Radioactive Waste Certification Program

1.0 PURPOSE

This document establishes Los Alamos National Laboratory (LANL or the Laboratory) requirements for radioactive waste.

2.0 AUTHORITY AND APPLICABILITY

2.1 Authority

This document is issued under the authority of the Laboratory Director to direct the management and operation of the Laboratory, as delegated to the Associate Director for Environment, Safety, and Health (ADESH) as provided in the Prime Contract. This document derives from the Laboratory Governing Policies, particularly the section on Facilities Management, Department of Energy (DOE) Order (O) 435.1, Radioactive Waste Management, and DOE Manual (M) 435.1-1, Radioactive Waste Management Manual.

- Issuing Authority (IA): Associate Director for Environment, Safety, and Health (ADESH)
- Responsible Manager (RM): Waste Management Division Leader
- Responsible Office (RO): Waste Management--Waste Generator Services (WM-WGS)

2.2 Applicability

This document applies to Laboratory workers who are responsible for management of activities in a facility that generates radioactive waste, and radioactive waste management personnel.

3.0 PROCEDURE DESCRIPTION

3.1 Overview

This document provides applicable Laboratory workers access to a set of waste management and certification tools; use of these tools is not required, but is strongly recommended. These tools summarize the requirements and are updated through the Environmental Protection-Water Quality and Resource Conservation and Recovery Act Group (ENV-RCRA) tool change-control process in response to changes in Laboratory policy. The tools are also updated to implement corrections or clarifications supplied by Laboratory subject matter experts. TOOL-305, Waste Certification and Certification Protection, cannot impose more or less stringent controls than those in Laboratory procedures.
3.2 Waste Certification

Waste certification is “the process by which a radioactive waste generator affirms that a given waste or waste stream meets the Waste Acceptance Criteria (WAC) of the facility to which the generator intends to transfer waste for treatment, storage, or disposal.” The process for waste certification for shipment is defined in P930-3, Off-Site Shipment of Chemical, Hazardous, or Radioactive Waste.

1. Facility Operations Director (FOD) or his/her designee will develop a Facility Waste Certification Plan (FWCP) with guidance from the WM-WGS Waste Certification Program (WCP). The FWCP describes active management strategies for certification compliance.

2. Radioactive waste must be characterized pursuant to the requirements summarized in TOOL-314, Radioactive Waste Characterization.

3. Potentially radioactive waste (e.g., the waste or waste item was generated in a radiologically contaminated area) are summarized in TOOL-306, Potentially Radioactive or Mixed Investigation Derived Waste.

If radioactive contamination can be reasonably suspected to be present at a site (e.g., in wastes from potential release sites or poorly documented decontamination and decommission sites) the waste must be characterized as summarized in TOOL-314, Radioactive Waste Characterization. The authorized release limits process will be defined for the Laboratory in P411, Authorized Release Limits Proposal Process. The authorized release limits process is applicable only to materials with residual radioactivity below the dose limits specified in DOE O 458.1, Radiation Protection of the Public and the Environment, and also do not contain Resource Conservation and Recovery Act (RCRA) constituents.

4. For each waste stream, WCP and hazardous and mixed waste operations, requires an active Waste Profile be obtained through the Waste Compliance and Tracking System (WCATS).

Once submitted through WCATS, Waste Disposition Project-Hazardous and Mixed Waste Operations (WDP-HMWO) reviewers evaluate the submittal to determine whether ENV-RCRA-QP-012, Acceptable Knowledge Review Procedure, and/or sampling and analysis, or a combination of these waste characterization methods have been used to appropriately characterize the waste. WDP-HMWO verifies that the Waste Profile identifies the waste as acceptable under the proposed Treatment, Storage, and/or Disposal Facility’s (TSDF’s) WAC. An approved Waste Profile documents that the waste stream meets the applicable WAC.

