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Environment, Safety, Health Directorate**Waste Management Division****Administrative Procedure****Waste Characterization and Processing Review****Subject Matter Expert:**

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REVISION HISTORY

Document Number and Revision <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
WM-AP-0005, Rev. 1	2/18/2016	Major Revision. Clarification of responsibilities, membership appointment, and communication processes.
WM-AP-0005, Rev. 0	7/20/2015	New document.

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1.0 INTRODUCTION

On December 6, 2014 the New Mexico Environment Department (NMED) issued an Administrative Compliance Order (ACO), HWB-14-20, for violations of the Hazardous Waste Act and the Hazardous Waste Facility Permit to Los Alamos National Laboratory (LANL). The ACO calls for a Communication System within and between appropriate LANL organizations to ensure that waste stream profile acceptable knowledge (AK) documentation is accurate, sufficient, and updated.

This administrative procedure provides the frame work for the Waste Characterization and Processing Review, including the communication system methods and the engagement of LANL subject matter experts (SMEs) to participate in reviews on complex waste management issues. The reviews will include issues related to ensuring that waste stream profile AK documentation is accurate, sufficient and updated. In addition, this administrative procedure will also be made available to external SMEs to facilitate their participation in the Waste Characterization and Processing Review and to enhance communication between organizations. The Waste Characterization and Processing Review is only one aspect that LANL has instituted to address the ACO and enhance communication.

1.1 Purpose

This administrative procedure provides the frame work for the Waste Characterization and Processing Review established by the Waste Management Division with documentation for the communication methods, members, scope, and decision making. The Waste Characterization and Processing Review is chartered to enhance Resource Conservation and Recovery Act (RCRA) compliance, reduce hazards, improve safety associated with LANL waste processing and management, and to review and provide compliant resolution on complex waste issues related to waste characterization and processing.

1.2 Scope

The Waste Characterization and Processing Review is invoked when a complex waste management and/or processing issue surfaces and is best resolved with multi-discipline SMEs from within and potentially external to LANL for a comprehensive and thorough evaluation and safe and compliant resolution. The Waste Characterization and Processing Review will be applied to waste characterization, waste management procedures related to waste characterization and processing, and other complex waste issues. The Waste Management (WM) Division Leader has the responsibility to determine which waste management and processing issues are complex; and therefore, invoke the Waste Characterization and Processing Review.

1.3 Applicability

This administrative procedure is applicable to all LANL SMEs engaged to participate in the Waste Characterization and Processing Review established by the Waste Management Division. In addition, this administrative procedure will also be made available to external SMEs for informational purposes. The Waste Characterization and Processing Review [website](#) lists internal and external [subject matter experts](#) available to participate.

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2.0 PRECAUTIONS AND LIMITATIONS

This administrative procedure is applicable to all LANL SMEs engaged to participate in the Waste Characterization and Processing Review. The procedure is also made available to external SMEs to facilitate their participation in the Waste Characterization and Processing Review, enhance communication, and for informational purposes. LANL can only request and encourage, not require, external membership participation in Waste Characterization and Processing Review.

3.0 RESPONSIBILITIES

An effective multi-disciplinary Waste Characterization and Processing Review is dependent upon participants serving their intended functions as described below.

3.1 Waste Management (WM) Division Leader

- Serve as chair for the Waste Characterization and Processing Review meetings and interactions
- Provide leadership to the Waste Characterization and Processing Review in waste management services for support of the LANL mission
- Invoke the Waste Characterization and Processing Review for complex waste issues
- Champion waste management process changes to strengthen use of waste stream documentation that is accurate, sufficient, and updated
- Identify agenda items for the Waste Characterization and Processing Review
- Support sustainability of the Waste Characterization and Processing Review
- Encourage broad engagement of diverse SMEs to address a variety of complex waste management and processing issues to enhance RCRA compliance, reduce hazards, and improve safety associated with LANL waste streams
- Resolve disputes when SMEs cannot reach consensus
- Adopt and support a process for local-level waste management procedure review
- Determine the appropriate mechanism to implement and communicate decisions from the Waste Characterization and Processing Review

