSONS LEARNED

NOTE: [Click here](#) for Lessons Learned that may apply to the requirements contained in this LIR.

1.1 OVERVIEW

The institutional requirements relating to waste management at the Laboratory are located in a series of documents that are part of the Laboratory Implementation Requirements (LIRs). Not a stand-alone document, this LIR shall be the primary waste management document and contains the general non-waste-specific requirements that shall apply to all waste types. Four other LIRs contain requirements specific to radioactive, solid, hazardous and mixed, and polychlorinated biphenyl (PCB) waste types. See Appendix A for a reference chart of the waste management LIRs. The requirements contained in this LIR shall be followed to implement the waste portion of LPR 404-00-00, *Environmental Protection* and shall be effective upon the date of issue.

This LIR complements the expectations contained in LPR 404-00-00.

See Attachment E (Guidance) for Recommended Major Implementation Criteria for Self-Assessment.

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2.0 PURPOSE

GUIDANCE NOTE: This document refers to other LIRs and Laboratory Implementation Guidance (LIG) documents that contain additional requirements and information for specific waste types.

This document shall be implemented to manage waste and aid in meeting the requirements of Department of Energy (DOE) Orders, federal and state regulations, and Laboratory permits; and describes the institutional waste management requirements that shall apply to all waste types, from the planning and design of waste generation, through the final disposal or permanent storage of wastes.

3.0 SCOPE & APPLICABILITY

GUIDANCE NOTE: This document does not contain technical requirements concerning waste form, content, packaging, or handling; that information is contained in *PLAN-WASTEMGMT-002, LANL Waste Acceptance Criteria*. This document does not address all conceivable situations. Contact the responsible waste management organization regarding any unusual situations, any suggestions for changes in the requirements or disputes over their interpretation, or for possible exceptions to the requirements found in this document. See Appendix B for a contact list.

The requirements contained in this document shall apply to all Laboratory individual waste generators, their Safety and Environment Responsible line-management chain, and all organizations that handle, treat, store, dispose of, transport Laboratory waste, or receive waste from off-site.

This document shall apply to all Resource Conservation and Recovery Act- (RCRA) regulated waste, Toxic Substances Control Act- (TSCA) regulated waste, low-level radioactive waste (LLW), mixed low-level waste (MLLW), transuranic (TRU) waste, wastes destined for or generated from wastewater treatment operations, administratively controlled, medical, solid waste, or other waste generated by the Laboratory and treated, stored, or disposed of by the Laboratory.

This document's requirements shall apply equally to classified and unclassified waste.

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This document shall not apply to excess government property. Personnel wishing to excess government property should consult the BUS Property Manual.

For the purposes of this document, "TSDF" (treatment, storage, and disposal facility) shall refer to:

- Any state or federally permitted waste facility,
- Any facility covered under DOE Order 435.1, and
- National Pollutant Discharge Elimination System (NPDES) facilities permitted as 13S (Sanitary Wastewater Treatment), 05A055 (High Explosive Wastewater Treatment Facility), 051 (Industrial Waste Treatment Plant Discharge).

Specific examples are:

- TA-50, Radioactive Liquid Waste Treatment Facility
- TA-54, Areas G, J, and L
- TA-54, Radioassay and Non-Destructive Testing (RANT)
- TA-50, Radioactive Materials Research Operations Demonstration (RAMROD)
- TA-50, Waste Characterization Reduction & Repackaging Facility (WCRRF)
- TA-46, Sanitary Waste System (SWS)
- TA-16, Open Burn Units

4.0 PRECAUTIONS AND LIMITATIONS

GUIDANCE NOTE: Treatment, storage, or disposal of some waste or combinations of waste, is not allowed under existing Laboratory permits. Contact the appropriate Environment, Safety, and Health (ES&H) group (see Appendix B for guidance).

GUIDANCE NOTE: Failure to meet the requirements in this document could cause the Laboratory to incur penalties and fines due to noncompliance. Willful violation can result in criminal penalties for responsible personnel.

This document shall not relieve the Laboratory or its workers from their obligation to comply with all provisions of existing permits or permit applications, compliance orders, schedules, consent agreements, or other enforceable requirements relevant to Laboratory waste.

Waste generator organizations mis-characterizing waste shall be charged for any remediation work required to bring the waste, the site, and/or the facility into compliance with governing regulations.

For any work that could generate waste and excess materials, before work is performed the owning organization shall identify the responsible person or organization who will manage the waste and excess materials.

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Waste with no disposal path shall not be generated without prior approval from DOE. For unplanned generation of waste with no disposal path, the generator shall contact the Associate Laboratory Director for Nuclear Weapons – Materials and Manufacturing (ALDNW-MM) immediately to start the approval process. See Section 5.4.10 of this document for additional information.

5.0 IMPLEMENTATION REQUIREMENTS

5.1 DIVISION DIRECTORS,
PROGRAM MANAGERS,
AND PROGRAM
DIRECTORS

Division Directors, Program Managers, and Program Directors shall:

- Ensure individual waste generators recognize and manage waste in accordance with state and federal regulations and Laboratory requirements.
- Provide waste management support to the waste generators in their facilities by one or a combination of the staffing options listed in Section 5.6.3 of this LIR.
- Support the waste generator and the Waste Management Coordinator (WMC) in implementing proper waste management procedures.
- Manage wastes at their facilities (not associated with the Environmental Restoration [ER] program) including any waste streams for which the generator is unknown or process knowledge is unavailable.
- If the organization is a member of the Waste Management Policy and Procedure Committee (WMPPC), appoint representatives to the WMPPC.
- Ensure designated subordinate managers maintain a waste management program at their facility that meets Laboratory and regulatory requirements.
- Support the authority of the WMC to recommend and implement requirements and changes that affect waste-generating and waste management processes and operations in the facilities in which the WMC is employed.
- Delegate waste management responsibilities in writing.
- Ensure that generators characterize wastes in accordance with treatment, storage, and disposal facility (TSDF) requirements.

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**5.2 WASTE
MANAGEMENT
COORDINATORS (WMC)**

5.2.1. General

WMCs shall:

- Serve as the primary point of contact on waste-related issues.
- Provide generators with guidance and assistance in ensuring regulatory compliance.
- Assist generators in determining whether a waste has a path forward to disposal.
- Represent waste-generating organizations during audits and assessments.
- Ensure actions are initiated to eliminate non-compliances.
- Demonstrate knowledge of the waste-generating activities within the waste-generating organization and the waste disposal process.
- Ensure inspections of less than 90-day storage areas are performed as needed or at a minimum, weekly.
- Provide the waste-generating organization with assistance in implementing waste minimization/pollution prevention techniques.
- Assist waste generators with completing waste documentation.
- Prepare, sign, and submit waste documentation to Solid Waste Operations Group (FWO-SWO).
- Coordinate waste transportation from their facility.
- Ensure required transportation paperwork is signed for waste shipments.
- Maintain an auditable file of waste management documentation.
- Assist in preparing and reviewing waste management sections of hazard control plans (HCPs), waste minimization plans, management plans, and project documentation.
- Attend required training including quarterly WMC meetings.
- Be responsible for disseminating waste management information to the generators in their facility.
- Notify appropriate personnel of any spills, releases, leaks, or discharges.