5. The Waste Disposal Request (WDR) and Form 1971, Transuranic (TRU) Waste Storage Record (TWSR) (referred to as TWSR in this document; when linked) document the characterization of radioactive waste which supports its certification.

Note: Approval of the Waste Profile and the WDR/TWSR do not constitute certification for storage/shipment.

6. The generating facility personnel bears responsibility for the certification of waste for on-site storage/shipment; this certification is performed by the Waste Management Coordinator (WMC), who evaluates the waste against certification requirements as summarized in TOOL-305, Waste Certification and Certification Protection, TOOL-314, Radioactive Waste Characterization, and P930-1, LANL Waste Acceptance Criteria.
3.3 Radioactive Waste Management Basis (RWMB)

1. LANL facility personnel who generate, store, or otherwise manage radioactive waste must submit Form 2107, Radioactive Waste Management Basis Report Form (referred to as RWMB in this document; when linked) to WCP and, if necessary, Form 2108, RWMB Waste and Activity Continuation Sheet. An FWCP may be referenced in the RWMB instead of the facility description section of the RWMB, with guidance from the WM-WGS WCP (see Section 3.4.).

2. LANL facility personnel who generate, store, or otherwise manage radioactive waste must submit an updated RWMB as identified by DOE approval and when facility operations or waste status changes. In place of facility descriptions reported directly through the RWMB, facilities may submit an FWCP, division- or group-level documents or other references that include the required information. For assistance in completing the RWMB, contact WCP.

The RWMB identifies the following: (1) every area where radioactive waste is generated, (2) what types of waste are generated, (3) what management activities are performed, (4) the waste matrix, (5) estimated annual volume of waste that will be generated, and (6) the TSDF proposed for final disposition of the waste.

Note: The RWMB does not identify the TSDF for Mixed Low-Level Waste (MLLW) because this decision is made by Technical Area (TA)-54 personnel.

The RWMB includes:
- identification of the generating process owner,
- documents that support the RWMB,
- institutional documents applicable to waste management,
- waste authorization basis documents pertinent to the generating facility,
- types of waste management processes within the facility and their locations,
- waste matrix (solid or liquid),
- types of waste categories generated, (i.e., Low-Level Waste (LLW), MLLW, TRU, Mixed Transuranic (MTRU),
- volumes of generated waste by category,
- Laboratory destination for each waste stream,
- final destination for each waste stream (reported under “Life-Cycle Waste Management”),
- characterization methods for each waste stream,
- how waste certification is protected when waste is transported,
- how waste certification is protected during waste storage, and
- how waste management quality assurance program protects waste certification.

3. Waste management activities not included in the RWMB are not approved and may be terminated by DOE. When undocumented activities are identified, an updated RWMB must be submitted to WCP describing the newly identified activities.
4. Facilities that perform work in accordance with EP-DIR-SOP-10021, Characterization and Management of Environmental Program Waste, or by special case reason may be allowed to obtain approval to generate waste without continuous updates for projects. Special approval is to be granted by DOE and WCP.

Storage Extension Request. If facilities determine that waste cannot be shipped for final disposition within one year, a request must be submitted before the expiration of one year by the sealed date.

1. LANL facility personnel who generate radioactive waste or manage radioactive waste must submit an updated RWMB to WCP. In the RWMB, the Extension Request box must be checked and the following information must be provided:
   - a specific waste,
   - at a specific location, and
   - for a specific length of time.

2. A letter will be compiled from the Waste Management Division on behalf of the waste generating facility.

3. The personnel must state the reasons why the extension is needed.

4. WCP will review the submittal and forward the request to the DOE Field Element Manager.

3.4 Facility Waste Certification Plan (FWCP)

1. LANL facility personnel who generate, store, or otherwise manage radioactive waste must submit an FWCP to WM-WGS WCP for review and concurrence. The purpose of the FWCP is to demonstrate how facility operations meet institutional requirements.

