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Date: MAR 2 1 2016
Symbol: ADESH-16-040
LA-UR: 16-21610
Locates Action No.: N/A

Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Dear Mr. Kieling:

Subject: Response to Ordered Action 1, Attachment A to Settlement Agreement and Stipulated Final Order HWB-14-20

This letter responds to Ordered Action 1 in Attachment A to the Settlement Agreement and Stipulated Final Order HWB-14-20 (SFO) entered into by the New Mexico Environment Department (NMED) (Complainant) and the U.S. Department of Energy (DOE) and Los Alamos National Security, LLC (LANS) (Respondents) on January 22, 2016. Ordered Action 1 requires the following:

> ***No later than 60 days after this Order becomes final, Respondents shall submit to NMED a written report describing any and all actions Respondents have taken to prevent any recurrence of violations described herein. The written report shall include changes to procedures that Respondents have implemented already.***

Paragraph 35 of the SFO requires the Respondents to complete corrective actions (called "Ordered Actions" in the "Topic" column of Attachment A of the SFO) and submit required Evidence of Completion to NMED for approval by the deadlines specified in SFO Attachment A, unless an alternate date is approved in accordance with SFO paragraph 58. Please note that sixteen (16) discrete sets of corrective actions were taken as separate but interrelated elements of the overall comprehensive response to Ordered Action 1, as listed on pages 1-8 of SFO Attachment A.

Enclosure 1 to this letter is the report describing the Respondents' corrective actions in response to Ordered Action 1. Documentation to be submitted as evidence of completion of these Ordered Action 1 responses (as specified in Attachment A to the SFO) is included as Appendices to the Enclosure. For purposes of this

response, and to facilitate tracking of in-progress/ongoing actions, the 16 discrete sets of corrective actions comprising Ordered Action 1 have been renumbered as Response Actions 1.1 through 1.16, as shown in Table 1.0-2 of Enclosure 1.

The Respondents request to meet with NMED-HWB personnel to discuss and explain the documentation included herein. If you have comments or questions regarding this submittal, please contact Mark P. Haagenstad (LANS) at (505) 665-2014 or David Nickless (EM-LA) at (505) 665-6448.

Sincerely,

3/17/14

Michael T. Brandt, DrPH, CIH
Associate Director
Environment, Safety & Health
Los Alamos National Security, LLC
Los Alamos National Laboratory

Sincerely,

Kimberly Davis Lebak

Kimberly Davis Lebak
Manager
Los Alamos Field Office
U.S. Department of Energy

MTB:PM:MPH/lm

Enclosure: (1) Response to Ordered Action 1, Attachment A to Settlement Agreement and Stipulated Final Order HWB-14-20

Cy: Ryan Flynn, NMED, Santa Fe, NM, (E-File)
Kathryn M. Roberts, NMED, Santa Fe, NM, (E-File)
John Kieling, NMED, Santa Fe, NM, (E-File)
Siona Briley, NMED/HWB, Santa Fe, NM, (E-File)
Neelam Dhawan, NMED/HWB, Santa Fe, NM, (E-File)
Todd Shrader, Manager, CBFO, (E-File)
J.R. Stroble, National TRU Program, CBFO, (E-File)
Kimberly Davis Lebak, NA-LA, (E-File)
Douglas E. Hintze, EM-LA, (E-File)
Lisa Cummings, NA-LA, (E-File)
Ben Underwood, EM-LA, (E-File)
Brian Hennessey, EM-LA, (E-File)
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Jody Pugh, NA-LA, (E-File)
Jordan Arnswald, NA-LA, (E-File)
Kirsten M. Laskey, EM-LA, (E-File)
Craig Leasure, PADOPS, (E-File)
William Mairson, PADOPS, (E-File)
Kapil Goyal, NPI-7, (E-File)
Randall M. Erickson, ADEM, (E-File)
David Funk, ADEM, (E-File)
Enrique Torres, ADEM, (E-File)
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Cy (continued):
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Michael T. Brandt, ADESH, (E-File)
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John McCann, EPC-DO, (E-File)
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CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Michael T. Brandt, DrPH, CIH
Associate Director
Environment, Safety, and Health
Los Alamos National Security, LLC
Los Alamos National Laboratory
Operator

3/17/16
Date Signed

Kimberly Davis Lebak
Manager
Los Alamos Field Office
U.S. Department of Energy
Owner/Operator

3/17/16
Date Signed

ENCLOSURE 1

Response to Ordered Action 1
Attachment A to Settlement Agreement and Stipulated
Final Order HWB-14-20

ADESH-16-040

LA-UR-16-21774

Date: MAR 2 1 2016

Enclosure 1

Response to Ordered Action 1, Attachment A to Settlement Agreement and Stipulated Final Order (SFO) HWB-14-20

1.0 Introduction

Ordered Action No. 1 states that

> *No later than 60 days after this Order becomes final, Respondents shall submit to NMED a written report describing any and all actions Respondents have taken to prevent any recurrence of violations described herein. The written report shall include changes to procedures that Respondents have implemented already.*

The Respondents have developed and implemented a comprehensive, wide-ranging suite of corrective actions responding to Ordered Action 1, as listed in Table 1.0-2 and described in this Enclosure. This Enclosure is the written report requested by New Mexico Environment Department (NMED). It has been prepared to summarize the Los Alamos National Laboratory (LANL) response to Ordered Action 1. These corrective actions are strongly interrelated, and are intended to work in concert to help prevent recurrence of the violations listed in the Administrative Compliance Order (ACO) issued by NMED on December 6, 2014. Location of documentation being provided as evidence of completion of Ordered Action 1 is also indicated in Table 1.0-2.

1.0.1 Background and Initial Response Actions

The Respondents had taken numerous corrective actions following the radiological release at the Waste Isolation Pilot Plant (WIPP) to ensure the safety and protection of human health and the environment. They included reviews of (1) operating procedures that involve waste management, (2) the LANL Waste Stream Profile (WSP) process, (3) training practices for waste processing and internal Resource Conservation and Recovery Act (RCRA) compliance, and (4) the RCRA Self -Assessment program, among others, as described herein. Many of these actions, begun prior to issuance of the ACO, laid the groundwork for the actions to prevent recurrence that are described in this report.

1.0.2 Immediate Corrective Actions

Both before and immediately after issuance of the ACO, the Respondents took actions to prevent recurrence of the violations. These immediate administrative actions included the following.

- All nitrate salt waste processing and treatment activities within Technical Area (TA)-54 and the Waste Characterization, Reduction, and Repackaging Facility (WCRRF) were paused by issuance of a Standing Order (EP-DIV-SO-1242, Rev. 0; see Section 1.1 and Appendix 1). This action helped prevent immediate recurrences of ACO Violations 111–115 and 125-126.[1]
- All legacy Transuranic (TRU) and mixed TRU waste processing and treatment activities within TA-54 and WCRRF were paused by issuance of a Standing Order (EP-DIV-SO-20222, Rev. 1; see

[1] Note that the violation numbers used in this document are the violations as numbered in the ACO, not the Settlement Agreement and Final Order. This is because the ACO violation numbers are used in Stipulated Final Order (SFO) Attachment A.

Section 1.2 and Appendix 2). This action helped prevent immediate recurrences of ACO Violations 111-115 (as well as Violations 120-126).

- Institutional environmental compliance activities were centralized within the Associate Directorate of Environment, Safety and Health (ADESH) organization at LANL (see discussion in Section 1.4). This action helped prevent immediate recurrences of ACO Violations 116-119, 127, and 128.
- A Senior Management Team was introduced in the LANL Associate Directorate of Environmental Management (ADEM)[2] organization with the technical background to understand the complexity of chemical operations at the LANL waste management facilities (see discussion in Section 1.5). This action helped prevent immediate recurrences of ACO Violations 125 and 126.

Some of the immediate actions were superseded by later efforts (for example, some Standing Orders were superseded by procedures, etc.). Other actions were taken between February 2014 and issuance of the Settlement Agreement and Stipulated Final Order in January 2016 pursuant to the LANL *Nitrate Salt Isolation Plan* (submitted to NMED on March 11, 2016; see the following link (http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ESHID-601297). Since issuance of the ACO in December 2014, a number of major corrective action programs have been put into motion. They are described in the following sections of this report.

1.0.3 Corrective Actions Must Address ACO Violations

As stated previously, the corrective actions being taken must (1) address the violations described in the ACO and, where possible, (2) prevent their recurrence. In addition, many of these corrective actions respond to findings and deficiencies identified by the U.S. Department of Energy (DOE) Deputy Assistant Secretary for Safety, Security, and Quality Programs, Office of Environmental Management, appointed Accident Investigation Board (AIB), and other investigative panels. The violations are summarized in Table 1.0-1.

Table 1.0-1
ACO Violations – Brief Summary

Violations 111 and 112	Failing to obtain a permit to treat hazardous waste
Violations 113, 114, and 115	Performing treatment in non-permitted facilities
Violations 116, 117, and 118	Failing to notify NMED that LANL intended to treat wastes
Violation 119	Failure to allow NMED to inspect treatment facilities prior to treatment
Violations 120, 121, 122, 123, and 124	Failure to properly characterize and annually re-evaluate regulated waste
Violations 125 and 126	Inappropriately mixing incompatible wastes and materials
Violations 127 and 128	Failure to notify NMED of RCRA permit violation

[2] Note that recent LANL division name changes are not reflected in all the documents referenced or provided in this response. LANL Associate Directorate of Environmental Programs (ADEP) has been changed to the Associate Directorate of Environmental Management (ADEM). In the LANL Associate Directorate for Environment, Safety and Health (ADESH), the Environmental Protection Division (ENV) has been renamed the Environmental Protection and Compliance Division (EPC).

In order to prevent recurrence of the violations, the underlying goals of the corrective actions in this report are to produce the following changes at the institutional level:

1) Improved safety awareness and implementation of the Integrated Safety Management (ISM) Policy though training and continuous re-enforcement of core functions and guiding principles.
2) Improved anticipation of hazards through improved oversight;
3) Improved hazard identification (including compliance issues and risks) through revised and improved training on RCRA requirements (general and permit-specific), and improved hazard identification and Subject Matter Expert (SME) notification (e.g., via the Work Management System);
4) Improved compliance control via SME engagement (e.g., the Waste Characterization and Processing Review process (see Ordered Action 7 response, transmitted under separate cover [ADESH-16-027, LA-UR-16-21058]); implementation of SME engagement requirements in existing Policies P300, and P315; and modification of local level work procedure development processes);
5) Improved empowerment and involvement of individual workers to promote a questioning attitude and provide feedback to facilitate informed decisions that promote safety, reduce risk and contribute to process improvement;
6) Improved oversight (e.g., via more engagement of RCRA SMEs in planning, technical oversight, and independent reviews; introduction of an ADEM Senior Management Team with strong technical backgrounds); and
7) Continual learning when issues are identified (e.g., via the Compliance and Technical Assistance Program (CTAP) [e.g., RCRA independent assessments]; evaluation of RCRA oversight program; re-enforcement of non-conformance reporting). Special attention will be given to communicating the non-conformance reporting notification process.

This Enclosure is the report provided in response to Ordered Action 1[3]. For purposes of this document, the corrective actions described herein have been identified as Response Actions 1.1 through 1.16 as shown in Table 1.0-2. Documentation submitted as evidence of completion of these responses (as specified in Attachment A to the SFO) is included as Appendices to the Enclosure, and described fully in the corresponding section of this response.

Note that SFO Attachment A includes several in-progress/ongoing response actions. They are described herein, and progress on their completion will be reported regularly in the monthly progress reports required pursuant to paragraph 35 of the SFO.

[3] Note that the response to one section of Ordered Action (OA) 1, specifically Action 1.10, has been submitted to the NMED separately in a combined response addressing OAs 1.10, 4, and 6. Therefore only a brief synopsis of OA 1.10 is included herein.

Table 1.0-2
Ordered Action (OA) 1 – Response Actions and Location in this Report

OA-1 No.	Violations Addressed (ACO Para. No.)	Response Actions	Documentation to Provide as Evidence of Completion	Location in Document
1.0	111-128	**ACO-1 Written report** - Description of actions Respondents have taken/ will take to prevent recurrence NOTE: Discussion of the following ACO Paragraph 129 response actions will be included in the Written Report	ACO-1 Written report with enclosures noted for ACO 129 below	Enclosure 1 (and associated Appendices) is the Ordered Action 1 Written Report.
1.1	111-115	**Standing Order for Area G** – Restrict Nitrate Salt waste processing	ADEP Standing Order, *Restriction on Processing Nitrate Salt,* TA-54 AREA G, EP-AREAG-SO-1242, Rev.0	Enclosure 1, Section 1.1 Appendix 1 (*copy of Standing Order*)
1.2	111-115	**Standing Order for All EWMO Facilities** – Pause ALL legacy TRU waste processing at Environmental Waste Management Operations (EWMO)-supported facilities	ADEP Standing Order, *EWMO Legacy TRU Waste Pause,* EP-DIV-SO-20222, R.1	Enclosure 1, Section 1.2 Appendix 2 (*copy of Standing Order*)
1.3	111-128	**Standing Order for All [Laboratory Wide] Waste Generators** – *Waste Treatment Requirements* – Lab-wide requirement for environmental compliance staff involvement in waste processing or treatment project planning	ADESH issued Standing Order, *Waste Treatment Requirements*	Enclosure 1, Section 1.3 Appendix 3 (*copy of Standing Order*)
1.4	116-119, 127, 128	**Centralizing Environmental Compliance activities** within ADESH for LANL	ENV Organization Chart (Before incident) ADESH organization Chart (After incident) Brief summary of how the organizational changes address the violations cited (i.e., how the reorganization intends to fix the problems the previous organization failed to identify/prevent)	Enclosure 1, Section 1.4 (*brief summary*) Appendix 4 (*copy of Organization charts*)
1.5	125, 126	**Introduction of Senior Management Team** with technical background to understand complexity of chemical operations.	ADEP Organization Chart (Before incident) ADEP Organization Chart (After incident) Brief summary of how the organizational changes address the violations cited (i.e., how the reorganization intends to fix the problems the previous organization failed to identify/prevent), timeline and bios.	Enclosure 1, Section 1.5 (*brief summary, timeline, bios*) Appendix 5 (*copy of Organization charts*)
1.6	111-128	**Develop Briefing to Senior Management**	Briefing Summary Attendance Metrics	Enclosure 1, Section 1.6 (*briefing summary, attendance metrics*)
1.7	111-128	**Standing Order** for incorporation of Exhibit F ENV review of subcontract scope and requirements for LANL Permit Compliance	Standing Order for *Subcontractor ESH Oversight,* ADESH-SO-004, Rev.0	Enclosure 1, Section 1.7 Appendix 6 (*copy of Standing Order*)