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5.2.2 Training

General Training

Managers are responsible for specifying any job-, facility- and/or operation-specific training needed by the waste management coordinator (WMC). WMCs are required to maintain Laboratory-wide ES&H training to be qualified as a WMC, as documented in the Employee Development System (EDS).

WMC-Specific Training

Within six months of appointment to the position, WMCs (part- and full-time) shall complete the following (or equivalent) training:

- Waste Generation Overview (course #8477).
- Waste Documentation Forms (course #8504)
- Waste Management Coordinator Requirements (course #9604)
- One or more Hazardous Materials Packaging and Transportation (HMPT) training plans, as required by job-specific responsibilities:
 - HMPT Shipper: Hazmat/Waste (training plan #68)
 - HMPT Shipper: RAM I (training plan #1448)
 - HMPT Shipper: RAM II (training plan #84)
 - HMPT Shipper: Hazmat/RAM/Waste (training plan #1471)
- The WMC Quarterly Meetings are required for WMCs as ongoing training in issues important to performing the duties of a WMC.

GUIDANCE NOTE: Failure to maintain training, including attendance at quarterly meetings, may result in disqualification as a WMC.

GUIDANCE NOTE: It is strongly encouraged that WMCs have training in the chemistry of hazardous and/or radioactive materials and college-level mathematics.

5.3 TREATMENT, STORAGE, AND DISPOSAL FACILITIES (TSDFs)

TSDFs shall:

- Ensure their operations meet permit, regulation, and relevant DOE order requirements.
- Provide guidance to waste management personnel, waste management coordinators (WMCs), and generators regarding completion of waste characterization documentation and acceptance criteria requirements.
- Maintain the documentation and data required by permits and regulations.
- Review waste characterization documentation and authorize waste transfers.

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- Reject or order remediation of waste that is not packaged or characterized in accordance with the acceptance criteria or otherwise violates Laboratory or regulatory requirements.
- If requesting waste forecasting information, provide division directors or designees 30 days to transmit the requested information.
- Develop acceptance criteria that explicitly define requirements for and restrictions on characterization, waste form, content, packaging, and handling and provisions for exemptions/exceptions.
 - Acceptance criteria shall be based on state and federal law, permits, operational safety, and the TSDF's basis documents that may include a Performance Assessment (PA) or Safety Analysis Report (SAR).
 - Acceptance criteria shall be reviewed whenever changes are made to permits, regulations, or authorization basis documents that affect the acceptance criteria or should be included in the acceptance criteria.

GUIDANCE NOTE: Acceptance criteria for most LANL TSDFs are presented in a single document, PLAN-WASTEMGMT-002, LANL Waste Acceptance Criteria.

- Demonstrate implementation of the acceptance criteria by reviewing waste documentation and inspecting waste containers upon arrival at the TSDF.
- Establish a verification program. The level of documentation and formality shall be determined by the TSDF with due consideration to the TSDF's operating basis.

GUIDANCE NOTE: A TSDF's operating basis may include permits, safety analysis reports, or programs required by DOE Orders.

- Develop and implement a non-conformance program.
- Be authorized to accept the waste shipment, sample and analyze, and remediate the waste at the expense of the generator, if during the receipt (including transfer through Radioactive Liquid Waste Treatment Facility [RLWTF] pipelines), inspection, or verification process, a discrepancy is found.

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5.4 GENERATORS

5.4.1 General

Waste generators shall:

- Ensure the waste generated has a disposal path or is authorized to be generated in accordance with Section 5.4.10 of this LIR.

GUIDANCE NOTE: WMCs or the LANL WAC can be consulted to determine if waste has a disposal path.

- Segregate waste streams in accordance with the treatment, storage, and disposal facility (TSDF) acceptance criteria and Section 5.4.3 of this LIR.
- Manage waste in accordance with regulations and requirements applicable to their waste and maintain records in accordance with Section 7.0 of this LIR.
- Minimize waste in accordance with Section 5.4.3 of this LIR.
- Provide accurate and complete waste characterization information as required by the TSDF's acceptance criteria, ensuring that regulated constituents in waste streams are identified.
- Ensure waste is packaged, marked, labeled, and managed in accordance with regulations applicable to their waste and receiving facility(s) acceptance criteria.
- Implement the acceptance criteria requirements of the receiving facility or facilities.
- Notify the Facility Managers (or designees) of a release of waste or wastewater to the environment or of an accidental discharge to a wastewater treatment facility. The Facility Manager (or designee) is responsible for notifying the responsible ES&H organization (See Appendix B) and, if required, the responsible wastewater treatment organization.
- If the Facility Manager or designee cannot be contacted concerning a release of wastewater as described above, notify Emergency Management & Response (EM&R).
- Certify waste in accordance with the requirements of the receiving facility or facilities.

ESH-18 and the affected wastewater treatment organization shall be notified as soon as possible, in the planning stage, of any project which is likely to include a new connection to a wastewater collections system (including holding tanks and septic systems).

5.4.2 Waste Forecasting

The generator shall provide volume projections to each treatment, storage, and disposal facility (TSDF) (for the waste applicable to that TSDF) upon request.

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GUIDANCE NOTE: Any generator failing to provide the requested waste forecasting information in a timely manner may be prohibited from transferring waste to the applicable TSDF.

GUIDANCE NOTE: DOE requires waste forecasts for use in the Integrated Database and the Baseline Environmental Management Report.

5.4.3 Waste Minimization and Recycling

GUIDANCE NOTE: Reducing, reusing, or recycling of hazardous waste may constitute treatment under the Resource Conservation and Recovery Act (RCRA). Similar restrictions may exist under other environmental regulations. Additional guidance is available from the Environmental Stewardship Office (E-ESO) and ESH-19.

Waste generation at the Laboratory shall be reduced in volume by as much as is technically and economically feasible. To meet this objective:

1. Waste-minimization practices of material substitution, source reduction, treatment, good housekeeping, hazard segregation, and recycling and reuse shall be incorporated into waste-generating activities.
2. Disposal shall be used only when other options are not technically or economically feasible or safe.
3. Waste minimization practices shall be incorporated into facility/site specific certification programs and operating procedures.

EXAMPLES:

- A. Maximize the packing efficiency of waste containers.
 - B. Decontaminate.
 - C. Reduce waste at the source.
 - D. Perform hazard segregation at the point of generation. For example, prevent the entry into any one waste stream of any combination of radioactive, non-radioactive, and hazardous wastes.
 - E. Recycle or reuse material whenever technically or economically feasible.
4. Waste shall be recycled or salvaged in accordance with Laboratory requirements specified in the Property Management Manual.