2. The FWCP should only include information relevant to the facility’s local operations. An FWCP template can be obtained from the Facility Waste Certification website. Facilities should not reiterate institutional documents.

   The contents of the FWCP are taken from DOE M 435.1-1, Radioactive Waste Management Manual, which shall include:
   - organization elements for waste management;
   - waste certification roles, responsibilities, authorities, and accountability (RWMB point of contact, Rad Waste Operations, etc.);
   - waste certification related job training and qualifications;
   - waste generating processes (adequate characterization);
   - brief description regarding different waste types: LLW, MLLW, TRU, MTRU specifying generating histories;
   - how waste certification is protected during generation, storage, and transport;
   - methodology for waste characterization and packaging methods;
   - access control;
   - document control and records management;
   - waste minimization and pollution prevention; and
   - quality assurance program.
Note: The FWCP may address, but is not required to address waste that is exclusively hazardous. It must address waste that has a radioactive component. (i.e., LLW, MLLW, TRU, MTRU).

3. The FWCP must be delivered to WCP for review. A written response will be provided to the facility accepting the FWCP or requesting revision. Before WCP approval of the FWCP, a site visit will be scheduled to evaluate the facility's operations, procedures, and overall waste management as described in the FWCP. Approval of the FWCP will be granted after a compliance walk down is complete.

Annual WCP compliance visits will be scheduled with the facility.

4. If the facilities fail to meet compliance with the FWCP or a specific component of the plan, the facility must develop corrective action approved by WCP.

Failure to comply may result in one or more of the following responses:

- facility radioactive waste operation shut down,
- removal of facility waste certification,
- denial of waste shipment to TSDF,
- continued waste shipments after deployment of WCP oversight personnel,
- initiation of the Performance Feedback and Improvement Tracking System (PFITS) (see P322-4, Laboratory Performance Feedback and Improvement Process),
- real-time facility corrective actions verified by WCP, and/or
- inclusion as nonconformance reporting item (see P330-6, Nonconformance Reporting).

3.5 Waste Certification Program (WCP) Waste Verification

Waste verification reviews waste characterization information for consistency within WCP. Waste containers are examined for compliance with WAC requirements, and the New Mexico Hazardous Waste Permit. Waste verification ensures accuracy of waste characterization data provided by waste generators and can include radiological characteristics, visually examining waste and sampling and analyzing waste.

- WCP personnel verify waste characterization against applicable procedures, acceptable knowledge documentation, non-destructive assay, sampling and analysis, and or visual examination of waste.
- WCP assessment planning includes a review of past verification results to determine the nature of any pre-existing problems.

3.6 Waste Certification Program (WCP) Performance Assurance

Performance assurance provides oversight reporting and trending for radioactive waste management at the Laboratory. Performance assurance allows WCP a means to provide recognition of facility certification, according to all institutional procedures and requirements.

WCP conducts trend analysis on facility waste management activities to determine which areas/activities are improving and which need further improvement. Analysis results can be used as justification for authorizing waste management program changes. Trend analysis is also used to identify waste management strategies that other facilities might adopt to improve operations.
3.7 Waste Certification Program (WCP) Facility Surveillance and Monitoring

WCP personnel assess LANL’s radioactive waste facilities against the waste certification requirements summarized in TOOL-305, Waste Certification and Certification Protection. These personnel also surveil waste management activities and any associated items.

WCP assessment planning includes a review of past assessment results to determine the nature of any pre-existing problems. When recurring problems are found, the WCP assessment team reviews corrective actions that have been taken and determines whether the corrective actions are likely to be effective in preventing re-occurrence.

Less-than-90-day waste accumulation areas (<90 day areas) or Satellite Accumulation Areas (SAAs), which may store mixed radioactive waste, are assessed by ENV-RCRA. WCP personnel may evaluate documentation from assessments for waste certification compliance.

WCP assessments may also include tracking corrective actions resulting from independent assessments conducted by other LANL organizations, DOE, or their contractors.