OA-1 No.	Violations Addressed (ACO Para. No.)	Response Actions	Documentation to Provide as Evidence of Completion	Location in Document
1.8	111-126	**Review** of P1020-2, *Laboratory Document Control*	Memo documenting review of LANL P1020-2 and basis for no revision in regards to ACO requirements.	Enclosure 1, Section 1.8 Appendix 7 (*copy of memo*)
1.9	111-118, 119, 125-128	**Training** - Education and training of waste management workers (managers, supervisors, technicians, generators) to recognize when processing becomes treatment. The following have been revised and/or developed and delivered to the appropriate audiences: • McCoy's training • Deployed Environmental Professional (DEP)/Waste Management Coordinator (WMC) RCRA Compliance training • RCRA Refresher for Waste Managers training • On-the-Job Training (OJT) for Treatment, Storage and Disposal Facilities (TSDF)[4] inspectors	Summary of training completed and training planned McCoy's 2015 RCRA Hazardous Waste Seminar (3-day), Course Summary Waste Management Coordinator (WMC) and ENV Deployed staff (DEP) Environmental Personnel RCRA Compliance Training – Live Briefing (March 25, 2015) - Summary RCRA Refresher for Waste Managers, Course 28426 Waste Generation Overview, Course 23263 Waste Generation Overview Annual Refresher, Course 21464 RCRA Personnel Training (Live), Course 7488 RCRA Refresher, Course 28582 NOTE: The RCRA Refresher for Waste Managers Training - Course 28426 to be included as a requirement for Subcontract Technical Representatives (STRs), as noted in the STR Qualification Standard NOTE: Both RCRA Personnel Training, [Course 7488] and RCRA Refresher, [Course 28582] have been reviewed and revised to bolster the LANL HWF permit detail. Both courses are required training for all Subcontract personnel working on LANL property, as noted in Subcontract Exhibits LANL Training Analysis for *On-the-Job Training for TSDF Inspectors,* Course 27745 - Summary Training Analysis for *RCRA Refresher for Waste Managers,* Course 28426 - Summary Training Analysis for *RCRA Personnel Training,* Course 7488 – Summary Training Analysis for *RCRA Refresher,* Course 28582– Summary Training Analysis for *Waste Generation Overview,* Course *23263*– Summary Training Analysis for *Waste Generation Overview Refresher,* Course 21464 – Summary	Enclosure 1, Section 1.9 (*summary*) Appendix 8: Table 1 – *Training Course Summaries*, and Table 2 - *Training Analysis Summaries*)

[4] *LANL uses the term Treatment and Storage Facility (TSF), rather than treatment, storage, and disposal facility (TSD or TSDF), to represent LANL permitted and interim status hazardous waste activities globally throughout this document.*

OA-1 No.	Violations Addressed (ACO Para. No.)	Response Actions	Documentation to Provide as Evidence of Completion	Location in Document
1.10	120-124	**Waste Profile Form Validation for Mixed and Hazardous Waste** Review of the characterization of all currently active LANL Hazardous waste streams.	A report which identifies the list of active hazardous waste streams reviewed by the generator/ WMC teams and Waste Management (WM) Division, with Conclusions/Summary	Enclosure 1, Section 1.10 (*brief synopsis of OA 1/4/6 deliverable [ADESH-16-037, LA-UR-16-21606], submitted under separate cover)*
1.11	113-114	Evaluation of RCRA Self-Assessment program needs (Compliance Technical Assistance Program or CTAP)	CTAP Evaluation and Gap Analysis Report with Compliance Technical Assistance Program (CTAP) Procedure (ENV-CP-QP-115) as enclosure.	Enclosure 1, Section 1.11 Appendix 9 (*copy of CTAP Evaluation and Gap Analysis Report with Compliance Technical Assistance Program (CTAP) Procedure [ENV-CP-QP-115]*)
1.12	113, 114, 116, 120, 122, 126, 127, 128	**Operating Record Validation** - Validation of the LANL Operating Record at all TSDs (TAs 3, 50, 54, 55, 63, 14, 16, 36, 39 permitted and interim status areas walk down).	Summary of *Compliance Technical Assistance Program (CTAP) Procedure [ENV-CP-QP-115] assessments and* Summary of P409 Tool, *ADESH-AP-TOOL-803 Facility TSF Operating Record and EWMO RCRA Permit Operating Record and Compliance Programs, EP-DIV-AP-21, R1.*	Enclosure 1, Section 1.12 Appendix 10 (*copy of EWMO RCRA Permit Operating Record and Compliance Programs, EP-DIV-AP-21, R1. superseded by EP-AP-20284).* *P409 Tool, ADESH-AP-TOOL-803 Facility TSF Operating Record was submitted in the OA 9 [ADESH-16-028, LA-UR-16-21107] deliverable, submitted under separate cover.*
			Electronic access to the current document(s) revision upon NMED request.	Appendix 14 (electronic copies of documents on compact disk [CD])
			Provide periodic [Semi-annually, or upon NMED request] listing of document(s) revisions.	To be provided semi-annually (first submittal scheduled for July 22, 2016).
1.13	113, 114, 120-124	**WCATS Data Change Control** - Implementation of Waste Compliance and Tracking System (WCATS) change control process.	Summary of ENV-RCRA-TOOL-719 *Using WCATS to Submit Change Requests.*	Enclosure 1, Section 1.13 (*summary*) Appendix 11 (copy of ADESH-AP-TOOL-117 *Managing Operating Record Changes in WCATS* (successor document to ENV-RCRA-TOOL-719)

OA-1 No.	Violations Addressed (ACO Para. No.)	Response Actions	Documentation to Provide as Evidence of Completion	Location in Document
			Electronic access to the current document(s) revision upon NMED request.	Appendix 14 (*electronic copies of documents on CD)*
			Provide periodic [Semi-annually, or upon NMED request] listing of document(s) revisions.	To be provided semi-annually (*first submittal scheduled for July 22, 2016*).
1.14	111-128	**Waste processing procedure review.** Implementation of procedure reviews by ENV-CP. Summary of findings and procedure revisions to date.	ENV-CP-AP-200, *Regulatory Procedure Review of Waste Management Procedures and Electronic access to the current document(s) revision upon NMED request. Provide periodic [Semi-annually, or upon NMED request] listing of document(s) revisions.* *ACO-9 response will provide details on number and type of procedures identified and review status.*	Enclosure 1, Section 1.14 (summary of findings and procedure revisions to date). Appendix 12 (list of procedures reviewed by EPC-CP). Ordered Action 9 response provided details on number and type of procedures identified and review status.
			Electronic access to the current document(s) revision upon NMED request.	Appendix 14 (*electronic copies of documents on CD)*
			Provide periodic [Semi-annually, or upon NMED request] listing of document(s) revisions.	To be provided semi-annually (*first submittal scheduled for July 22, 2016*).
1.15	121, 123, 124 and 132	**EOC Review** The non-compliances addressed in the EOC self-disclosure letter are the result of an extensive review of all legacy non-nitrate salt wastes processed under deficient waste management procedures at LANL. **EOC Completion Letter- (ADESH-15-162)** Voluntarily reporting of non-compliances associated with MTRU wastes **EOC Plan (EP-PLAN-10075, R0)** - A plan for managing Extent of Condition by evaluating past remediation activities performed on transuranic (TRU) and mixed TRU (MTRU) waste **LA-CIN01 Management Plan, (WD-PLAN-20280, R0)** Defined steps to conservatively manage the LA-CIN01 waste	*EOC Self Disclosure Letter - LA-UR-15-26713, DIR-15-127* *EOC Completion Letter- (ADESH-15-162)* *EOC Plan (EP-PLAN-10075, R0)* *LA-CIN01 Management Plan, (WD-PLAN-20280, R0)*	Enclosure 1, Section 1.15 *(Permalinks to Electronic Reading Room copies for EOC Self Disclosure Letter - LA-UR-15-26713 [DIR-15-127], EOC Completion Letter- [ADESH-15-162])* *Appendix 13* (copies of *EOC Plan* [EP-PLAN-10075, R0, LA-UR-16-21733] *and LA-CIN01 Management Plan,* (WD-PLAN-20280, R0, LA-UR-15-27081)

OA-1 No.	Violations Addressed (ACO Para. No.)	Response Actions	Documentation to Provide as Evidence of Completion	Location in Document
		containers and identify and apply appropriate EPA hazardous waste codes.		
1.16	121-128	Description of actions being taken to strengthen Subcontractors' requirements to follow LANL Environment, Safety and Health (ES&H) policies and requirements through the Exhibit F conditions of their subcontracts. Strengthening of Contract Exhibit F Field Verification Requirements for environmental risks.	Description of plans to implement major Exhibit F re-organization to result in two Exhibits (F1 and F2)	Enclosure 1, Section 1.16 (*description*)
Varies – see list in ACO-1, Att. A			*Electronic access to the current document(s) revision upon NMED request.* Includes ACO-1 items below: • 1.12 – Operating Record Validation. Documents to be provided include: *Compliance Technical Assistance Program (CTAP) Procedure* [ENV-CP-QP-115], and *EWMO RCRA Permit Operating Record and Compliance Programs*, EP-DIV-AP-21, R1, (as superseded by EP-AP-20284) • 1.13 – WCATS Change Control. Documents to be provided include: *Using WCATS to submit Change Requests*, ENV-RCRA-TOOL-719, (as superseded by ADESH-AP-TOOL-117).	Appendix 14 (*electronic copies of documents on CD)*
Varies – see list in ACO-1, Att. A			*Provide periodic [Semi-annually, or upon NMED request] listing of document(s) revisions.* Includes ACO-1 items below: • 1.12 – Operating Record Validation. Documents to be provided include: *Compliance Technical Assistance Program (CTAP) Procedure* [ENV-CP-QP-115], and *EWMO RCRA Permit Operating Record and Compliance Programs*, EP-DIV-AP-21, R1, (as superseded by EP-AP-20284) • 1.13 – WCATS Change Control. Documents to be provided include: *Using WCATS to submit Change Requests*, ENV-RCRA-TOOL-719, (as superseded by ADESH-AP-TOOL-117).	To be provided semi-annually (first submittal scheduled for July 22, 2016).

1.1 Response to Ordered Action 1.1

As noted in Table 1.0-2, the Response Action to Ordered Action 1.1 is as follows:

Standing Order for Area G – Restrict Nitrate Salt waste processing

The documentation to provide as evidence of completion is located in Appendix 1.

1.2 Response to Ordered Action 1.2

As noted in Table 1.0-2, the Response Action to Ordered Action 1.2 is as follows:

Standing Order for All EWMO Facilities – Pause ALL legacy TRU waste processing at EWMO-supported facilities

The documentation to provide as evidence of completion is located in Appendix 2.

1.3 Response to Ordered Action 1.3

As noted in Table 1.0-2, the Response Action to Ordered Action 1.3 is as follows:

Standing Order for All [Laboratory Wide] Waste Generators – Waste Treatment Requirements – Lab-wide requirement for environmental compliance staff involvement in waste processing or treatment project planning

The documentation to provide as evidence of completion is located in Appendix 3.

1.4 Response to Ordered Action 1.4

As noted in Table 1.0-2, the Response Action to Ordered Action 1.4 is as follows:

Centralizing Environmental Compliance activities within ADESH for LANL

The documentation to provide as evidence of completion is located in the sections below and in Appendix 4.

The Respondents have taken a number of administrative actions focused on the centralization of environmental compliance activities within the LANL ADESH core group, as stated in Section 1.0. These actions, taken before and after issuance of the ACO, were intended to help prevent recurrence of the violations. One root cause leading to the violations, as identified by the AIB and other investigative panels, was a failure to appropriately question observed conditions and to recognize when observations differed from expected conditions. It was recognized that organizational changes should, among other things, encourage workers to adopt a questioning attitude. The organizational changes discussed here are intended to clarify the roles and responsibilities of ADESH staff supporting facility operations and to encourage the questioning attitude.

Positive impacts of the ADESH re-organization have already been observed. A notable impact is improved consistency and an increase in the level of oversight. Dedication of EPC-CP resources to facilities with EPC-based, as opposed to Facility Operations Directorate (FOD)-based,

management eliminates the potential for conflicting goals or objectives, leading to clearer definition of the ADESH staff roles and responsibilities.

An additional change is the active engagement of EPC-CP resources at the facility level. EPC-CP staff are already becoming integrated into planning teams (e.g., ADEM's Integrated Process Control Teams [IPCTs]). This active participation in planning provides heightened process awareness; facilitates compliance with permit notification and verification of relevant facts in permit application documents; and provides a clearer focus on identifying situations where processing may become treatment, potentially requiring permit modifications. Positive impact has also been observed in EPC-CP staff involvement in waste stream profile reviews. EPC-CP staff may participate in either a quality assurance role or as part of the routine activities performed under the CTAP RCRA self-assessment process (discussed in Section 1.11). Either role is coordinated at the EPC-CP core staff level. Engagement of the core environmental compliance organization provides access to a more experienced SME pool, further helping to prevent recurrence of the ACO violations.

ADESH senior management have also supported improvements to the Pause/Stop Work and issue review and resolution processes. These measures may also help to prevent recurrence by reinforcing the focus on keeping a questioning attitude when reviewing work processes.

ADESH organization charts are provided in Appendix 4. They present the organizational structure as it existed before the WIPP event, and the revised structure as it exists in March 2016.