3.2 Environmental Protection and Compliance (EPC) Division Leader

- Provide leadership to the Waste Characterization and Processing Review on environmental protection and compliance services, especially in reference to RCRA, to anticipate and manage environmental risk in support of the LANL mission
- Enhance RCRA compliance, reduce hazards, and improve safety associated with LANL waste streams
- Provide guidance and procedures to facilitate hazardous waste management, storage, and treatment (where permitted) in accordance with the Los Alamos National Laboratory Hazardous Waste Permit and RCRA regulations

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- Provide support for implementing the formal communication process for applicable Waste Characterization and Processing Review decisions with interested parties external and internal to LANL per P402, *Environmental Communication Procedure*

3.3 Waste Characterization and Processing Review Facilitator

- Manage the communication with the SMEs
- Track membership appointments for the SMEs
- Document Waste Characterization and Processing Review decisions
- Organize meetings, preparation materials, work assignments, and agendas
- Complete meeting minutes and maintain the website

3.4 Internal Subject Matter Experts

- Offer input and recommendations related to area of expertise on complex waste management and processing issues in the manner prescribed and by scheduled deadlines
- Appoint a qualified backup when not available for Waste Characterization and Processing Review obligations
- Apply expertise to enhance compliance with requirements, reduce hazards, and improve safety associated with LANL waste streams
- Lead and serve on subcommittees

3.5 External Subject Matter Experts

- Offer input and recommendations related to area of expertise on complex waste management and processing issues in the manner prescribed and by scheduled deadlines
- Establish a method of interaction with the Waste Characterization and Processing Review in a manner aligned with applicable interface agreements or subcontracts
- Apply expertise to enhance compliance with requirements, reduce hazards, and improve safety associated with LANL waste streams
- Interface with the DOE National Transuranic (TRU) Waste Corporate Board, as appropriate

3.6 Associate Directorate for Environmental Management (ADEM) and Associate Directorate for Environment, Safety, and Health (ADESH) Subcontractor Technical Representatives (STRs)

- Ensure the flow down of waste management requirements to subcontractors
- Reinforce performance expectations for subcontractors related to environmental compliance and waste management documented in applicable contracts and Exhibit F
- Formally communicate decisions from the Waste Characterization and Processing Review to the Responsible Division Leader with waste management subcontractors for proper implementation of appropriate waste management procedures applicable to the subcontractors

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- Offer input and recommendations for complex waste management and processing issues that will be consistent with applicable contracts and Exhibit F requirements and implementable for contractors
- Resolve conflicts between the subcontractor and the institution through the official mechanism described in P850, *Subcontract Technical Representative Procedure*, and specified in the applicable contract

3.7 Chemistry Subject Matter Experts

- Offer input and recommendations related to area of expertise on complex waste management and processing issues in the manner prescribed and by scheduled deadlines
- Appoint a qualified backup when not available for Waste Characterization and Processing Review obligations
- Participate in waste stream profile discussions to address difficult waste stream issues (e.g. process description communication; waste compatibility determinations; characterization methodologies; identification of ignitable, corrosive, and reactive wastes)

3.8 Radiological Subject Matter Experts

- Offer input and recommendations related to area of expertise on complex waste management and processing issues in the manner prescribed and by scheduled deadlines
- Appoint a qualified backup when not available for Waste Characterization and Processing Review obligations
- Participate in waste stream profile discussions to address difficult waste stream issues (e.g. process description communication; waste compatibility determinations; characterization methodologies; identification of ignitable, corrosive, and reactive wastes)
- Apply expertise for management and characterization of complex waste streams