WCP will review nonconformance and corrective action documentation and periodically surveil/monitor facilities to ensure appropriate and timely corrective actions are being taken. Facilities will be notified in advance of upcoming WCP site visits. Registered Waste Area (RWA) information will be tracked in a database and/or documented for reporting (e.g., management observation, independent assessment, etc.). Severe violations will be tracked in PFITS and will require corrective actions. Severe violations include, but are not limited to:

- reasonably likely impacts on human health or the environment,
- potential for damage to the facility or facility equipment,
- negative impacts on the Laboratory mission, and/or
- repeated violations of the same kind or failure to implement adequate corrective actions.

3.8 Corrective Actions

3.8.1 Self Assessment

Management personnel of activities generating radioactive waste must implement a system that documents the following:

- initial discovery of characterization/certification non-conformances,
- timely corrective actions, and
- completion of corrective actions.
Management personnel of activities generating radioactive waste must assess their facilities monthly using WCP inspection forms for TOOL-303, Low Level Waste Staging Areas, and TOOL-304, Low-Level Waste and Transuranic Waste Storage Areas. The completed forms must be retained for three years on-site and be readily available for WCP assessments team. These documents may be transferred to Information Resource Management for disposition after three years.

WCP will assess the adequacy of the corrective action process and its implementation and verify that completed corrective actions have addressed the initial findings or deficiencies.

### 3.8.2 Documentation

Records must be retained as required by PD1020, Document Control and Records Management.

Facilities must provide the WCP assessment team with timely access to:

- waste profiles and supporting acceptable knowledge or analytical data;
- original WDRs and/or TWSRs and the facility’s waste management database or other tracking system;
- waste characterization documentation, including the waste generation and management components of the facility’s authorization basis, sampling and analysis data, gamma spec reports, etc.;
- waste generation planning documentation;
- copies of Nonconformance Reports related to activities addressed in the facility’s programs and the documented corrective actions;
- UTrain training records;
- waste stream analysis and identification records;
- waste management procedures that document compliance with the requirements in this document and/or are related to waste generating operations; and
- any documents provided to support any of the items above.

### 4.0 RESPONSIBILITIES

#### 4.1 Waste Management Coordinators (WMCs)

Verify waste containers meet the requirements for transfer into storage at their facility or verify waste can be transferred to new ownership only if:

- Waste characterization and acceptable knowledge documentation is accurate and complete.
- Waste meets the WAC of the facility intended for the waste’s final disposition.
- Waste container is adequate to protect the waste against external sources of contamination.

#### 4.2 Waste-Generating Facility Personnel

- Ensure adequacy of waste characterization methods (acceptable knowledge and physical/chemical analysis).
- Maintain waste characterization documentation and provide this to WCP in a timely manner during on-site assessments.
- Responsible for ownership of radioactive waste areas.
• Implement a process for linking waste characterization documentation with specific containers so as to guarantee that documentation and containers cannot be mismatched.

• Ensure containers are stored to ensure contents of waste containers cannot be altered.

• Follow a process for transferring physical ownership of waste from staging to storage to shipment so as to guarantee that its certification is maintained.

• Protect containers in storage against tampering and waste addition or removal by controlling access to storage areas and verifying those with access are properly trained.

• Provide waste containers adequate to protect the waste against external sources of contamination over expected periods of storage.

4.3 Waste Certification Program (WCP) Personnel

• Monitor work in progress (i.e., through facility certification compliance [to the FWCP], surveillance and waste verification).

• Document compliance or noncompliance with characterization/certification requirements.

• Identify actual and potential characterization/certification conditions adverse to quality.

• Evaluate corrective actions as timely or untimely.

• Report corrective action adequacy to management.

• Provide notification to responsible line managers of the status and performance of work under surveillance.

• Document findings resulting from internal (e.g., Authorization Authority [AA]) or external (e.g., DOE) audits and assessments, tracking corrective actions and reporting observations to management.