1.5 Response to Ordered Action 1.5

As noted in Table 1.0-2, the Response Action to Ordered Action 1.5 is as follows:

> *Introduction of Senior Management Team with technical background to understand complexity of chemical operations.*

The documentation to provide as evidence of completion is located in Section 1.5 and Appendix 5.

The Respondents took a number of administrative actions focused on the leadership and management of ADEM. These actions, taken before and after issuance of the ACO, are intended to prevent recurrence of the violations. These changes strengthen the primary LANL organization responsible for storing, packaging, remediating (if necessary), and shipping mixed transuranic waste (including the nitrate salt waste stream) for disposal by providing leadership with strong technical backgrounds.

The organizational changes were instituted, in part, to address problems the previous organization had been unable to fully identify and/or prevent, as concluded by the AIB and other investigative panels. Appendix 5 presents the ADEP organization chart as it existed before the WIPP container breach event and the current ADEM organization.

One purpose of the organizational changes is to help prevent recurrence of the violations by bringing leaders into ADEM who have the requisite technical knowledge and experience to

manage nuclear waste processing and energetic materials operations. The new leadership bring strong nuclear, TRU and mixed TRU waste processing, nuclear operations, and energetic materials management experience. Leadership with strong technical expertise and nuclear operations experience is intended to help prevent recurrence of ACO violations via stronger understanding of potential chemical compatibility issues, enforcement of compliance requirements, and implementation of activities in accordance with formal nuclear conduct of operations requirements. The current ADEM Management team has experience with and embraces the safety culture required by LANL P300, *Integrated Safety Management,* and DOE G 450.4-1C, *Integrated Safety Management Guide.*

1.5.1 ADEM Organization Changes, Timeline, and Bios

The ADEM leadership introduced from August 2014 through March 2015 consists of the following:

Enrique (Kiki) Torres - selected in August 2014 as a Deputy Associate Director for Environmental Programs. Mr. Torres has more than 27 years of experience in DOE and DoD facilities. He was vice president and deputy general manager at the Advanced Mixed Waste Treatment Project at Idaho National Laboratory, where he oversaw transuranic waste programs. Most recently, he served as the startup task manager and risk manager at the Pueblo Chemical Agent Destruction Pilot Plant in Pueblo, Colorado. Torres is a former lieutenant in the U.S. Navy Nuclear Submarine Service, and holds a master's degree in business administration and a bachelor's degree in civil engineering.

Randall Erickson – was asked on October 2, 2014 to serve as Acting Associate Director for Environmental Programs. Dr. Erickson has more than 30 years of experience in nuclear operations, nuclear facilities, nuclear materials, and the science of transuranic waste at LANL and with DOE in Washington, D.C. Most recently, he served as Deputy Associate Director for Threat Identification and Response and Deputy Associate Director for Chemistry, Life, and Earth Sciences. Dr. Erickson holds a doctorate in nuclear engineering.

David Funk – was asked in March 2015 to serve as an Acting Deputy Associate Director for Environmental Programs, after serving as one of the leaders of a team of scientists investigating the cause of the breach of a LANL drum at WIPP. Dr. Funk has more than 25 years of experience in energetic materials and hydrodynamic experiments, and has held a number of line management positions in these areas. He most recently served as division leader for the Weapons Experiments Division. Dr. Funk holds a doctorate in physical chemistry.

Prior to the LANL container breach incident at WIPP, the ADEP organization consisted of program directors and project managers who were responsible for line management functions, but whose focus was cost and schedule performance. Reorganization of ADEM was executed from August 2014 through March 2015 to establish strong technical expertise and nuclear operations experience. Management actively engages in the flow-down of their expertise to project Responsible Line Managers (RLMs) to re-inforce understanding of the materials managed on-site, identify potential chemical compatibility issues, and enforce compliance activities in both nuclear conduct of operations and RCRA permit compliance. The current ADEM organization chart is provided in Appendix 5. The organization includes a Waste Disposition Division that will carry out the scope of work that formerly had been executed by the LANL TRU Program (LTP). The division includes groups with RLMs for a Storage, Remediation, and Shipping

Group and a Waste Process Engineering Group. The Waste Process Engineering Group will establish process engineering baselines and configuration control of waste processing activities within ADEM.

1.6 Response to Ordered Action 1.6

As noted in Table 1.0-2, the Response Action to Ordered Action 1.6 is as follows:

Develop Briefing to Senior Management

The documentation to provide as evidence of completion is provided in the following discussion, which briefly describes the briefing to senior management, and attendance metrics.

1.6.1 Briefing Summary

The Briefing to Senior Management was presented to the Laboratory Director, Dr. Charlie McMillan and his Senior Management Team on February 2, 2015. The presentation was delivered by Michael Brandt, ADESH and Randy Erickson, ADEM.

The presentation provided an overview of the TRU drum failure at WIPP and the identification of non-compliances with the LANL Hazardous Waste Permit and LANL internal procedures. Actions taken toward recovery were presented and included discussion of a process-based corrective action plan (CAP) to improve the quality of the Waste Management Program, RCRA Compliance, WIPP-related actions, facility readiness and ADEP operations resumption.

Development of the Integrated Corrective Action Team (ICAT) was proposed to "provide a focused and dedicated set of resources to direct, evaluate, integrate and manage an Institutional CAP". The CAP works to a defined scope and specific work activities, budget, staffing requirements, roles/responsibilities/authorities and accountabilities, and time-bounded deliverables. The ICAT is led by a senior Laboratory executive reporting to the Director with technical, operations and regulatory support from ADESH and ADEP.

A diagram of the ICAT Scope and the elements feeding into the CAP and the output was presented. Input to the ICAT scope of activities includes the NMED ACO, AIB, Office of the Inspector General and ADEM Operations Resumption/Restart plans. Output from the ICAT included development of resumption plans for TRU operations, improved checks and balances, and RCRA compliance. A phased plan of action and lists of major issues and proposed actions was defined. Named resources assigned to defined positions on the ICAT were presented to the Senior Management Team to document the proposed approach.

1.6.2 Attendance Metrics

The briefing was requested by the Laboratory Director. A call to all Laboratory Directorates was issued and attendance/representation by all directorates was required. Those directorates in attendance included:

Director's Office executive staff;
Principal Associate Directorates of:
- Science, Technology, and Engineering (PADSTE);
- Operations and Business (PADOPS);

- Capital Projects (PADCAP);
- Global Security (PADGS); and
- Weapons Program (PADWP)

Associate Directorates of:

- Business Innovation (ADBI);
- Mission Assurance, security, and emergency Response (ADMASER);
- Chemistry, Life and earth Sciences (ADCLES);
- Engineering Sciences (ADE);
- Experimental Physical Sciences (ADEPS);
- Theory, Simulation, and Computation (ADTSC);
- Project Management (ADPM);
- Plutonium Science and Manufacturing (ADPSM);
- Weapons Engineering and Experiments (ADW);
- Threat Identification and Response (ADTIR);
- Environment, Safety and Health (ADESH);
- Nuclear and High-Hazard Operations (ADNHHO)
- Weapons Physics (ADX);
- Environmental Management (ADEM), and
- National Nuclear Security Administration – Los Alamos Field Office (NA-LA)

1.7 Response to Ordered Action 1.7

As noted in Table 1.0-2, the Response Action to Ordered Action 1.7 is as follows:

Standing Order for incorporation of Exhibit F ENV review of subcontract scope and requirements for LANL Permit Compliance

The documentation to provide as evidence of completion is located in Appendix 6.

1.8 Response to Ordered Action 1.8

As noted in Table 1.0-2, the Response Action to Ordered Action 1.8 is as follows:

Review of P1020-2, "Laboratory Document Control"

The documentation to provide as evidence of completion is located in Appendix 7.

1.9 Response to Ordered Action 1.9

As noted in Table 1.0-2, the Response Action to Ordered Action 1.9 is as follows:

Education and training of waste management workers (managers, supervisors, technicians, generators) to recognize when processing becomes treatment. The following have been revised and/or developed and delivered to the appropriate audiences:

- *McCoy's training*
- *DEP/WMC RCRA Compliance training*
- *RCRA Refresher for waste Managers training*

- *OJT training for TSD[E.G., Transportation, Storage and Disposal Facility (TSDF)] inspectors*

The documentation to provide as evidence of completion is located in Section 1.9 of this enclosure and Appendix 8, which includes Table 1, *Training Course Summaries* and Table 2, *Training Analysis Summaries*. The following is a summary of training completed and training planned.

1.9.1 Training Completed

McCoy's 2015 RCRA Hazardous Waste Seminar was offered to WMCs, DEPs, EPC-CP staff, waste operators and waste generators. The training was recommended for all WMCs, DEPs, and EPC-CP staff. Waste operators and generators from across the laboratory participated voluntarily. Overall, 124 staff from 31 different divisions across the Laboratory and five different divisions of NA-LA have completed the training, the latest session was provided in February 2015.

RCRA Compliance Training (Live Briefing) to WMCs and DEPs was provided on March 25, 2015 to all active WMC and DEP staff. Attendance at the live briefing was strong, however, copies of the presentation were also sent electronically to all active WMCs and DEP as a follow-up to the meeting.

On-the-Job Training (OJT) for TSDF Inspectors, Course #27745, was provided to all WMCs, DEPs and TSF waste operators as a hands-on RCRA container storage area (CSA) inspection evaluation course. The course is designed to provide workers instruction and evaluation of a container storage facility mock-up with numerous examples of correct and incorrect CSA elements. The training to target audience was conducted between October 8 and December 23, 2015.

The group engaged in a shared review of the mock-up with exchange of worker level experiences and observations. The group then performed inspection of the evaluation CSA mock-up. Each student individually completed a full CSA RCRA Inspection Record Form of the evaluation mock-up. The Instructor evaluated each form and reviewed any observations or findings with the student. Evaluation criteria were shared with the students prior to the exercise and remedial training made available for any students who required additional training.

The training objectives were met in 2015. All trainees passed the evaluations successfully.

RCRA Refresher for Waste Managers, Course #28426 training was required of all WMCs, DEPS and ADEM waste operators and waste managers. Fifty-two workers were identified and assigned the training. All of the target audience completed the training successfully by the end of October 2015.

Waste Generation Overview, Course #23263 is assigned to all waste generators across the laboratory. Over 2400 workers are currently assigned the course.

Waste Generation Overview Refresher, Course #21464 is a refresher assigned to all waste generators across the laboratory. Over 2400 workers are currently assigned the course.

RCRA Personnel Training (Live), Course #7488, is assigned to all TSF workers across the Laboratory. Over 700 workers are currently assigned the course.

RCRA Personnel Training, Refresher, Course #28582, is assigned to all TSF workers across the Laboratory. Over 700 workers are currently assigned the course.

1.9.2 Training Planned

Review and update of the RCRA Personnel Training, Course #7488 and RCRA Refresher, Course #28582 is in progress. To date, this course has been reviewed by EPC-CP technical staff and the documents are being strengthened to reflect greater hazardous waste permit detail. Relevant observations from the LANL container breach incident have been addressed in bridge trainings (e.g., RCRA Refresher for Waste Mangers, Course #28426 and the WMC/DEP RCRA Compliance Training Live Briefing [March 25, 2015]) and incorporated into the institutional training updates. The detail includes emphasis on the separate WMC and waste generator responsibilities, better defined requirements for acceptable waste characterization documentation, better defined generator treatment requirements and limitations, and clear direction regarding the definitions of secondary waste and strengthened requirements for waste compatibility determinations.

OJT for TSDF Inspectors, Course #27745, additional sessions of the OJT TSDF Inspection training will be provided semi-annually, to meet the WMC and DEP training requirements for new hires.

Subcontract Technical Representative (STR) training requirements documented in the *Subcontract Technical Representative Procedure*, P850, R.4, effective 06/03/2014 and managed by Acquisition Services Management (ASM) includes training to be updated to emphasize review, concurrence and documentation of technical changes by applicable SMEs in CY 2016. Plans are to include the update in the STR Qualification Procedure (e.g., P850, Attachment A – STR Qualification Standard).

1.9.3 Training Course Summaries

Training Course Summaries for each training course are provided in Appendix 8, Table 1.

1.9.4 Training Analyses Summaries

Training Analyses Summaries for each training course are provided in Appendix 8, Table 2.

1.10 Response to Ordered Action 1.10

As noted in Table 1.0-2, the Response Action for Ordered Action No. 1.10 is as follows:

> *Waste Profile Form Validation for Mixed and Hazardous Waste - review of the characterization of all currently active LANL Hazardous waste streams.*

This section of Enclosure 1 provides a brief synopsis of the response to Ordered Action 1.10, which was provided to NMED, together with Ordered Actions 4 and 6 responses, under separate cover (ADESH 16-037, LA-UR-16-21566). The response included the requested report on the Laboratory's WSP validation effort for mixed and hazardous waste with conclusions and summary. The documentation requested as evidence of completion of Ordered Action 1.10 (i.e., the list of active hazardous waste streams reviewed) was provided as an Appendix to the Ordered Action 1.10,4,6 report (ADESH-16-037, LA-UR-16-21606).

Process refinements developed during the WSP reviews were incorporated in the review process and the criteria for the annual re-evaluation (see response to Ordered Action 6). In addition to the actions already reported in the response to Ordered Action 1.10 (ADESH-16-037), the following actions have been taken and implemented as opportunities for development and review of WSPs.