3.9 Waste Certification Officials

- Communicate decisions from the Waste Characterization and Processing Review to offsite treatment, storage, and disposal (TSD) facilities for low-level waste (LLW) and mixed low-level waste (MLLW) waste related issues
- Offer input and recommendations for waste management and processing issues that will be consistent with applicable requirements for receipt of LANL waste at offsite TSD facilities

4.0 QUALIFICATION PREREQUISITE

The Waste Characterization and Processing Review engages technical support to review and make recommendations on complex waste management and processing issues; develop position papers; and review procedural issues, generator documents, waste stream profile technical issues, and waste generating processes. This technical support is provided by a diverse group of individuals recognized

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as experts in their field based on formal training, education, and/or experience in a wide variety of technical disciplines, program areas, regulatory standards, and/or processes.

Each individual is carefully selected based upon their proven skill set and appointed to support Waste Characterization and Processing Review. Appointment of SMEs for participation in the Waste Characterization and Processing Review will be coordinated with the SME's manager to ensure availability of the SME for participation in the reviews. Factors considered during appointment and selection include management nominations, representation of the institutional cross section, and the need for expertise, at a minimum, of waste compliance, waste management, waste generation and waste characterization. Factors considered prior to SME engagement, those not appointed, include management nomination, representation of the institutional cross section, certifications and qualifications, and the need for expertise (e.g. waste compliance, waste management, waste generation and waste characterization).

5.0 PROCESS SUMMARY

The Waste Characterization and Processing Review is chartered to enhance RCRA compliance, reduce hazards, and improve safety associated with LANL waste management. To achieve the chartered mission, the Waste Characterization and Processing Review uses a variety of communication methods to engage multi-discipline SMEs for reviewing and providing compliant resolution on complex waste issues. The complex waste issues may include Waste Stream Profiles (WSPs) and supporting AK documentation, new and revised waste management and processing procedures, and compatibility analyses.

The Waste Characterization and Processing Review will employ the described methods to engage multi-discipline SMEs for review and to recommend compliant resolution on a variety of complex waste management and processing issues to minimize hazards and ensure compliance with all applicable requirements. The methods of engagement are designed to ensure sustainable interactions between participants and timely resolution of complex waste issues to facilitate compliant waste management and processing activities.

5.1 Website

The Waste Characterization and Processing Review has a dedicated website available to participants. At a minimum the website is maintained with the following:

- links to waste management reference materials and tools
- list of SMEs
- meeting minutes
- meeting attendance logs

Action: *Refer to the designated website to stay informed of the Waste Characterization and Processing Review progress at LANL and applicable work assignments.*

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5.2 Meetings

Waste Characterization and Processing Review meetings are scheduled on a monthly basis and held as needed. Meeting announcements with date, time, and location will be communicated via email and Microsoft Outlook or similar calendar management tool. Meeting preparation materials may include but are not limited to: agenda; previous meeting minutes; draft procedures proposed for SME review; applicable assessments and investigations; draft waste stream profiles proposed for review; and waste metrics. Preparation materials will be made available prior to the meeting.

Attendance will be recorded for each meeting and the attendance logs will be posted on the Waste Characterization and Processing Review website. An effective Waste Characterization and Processing Review is dependent upon participants serving their intended functions.

Meeting minutes will be recorded, documented, and subject to approval by the Waste Characterization and Processing Review participants at a following meeting. Minutes will reflect decisions made, content of technical discussion, and outstanding actions with responsible individuals and due dates. Meeting minutes will be posted on the website.

Decisions will be made by consensus. If the Waste Characterization and Processing Review cannot reach consensus, the Chair is responsible for the final decision. Final decisions as well as dissenting opinions will be documented in meeting minutes.