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GUIDANCE NOTE: The following materials and items are prime candidates for recycling:

- elemental mercury,
- precious and strategic metals,
- compressed gas cylinders,
- lead-acid and gel cell batteries,
- lead and lead bricks,
- solvents,
- unused laboratory chemicals,
- scrap metal and solder waste,
- uncontaminated soil (soil to which no hazardous or radioactive constituents have been added),
- used oil from various sources, and
- empty drums.

GUIDANCE NOTE: Contact wastenot@lanl.gov for information on recyclables and salvageable materials

5.4.4 Waste Characterization

GUIDANCE NOTE: Application of acceptable knowledge (AK) that meets the regulatory requirement is described LIG 404-00-02, *Acceptable Knowledge*. The WPF by itself is usually not adequate documentation for AK.

- Waste shall be characterized by using sampling and analysis, AK, or a combination of the two methods.
- Residues from experiments with hazardous wastes (e.g., treatability studies) shall be characterized.
- If AK is used to characterize waste, then the AK shall be documented.
- When sampling is used, the samples shall be representative of the waste and shall provide confidence that the results describe the entire waste stream.
- The characterization method shall be defined for the type of waste and be in accordance with the receiving facilities acceptance criteria.
- Individual waste generators shall complete WPFs to document the characterization of each waste stream or shall otherwise comply with the receiving facilities required documentation. This requirement shall also apply to waste that will be shipped off-site directly from the waste generator's facility. Classified waste shall NOT be exempt from this requirement.
- Individual waste generators and organizations shall transfer only waste that is authorized by the receiving facility.

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- WPFs shall be required for all wastewater transferred through pipelines to the Radioactive Liquid Waste Treatment Facility (RLWTF) and Sanitary Waste System (SWS)—except sanitary wastewater—unless characterization is requested by the receiving facility.
- Generating organizations shall review their waste characterization documentation annually or when their waste streams change, whichever comes first, to ensure that the waste characterization is correct.

5.4.5 Waste Transfer and Receipt – General

GUIDANCE NOTE: Department of Transportation (DOT) regulations apply to the transport on public-access roads of material that meets the DOT definition of a hazardous material. Contact the Laboratory Packaging and Transportation Group or refer to LIR 405-10-01, *Packaging and Transportation*.

- Chemical Waste Disposal Requests (CWDRs), Transuranic Waste Storage Records (TWSRs), or other treatment, storage, and disposal facility – (TSDF-) specific forms shall be completed for requesting transfers of waste from the generator site to a TSDF except when the waste goes through a pipeline to the Radioactive Liquid Waste Treatment Facility (RLWTF) or Sanitary Waste System (SWS).
- Individual waste generators and/or organizations shall ensure that the packaging and transportation of waste meets the receiving TSDF s acceptance criteria and the requirements of LIR 405-10-01.
- Waste shall be transported to the TSDF in any one of the following manners:
 - By the TSDF for the waste generator organization
 - By the waste generator organization, if approved by the receiving facility
 - By the Laboratory support services subcontractor at the request of the waste generator organization
 - By the Laboratory Packaging and Transportation Section at the request of the waste generator organization
- Shipments shall be scheduled with the receiving TSDF in accordance with the TSDF acceptance criteria.

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5.4.6 Waste Transfer and Receipt – Radioactive Liquid Waste Treatment Facility (RLWTF) and Sanitary Waste System (SWS)

GUIDANCE NOTE: Generating sites are connected to the RLWTF by the Radioactive Liquid Waste Collection System (RLWCS) and/or to the SWS by the Sanitary Waste System Collection System (SWCS). Questions concerning the SWS may be forwarded to the Water Quality Control Group (see Appendix B).

- Generators sending containerized liquid waste to the RLWTF or the SWS shall be responsible for the disposition of their empty containers.
- Each Facility Manager shall be responsible for maintaining structures, systems, and components connected to the RLWTF or SWS within their boundaries, including components and configurations required by the RLWTF or the SWCS for system design, monitoring, and control.
- RLWTF or SWS ownership of structures, systems, and components connected to the RLWTF/SWS shall begin at the Facility Management Unit (FMU) boundary or at the first manhole, whichever is closer to the connecting building.
- Sinks, drains, and pipelines leading to a wastewater treatment collection system shall be posted and labeled in accordance with the acceptance criteria.
- Changes in waste streams (such as flow rate increases or changes in constituents) shall be evaluated to determine if a new WPF is needed.

GUIDANCE NOTE: FWO-RLW and SWS provide typical specifications and drawings for the pipelines, manholes, and electronics related to their facility. ESH-18 provides National Pollution Discharge Elimination System (NPDES) permit requirements.

- Organizations shall not alter the route of waste to a wastewater treatment facility without prior approval from the affected wastewater treatment organization and ESH-18.

5.4.7 Nonconformance Reports

GUIDANCE NOTE: Repeat violations may result in the generator being permanently banned from using a treatment, storage, and disposal facility (TSDF).

GUIDANCE NOTE: Nonconformance reports may be generated by the TSDF if waste fails to meet the requirements of the acceptance criteria.

- Generators shall respond to nonconformance reports and initiate corrective actions.
- The TSDF shall refuse or accept, at its discretion, the nonconforming waste or any further waste from the generator until corrective actions have been implemented.

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- Costs associated with remediation actions shall be borne by the generator or transporter.

GUIDANCE NOTE: The TSDF's waste certification and acceptance personnel and the waste generator's management are notified of any nonconformance.

- Examples of nonconformances:
 - Improperly characterized waste
 - Improperly completed or missing forms
 - Improperly segregated waste
 - Improperly packaged waste
 - Failure to schedule a transfer prior to its arrival at the TSDF
 - Improperly labeled waste
 - Failure to meet the acceptance criteria

5.4.8 Quality Assurance Requirements

Administrative programs and controls shall be in place for waste generating organizations to ensure that quality assurance (QA) requirements are identified and implemented for waste management activities that are commensurate with risk.

5.4.9 Training

GUIDANCE NOTE: The Division Designated Training Generalist or the ES&H Training Group is available to provide assistance in determining specific training requirements.

All persons who generate, package, certify, prepare data, perform related radiation surveys, or perform the associated quality functions shall receive training in the requirements and implementing procedures for those parts of the waste management program in which they are involved. Personnel training shall be conducted in accordance with relevant state and federal regulatory requirements, the Laboratory hazardous waste permit, and Laboratory requirements.

At a minimum, generators shall have completed Waste Generation Overview (Course #8477) before any WPFs will be accepted by Solid Waste Operations (FWO-SWO). In addition, generators shall complete an update to Waste Generation Overview within one year of the issuance of this LIR and every three years thereafter.