- Acceptable Knowledge (AK) documentation in WCATS was strengthened by eliminating extraneous WSP attachments and strengthening the requirement to attach relevant supporting documentation.
- Guidance and training on waste characterization and AK documentation requirements were enhanced to meet increased disposal facility requirements for AK documentation (see this enclosure, Section 1.9, and responses to Ordered Action 9 (ADESH-16-028, LA-UR-16-21107).
- Key LANL waste management documents were updated to (1) strengthen the flow-down of waste characterization requirements, (2) clarify roles and responsibilities, and (3) communicate expectations. These documents include policy documents, worker qualification standards, environmental subcontract requirements, and operating procedures (see response to Ordered Action 9 [ADESH-16-028, LA-UR-16-21107]).
- Training was revised and updated for WMCs, DEPs, and waste management workers (managers, supervisors, and technicians), especially to enhance content on waste characterization. In addition a more rigorous presentation of the requirements for extending WSPs has been addressed in a pilot course, *Waste Documentation – PILOT*, Course #8504) (see Section 1.9 in this enclosure).
- Lines of AK communication were established and strengthened by creating a waste characterization and processing review process with regularly scheduled meetings, that includes diverse and cross functional SMEs, including internal LANL and external participants, in order to safely and compliantly resolve complex waste management issues (see response to Ordered Action 7, [ADESH-16-027, LA-UR-16-21058] submitted under separate cover).
- Term limits for radioactive liquid waste WSPs were aligned with the term limits of applicable regulatory agency permits.
- Measures to regulate extension and future use of WSPs with inadequate toxicity characterization data, process or waste descriptions, or composition information have been strengthened in WCATS.
- The Waste Management (WM) review process for new or updated WSPs was formalized in a procedure.
- A WSP reviewer qualification standard was developed.
- The *WCATS User's Manual* was updated and moved to a central web location for easy access (an electronic copy was provided to NMED in *Response to Ordered Action No. 5, Attachment A to the Settlement Agreement and Stipulated Final Order HWB-14-20*, submitted to the NMED on February 3, 2016. This document can be accessed at http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ESHID-601172-01).

1.11 Response to Ordered Action 1.11

As noted in Table 1.0-2, the Response Action for Ordered Action No. 1.11 is as follows:

Evaluation of RCRA Self-Assessment program needs (Compliance Technical Assistance Program or CTAP)

The documentation requested as evidence of completion includes the *CTAP Evaluation and Gap Analysis Report* and the *Compliance Technical Assistance Program (CTAP) Procedure*, (ENV-CP-QP-115) which is attached to the evaluation report. A copy of the report is provided in Appendix 9 to this Enclosure.

1.12 Response to Ordered Action 1.12

As noted in Table 1.0-2, the Response Action for Ordered Action No. 1.12 is as follows:

Operating Record Validation - Validation of the LANL Operating Record at all TSDs (TAs 3, 50, 54, 55, 63, 14, 16, 36, 39 permitted and interim status areas walk down).

The documentation requested as evidence of completion of Ordered Action 1.12 includes a summary of the *Compliance Technical Assistance Program (CTAP) Procedure* assessments (note that a copy of this procedure is provided in Appendix 9). Summaries of ADESH-AP-TOOL-803 (*Facility TSF Operating Record*) and ADEM procedure EP-DIV-AP-21, R1 (*EWMO RCRA Permit Operating Record and Compliance Programs;* superseded by EP-AP-20284) were also requested. ADESH-AP-TOOL-803 was provided to NMED under separate cover in the Response to Ordered Action 9 (ADESH-16-028, LA-UR-16-21107), the document EP-AP-20284 is provided in Appendix 10 to this Enclosure.

1.12.1 Introduction

The Operating Record is a requirement of LANL's Hazardous Waste Facility Permit under state and EPA regulations. Per EPA guidance[5], the owner and operator is required to keep a written operating record on site until a facility closes that describes all waste received; methods and dates of treatment, storage, and disposal; and the wastes' location within the facility. The Operating Record covers two broad areas concerning a waste: (1) any information regarding the generation and characterization of the waste; and (2) any information regarding containerization, management (storage and treatment), transport and disposal of any regulated hazardous and mixed waste (this includes facility and unit information).

As an initial step to assess the "extent of condition"[6] of issues that resulted in the violations listed in the ACO, the permitted TSF units at LANL TA-54 were assessed in February and March 2015 by performing a physical reconciliation of waste management container inventories with the WCATS Operating Record information. Similar assessments were subsequently conducted at other LANL permitted and interim status units (see Section 1.12.3).

1.12.2 TA-54 Permitted Area Walkdown/ Physical Inventory Reconciliation

The assessment of this first key area of the Operating Record - the container-by-container walkdown and reconciliation - was performed to verify that containers were stored in the locations stated in the Operating

[5] USEPA, 2005, *Introduction to Treatment, Storage and Disposal Facilities (40 CFR Parts 264/265, Subpart A-E)*, at https://www.epa.gov/sites/production/files/2015-07/documents/tsdf05.pdf. Please note that LANL uses Treatment and Storage Facility (TSF) to accurately represent the hazardous waste permitted activities globally throughout this document.

[6] Note that this "extent of condition" assessment of Operating Record issues at waste management units was a separate effort from the mixed transuranic waste remediation Extent of Condition assessment described in Section 1.15 of this Enclosure.

Record, with proper labeling and database information as to the characterization and contents of the waste containers. The results became part of the Operating Record reviews, which are discussed below.

The physical inventory reconciliation project was developed and implemented in three phases. Phase I included mobilization of appropriate resources, identifying the problems and contributing factors, and developing solutions to these problems. Phase II included implementing the solutions defined in Phase I, implementing extensive field corrections as the problems were identified, and identifying the infrastructure for a LANL enduring waste management program. Phase III is discussed in Section 1.12.3, below.

Full-time staff from ADEM, Waste Management Services (WM-SVS), and EPC-CP were deployed to conduct the Phase I-II assessment. WM personnel determined the "extent of condition" from March 3 to March 19, 2015, by walking-down all ADEM TA-54 waste management units and the surrounding areas, and recording their observations on an electronic daily assessment form developed to standardize the data collected in the field to enable tracking and trending. The assessment staff submitted their observations electronically for tracking and trending. In addition, action owners were assigned to correct the identified problems and issues and provide weekly updates regarding the corrective actions.

1.12.3 Unit-Specific Operating Record Validation

Following the initial assessment phases conducted at TA-54, Phase III of the effort involved conducting inspections and evaluations of the Operating Record documentation at all currently active permitted and interim status treatment and storage facility (TSF) units throughout LANL. These inspections and evaluations focused on records specific to waste management units and activities (containerization, management (storage and treatment), transport and disposal).

The assessments were conducted at the operating permitted and interim status TSF units at Technical Areas 3, 16, 36, 39, 50, 54, and 55[7] by the deployed ES&H personnel and waste management coordinators responsible for those units. An independent verification of the findings at each TSF unit was then performed by EPC-CP core staff. In addition, aid was offered to field personnel for the development and implementation of corrective actions as necessary.

As discussed in the SFO Ordered Action 9 response (submitted to NMED under separate cover), Policy P409, *LANL Waste Management*, is LANL's umbrella waste management policy and guidance document. It contains RCRA compliance "tools" for use by field personnel, many of which were designed or updated in response to the ACO in order to help prevent recurrence of the violations. The tools are user guidance, and are living documents intended to be updated to reflect facility or regulatory changes as necessary. A new P409 tool, ADESH-AP-TOOL-803, *Facility TSF Operating Record* (copy provided to NMED in the SFO Ordered Action 9 [ADESH-16-028, LA-UR-16-21107] response), was developed for use by deployed ES&H personnel and waste management coordinators so they could perform self-assessments of the Operating Record in areas under their responsibility. Field personnel were trained on the use of the tool. Elements of the Operating Record reviewed at each LANL treatment and storage unit are listed in ADESH-AP-TOOL-803 (copy provided to NMED in the SFO Ordered Action 9 [ADESH-16-028, LA-UR-16-21107] response).

[7] Note that the TA-14 interim status unit is inactive and is currently undergoing closure. The TA-63 facility is not yet operational. Thus, neither was included in these walkdowns.

1.12.4 Ongoing Actions

As discussed in Section 1.11 of this response, EPC-CP core staff will continue to perform self-assessments at all TSF units at LANL on a regular basis, with an emphasis on ensuring compliance with the Operating Record. Based on the implementation of P409 tool, ADESH-AP-TOOL-803, staff responsible for elements of the Operating Record at TSFs will generate and maintain the documentation and information for their unit with more rigor and consistency than was the case in the past.

Increased emphasis has been placed on training of programmatic, operations and waste management personnel throughout LANL to ensure that all required information is entered into WCATS. Database information was reviewed at the time of field self-assessments. All findings, if not corrected at the time of the assessment, will be entered into a tracking system to ensure timely corrective action under the requirements of LANL's Hazardous Waste Facility Permit and 20.4.1 NMAC regulations.

1.12.5 Discussion

The actions taken and proposed are in direct response to the findings in the ACO and are intended to reemphasize or establish internal self-assessment capabilities in an effort to improve compliance with permit requirements. Raising awareness of the requirements (through briefings and training, as discussed in Sections 1.6 and 1.9 of this Enclosure) is key to improving compliance with Operating Record requirements. Specifically, the addition of a new tool in P409 to assist LANL staff in recognizing, generating and preserving required information for the Operating Record, and placing emphasis on assessing LANL staff's compliance with use of the tool, will improve awareness and knowledge at the operations level.

Future plans for enhancing compliance will identify and prioritize changes needed to improve operational efficiency. The findings will help managers define the required infrastructure, equipment, staff, and financial resources needed to support the buildup of a new, permanent compliance program infrastructure in order to maintain the progress made to date.

1.13 Response to Ordered Action 1.13

As noted in Table 1.0-2, the Response Action for Ordered Action No. 1.13 is as follows:

> *WCATS Data Change Control - Implementation of Waste Compliance and Tracking System (WCATS) change control process.*

This section of the Enclosure provides a summary of the *ADESH-AP-TOOL-117, Managing Operating Record Changes in WCATS* (note that an electronic copy of the current version of the procedure, as requested in SFO Attachment A, is provided in Appendix 11).

1.13.1 Introduction

As described in Section 1.0, the corrective actions that Respondents are taking and/or that have been completed to date were selected to address each of the 18 violations noted in the ACO and help to prevent their recurrence. ACO Violations 120, 121, 122, 123, and 124 related directly to historical waste characterization data integrity issues, culminating in a failure to properly characterize and annually re-characterize regulated waste.

WCATS, a critical component of LANL's waste characterization system, is a software application that has been specifically designed to support the management of LANL's waste streams and container information from cradle to grave. In 2015, a comprehensive review was performed and improvements implemented to address the data integrity issues. The system now provides the data support needed for characterization, generation, processing, and shipment of all waste generated and managed at LANL. WCATS is a key component of the operating record.

1.13.2 Actions Taken

Shortly after receipt of the ACO, a standing order was issued requiring that data changes be approved by senior management in WM and at the facility where the waste in question was generated or managed. The standing order was subsequently replaced by a waste management tool, ADESH-AP-TOOL-117, *Managing Operating Record Changes in WCATS* (these tools are part of LANL Policy P409, *LANL Waste Management*, as discussed in the submittal responding to Ordered Action 9). The process, including electronic signature for management approvals, is automated with an on-line form in WCATS. To provide further assurance of the integrity of data, WCATS user group memberships are being reviewed to limit users to required staff.

1.13.3 Discussion

Ultimately, control of records to limit data changes is accomplished by establishing detailed, robust work paths as part of the process control feature of WCATS. Work paths are in the process of being enhanced to include supervisory and quality assurance reviews. Once a record passes a quality control check point, the reviewer's electronic signature "locks" the record to prevent further changes in data input at that point. This process has worked successfully at TA-55 for TRU waste processing, and is recommended for implementation for all future TRU waste processing.

The nitrate salt drum population that was the subject of the ACO (at WIPP, Waste Control Specialists [WCS], and LANL) has been tagged in WCATS for easy identification. The data records for all nitrate salt containers have undergone several intensive reviews since issuance of the ACO for data changes that would impact the operating record for the wastes or the units in which they are/were managed.

1.14 Response to Ordered Action 1.14

As noted in Table 1.0-2, the Response Action to Ordered Action 1.14 is as follows:

> *Waste processing procedure review. Implementation of procedure reviews by ENV-CP. Summary of Findings and procedure revisions to date.*

The documentation to provide as evidence of completion is located in Section 1.14 and Appendix 12.

1.14.1 Summary of Procedure Review Findings and Procedure Revisions to Date

LANL EPC-CP staff have been closely involved in efforts since the LANL breached container incident at WIPP to canvas laboratory operations to identify operating and administrative procedures which may impact waste management or permit compliance. The effort included an initial data call in late CY 2014 to

all facilities across the Laboratory for review of procedures. EPC-CP-staff reviewed the procedures to identify potential waste or compliance issues and opportunities for improvement to work documents.

Reviews were focused on the facilities with the greatest potential risk, those facilities with large waste processing activities or upcoming facility start-up or restart. The findings presented here are focused on TA-54, TA-55, TA-63 and facilities associated with the Weapons Facility Operations (WFO) Division. The EPC-CP Team reviewed over one hundred active and paused or inactive work procedures. As a result of the emphasis on procedure clarity and level of detail, a number of the procedures identified were subsequently cancelled by the authors/owners and are being issued as completely re-written/new procedures.

EPC-CP staff developed the guidance document, ENV-CP-AP-200 *Regulatory Procedure Review of Waste Management Procedure* (Appendix 12), to formalize and standardize the procedure review and evaluation process. The procedure contains a checklist which is to be completed by the reviewer and submitted to the document owner for comment resolution. The RLM for the reviewed document is responsible for addressing and documenting final comment resolution, in accordance with LANL institutional policies, P315 *Conduct of Operations Manual* and P300 *Integrated Work Management (*see Ordered Action 9*)*.

Results of the data collected by EPC-CP in CY 2015 indicate that work is implemented across the Laboratory using a variety of work documents, including detailed operating procedures, administrative procedures and Integrated Work Documents (IWDs). Typically, complex activities or activities performed infrequently are managed under detailed operating procedures. Programmatic activities are conducted under administrative procedures and routine or simple activities are performed under IWDs. The EPC-CP staff focused on review of Administrative and Detailed Operating Procedures during the CY 2015 review. Findings are discussed below.

1.14.2 General Observations

- Procedure development, review and approval processes and documentation is typically managed at the local-level across the Laboratory.
- Most existing procedures provide limited mention of Hazardous Waste Facility Permit requirements, and limited detail regarding waste management requirements.
- DEP are assigned at the FOD level and generally have or can be assigned access to local servers where the FOD procedures reside.
- Integration of EPC-CP or DEP staff by RLMs varies across the Laboratory.