• Determine whether waste management staging/storage facilities and systems are adequate to certify waste and to maintain waste certification until shipment.

• Provide facility waste certification reviews, site walk downs and document approvals of the FWCP.

5.0 IMPLEMENTATION

This document is subject to the Unreviewed Safety Question/Unreviewed Safety Issue (USQ/USI) Process as described in Safety Basis Procedure (SBP)112-3, Unreviewed Safety Question (USQ) Process. Because this document may impact the presumptions of a facility's safety analysis, the requirements in this document are effective 45 days from the issue date for applicable nuclear, high- and moderate-hazard facilities and accelerators. This provides the FOD additional time to complete the USQ/USI review. If the USQ/USI review cannot be completed by February 4, 2013, the FODs or their designee must seek and obtain an exception or variance from the IA as described in Section 7.0.

For all other organizations and facilities, the requirements in this document are effective on the issue date.

This document is implemented through the facility waste certification process, FWCP, the RWMB reporting mechanism, and WCP site assessment.

6.0 TRAINING

There are no training requirements needed to implement this document.
7.0 EXCEPTION OR VARIANCE

There are no exceptions or variances to the waste certification requirements in this document; however, facilities that cannot ship LLW or TRU waste to the TSDF for final disposition within one year of acceptance into storage must re-submit the RWMB, requesting an extension for a period justified in the submittal. The justification must be sufficiently specific and detailed to support DOE’s granting of the requested extension period.

Facilities that cannot ship mixed radioactive waste within one year of acceptance into storage must report this to the LANL Site Treatment Plan point of contact.

8.0 DOCUMENTS AND RECORDS

8.1 Office of Record

The Policy Office is the Laboratory Office of Record for this Institutional Document and maintains the administrative record.

The WCP is the WM-WGS office of record for documentation pertaining to maintenance of LANL’s RWMB and WCP facility assessments.

9.0 DEFINITIONS AND ACRONYMS

9.1 Definitions

See TOOL-101, Waste Management Glossary.

See LANL Definition of Terms.

9.2 Acronyms

See LANL Acronym Master List.

AA Authorization Authority
ADEP Associate Director for Environmental Programs
ADESH Associate Director for Environment, Safety, and Health
CWDR Chemical Waste Disposal Request
DOE Department of Energy
EDS Employee Development System
ENV-RCRA Environmental Protection-Water Quality and Resource Conservation and Recovery Act
FOD Facility Operations Director
FWCP Facility Waste Certification Plan
IA Issuing Authority
LANL Los Alamos National Laboratory
LLW Low-Level Waste
M Manual
MLLW Mixed Low-Level Waste
MTRU Mixed Transuranic
O Order
PFITS Performance Feedback and Improvement Tracking System
Radioactive Waste Certification Program

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RCRA Resource Conservation and Recovery Act
RM Responsible Manager
RO Responsible Office
RWMB Radioactive Waste Management Basis
SAA Satellite Accumulation Area
SBP Safety Basis Procedure
SOP Standard Operating Procedure
TA Technical Area
TRU Transuranic
TSDF Treatment, Storage, and/or Disposal Facility
TWSR Transuranic Waste Storage Record
USI Unreviewed Safety Issue
USQ Unreviewed Safety Question
WAC Waste Acceptance Criteria
WCATS Waste Compliance and Tracking System
WCO Waste Certification Official
WCP Waste Certification Program
WDP-HMWO Waste Disposition Project-Hazardous and Mixed Waste Operations
WDR Waste Disposal Request
WES Waste and Environmental Services
WES-WGS Waste and Environmental Services-Waste Generator Services
WMC Waste Management Coordinator
WM-WGS Waste Management--Waste Generator Services