GUIDANCE NOTE: ESH-13 may provide equivalency to Waste Generation Overview Refresher for facility-specific waste generation training.

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5.4.10 Waste with No Disposal Path

GUIDANCE NOTE: For additional information, contact nopath@lanl.gov.

- Once a waste generator has identified that a waste has no disposal path, he or she shall work with the Associate Laboratory Director for Nuclear Weapons –Materials and Manufacturing (ALDNW-MM) Office to request DOE approval.
- The generator shall submit an approval request package to the ALDNW-MM Office, who shall assist in finalizing the approval request package and in coordinating the approval with the DOE.
- The ALDNW-MM Office shall provide a formal letter with the approval request package and transmit it to the DOE Area Office, to the Waste Management Division at DOE/AL, and to the DOE Program Office points of contact.
- The waste generator shall provide an annual report for transmittal to DOE by October 1 of each year, included with the annual renewal request, documenting steps taken to manage and find disposition for any waste without a disposal path that has been previously approved by the DOE.
- The ALDNW-MM Office shall transmit the annual report and the annual renewal request to the DOE Area Office Manager and to Waste Management Division at DOE/AL.
- The DOE approval to generate waste without a disposal path is only good for the current fiscal year. *The approval shall be renewed at the beginning of each fiscal year the process continues.*

5.5 GENERATOR SUPPORT

5.5.1 Solid Waste Operations Group (FWO-SWO)

FWO-SWO shall:

- Oversee operations related to the management of hazardous, chemical, mixed, radioactive, and other regulated waste.
- Review and approve waste documentation such as the WPF, CWDR, and TWSR.
- Provide guidance on the LANL WAC.
- Provide guidance on waste characterization, acceptance, certification, minimization, storage, segregation, packaging and transportation.
- Audit off-site treatment, storage, and disposal facilities (TSDFs) to ensure they maintain the documentation and data required by regulations and DOE Orders to ensure cradle-to-grave tracking is complete.
- Administer the waste management coordinator (WMC) program.
- Store hazardous, asbestos, and polychlorinated biphenyl (PCB) waste in accordance with regulatory and Laboratory requirements.

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- Operate a waste pickup service from the generator's site to TA-54.
- Serve as the Laboratory point-of-contact (POC) for off-site shipments of hazardous and chemical waste, low-level waste (LLW), and mixed low-level waste (MLLW) for treatment or disposal.
- Store transuranic (TRU) waste, TRU-mixed waste, and MLLW in accordance with regulatory and Laboratory requirements.
- Store and/or treat applicable liquid wastes not managed by Facility & Waste Operations—Radioactive Liquid Waste (FWO-RLW).
- Dispose of LLW, including radioactively contaminated PCBs and asbestos waste.
- Maintain the TRU Waste, Waste Profile, and Chemical and Low-level Waste databases.

5.5.2 Radioactive Liquid Wastewater Group (FWO-RLW)

FWO-RLW shall

- Oversee operations related to the transfer and treatment of radioactive liquid wastewater.
- Manage, operate, and maintain the Radioactive Liquid Waste Treatment Facilities (RLWTFs) at TA-50 and TA-21.
- Treat liquid waste at the RLWTFs and maintain the Radioactive Liquid Waste Collection System (RLWCS) for transferring radioactive liquid waste from generator sites to the RLWTF.

5.5.3 Hazardous and Solid Waste Group (ESH-19)

ESH-19 shall:

- Submit reports, notices, and permit applications in accordance with permit, regulatory, and Laboratory requirements.
- Serve as the point-of-contact (POC) for Laboratory personnel regarding hazardous, solid, mixed, and Toxic Substances Control Act (TSCA)-regulated waste.
- Negotiate with regulatory agencies on hazardous, solid, mixed, and TSCA permits.
- Conduct performance assessments of generators' operations and treatment, storage, and disposal facilities (TSDFs).
- Maintain required records and data.
- Provide waste sampling, characterization, and environmental monitoring services.
- Provide technical and regulatory support to operating groups.

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5.5.4 Water Quality and Hydrology Group (ESH-18)

ESH-18 shall:

- Perform environmental monitoring activities to ensure Laboratory operations do not adversely affect public safety, health, or the environment.
- Provide technical and regulatory support to operating groups.
- Provide institutional coordination of water quality permits and documentation.
- Serve as a liaison with regulatory agencies.
- Maintain environmental monitoring records and data in accordance with regulatory and Laboratory requirements.
- Provide audits/assessments for National Pollution Discharge Elimination System (NPDES) facilities.

5.5.5 Associate Laboratory Director for Nuclear Weapons – Materials and Manufacturing (ALDNW-MM) Office

ALDNW-MM shall:

- Provide guidance on completing a request for generating waste with no path forward.

5.5.6 Training Group (ESH-13)

ESH-13 shall:

- Design, develop, deliver, and evaluate Laboratory-wide waste management training outlined in DOE orders, state and federal regulations, and Laboratory permits and requirements that apply to Laboratory operations.
- Review and grant equivalencies for outside training when appropriate.
- Assist managers in determining staff waste management training needs.
- Maintain Laboratory-wide waste management training plans and records and enter those records into the Employee Development System (EDS).
- Implement Laboratory requirements concerning waste management training.
- Maintain the Laboratory waste management testing system.

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5.5.7 Environmental Sciences and Waste Technologies Group (E-ET)

E-ET shall:

- Implement the Laboratory's Transuranic (TRU) Waste Certification Program for disposal of TRU waste at the Waste Isolation Pilot Plant (WIPP).
- Coordinate TRU waste characterization and transportation activities to meet the WIPP waste acceptance criteria (WAC).
- Manage the components of TRU waste characterization, certification, and transportation activities at the Laboratory as they apply to disposal at WIPP.
- Coordinate, integrate, and ensure consistency with the DOE Carlsbad Area Office (DOE/CAO) National TRU Program (NTP), WIPP programs, policies, and guidance.
- Provide quality assurance oversight for the WIPP certification program.
- Assist TRU waste generators in the preparation of the TRU waste interface document (TWID) to meet the requirements for acceptance at WIPP.
- Obtain shipping authority from DOE/CAO for TRU waste transport from the Laboratory to WIPP.

5.5.8 Utilities and Infrastructure Group (FWO-UI)

FWO-UI shall:

- Manage the Sanitary Waste System (SWS).
- Coordinate support service subcontractor activities such as recycling and transportation of solid waste dumpsters.

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5.5.9 Waste Management Policies and Procedures Committee (WMPPC)

- The WMPPC shall:
 - Review and approve all Laboratory-wide waste management documents before submittal to the Laboratory Standards and Requirements Project (LSRP).
 - Ensure management and potential users from affected organizations are involved in the document development, review, and revision processes.
 - Serve as the Office of Institutional Coordination (OIC) for Laboratory institutional waste management requirements documents.
 - Ensure that waste management institutional documents are controlled and current.