1.14.3 TA-63-Specific Observations

- TA-63 is currently not operational; however, EPC-CP has reviewed several of their start-up procedures. This has already positively influenced the quality of waste management discussions in the procedures.

1.14.4 TA-54-Specific Observations

- Historically, TA-54 operating procedures included only limited mention of regulatory or Hazardous Waste Facility Permit requirements. Focus was primarily on safety basis requirements, not waste management regulatory requirements.

- More than100 active or paused/inactive procedures were reviewed. Changes to TA-54 processes implemented in the fall of 2015 improved the procedure review process and increased the number of procedures routed for review to the core EPC-CP team. The process changes have been documented in new internal procedures for Waste Processing Plan requirements, new activity and change control Requirements, and charters for Waste Processing Integrated Process Control Teams and Change Control Boards.

1.14.5 TA-55-Specific Observations

- TA-55 has formalized a process which utilizes EPC-CP staff as required SME reviewers. TA-55 maintains project document history files provided by the RLM, in accordance with P315.
- TA-55 procedures are generally specific and detailed and routinely reviewed by SMEs.

1.14.6 WFO-Specific Observations

- WFO facilities (e.g., Weapons Engineering Tritium Facility [WETF], Dual-Axis Radiographic Hydrodynamic Test Facility [DARHT], and the firing sites) have experienced staff and they implement institutional policy documents at the local level. The WFO administrative procedure process has been improved by formalizing the incorporation of the EPC-CP compliance review.
- WFO procedures use standardized language to capture requirements flow-down.

Work document (e.g., Administrative and Operational procedures) review and approval processes vary across the Laboratory. The institutional polices (P315 *Conduct of Operations* and P300 *Integrated Work Management,* see response to Ordered Action 9) define clear requirements and provide detailed guidance for involving SMEs and specifically EPC-PC reviews in procedure development and review.

Facilities, such as TA-54, have implemented significant process changes for planning and documenting work activities. The changes have strengthened the review process and level of documentation required. Appendix X provides a listing of the procedures reviewed by EPC-CP staff and a general description of the procedure comments and revision status.

1.15 Response to Ordered Action 1.15

As noted in Table 1.0-2, the Response Action to Ordered Action 1.15 is as follows:

> *EOC[8] Review - an extensive review of all legacy non-nitrate salt wastes processed*

The documentation to provide as evidence of completion is available at the following locations:

- The EOC Self-Disclosure Letter (*LA-UR-15-26713, DIR-15-127*): *http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ESHID-600898*.
- The EOC Completion Letter (ADESH-15-162): *http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ESHID-601002*.

[8] Extent of Condition (EOC)

- The *ADEP-LTP Waste Remediation Extent of Condition Evaluation Plan,* EP-PLAN-10075, R0: Appendix 13.
- The *LA-CIN01 Management Plan*, WD-PLAN-20280, R0: Appendix 13.

1.16 Response to Ordered Action 1.16

As noted in Table 1.0-2, the Response Action to Ordered Action 1.16 is as follows:

> *Description of actions being taken to strengthen Subcontractors' requirements to follow LANL ES&H[9] policies and requirements through the Exhibit F conditions of their subcontracts. Strengthening of Contract Exhibit F Field Verification Requirements for environmental risks*

The documentation to provide as evidence of completion is available at the permalinks provided in the text below and in Appendix 13.

Every LANL contract with a subcontractor includes a section called Exhibit F, which specifies the ES&H requirements the Laboratory applies to the subcontractor performing the on-site work. LANL uses a graded approach for its subcontractor ES&H requirements. Projects with few potential hazards will have fewer requirements; likewise, projects with higher potential hazards will have more requirements. The goal in using this approach is efficient implementation of ES&H requirements, applying only the necessary type and number of requirements needed to ensure that work is accomplished in a safe, secure, and compliant way.

The action for environmental risk field verification/oversight was completed through the ADESH Standing Order ADESH-SO-004, R0 (see Section 1.7 and Appendix 6). The Standing Order references the ADESH Oversight Tool that is used for non-construction oversight documentation. The Comprehensive Tracking System is used for Construction. The Industrial Hygiene modules provide a comprehensive approach to collect and manage industrial hygiene qualitative and quantitative exposure assessment data required to comply with National Nuclear Security Administration (NNSA) and LANL exposure assessment requirements and to identify and prioritize potential risks in the workplace.

Actions being taken to strengthen Exhibit F include repairing and updating the *High Hazard Exhibit F* to act as the master clause repository. An interim revision of *High Hazard Exhibit F* is nearing completion. It replaces *Exhibit "F" for Construction, Environmental, Drilling and D&D High Hazard Work* dated March 2014. The revision corrects numerous issues, such as incorrect citations and inoperable links.

- Clause F1.0 General Requirements, Sub Clause F1.8.11 has been revised to match current guidance in DOE O 442.2 *Differing Professional Opinions for Technical Issues Involving Environmental, Safety, and Health Technical Concerns,* and updates NNSA/DOE point of contact information.
- Sub Clause F1.8.12 Pause and Stop Work has been revised to include clearly stated contractor and subcontractor authority when environmental risk or potential violations of applicable laws and regulations is a reasonable belief and to strengthen stop work authority of the Subcontractor (Clause F1.14).
- Environmental compliance has been added as a requirement in Clause F10.0.

[9] Environment, Safety and Health (ES&H)

- Clause F16, Motor Vehicles and Powered Industrial Equipment now applies National Fire Protection Association (NFPA) 30, *Flammable and Combustible Liquids Code and Underwriters Laboratory (UL) Standard* and UL142 *Steel Aboveground Tanks for Flammable and Combustible Liquids* as applicable standards.
- Clause F38.0, Pollution Prevention/Waste Minimization has been extensively rewritten to match current regulatory guidance and executive orders.
- Clause F42. Spill Prevention, Reporting, and Response has been revised to include best management practices for above ground storage tanks and prohibits the use of stationary tanks as mobile tanks.
- Clause F43 Storm Water Management now includes language requiring the subcontractor to obtain and implement the facility specific Multi-Sector General Permit Storm Water Pollution Prevention Plan.

Industrial/construction safety, industrial hygiene, and health issues are also being addressed. The changes to *Moderate Hazard Exhibit F* are expected by close of CY 2016.

The status of ASM's efforts for the remainder of CY 2016 and into CY 2017 are summarized in the following bullets.

- Completed - Clarifying roles, responsibilities, authorities, and accountability of ASM and ES&H personnel executing Exhibit F.
- In progress/ongoing - Redefine Exhibit F master clauses for consistency with LANL Worker, Safety and Health Plan & environmental permits, and formalize contracting risk hazard levels determinations in concert with P850 revision. All actions are anticipated to be complete by close of 2016.
- In progress/ongoing - Improve hazard/risk identification, requirements flow down, and SME engagement in Exhibit F. A revision of P850, *Subcontract Technical Representative Procedure,* is underway and a revision of P101-12, *ES&H Requirements for Subcontractors,* will be initiated in calendar year (CY) 2016.
- In progress/ongoing – A long-term, ongoing effort to modify the Work Management System tool so that it can be used to build an Exhibit F specific to the scope, risk and hazard profile of each new project. Development of this capability will start in CY 2017.

Appendix 1
Ordered Action 1.1

LA-UR-16-21527

LA-UR-16-21527

Approved for public release; distribution is unlimited.

Title:	Restriction on Processing Nitrate Salt, TA-54, AREA G
Author(s):	Helm, Gail Marie
Intended for:	Environmental Programs
Issued:	2016-03-09 (Draft)

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STANDING ORDER

1.	**Standing Order Number:** EP-AREAG-SO-1242, Revision 0
2.	**Standing Order Type: (check one)** ☐ **Division** ☒ **Facility**
3.	**Applicable Facilities: TA-54 Area G**
4.	**Standing Order Title:** Restriction on processing Nitrate Salt
5.	**Distribution List:** (By Functional Title) EWMO Facility Operations Director (FOD) Timely Order Book, TA-54 Timely Order Book, and Environmental Programs (EP) Document Control, Shift Operations Supervisor, and Shift Operations Manager.
6.	**Approval:** Gail Welsh — Print name Signature — Date: 5/13/14 (Approval Authority for division-level standing orders is the FOD, for facility-level, the OM or designee.) **Standing Order Effective Date:** 5-13-2014 **Convert this Standing Order to a procedure?** ☐ Yes, by _____ (Date) ☒ No
7.	**Purpose:** This standing order is implemented to restrict processing of Nitrate salt waste at TA-54 AREAG.
8.	**Actions and Duration:**

8.1 Action(s) to be taken

1. No Nitrate salt waste may be processed at TA-54 AREAG without written approval from the Environmental Programs Associate Director (ADEP) and the Environmental and Waste Management Operations Facility Operations Director (EWMO FOD).

8.2 Duration

This standing order will remain in effect for one year or until superseded.

Standing Order Number:

9. Unreviewed Safety Question (USQ) Review:

USQ process complete? ☒ Yes ☐ N/A

USQ No. (if applicable): AREAG-14-254-D Rev. 0

If "N/A" is checked, then justify below:

USQ Qualified Evaluator (QEV)

Print name	Signature	Date
Lawrence Garcia	Lawrence Garcia	5/13/14

10. Derivative Classifier Review:

This document was reviewed to ensure proper classification and is classified as:

☒ Unclassified ☐ Unclassified Controlled Nuclear Information (UCNI)

☐ Official Use Only (OUO) ☐ Classified

NOTE: If this document is OUO, UCNI, and/or classified, add the appropriate markings, distribution limitation statement, and guidance data block(s).

Derivative Classifier (DC)

Print name	Signature	Date
Ann Crawford	Ann Crawford	5/13/14

11. Standing Order Cancellation:

Choose one of the following: ☐ USQ complete ☐ N/A

USQ No. (if applicable): _____

Responsible Manager (FOD for division-level standing orders, OM or designee for facility-level)

Print name	Signature	Date

(Attach Attachment 2, Timely Order Reviewer Signoff Sheet, to document reviews of this standing order.)

Appendix 2
Ordered Action 1.2

LA-UR-16-21427

LA-UR-16-21427

Approved for public release; distribution is unlimited.

Title:	EWMO Legacy TRU Waste Pause
Author(s):	Baumer, Andrew Ronald II
Intended for:	Environmental Programs
Issued:	2016-03-07 (Draft)

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STANDING ORDER

1. Standing Order Number: EP-DIV-SO-20222, R.1

2. Standing Order Type: (check one) ☒ **Division** ☐ **Facility**

3. Applicable Facilities: All EWMO Facilities

4. Standing Order Title: EWMO Legacy TRU Waste Pause

5. Distribution List: (By Functional Title)

TA-54 Timely Order Book, Waste Characterization, Reduction, and Repackaging Facility (WCRRF) Timely Order Book, Radioassay and Nondestructive Testing (RANT) Facility Timely Order Book, and Environmental Programs (EP) Document Control

6. Approval:

Print name	Signature	Date
Steven M. Henry	/s/ Andy Baumer for	05/30/14

(Approval Authority for division-level standing orders is the FOD, for facility-level, the OM or designee.)

Standing Order Effective Date: 05/30/14

Convert this Standing Order to a procedure? ☐ Yes, by _____ (Date) ☒ No

7. Purpose:

This standing order directs that repackaging, treatment, and remediation of legacy transuranic (TRU) waste at EWMO-supported facilities be paused.

8. Actions and Duration:

8.1 Requirement

PAUSE all repackaging, treatment, and remediation of legacy TRU waste.

The Pause **SHALL** not be lifted without approval from the Environmental and Waste Management Operations (EWMO) Facility Operations Director with concurrence from the Associate Director for Nuclear and High Hazard Operations (AD-NHHO).

8.2 Duration

This standing order will remain in effect until cancelled or superseded.

9. Unreviewed Safety Question (USQ) Review:

USQ process complete? ☐ Yes ☒ N/A

USQ No. (if applicable):

If "N/A" is checked, then justify below:

No entry conditions met.

USQ Qualified Evaluator (QEV)

Print name	Signature	Date
Chris Pilcher	/s/ Chris Pilcher	05/30/14

10. Derivative Classifier Review:

This document was reviewed to ensure proper classification and is classified as:

☒ Unclassified ☐ Unclassified Controlled Nuclear Information (UCNI)

☐ Official Use Only (OUO) ☐ Classified

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Derivative Classifier (DC)

Print name	Signature	Date
Teri Tingey	/s/ Teri Tingey	05/30/14

11. Standing Order Cancellation:

Choose one of the following: ☐ USQ complete ☐ N/A

USQ No. (if applicable): _____

Responsible Manager (FOD for division-level standing orders, OM or designee for facility-level)

Print name	Signature	Date

(Attach Attachment 2, Timely Order Reviewer Signoff Sheet, to document reviews of this standing order.)

Appendix 3
Ordered Action 1.3

LA-UR-16-21414

LA-UR-16-21414

Approved for public release; distribution is unlimited.

Title:	Waste Treatment Requirements
Author(s):	Goldberg, Shanon D.
Intended for:	Environmental Programs
Issued:	2016-03-07 (Draft)

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ADESH-SO-007	Revision: 0	Los Alamos NATIONAL LABORATORY EST. 1943
Effective Date: 3/16/2016	Next Review Date: 3/16/2019	

Environment, Safety, Health Directorate

Associate Directorate of Environment, Safety and Health

Standing Order

Waste Treatment Requirements

Subject Matter Expert:

Name:	Organization:	Signature:	Date:
Shanon Goldberg	EPC-CP	Signature on File	3/14/16

Derivative Classifier: ☐ **Unclassified or** ☒ **DUSA ENVPRO**

Name:	Organization:	Signature:	Date:
Linda Salazar	SI-DC	Signature on File	3/16/16

Approval Signatures:

Quality Assurance Reviewer:	Organization:	Signature:	Date:
Doris Quintana	QPA-IQ	Signature on File	3/16/16
Responsible Line Manager:	**Organization:**	**Signature:**	**Date:**
Mark Haagenstad	EPC-CP	Signature on File	3/14/16

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REVISION HISTORY

Document Number and Revision *]Include revision number, beginning with Revision 0]*	**Effective Date** *[Document Control Coordinator inserts effective date]*	**Description of Changes** *[List specific changes made since the previous revision]*
ADESH-SO-007, Rev. 0	3/16/2016	New Document.