Action: *Attend and participate in Waste Characterization and Processing Review meetings.*

5.3 WCATS Work Flow

The Waste Compliance and Tracking System (WCATS) is a software application that has been specifically designed to support LANL's waste management from cradle to grave. WCATS supports the generation, characterization, processing, and shipment of all waste types generated at LANL. Regulatory drivers include RCRA hazardous waste regulations, and Department of Transportation (DOT) shipping, National Nuclear Security Agency (NNSA) nuclear material control and accountability, DOE nuclear safety, LANL Hazardous Waste Facility Permit, and DOE Order 435.1 Radioactive Waste Management requirements.

WCATS serves as one element of LANL's facility operating record. LANL waste management and processing activities are expected to be tracked in WCATS. If subcontractors are generating or managing waste, they too are expected to use, to be trained on and to be given access to WCATS.

AK information is maintained in and communicated through WCATS. The waste streams are described and documented in Waste Stream Profiles (WSPs) and supported with sampling and analysis data and/or AK documentation. The process is designed to accurately and completely capture and record the necessary information required to compliantly store, treat, and dispose of waste items.

The Waste Characterization and Processing Review was created to support and facilitate compliance with applicable requirements, reduce hazards, and improve safety associated with LANL waste streams with an emphasis on complex issues. Thus, Waste Characterization and Processing Review participants may review WSPs to evaluate waste characterization for accuracy, sufficiency, and currency (i.e., up-to-date); to verify the identification of ignitable, corrosive, reactive, and toxicity characteristic wastes; and to determine if the identification and segregation of incompatible waste items is sufficient.

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The Waste Management Division WSP reviewer signs and approves the WSP after confirming that the characterization information is correct, complete, and properly entered. Endorsing a waste stream declares that all forms were fully reviewed and certifies that all information is complete, accurate, and compliant with requirements. The Waste Characterization and Processing Review may be invoked by the Waste Management Division WSP reviewer at any time additional SME input is needed.

Waste Stream Profiles not approved will be revoked. A comment regarding the revoking action can be entered into the comment log of the Waste Stream Profile. WCATS automatically notifies the waste generator and the waste management coordinator on each WSP action for approval and disapproval.

The WCATS User's Manual describes the review and signature of waste streams in section 4.2.1.24 "Reviewers/Signatures".

Action: *Participate in waste stream technical discussions. Raise potential complex WSP and waste management issues for discussion and resolution.*

5.4 Procedure Review

The Waste Characterization and Processing Review may be invoked for procedure review when waste generators choose to operate to additional local-level procedures for waste management activities; to satisfy P409 LANL *Waste Management* requirements; and to review and propose processes that facilitate Waste Generator compliance by engaging SMEs in the planning stage for all waste and potential waste streams.

Action: *Participate in reviews as assigned and provide comments for compliance issues and best waste management practices. Raise potential complex compliance and waste management issues for discussion and resolution.*

5.5 Subcommittee Recommendations

As issues are raised for Waste Characterization and Processing Review, the participants will assess the priority levels. For the highest priorities, subcommittees will be established with representation of applicable SMEs. The subcommittees will work in parallel to explore their assigned issues, suggest recommendations, and present their findings at Waste Characterization and Processing Review meetings.

As subcommittees investigate issues and propose recommendations, the points of consideration should include following:

- Impact to compliance;
- Impact to the waste generator;
- Resources necessary to implement the suggestions (staff, funding, system changes (for example WCATS), and others);
- Venues for dissemination of pertinent information to affected and potentially affected LANL and subcontract workers and managers;
- Sustainability of the recommendation; and

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- Impact to the treatment or storage facility

Action: *Lead and participate on subcommittees to address highest priority Waste Characterization and Processing Review issues, explore options, develop recommendations, and present findings at Waste Characterization and Processing Review meetings.*

5.6 Waste Characterization and Processing Review Processes

Over time the Waste Characterization and Processing Review will mature and the work processes will evolve. Participants will be called upon to enhance the review processes and ensure their effectiveness and sustainability.