GUIDANCE NOTE: If requested and if resources are available, the WMPPC may also review facility-specific waste management documents.

- The permanent WMPPC shall be composed of representatives from FWO-RLW, FWO-SWO Chemical and Mixed Waste, FWO-SWO LLW, FWO-SWO TRU Waste, FWO-SWO Waste Services, ESH-19, E-ESO, E-ET, the WMC Administrator, ES&H Training, the Nuclear Materials Technology (NMT) Division, the Engineering Sciences and Applications (ESA) Division, the Dynamic Experimentation (DX) Division, the Laboratory Standards and Requirements Project, and other divisions as deemed necessary.
- Additional organizations shall be requested to provide subject matter experts (SMEs) when issues related to their areas of responsibility are addressed. Examples are Air Quality (ESH-17) and Health Physics Operations (ESH-1).
- Requests for SMEs shall be made to the member or invited organizations rather than to specific individuals.
- Institutional documents containing significant waste management-related issues or requirements shall be reviewed and approved by the WMPPC.
- The WMPPC shall also determine which division director(s) signature shall be required for final approval of institutional waste management documents.
- All WMPPC comments shall be resolved by majority agreement.

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**5.6 WASTE MANAGEMENT
COORDINATOR (WMC)
PROGRAM**

5.6.1 WMC Program Administrator

The WMC Program Administrator shall:

- Act as the primary point of contact for issues relating to the WMC Program.
- Verify WMC training records for completed training requirements and maintain a current list of authorized WMCs.
- Work with WMCs, ESH-13 and ESH-19 to ensure WMC training is appropriate, updated and accurate.
- Coordinate and host the WMC Quarterly Meetings.
- Coordinate the activities of the WMC Inter-Divisional Team.
- Interface with all levels of management to ensure that the WMC Program effectively meets the need of the Laboratory.
- Provide waste management guidance to division/facility/program WMCs.
- Provide and supervise WMCs deployed to a division/facility/program on a service by request basis, as defined in Section 5.6.3 of this LIR.

5.6.2 WMC Inter-Divisional Team

The WMC Inter-Divisional Team shall:

- Consist of the WMC Program Administrator, one WMC from each major waste generating facility/organization, one representative from ESH-19, and other representatives as needed or requested by the team.
- Meet regularly to oversee the WMC Program Laboratory-wide.
- Exchange information on best business practices, regulatory updates, and current waste management problems.
- Establish and monitor the performance objectives of the WMC Program.
- Provide information to the appropriate waste management organizations on concerns and issues that affect the WMC Program.

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5.6.3 WMC Staffing Options

The WMC program allows for various staffing options to accommodate the individual needs of each organization. The following options or combination of options shall be used.

- Organizational ownership: The WMC resides within the waste generating organization.
- Service by request: The waste generating organization can obtain full- and/or part-time WMC support services on an as-needed basis from FWO-SWO. Arrangements for this service require that a Memorandum of Understanding outlining the estimated level of effort and an appropriate funding allocation be provided by the requesting organization to FWO-SWO.
- Shared services: The waste generating organization can make arrangements with other waste generating organizations to share the support services of a WMC. Agreements on funding, level of effort, authorities, etc., are left solely to the managers involved. FWO-SWO need only be advised of the WMC's area of responsibility and/or authority.

6.0 EXCEPTIONS AND VARIANCES

Exceptions or variances shall not be granted if they conflict with state or federal law, DOE, DOT, the Environmental Protection Agency (EPA), other applicable government agency regulations or permits; or with attaining the Laboratory's institutional performance goals and expectations (for example, the UC-DOE Contract Appendix F Performance Measures).

7.0 RECORDS

- Ordinarily, originals of documents must be maintained; however, if originals are unavailable, then a photocopy or carbon copy must be maintained.
- Original WPFs, CWDRs, and TWSRs shall be maintained by FWO-SWO.
- Treatment, storage, and disposal facilities (TSDFs) shall maintain the original shipping documents for waste received at their facilities.
- Generating organizations shall maintain or archive records documenting waste characterization, to include acceptable knowledge (AK) and transport/transfer documents.

8.0 OIC

The Office of Institutional Coordination for this document shall be the Waste Management Policy and Procedure Committee.

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9.0 REFERENCES

- 20 NMAC 4.1, *New Mexico Hazardous Waste Regulations*
- New Mexico Hazardous Waste Act, NM Statutes Annotated, §§74-4-1 to -13
- 20 NMAC 9.1, *New Mexico Solid Waste Regulations*
- New Mexico Solid Waste Act, NM Statutes Annotated, §§74-9-1 to -42
- 15 U.S.C. §§ 2601-2629 et seq., *The Toxic Substances Control Act, as amended*
- 33 U.S.C. § 1251 et seq., *The Clean Water Act, as amended*
- 42 U.S.C. § 6901 et seq., *The Resource Conservation and Recovery Act of 1976, as amended*
- 10 CFR § 830, *Nuclear Safety Management*
- 29 CFR § 1910.120, *Hazardous Waste Operations and Emergency Response*
- 29 CFR § 1910.1200, *Hazardous Communications*
- 40 CFR § 61, Subpart M, *National Emissions Standard for Asbestos*
- 40 CFR § 61.154, *Standard for Active Waste Disposal Sites*
- 40 CFR § 122, *National Pollutant Discharge Elimination System*
- 40 CFR § 258, *Criteria for Municipal Solid Waste Landfills*
- 40 CFR § 261, *Identification and Listing of Hazardous Waste*
- 40 CFR § 264, *Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities*
- 40 CFR § 268, *Land Disposal Restrictions*
- 40 CFR § 761, *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, and Distribution in Commerce and Use Prohibitions*
- 40 CFR § 763, *Asbestos*
- 49 CFR § 172, *Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements*
- 49 CFR § 173, *Shippers, "General Requirements for Shipments and Packaging"*
- Executive Order 12873, *Federal Acquisition, Recycling, Waste Prevention and the Pollution Prevention Act of 1990*
- DOE Order 435.1, *Radioactive Waste Management*
- DOE Order 460.1A, *Packaging and Transportation Safety*
- DOE Order 460.2, *Departmental Material Transportation and Packaging Management*
- DOE Order 5400.1, *General Environmental Protection*

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9.0 REFERENCES (cont.)