1.0 INTRODUCTION

The purpose of this ADESH issued Standing Order (SO) is to reiterate existing requirements for conducting waste treatment across the Laboratory. The scope of this directive is, at a minimum, to ensure that plans and procedures that may involve waste treatment include ADESH Environmental Compliance Programs (EPC-CP) staff reviews prior to approval and implementation. Existing LANL policies, including P300 "Integrated Work Management," P315 "Conduct of Operations Manual," and P409 "LANL Waste Management," require waste and compliance Subject Matter Expert (SME) reviews.

1.1 Purpose

The goal of this SO is to ensure communication of existing regulatory requirements to the project level managers planning activities that may involve waste processing or treatment, and to invoke environmental SME reviews of plans and procedures. This document is driven by the 2014 radioactive container release incident at WIPP involving LANL waste and the ensuing corrective actions.

1.2 Scope and Applicability

The federal Resource Conservation and Recovery Act (RCRA) and Department of Energy (DOE) directives strictly regulate waste generation, processing, and/or treatment. Treatment is defined in the P409 Tool, ADESH-IG-TOOL-101 "Waste Management Glossary," as follows:

> ***treatment:*** *Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.*

Compliance with the applicable requirements is crucial to continued operations at LANL. This SO applies to all waste generators and processors planning work activities which may meet the definition of "treatment." This directive, therefore, is applied equally to <u>all</u> waste generators and processors across the Laboratory and serves to reinforce existing Laboratory policies. Waste generation may include initial generator treatment (activities associated with first placement of waste into a storage container) or secondary processing (sort/segregation to remove receiving [disposal] site prohibited items). Either of these activities may constitute waste treatment (e.g., addition of absorbents, waste neutralization, etc.). This directive requires that all project plans that may involve waste processing and/or treatment MUST be reviewed and approved by EPC-CP staff <u>prior</u> to approval and implementation. This review is intended to flow-down regulatory requirements to help project planners design and implement plans compliantly.

2.0 BACKGROUND

In February 2014, a LANL legacy transuranic (TRU) waste drum breached contents in the WIPP repository. The parent container had been processed (re-packaged) in the LANL Waste, Characterization, Reduction, and Repackaging (WCRR) facility to add absorbents to address free liquids identified in real-time radiography (RTR) or similar scans. The resulting daughter drum was shipped to Waste Isolation Pilot Plant (WIPP) for disposal. Treatment included the addition of sorbents which were not compatible with the parent drum liquids. The waste processing materials were not specified in the processing plans and procedures. The plans and procedures were not revised when sorbent

materials were changed and subsequent SME reviews of the changes did not occur prior to processing. As a consequence, waste was mixed with an incompatible absorbent material. These actions constituted significant non-compliances for the Laboratory, and such actions could result in loss of the Laboratory's authorization to operate.

3.0 OBJECTIVE

The purpose of this ADESH issued Standing Order (SO) is to reiterate existing requirements for conducting waste treatment across the Laboratory. The objective of this SO is to inform all project staff (managers, planners, operators, etc.) of the environmental compliance resources available to them as well as to reiterate the requirement to utilize the resources to avoid violation of permits and regulatory requirements. This SO is issued to ensure applicable regulatory compliance requirements are met for waste characterization and treatment/processing. The EPC-CP team MUST be included in planning and approval of any activities that might constitute waste treatment or processing prior to work authorization in accordance with existing LANL policies (P300, P315, and P409) and this SO.

This SO reinforces existing LANL policy. ADESH-SO-007 is intended to re-emphasize the requirement for SME involvement in project planning and review of activities which meet the P409 definition of treatment.

4.0 REQUIREMENTS

The DOE provides clear direction for the participation of SMEs in project planning in DOE P450.4A *Integrated Safety Management Policy*. The Policy states that "before work is performed, the associated hazards are evaluated and an agreed-upon set of safety standards and requirements is established which, if properly implemented, will provide adequate assurance that the workers, the public, and the environment are protected from adverse consequences." These standards include environmental permits and regulatory requirements.

SME reviews are specifically called for in LANL policy P300 *Integrated Work Management*, Section 3.1.2.a – *Subject Matter Involvement*, and Section 3.1.2.a, *Subject Matter Expert (SME) Involvement* Table 1 - *Environment, Safety, and Health (ESH) Subject Matter Expert (SME) Involvement*, note that for moderate to high/complex hazard level work, Environmental SME participation is mandatory.

Waste treatment requirements are defined in LANL policy P409, *LANL Waste Management*, and associated Tools, specifically ADESH-AP-TOOL-115, *Waste Compatibility Determinations;* ADESH-AP-TOOL-810, *"Waste Processing at LANL Hazard Waste Permitted Units"*; ADESH-AP-TOOL-901, *Elementary Neutralization*; ADESH-AP-TOOL-902, *Sorption Without a Permit*; and ADESH-AP-TOOL-906, *Treatment by the Waste Generator*.

5.0 ENVIRONMENTAL COMPLIANCE PARTICIPATION

There are various methods by which to involve EPC-CP in the planning and review process. The following is a list of existing processes that can be used to invoke Environmental SME review.

1. The LANL Integrated Work Management System (IWM) and the Work Management System (WMS) tool supports the work planning and hazard identification process. The LANL Policy document governing IWM is P300, which specifically requires SME participation in work planning and hazard analysis.

a. The WMS tool is used to identify hazards associated with work activities across the Laboratory and engage SMEs in developing methods to mitigate those hazards. Use of the WMS tool is mandatory for Laboratory organizations that plan and execute work activities. All LANL **mission related work activities** involving hazards with the potential to harm individuals, groups of individuals, facilities, the physical environment, or the public must be entered into the **Work Managements System (WMS)** or the Computerized Maintenance Management System (CMMS) unless excluded by the Deputy Associate Director Committee.

2. Procedure development guidance, P315 and Functional Series Document (FSD) FSD-315-16-001, R0

   a. P315 defines local or activity level procedure development, and provides clear guidance to invoke and document Environmental Compliance participation.

3. Integrated Project Team or similar process used to storyboard or describe conceptual designs:

   a. IPT review comments and specifically input regarding requirements, design basis, lessons learned, what-if scenarios, etc. must be captured in written form and distributed to the team with a proposed path forward. Closure must include acknowledgment of the issues and consensus on either the proposed path forward or proposed alternatives.

6.0 RECORDS

Documentation of Environmental SME involvement is required by P300, P315, and P409 and is re-enforced by this SO. At a minimum, Environmental Compliance management must be briefed on proposed activities/projects and written input provided to the RLM regarding environmental compliance concerns must be addressed by the RLM prior to document finalization and implementation.

The Responsible Line Manager (RLM) in charge of the project or activity is responsible for documenting and maintaining a record of the SME involvement. SME comments/input and comment resolution/disposition must be documented and maintained in accordance with P315 *Conduct of Operations Manual*, Attachment 16, *Local Procedures,* Section 16.5.1.k, *Document History File.*

All LANL **mission related work activities** involving hazards with the potential to harm individuals, groups of individuals, facilities, the physical environment, or the public must be entered into the **Work Managements System (WMS)** or the Computerized Maintenance Management System (CMMS) unless excluded by the Deputy Associate Director Committee.

This standing Order remains in effect until incorporated into P300, P315, and P409.

Appendix 4
Ordered Action 1.4

MULTIPLE LA-URs

LA-UR-16-21776

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Title:	Environmental Protection Division (ENV-DO) Org Chart
Author(s):	Gammon, Ellen E.
Intended for:	Environmental Programs
Issued:	2016-03-17

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Legend:	Student
LANS	Division Count – 109
Staff Augment/Task Order	OIO*
Guest Scientist/Affiliate	Deployed Out**

Approved: 1/13/2014
Alison M. Dorries

LA-UR-16-21775

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Title:	ADESH ORG Chart
Author(s):	Gammon, Ellen E.
Intended for:	Environmental Programs
Issued:	2016-03-17

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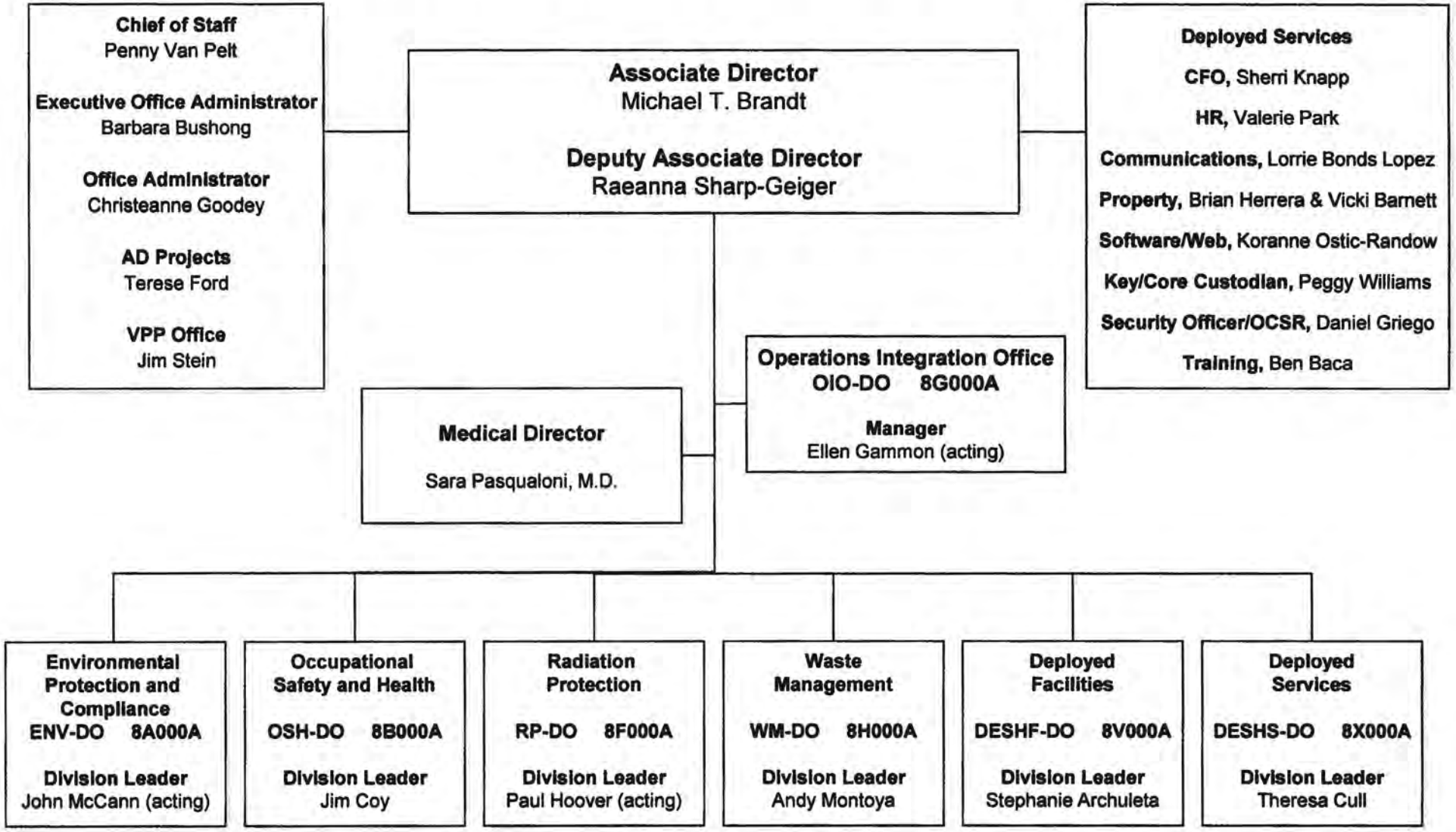
Associate Directorate for Environment, Safety, & Health (ADESH)

ADESH.81000A.03-14-16



Appendix 5
Ordered Action 1.5

MULTIPLE LA-URS

LA-UR-16-21791

Approved for public release; distribution is unlimited.