10.0 HISTORY

Revision History

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<thead>
<tr>
<th>Date</th>
<th>Document Information</th>
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<tr>
<td>04/03/08</td>
<td>P930-2, Rev. 0</td>
<td>Initial Issue</td>
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<tr>
<td>02/09/09</td>
<td>P930-2, Rev. 1</td>
<td>Section 3.2: Removes the implication that Waste Management Coordinator (WMCs) are responsible for certifying wastes for off-site are responsible for certifying wastes for off-site shipment. This function is implemented by Technical Area (TA)-54 ChemHaz Waste, Low-Level Waste (LLW), and Mixed Low-Level Waste (MLLW) Waste Certification Officials (WCOs). Section 3.5.1: The waste-related Nonconformance Report program no longer exists with respect to this function. The new wording reflects the current Lab approach to issue tracking and corrective action. Section 4.0: Clarifies the WMC certification-for-storage function and removes the certification-for-shipment function. Fixed links, titles, and acronyms.</td>
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**Revision History**

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<tr>
<th>Date</th>
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<tr>
<td>06/07/10</td>
<td>P930-2, Rev. 2</td>
<td>2</td>
<td>Title changed from “Waste Certification Program” to “Radioactive Waste Certification Program.” Moves this document with its owning division, Waste and Environmental Services (WES), from Associate Director for Environmental Programs (ADEP) to Associate Director for Environment, Safety, Health, and Quality (ADESH&amp;Q).</td>
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<tr>
<td>07/06/11</td>
<td>P930-2, Rev. 3</td>
<td>3</td>
<td>Added sections on Facility Waste Certification Plan (FWCP) (Section 3.4), Waste Certification Program (WCP) waste verification staff activities (Section 3.5), WCP performance assurance staff activities (Section 3.6), and WCP facility surveillance staff activities (Section 3.7). Removed references to cancelled Form 1346, Waste Profile Form, which has been replaced by the Waste Compliance and Tracking System (WCATS) and revised references to the Chemical Waste Disposal Request (CWDR) to Waste Disposal Request (WDR). Added provision (Item 3, Section 3.2) that material from potential release or decontamination and decommission sites or that may include radioactive isotopes, must be submitted for authorized release limits consideration to Waste and Environmental Services-Waste Generator Services (WES-WGS) or must be submitted for inclusion under an existing authorized release limits.</td>
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<tr>
<td>12/20/12</td>
<td>P930-2, Rev. 4</td>
<td>4</td>
<td>Changed Responsible Manager (RM) to Waste Management-Division Leader and changed Responsible Office (RO) to Waste Management--Waste Generator Services (WM-WGS). Section 3.3: Clarified storage extension request process. Section 3.7: Clarified WCP facility surveillance and monitoring process. Section 5.0: Updated to reflect effective date of February 4, 2013 for nuclear, high- and moderate-hazard facilities and accelerators. Updated links, titles, and acronyms.</td>
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**11.0 REFERENCES**

**Prime Contract:**

- Appendix B, Statement of Work: §1.0 General
- DOE O 435.1, Radioactive Waste Management
- DOE O 458.1, Radiation Protection of the Public and the Environment

**11.1 Other References**

- TOOL-305, Waste Certification and Certification Protection
- P930-3, Off-Site Shipment of Chemical, Hazardous, or Radioactive Waste
- Facility Waste Certification Plan (FWCP)
12.0 FORMS

- Form 1971, Transuranic (TRU) Waste Storage Record (TWSR)
- Form 2107, Radioactive Waste Management Basis Report Form
- Form 2108, RWMB Waste and Activity Continuation Sheet

13.0 ATTACHMENTS

There are no attachments associated with this document.

14.0 CONTACT

Waste Management--Waste Generator Services (WM-WGS)
Telephone: (505) 667-0808
Fax: (505) 665-4747
E-mail: rad_wcp@lanl.gov
Website: http://int.lanl.gov/environment/waste/certification/index.shtml
IMPORTANT

If you wish to receive credit for the preceding document you must enter the course through UTrain not the Policy Office website.