DOE Order 5400.5, Radiation Protection of the Public and the Environment
DOE Order 414.1, Quality Assurance
DOE/LLW-75T, Data Quality Objectives
NQA-1, *Quality Assurance Requirements for Nuclear Facility Application*
EPA Publication SW846; *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*
EPA QA/G-4, *Guidance for DQO Process*
LIR 301-00-02, *Exception and Variances to Laboratory Operating Implementation Requirements*
LIR404-00-03, *Hazardous and Mixed Waste Requirements for Generators*
LIR404-00-04, *Managing Solid Waste*
LIR404-00-05, *Radioactive Waste Management*
LIR404-00-06, *Managing PCBs*
LIR404-10-01.0, *Packaging and Transportation*
LIG404-00-01, *Instructions for Completing the TRU Waste Storage Record*
LIG404-00-02, *Acceptable Knowledge*
LIG404-00-03, *Instructions for Completing the Waste Profile Form*
LIG404-00-04, *Instructions for Completing the Chemical Waste Disposal Request*

10.0 APPENDICES

Appendix A. Waste Management Document Institutional Requirements and Guidance
Appendix B. Contact List
Appendix C. Definitions
Appendix D. Acronyms
Appendix E. Recommended Major Implementation Criteria for Self Assessment

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APPENDIX A

Waste Management Document Institutional Requirements and Guidance

LIR DOCUMENT NUMBER	TITLE	WASTE TYPES COVERED
LIR404-00-02	General Waste Management Requirements	General requirements that apply to all waste types
<u>LIR404-00-03</u>	Hazardous and Mixed Waste Requirements	Hazardous and mixed waste
<u>LIR404-00-04</u>	Managing Solid Waste	Commercial; construction and demolition debris; New Mexico special including: treated formerly characteristic hazardous, asbestos, sludge, spill of chemical substance or commercial product, dry chemicals which become characteristically hazardous when wetted, petroleum contaminated soils, infectious; chemical; administratively controlled; and pharmaceutical-controlled waste
<u>LIR404-00-05</u>	Managing Radioactive Waste	Solid low-level, mixed and TRU waste
<u>LIR404-00-06</u>	Managing Polychlorinated Biphenyls (PCBs)	Polychlorinated Biphenyls including PCB waste
<u>LIG404-00-01</u>	TRU Waste Storage Record	Guidance on completing the form
<u>LIG404-00-02</u>	Acceptable Knowledge	Guidance for when to use and how to document acceptable knowledge to characterize waste
<u>LIG404-00-03</u>	Waste Profile Form	Guidance for completing the WPF

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APPENDIX B Contact List

Air Quality Group (ESH-17), 5-0235
Biosafety Committee, 7-8229
Criticality Safety (ESH-6), 7-4789
Dynamic Experimentation (DX) Division, 7-5653
Emergency Management and Response (EM&R, S-8), 9-911 or 7-6211
Engineering Sciences and Applications (ESA) Division, 7-4136
Environment, Safety, and Health Division (ESH-DO), 7-4218
Environmental Sciences and Waste Technologies (E-ET), 5-0548
Environmental Restoration Project (E/ER), 7-0808
Environmental Stewardship Office (E-ESO), 7-6639
ES&H Training Group (ESH-13), 7-0059
Facility Risk Management Group (ESH-3), 7-3363
Facility Engineering Services (FWO-FE), 7-4657
Fire Protection Group (FWO-FIRE), 7-9045
Gas Processing Facility, 7-4406
Hazardous Materials Transfer Approvals (BUS-4), 7-4127
Hazardous and Solid Waste Group (ESH-19), 7-0666
Hazardous Material Response (ESH-10), 5-5237
Health Physics Operations Group (ESH-1), 7-7171
Industrial Hygiene and Safety Group (ESH-5), 7-5231
Johnson Controls Northern New Mexico, Redistribution and Marketing, 7-2109
SWO Waste Certification Team (FWO-SWO), 7-4504
Materials Management Group (BUS-4), 7-4127
Nuclear Materials Control and Accountability (S-4), 7-5886
Office of Legal Counsel – General Law, 7-3766
Operational Safety Section of the Industrial Hygiene and Safety Group (ESH-5), 7-4644
Packaging and Transportation Section of the Materials Management Group (BUS-4), 5-9683 or 7-4493
Radiation Protection Services (ESH-12), 7-7171
Radioactive Liquid Waste (FWO-RLW), 7-4301
Solid Waste Operations (FWO-SWO), 5-6158
Spill Prevention, Control and Countermeasure (SPCC) Plan (ESH-18), 5-4752
Sanitary Waste System, 5-0453
Waste Services (FWO-SWO), 5-4000 or 5-WAST (5-9278)
Water Quality and Hydrology Group (ESH-18), 5-0453
WIPP Certification (E-ET), 7-8532
WMC Program Administrator (FWO-SWO), 7-1948

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APPENDIX C

Definitions

Additional definitions may be found on the Laboratory Official Documents web page.

[\(Click Here\)](#)

Laboratory Waste Management: For the purposes of this document, the Laboratory organizations responsible for establishing Laboratory waste-related requirements and guidance and the institutional treatment, storage, and disposal facilities constitute Laboratory Waste Management.

NOTE: Unless the term is immediately followed by a regulatory or DOE citation, the term is a Laboratory adaptation to clearly define the unique meaning and significance of the term at the Laboratory. Where "Solid" is capitalized the word is used as intended in RCRA, where "solid" is not capitalized, it refers to the physical state of the waste.

less than 90-day (<90 day-) accumulation area {40 CFR §262.34}: A designated space for accumulating hazardous or mixed waste in containers or tanks; the waste may not remain in the accumulation area longer than 90 days.

acceptable knowledge (AK): A waste stream characterization method that can be used to meet all or part of the waste analysis requirements appropriate for the waste media. The method may include documented process knowledge, supplemental waste analysis data, and/or facility records of analysis.

accumulation start date: The date on which each period of accumulation of waste in a container or tank begins.

acute hazardous waste: Discarded commercial chemical products, manufacturing chemical intermediates, off-specification commercial chemical products, or technical grades of the chemical that are identified in 40 CFR §261.33 (e) as acute hazardous waste or hazardous wastes with a hazard code of "P."

administratively controlled waste: Waste that is nonhazardous and nonradioactive that may not be disposed of at a commercial or municipal solid waste landfill. This includes, but is not limited to, classified waste, sensitive waste, certain New Mexico Special Wastes, and empty containers greater than 30 gallons.

asbestos waste: Waste that contains more than 1% of any of the following naturally occurring crystalline minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, and anthrophyllite; may be friable or nonfriable.

biological waste: See "noninfectious biological waste."

compactible waste: Materials that are capable of undergoing volume reduction, such as paper, plastic, and glass.

contact-handled radioactive waste: Packaged waste with an external surface dose rate not exceeding 200 mrem/hr.

decommissioning: The permanent removal from service of surface facilities or equipment.

decontamination: The removal of unwanted material (e.g., radioactive material) from personnel, equipment, or areas.

disposal: The discharge, deposit, injection, dumping, spilling, leaking, or placing of any waste into or on any land or water so that such waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