Action: *Lead and participate on subcommittees to define highest priority Waste Characterization and Processing Review processes, explore options, develop recommendations, and present findings at Waste Characterization and Processing Review meetings.*

5.7 Decision Making

As complex waste management and processing issues are thoroughly explored, participants will be encouraged to maintain questioning attitudes, participate in open dialog, listen respectfully, and work toward consensus for compliant, safe, and technically sound paths forward. Should consensus not be reached in a timely fashion, the issues will be assigned to a subcommittee for further evaluation. The subcommittee will then present resolution and recommendations as applicable. Conflicting or dissenting comments that cannot be resolved by the subcommittee will be presented to the WM Division Leader for resolution. Comment resolution and recommendations will be documented.

Issues and their resolution will be communicated to the affected and potentially affected LANL and subcontract workers and managers using established LANL communication venues (e.g. policies, procedures, training, Lessons Learned, WCATS webpage announcements). The formal process for communicating environmental matters with interested parties external and internal to LANL is documented in P402, *Environmental Communication Procedure*.

Actions: ¹**Enable the Mission AND protect the Laboratory** by maintaining questioning attitudes, speaking openly, listening respectfully, and working toward compliant, safe, and technically sound paths forward for complex waste management and processing issues.

Communicate issues and their resolution to affected and potentially affected LANL and subcontract workers and Managers.

¹ Craig Leasure, PADOPS-all-employee email, June 29, 2015.

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6.0 DEFINITIONS AND ACRONYMS

6.1 Definitions

Communication System is the variety of methods (including meetings, website content availability, email and outlook notifications, discussions, etc.) that allow multiple SMEs to engage in complex and informed decision making processes.

Complex waste management and/or processing issues are those best resolved with multi-discipline SMEs from within and potentially external to LANL for a comprehensive and thorough evaluation and safe and compliant resolution. The process is engaged for exploration of options, development of recommendations and presentation of findings to ensure safe and compliant resolution of the complex issues. Characterization of wastes for corrosivity and the application of D002 RCRA codes is an example of a complex waste management issue being addressed by the Waste Characterization and Processing Review.

Waste Characterization and Processing Review is the process acknowledged and adopted by Waste Management Division for the review and resolution of complex technical waste issues.

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6.2 Acronyms

ACO	Administrative Compliance Order
ADEM	Associate Directorate of Environmental Management
ADESH	Associate Directorate of Environment, Safety, and Health
AK	Acceptable Knowledge
CCP	Central Characterization Project
DOE	Department of Energy
DOT	Department of Transportation
EPC	Environmental Protection and Compliance
LANL	Los Alamos National Laboratory
LLW	Low-Level Waste
MLLW	Mixed Low-Level Waste
NMED	New Mexico Environment Department
NNSA	National Nuclear Security Administration
RCRA	Resource Conservation and Recovery Act
SME	Subject Matter Expert
STR	Subcontractor Technical Representative
TRU	Transuranic
TSD	Treatment, Storage, and Disposal
WCATS	Waste Compliance and Tracking System
WM	Waste Management
WSP	Waste Stream Profile

7.0 RECORDS

Records generated by this document will be posted on the designated website and provided and accessible to the Operations Integration Office (OIO) Records Management team for document management in accordance with P1020-1, Laboratory Records Management and with the ADESH-AP-006, Records Management Plan.

Records include the following:

- meeting minutes
- meeting attendance logs

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- subcommittee recommendations

8.0 REFERENCES

- [ADESH-AP-006](#), *Records Management Plan*
- [P402](#), *Environmental Communication Procedure*
- [P409](#), *LANL Waste Management*
- [P850](#), *Subcontract Technical Representative Procedure*
- [P1020-1](#), *Laboratory Records Management*
- [MAN-5004](#), *WCATS User's Manual*
- [2010 LANL Hazardous Waste Facility Permit](#)
- [DESH-AP-TOOL-111](#), *Waste Characterization*
- [DOE Order 435.1](#), *Radioactive Waste Management*