Title:	ADEM Organizational Chart 08/11/2014
Author(s):	Goldberg, Shanon D.
Intended for:	Environmental Programs
Issued:	2016-03-17 (Draft)

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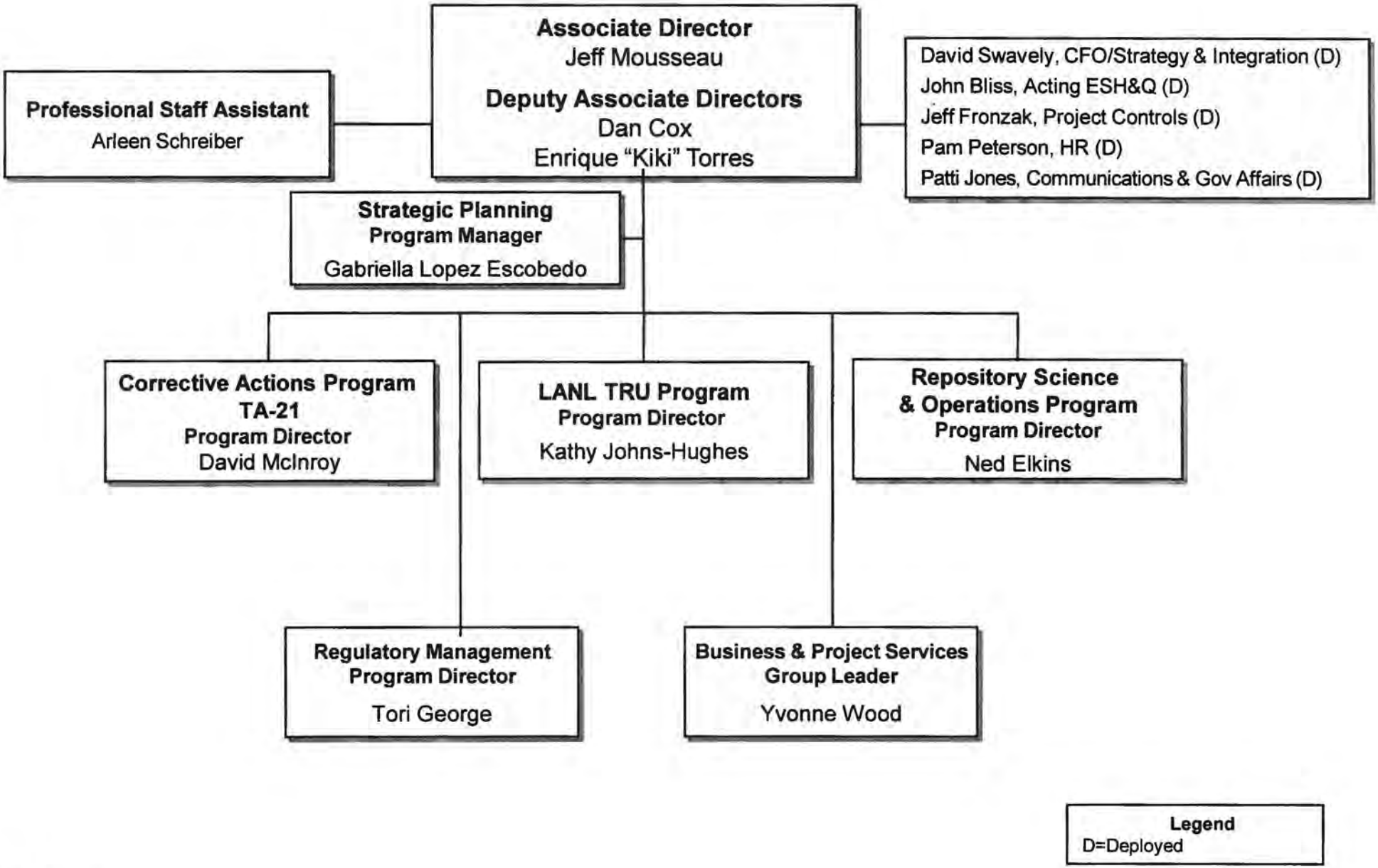
Associate Directorate Environmental Programs (ADEP)



Updated 8/11/14

LA-UR-16-21792

Approved for public release; distribution is unlimited.

Title:	ADEM Organization Chart_02/09/2016
Author(s):	Goldberg, Shanon D.
Intended for:	Environmental Programs
Issued:	2016-03-17 (Draft)

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Waste Disposition Division

Division Leader
Dave Funk (A)

Storage, Remediation and Shipping
Group Leader
Paul Newberry (A)

Dep Group Leader
Gen Fernandez (A)

Waste Process Engineering
Group Leader
Dave Frederici (A)

Repository Science And Operations Group

Group Leader
Ned Elkins

Deputy Group Leader
Tim Burns

Deputy Group Leader
Cliff Stroud

A-Acting
D-Deployed
C-Contractor

2-9-16

Appendix 6
Ordered Action 1.7

LA-UR-16-21849

LA-UR-16-21849

Approved for public release; distribution is unlimited.

Title:	ADESH-SO-004.0 Subcontractor ESH Oversight
Author(s):	Gammon, Ellen E.
Intended for:	Environmental Programs
Issued:	2016-03-18

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ADESH-SO-004.0	Revision: 0
Effective Date: 02/03/2015	Next Review Date: 08/03/2015

Los Alamos NATIONAL LABORATORY EST. 1943

Environment, Safety, Health Directorate

ADESH

Standing Order

Subcontractor ESH Oversight

Document Owner:

Name:	Organization:	Signature:	Date:
George Evans	ADESH	Signature on File	2-12-15

Derivative Classifier: ☐ *Unclassified or* ☐ *DUSA ENVPRO*

Name:	Organization:	Signature:	Date:
Ellena Martinez	OIO-PM	Signature on File	2-12-15

Approval Signatures:

Subject Matter Expert:	Organization:	Signature:	Date:
George Evans	ADESH	Signature on File	2-12-15
Responsible Line Manager:	Organization:	Signature:	Date:
Theresa Cull	DSESH-DO	Signature on File	2-12-15

This copy is uncontrolled.
Users are responsible for ensuring they work to the latest approved version.

Purpose: Provide ESH oversight of Subcontract work (Low- High Risk) to ensure work is performed in accordance with Exhibit F requirements (Health, Safety, and Environmental).
The scope of this standing order applies to:

- ***Work performed under subcontracts that have an associated Exhibit F***
- ***ESH professionals within DSESH Division, and core program ESH support.***

Background: This standing order addresses recent events that identified weaknesses in ESH oversight of subcontractor work.

Objective: To verify subcontractors are in compliance with the ES&H requirements identified in Exhibit F of their subcontract.

Initial Conditions:

1. ***STRs and AdSTRs schedule work (other than MTOA Staff Augmentation work) through the FOD.***
2. ***Activities performed under Staff Augmentation MTOAs are planned and executed in accordance with LANL policies, procedures, and normal practices.***
3. ***FODs include on-site subcontractor work activities (as communicated by STRS and AdSTRs) in POTDs, POTWs and project schedules.***
4. ***DSESH Group Leader or Designee attends POTD, POTW, and project meetings.***

Procedure/Process steps/actions to be completed:

1. *STRs and AdSTRs schedule on-site subcontractor work through the FOD.*
2. *FODs include Subcontractor work in POTD, POTW, and project schedules.*
3. *DSESH Group leader or Designee attends POTD, POTW, and project meetings.*
4. *DSESH group leaders or designee*
    a. *Reviews the subcontractor work schedule for their FOD during POTD, POTW, and project meetings.*
    b. *Select 25% or more of the subcontract work for review using a risk based approach that includes a random sample low hazard work activities.*
    c. *Assigns oversight responsibilities to one or more ESH professionals for each selected activity.*
5. *ESH Professionals make arrangements with the STR to perform oversight and request copies of exhibits D and F.*
6. *STRs/AdSTRs provide copies of Exhibits D and F to ESH professionals.*
7. *ESH Professionals*
    a. *Reviews the applicable Exhibits D and F prior to a site visit.*
    b. *Oversee the subcontractor's work activity and work execution.*
    c. *Document oversight results on the attached Exhibit F checklist for each area reviewed.*
        i. *In addition to the Exhibit F requirements, document any other compliance issue observed (outside of exhibit f process).*
        ii. *Additional checklists can also be completed simultaneously (not in lieu of)*
            1. *For example: Construction Safety, IH, Electrical Inspection checklists*
    d. *Notify the STR of issues identified during the review.*
    e. *Notify the DSESH group leader of any <u>significant issues</u> identified during the review.*
8. *STRs/AdSTRs communicate issues to the subcontractor and ensure issues are addressed.*
9. *DSESH group leaders or designee make notifications, when required, for any significant issues identified.*
10. *ESH Professionals*
    a. *Enter results into <u>Exhibit F ESH Oversight</u> reporting tool*
        i. *Other checklist can be entered into reporting tools such as CTS*
    b. *Submit completed checklist (soft copy) to the STR/AdSTR and Exhibit F program owner.*
11. *Exhibit F program owner*
    a. *reviews oversight data monthly*
    b. *provides a quarterly report (trending by type, function & STR) to DSESH Division Leader and ISM Program Manager*

Note: All involved personnel should apply existing LANL policies and procedures to include pause/stop work, issues management, and abnormal event/condition reporting.

Responsibilities

DSESH group leaders or designee

- *Review the subcontractor work schedule for their FOD during POTD, POTW, and project meetings.*
- *Select 25% or more of the subcontract work for review using a risk based approach to include a random sample of low hazard work*
- *Assign oversight responsibilities to one or more ESH professionals for each selected activity.*
- *Make Notifications, when required, for any significant issues identified.*

ESH Professionals

- *Make arrangements with the STR to perform oversight and obtain copies of the exhibits D and F.*
- *Reviews the applicable Exhibit F for work, prior to a site visit.*
- *Oversee the subcontractor's work activity and work execution.*
- *Documents oversight results on the attached Exhibit F checklist for each area reviewed.*
    - *In addition to the Exhibit F requirements, document any other compliance issue observed (outside of Exhibit F process).*
    - *Additional checklists can also be completed simultaneously (not in lieu of)*
        - *For example: Construction Safety, IH, Electrical Inspection checklists*
- *Notifies the STR of issues identified during the review.*
- *Notifies the DSESH group leader of any significant issues identified during the review.*
- *Enter results into **Exhibit F ESH Oversight** reporting tool*
- *Submits completed checklist (soft copy) to the STR/AdSTR and Exhibit F program owner.*

Exhibit F program owner

- *Reviews oversight data monthly*
- *Provides a quarterly report (trending by type, function & STR) to DSESH Division Leader and ISM Program Manager*

References:

1. ***10CFR 851***
2. ***P101-12 (ES&H Requirements for Subcontractors),***
3. ***P-313 (Roles, Responsibilities, Authorities, and Accountability),***
4. ***P-850 (Subcontract Technical Representative Procedure),***
5. ***P-315 (Conduct of Operations Manual).***

Attachments: ESH Subcontractor Exhibit F Oversight Checklist, Process Flow Chart

ESH Compliance Assessment Form

TA: BLDG: FOD: Risk level(L,P,F,C*): PR Number: Date:

Subcontractor:

Inspector Name/Z Number:

STR/Z number

Inspector Signature:

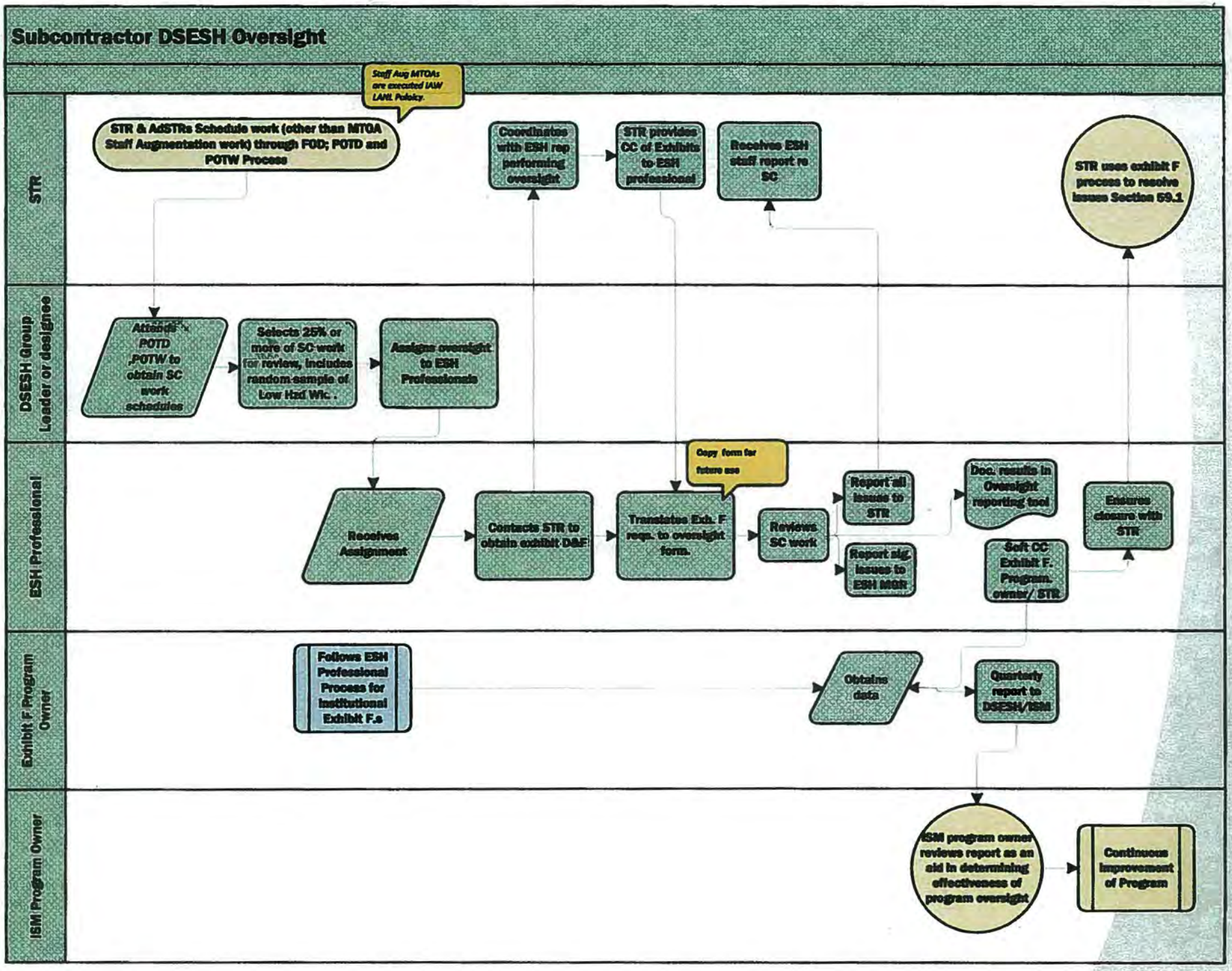
For High/Moderate Hazard Exhibit F. Is Clause Applicable? Yes/No	Compliant (DNA=did not assess) Yes	No	DNA	Comments
☐ ☐ F7 Employee Training	☐	☐	☐	
☐ ☐ F10 House Keeping	☐	☐	☐	
☐ ☐ F12 PPE	☐	☐	☐	
☐ ☐ F13 Respiratory protection	☐	☐	☐	
☐ ☐ F14 Hearing Protection	☐	☐	☐	
☐ ☐ F16 Motor Vehicles	☐	☐	☐	
☐ ☐ F17 Tool and equipment	☐	☐	☐	
☐ ☐ F18 Inclement Weather	☐	☐	☐	
☐ ☐ F19 Chem. and Hzd mat.mgmt.	☐	☐	☐	
☐ ☐ F22 Welding, cutting, brazing, grinding	☐	☐	☐	
☐ ☐ F23 Fall protection	☐	☐	☐	
☐ ☐ F24 Scaffolding	☐	☐	☐	
☐ ☐ F25 Portable Ladders	☐	☐	☐	
☐ ☐ F26 Barricades	☐	☐	☐	
☐ ☐ F27 Floor & wall openings	☐	☐	☐	
☐ ☐ F28 Excavation and Trenching	☐	☐	☐	
☐ ☐ F29 Confined spaces	☐	☐	☐	
☐ ☐ F30 Lock out / Tag Out	☐	☐	☐	
☐ ☐ F31 Blind Penetrations	☐	☐	☐	
☐ ☐ F32 Cranes And Hoist	☐	☐	☐	
☐ ☐ F33 Suspended personnel Platforms	☐	☐	☐	
☐ ☐ F34 Aerial work platforms	☐	☐	☐	
☐ ☐ F35 Pressure safety	☐	☐	☐	
☐ ☐ F36 Electrical safety	☐	☐	☐	
☐ ☐ F37 Traffic & pedestrian control	☐	☐	☐	
☐ ☐ F38 PP/ waste minimization	☐	☐	☐	
☐ ☐ F39 RCRA / Waste Management / Disposal	☐	☐	☐	
☐ ☐ F40 Work within PRS	☐	☐	☐	
☐ ☐ F41 Waste water Discharges	☐	☐	☐	
☐ ☐ F42 Spill prevention	☐	☐	☐	
☐ ☐ F43 Storm water management	☐	☐	☐	
☐ ☐ F44 Air Quality	☐	☐	☐	
☐ ☐ F45 Bio ogical Resources Protection	☐	☐	☐	
☐ ☐ F46 Cultural Resources Protection	☐	☐	☐	
☐ ☐ F47 Pesticide & Herbicide Application	☐	☐	☐	
☐ ☐ F48 Environmental Reporting	☐	☐	☐	
☐ ☐ F49 Radiological Requirements	☐	☐	☐	
☐ ☐ F50 Radioactive Sealed Sources, RGD	☐	☐	☐	
☐ ☐ F51 Asbestos Abatement	☐	☐	☐	
☐ ☐ F53 Beryllium	☐	☐	☐	
☐ ☐ F55 Heavy Metals	☐	☐	☐	
☐ ☐ F57 Biological Safety	☐	☐	☐	
☐ ☐ F58 Laser Safety	☐	☐	☐	
☐ ☐ F60 Refrigerants	☐	☐	☐	
☐ ☐ F61 Demolition work	☐	☐	☐	
Other:	☐	☐	☐	