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EPA hazardous waste number {40 CFR §260.10}: As defined by regulations promulgated under the RCRA and New Mexico HWA, the number assigned by the Environmental Protection Agency (EPA) to each type of hazardous waste listed in 40 CFR Part 261, Subparts C and D.

environmental restoration: A term used by the DOE to describe cleanup of DOE facilities and lands.

hazardous waste {40 CFR §261.3}: A Solid waste that is not excluded from regulation as a hazardous waste and is a listed hazardous waste or exhibits any of the hazardous characteristics: ignitibility, corrosivity, reactivity, or toxicity.

high explosive (HE) waste: Any waste containing material having an amount of stored chemical energy that starts a violent reaction when initiated by impact, spark, or heat. This violent reaction is accompanied by a strong shock wave and the potential for propelling high-velocity particles.

high-level waste (HLW) {DOE Order 435.1}: The highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that is determined, consistent with existing law, to require permanent isolation.

infectious waste {20 NMAC 9.1.105AL}: A limited class of waste materials that carry a probable risk of transmitting disease to humans including, but not limited to, the following: regulated medical waste, infectious substances (etiologic agents), other potentially infectious materials (OPIM), and regulated waste.

knowledge of process: See "acceptable knowledge."

low-level radioactive waste (LLW) {DOE Order 435.1}: Radioactive waste that is not high-level waste, spent nuclear fuel, transuranic waste, byproduct material (as defined in section 11e.(2) of the *Atomic Energy Act of 1954*, as amended), or naturally occurring radioactive material.

medical waste: See "regulated medical waste."

mixed waste (MW) {RCRA, 42 U.S.C.A. 6903(41)}: Any waste containing both hazardous waste and source, special nuclear, or by-product materials subject to the Atomic Energy Act of 1954.

New Mexico Special Waste {20 NMAC 9.1.105BZ}: The following types of Solid waste have unique handling, transportation, or disposal requirements to assure protection of the environment, public health, welfare, and safety: (treated formerly characteristic hazardous waste); packing house and killing plant offal; asbestos waste; ash; infectious waste; sludge, except compost that meets the provisions of 40 CFR Part 503; industrial Solid waste; spill of a chemical substance or commercial product; dry chemicals that when wetted become characteristically hazardous; and petroleum-contaminated soils.

noncompactible waste: Materials not capable of being compacted or undergoing volume reduction, such as solid metal materials with minimum void space and metal bricks.

nonhazardous waste: Any waste that is not regulated as a hazardous waste by RCRA/HSWA but that may present a threat to human health or the environment and requires special administrative controls.

noninfectious biological waste: A biological waste that cannot be classified as an infectious substance or a regulated medical waste and is not subject to federal or state regulations on infectious waste, is not classified as an infectious substance or a regulated medical waste, and is not subject to federal or state regulations on infectious waste.

normal waste: Waste produced from (1) any type of production operation, analytical and/or research and development laboratory operations; (2) treatment, storage, and disposal operations "work for others"; or (3) any other periodic and recurring work that is considered ongoing in nature. Such wastes arise from

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activities that occur regularly and that generate a waste stream of a predictable quantity and characterization and are not part of the Laboratory's environmental restoration activities.

off-normal waste: Waste that is generated or occurs on an unscheduled basis or is of unpredictable quantity and/or characteristics. Because of its unpredictable nature, this waste cannot be trended over an extended period of time.

orphaned waste: Any material or waste with an unknown origin or generator.

other potentially infectious materials (OPIM) {29 CFR §1910.1030(b)}:

- (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva (in dental procedures), any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; or other potentially infectious material that may result from the performance of the employee's duties.
- (2) Any unfixed tissue or organ (other than intact skin) from a human, either living or dead.
- (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

polychlorinated biphenyl (PCB) waste: A waste containing the biphenyl molecule that has been chlorinated. PCB waste is regulated if the concentration of PCBs in the source material is greater than or equal to 50 ppm.

Radioactive Liquid Waste Collection System (RLWCS): A network of underground pipelines and associated equipment that carry radioactive liquid waste from Laboratory sites to the Radioactive Liquid Waste Treatment Facilities (RLWTF). The RLWCS was formerly referred to as the Acid or Industrial Waste Line.

Radioactive Liquid Waste Treatment Facilities (RLWTF): The radioactive liquid waste treatment plants managed and operated by the FWO-RLW: the Main Plant at TA-50-1; the Pretreatment Plant in Room 60 and 60A at TA-50-1; and the pretreatment plant at TA-21-257 (DP-257).

radioactive waste: Waste that has been determined to contain added (or concentrated Naturally Occurring Radioactive Material [NORM]) radioactive material or activation products by either monitoring and analysis, acceptable knowledge, or both; or does not meet radiological release criteria.

recycled {40 CFR §261.2}: A material that is used, reused, or reclaimed. A material is reclaimed if it is processed to recover usable products or if it is regenerated. A material is used or reused if it is either employed as an ingredient in an industrial process to make a product or employed in a particular function or application as an effective substitute for a commercial product.

regulated medical waste {49 CFR §173.134(a)(4)}: A waste or reusable material, other than a culture or stock of an infectious substance, that contains an infectious substance and is generated in (1) the diagnosis, treatment or immunization of human beings or animals; (2) research pertaining to the diagnosis, treatment or immunization of human beings or animals; or (3) the production or testing of biological products.

regulated waste {29 CFR §1910.1030(b)}: Liquid or semi-liquid blood or other potentially infectious materials (OPIM), contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed, items that are caked with dried blood or OPIM and are capable of releasing these materials during handling, contaminated sharps, and pathological microbiological wastes containing blood or OPIM.

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remote-handled (RH) radioactive waste: Packaged waste with an external surface radiation dose rate exceeding 200 mrem/hr.

sanitary wastewater: Human excreta and water-carried wastes from typical plumbing fixtures and activities, including, but not limited to, wastes from toilets, sinks, water fountains, bath fixtures, clothes- and dish-washing machines, and floor drains. Water-carried waste from non-residential type sources shall be considered sanitary wastewater if the composition and concentrations of waste do not differ from typical domestic waste.

satellite accumulation area {40 CFR §262.34}: A designated space for accumulating hazardous and mixed waste where the volume of hazardous waste may not exceed 55 gal. or the volume of acutely hazardous waste may not exceed one quart. The accumulation area must be located at or near the point of generation and be under the control of the generator/operator of the process generating the waste.

segregate: To separate waste from nonwaste materials; to sort waste according to type, such as sorting radioactive from nonradioactive waste or hazardous from nonhazardous waste.

Solid waste {40 CFR §261.2}: As defined by regulations promulgated under the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act, unless otherwise excluded, is any discarded material, either abandoned, recycled, or inherently waste-like, including liquids, solids, semisolids, and contained gases. Solid waste can be simply Solid or special, hazardous, nonhazardous, radioactive (including transuranic), or mixed waste. Waste consisting solely of source, special nuclear, or byproduct material, as defined by the Atomic Energy Act, is exempt from the Solid waste regulations as defined by RCRA. Environmental media (for example soil or water) is not Solid waste unless it is destined for disposal. For the more extensive definition under regulations promulgated under the New Mexico Solid Waste Act, refer to 20 NMAC 9.1.105BV.

storage: The holding of waste for a temporary period, at the end of which the waste is to be treated, disposed of, or stored elsewhere.

suspect radioactive waste: Waste that is generated in an area where radioactive materials are present but that cannot be practicably verified as being nonradioactive.

transuranic (TRU) waste {DOE 435.1}: Radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for: (1) high-level radioactive waste; (2) waste that the Secretary of Energy has determined, with the concurrence of the Administrator of the Environmental Protection Agency, does not need the degree of isolation required by the 40 CFR Part 191 disposal regulations; or (3) waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61.

newly-generated TRU waste: Waste generated after the development, approval, and implementation of a transuranic (TRU) waste characterization program that meets the requirements outlined in the Transuranic Waste Characterization Quality Assurance Program Plan. Newly generated TRU waste also includes any previously generated waste (retrievable stored waste) that undergoes any form of treatment, processing, or repackaging in accordance with the LANL Quality Assurance Project Plan.

retrievable TRU waste: Waste that is not classified by the DOE as permanently buried and that has been generated before the development and implementation of a transuranic (TRU) waste characterization program that meets the requirements outlined in the Transuranic Waste Characterization Quality Assurance Program Plan and that has been identified by the DOE as a candidate waste for retrieval.

treatment: When applied to hazardous waste or hazardous components of mixed waste, any method, technique, or process, including neutralization, designed to change the physical, chemical, radiological, or biological character or composition of any waste so as to neutralize such waste, or so as to recover energy

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or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous; safe to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

universal waste {40 CFR §273}: Certain of the following types of hazardous waste are subject to the universal waste requirements of 40 CFR §273; for example, batteries, pesticides, and mercury thermostats. The universal waste requirements ease some of the regulatory requirements for collecting and managing these common waste types.

unknown waste: See "orphaned waste."

waste acceptance criteria (WAC): Criteria that must be met before a waste is accepted for treatment, storage, or disposal. Waste acceptance criteria may involve the physical form of a waste, a waste's container, its radioactivity, packaging, labeling, etc.

waste certification program: A systematic, documented approach, used by a waste generator organization to ensure that waste is managed in a manner that provides reasonable assurance that the treatment, storage, and disposal facilities/ waste acceptance criteria are met.

waste characterization: The determination of a waste's physical, radiological, and chemical characteristics with sufficient accuracy to permit proper classification and management.

waste generator: Any individual and his/her management (for example, a research scientist or project manager) having direct responsibility for operations that generate waste. A waste generator may be a member of the organization responsible for the facility or site where the waste was generated. Waste generators have the responsibility for proper characterization, storage, and disposal of the waste they generate.

waste management: The planning, coordination, and direction of those functions related to generation, handling, treatment, storage, transportation, and disposal of waste, as well as associated surveillance and maintenance activities.

Waste Management Coordinator (WMC): The individual responsible for coordinating waste management activities on behalf of waste generators, line managers, facility managers, field project leaders, waste management groups, and other Laboratory organizations. This individual also coordinates resolution of waste management issues on behalf of his/her waste-generating organization and reviews documents pertaining to the management of waste.

waste stream: A waste or group of wastes from one or more processes or facilities with similar physical, chemical, and/or radiological characteristics.

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APPENDIX D

Acronyms

AK	acceptable knowledge
BUS	Business Operations Division
CAO	Carlsbad Area Office
CFR	Code of Federal Regulations
CST	Chemical Science and Technology Division
CWDR	Chemical Waste Disposal Request
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DX	Dynamic Experimentation Division
ES&H	environment, safety, and health
ESH	Environment, Safety, and Health Division
ESA	Engineering Sciences and Applications Division
E-ESO	Environmental Stewardship Office
FWO	Facility & Waste Operations Division
FWO-RLW	FWO–Radioactive Liquid Waste Management Group
FWO-SWO	FWO–Solid Waste Operations Group
GWCP	Generator Waste Certification Program
HSWA	Hazardous and Solid Waste Amendments
JCNNM	Johnson Controls Northern New Mexico
LIR	Laboratory Implementation Requirement
LIG	Laboratory Implementation Guidance
LLW	low-level waste
LSRP	Laboratory Standards and Requirements Project
MLLW	mixed low-level waste
NMAC	New Mexico Administrative Code
NPDES	National Pollution Discharge Elimination System
NTP	National Transuranic Program
OBOD	open burn/open detonation
OIC	Office of Institutional Coordination
PCB	polychlorinated biphenyls
POC	point of contact
QA	quality assurance

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RAMROD	Radioactive Materials Research Operations Demonstration
RANT	Radioassay and Non-Destructive Testing
RCRA	Resource Conservation and Recovery Act
RLWCS	Radioactive Liquid Waste Collection System
RLWTF	Radioactive Liquid Waste Treatment Facility
SWS	Sanitary Waste System
TRU	transuranic
TSDf	treatment, storage, and disposal facility
TSCA	Toxic Substances Control Act
TWSR	Transuranic Waste Storage Request
UHWm	Uniform Hazardous Waste Manifest
WAC	Waste Acceptance Criteria
WIPP	Waste Isolation Pilot Plant
WMC	Waste Management Coordinator
WMPPC	Waste Management Policy and Procedure Committee
WPF	Waste Profile Form
WCRRF	Waste Characterization Reduction & Repackaging Facility

Guidance
Appendix E

Recommended Major Implementation Criteria for Self-Assessment
(Non-Mandatory)

LIR Title	LIR Number
General Waste Management Requirements	LIR 404-00-02.3

The major implementation criteria listed below are provided to assist Laboratory organizations in assessing their implementation of this LIR. These criteria provide an objective basis for self-assessing implementation of the major requirements contained in the LIR. The LIR also states requirements in other areas, such as, scope, precautions, and responsibilities that, when applied, complement the successful implementation of these major requirements.

1. **The most important criterion for assessing the implementation status of this LIR should be, if applicable: Have the requirements contained in the LIR been communicated to the individual(s) responsible for performing the work?**
2. **In addition, the recommended major implementation criteria for self-assessment of this LIR are the following:**
 - Performance of the self-assessment of waste management activities for compliance with the stated requirements of this document
 - Development of action plans for identification and implementation of corrective actions where noncompliance is identified
 - Completion and documentation of the implementation of corrective actions, including training on new or revised activities

If implemented through the recommended self-assessment, the generating organization should identify any actions required to ensure compliance with this LIR.