ESH Compliance Assessment Form

Low Hazard Exhibit F

Is the Exhibit F Clause Applicable? Yes/No	Compliant (DNA=did not assess) Yes	No	DNA	Comments
☐ ☐ For Equipment Installation, equipment demonstration and/or maintenance, Verify: The Absence of Hazardous material or chemical exposure, hazardous waste generation, the need for LO/TO, need for penetrations, or other significant physical hazards to workers or bystanders.	☐	☐	☐	
☐ ☐ For work may occurring in a Radiological Controlled Area (RCA) and/or Radiological Buffer Area (RBA, verify that: Work does not involve the use of radioactive materials, radiation generating devices, or contaminated systems. Work may occur in a Radiological Controlled Area (RCA), Radiological Buffer Area (RBA) as long as there is no movement of existing equipment or penetration of systems or surfaces.	☐	☐	☐	
☐ ☐ For Low Hazard Electrical Work verify that: Work involving Low Hazard electrical work as defined in LANL's Electrical Safety Policy (P101-13) has been approved by the requestor's RLM prior to the occurrence of work.	☐	☐	☐	
☐ ☐ For Material or equipment deliveries and pickups verify: The absence of physical, chemical or biological hazard exposures to workers or bystanders.	☐	☐	☐	
☐ ☐ For Computer hardware / Software installation and maintenance verify : The absence of work requiring use of LO/TO or exposure to electrical hazards.	☐	☐	☐	
☐ ☐ For On-site inspections, assessments of activities limited to escorted access verify: The presence of an escort and absence of "hands-on-work" activities.	☐	☐	☐	
☐ ☐ For on-site training, technical consultations, professional consultations, guest lecturers and similar services verify : Work is limited to presentations, training sessions or meetings in auditoriums, classrooms, general office areas or conference rooms.	☐	☐	☐	
☐ ☐ For office work in normal office environments where personnel will perform secretarial, clerical, or administrative paperwork; or work on a personal computer Verify that: No other significant "hands-on-work" that would present a physical , biological or chemical hazard is occurring.	☐	☐	☐	

*L=Low; P= Programmatic Exhibit F (Mod. Risk); F= Facilities (Mod. Risk); C=Construction (High Risk)


Subcontractor DSESH Oversight
STR
DSESH Group Leader or designee
ESH Professional
Exhibit F Program Owner
ISM Program Owner
Staff Aug MTOAs are executed IAW LANL Policy.
STR & AdSTRs Schedule work (other than MTOA Staff Augmentation work) through FOD; POTD and POTW Process
Coordinates with ESH rep performing oversight
STR provides CC of Exhibits to ESH professional
Receives ESH staff report re SC
STR uses exhibit F process to resolve issues Section 59.1
Attends POTD ,POTW to obtain SC work schedules
Selects 25% or more of SC work for review, includes random sample of Low Hzd Wkc .
Assigns oversight to ESH Professionals
Copy form for future use
Receives Assignment
Contacts STR to obtain exhibit D&F
Translates Exh. F reqs. to oversight form.
Reviews SC work
Report all issues to STR
Report sig. issues to ESH MGR
Doc. results in Oversight reporting tool
Soft CC Exhibit F. Program. owner/ STR
Ensures closure with STR
Follows ESH Professional Process for Institutional Exhibit F.s
Obtains data
Quarterly report to DSESH/ISM
ISM program owner reviews report as an aid in determining effectiveness of program oversight
Continuous Improvement of Program

Appendix 7
Ordered Action 1.8

LA-UR-16-21585

LA-UR-16-21585

Approved for public release; distribution is unlimited.

Title:	Settlement Agreement and Stipulated Final Order (SFO), Ordered Action1-Evaluation of P1020-2 Laboratory Document Control in Regards to Document Control Process and Records Management Requirements
Author(s):	Gammon, Ellen E.
Intended for:	Environmental Programs
Issued:	2016-03-10 (Draft)

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Los Alamos
NATIONAL LABORATORY
EST. 1943

memorandum

Operations Integration Office (OIO)

To/MS: Mark P. Haagenstad, EPC-CP, (E-File)
From/MS: Ellen Gammon, OIO-DO, (E-File) EG
Phone/Fax: 505-665-2014
Symbol: OIO-16-002
Date: February 26, 2016

Subject: Settlement Agreement and Stipulated Final Order (SFO), Ordered Action1 – Evaluation of P1020-2 Laboratory Document Control in Regards to Document Control Process and Records Management Requirements

In accordance with the *LANL/NMED Settlement Agreement and Stipulated Final Order, Ordered Action 1, Attachment A*, the Respondents are required to provide a Memorandum documenting the Evaluation of Policy P1020-2, *Laboratory Document Control,* in regards to the role of Subject Matter Expert (SME) engagement in procedure review and approval. The purpose of the evaluation is to examine/document Laboratory institutional requirements in effect at the time of LANL's 3706 Waste Re-packaging Campaign (conducted in accordance with the Framework Agreement) and subsequent revisions made to the Policy.

Laboratory Policy document P1020-2 was issued in May 2008 under institutional authorization of the Los Alamos National Laboratory (LANL), Document Control Group. This document is currently issued as Revision 6; revisions were made in July 2009, January 2012, September 2012, July 2014, January 2015 and June 2015. The following table is an excerpt of P1020, Rev. 6, Section 10.0, *History* and reflects relevant changes to the document in light of communication of document control and records management requirements in the Document Control Process.

P1020-2 Content Summary
Relevant to Communication of Document Control Process and Records Management Requirements

Effective Date of P1020-2 Revision	Revision Number	Summary of Revisions
07/01/09	Rev. 1	Section 2.2, Applicability: Changed section to read: This document applies to Laboratory organizations and employees, including subcontractors/suppliers working under the Los Alamos National Laboratory Quality Assurance Program, who must implement the requirements for document control activities at the Laboratory. Organizations must use this document when implementing document control processes and activities. Section 3.3, Document Control Procedures:

OIO-16-002

Effective Date of P1020-2 Revision	Revision Number	Summary of Revisions
		Changed section to read: Line organizations (e.g., Directorate, Division, Group, Programs) must use this document to implement document control at the organizational (local) level. Section 3.5, Document Control Processes: Deleted references to organization's (local) document control procedures throughout section. Section 4.0, Responsibilities: IRM-DCS, changed 1st bullet to read: Provide guidance to organizations to ensure compliance with document control (and records management) requirements. Section 4.0, Responsibilities: Responsible Line Manager (RLM): Deleted 1st bullet and references to local procedures in 5th and 6th bullets. Section 8.0, Documents and Records: Deleted last paragraph and bullet. No new requirements added.
01/09/12	Rev. 2	Changed title of document from "Laboratory Document Control Program," to "Laboratory Document Control." Updated language throughout for compliance with ASME-NQA-1-2008, *Quality Assurance Requirements for Nuclear Facility Applications.* Updated language throughout for consistency with PD1020, *Document Control and Records Management,* and P1020-1, *Laboratory Records Management.* Deleted Attachment A. Updated links, titles, and acronyms.

The institutional requirement for document control development has been an element dictated by P1020-2 *Laboratory Document Control,* since its inception. This Policy details the implementation requirements, tools and resources needed to successfully implement document control within organizations. The Policy has been strengthened by the applicability of this document to all Laboratory organizations and employees including subcontractors/suppliers who are working under SD330, *Los Alamos National Laboratory Quality Assurance Program.* (Section 2.2).

Revisions to the policy as documented in P1020-2, Section 10.0-*History*, have strengthened the document control process. Systems have been provided to implement and track documents across the Laboratory. The primary focus of the Document Control process is to ensure employees at LANL are using the most current controlled documents and forms to perform work at the laboratory.

OIO-16-002

The configuration and formality of P1020-2 provides delivery of expectations for processing and controlling documents across the Laboratory.

MPH

Appendix: 1. P1020-2 *Laboratory Document Control,* Rev 6, effective 06/30/15, Section10.0-*History.*

CY: John P. McCann, ENV-DO, (E-File)
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OIO, (E-File)

Appendix 1

P1020-2 *Laboratory Document Control,* Section 10.0 – *History*

10.0 HISTORY

Revision History		
05/30/08	P1020-2, Rev. 0	Initial Issue.
07/01/09	P1020-2, Rev. 1	Section 2.2, Applicability: Changed section to read: This document applies to Laboratory organizations and employees, including subcontractors/suppliers working under the Los Alamos National Laboratory Quality Assurance Program, who must implement the requirements for document control activities at the Laboratory. Organizations must use this document when implementing document control processes and activities. Section 3.3, Document Control Procedures: Changed section to read: Line organizations (e.g., Directorate, Division, Group, Programs) must use this document to implement document control at the organizational (local) level. Section 3.5, Document Control Processes: Deleted references to organization's (local) document control procedures throughout section. Section 4.0, Responsibilities: IRM-DCS, changed 1st bullet to read: Provide guidance to organizations to ensure compliance with document control (and records management) requirements. Section 4.0, Responsibilities: Responsible Line Manager (RLM): Deleted 1st bullet and references to local procedures in 5th and 6th bullets. Section 8.0, Documents and Records: Deleted last paragraph and bullet. No new requirements added. Fixed links, titles, and acronyms.
01/09/12	P1020-2, Rev. 2	Changed title of document from "Laboratory Document Control Program," to "Laboratory Document Control." Updated language throughout for compliance with ASME-NQA-1-2008, *Quality Assurance Requirements for Nuclear Facility Applications.* Updated language throughout for consistency with PD1020, *Document Control and Records Management,* and P1020-1, *Laboratory Records Management.* Deleted Attachment A. Updated links, titles, and acronyms.
09/11/12	P1020-2, Rev. 3	Updated and added terms to Section 9.1, *Definitions* and clarified terms that are defined using NQA-1 definitions. Updated links, titles, and acronyms.
07/31/14	P1020-2, Rev. 4	QC-1 was updated to NAP-24. Updated organization name: Associate Director for Business Systems (ADBS) to Associate Director for Business Innovation (ADBI).

Revision History		
01/27/15	P1020-2, Rev. 5	Updated organization names and website hyperlink in Section 14.0.
06/30/15	P1020-2, Rev. 6	Section 2.1: Changed "System" to "Service" in Responsible Manager and Responsible Office. Section 3.1.1: Added a note that the preparation of forms must follow the same protocol as other documents. Section 4.2: Changed ADBS to ADBI. Section 4.3 and 4.4: Changed "Systems" to "Service." Section 4.10: Changed "Los Alamos National Laboratory Central Training" to "Service Innovation – Institutional Training Services Group." Section 9.1: Added a definition for "Form." Section 14.0: Changed "Systems" to "Service." Updated organization names and hyperlinks.

Appendix 8
Ordered Action 1.9

LA-UR-16-21774

Appendix 8 – Table 1
Training Course Summaries

Document Title	Location in this Ordered Action Response	Document Summary
Summary of Training Courses	Appendix X, Training Course Summaries	Education and training of waste management workers (management, supervisors, technicians, generators) to strengthen recognition of actions that constitute processing or treatment consists of the following:

		McCoy's 2015 RCRA Hazardous Waste Seminar
		A three day comprehensive review of the RCRA program requirements.
		• Background of the regulatory program
		• Identifying "solid wastes"
		• Identifying characteristic and listed wastes including:
		  o Spent solvents and commercial products
		  o The mixture and derived from rules
		  o Exclusions and exemptions
		• Satellite accumulation and 90/180 day accumulation
		• Container management and record keeping
		• Universal wastes and problem wastes.
		• Used oil management
		• RCRA training requirements
		• Treating wastes without a permit
		• Point of generation
		• Sampling and waste characterization
		• Regulatory violations
		• Land Disposal Restrictions (LDRs) and issues
		• Hazardous waste treatment standards, universal treatment standards and underlying hazardous constituents
		• Rules for applying characteristic codes to listed wastes
		• Radioactive mixed waste, waste storage and rules for treatability variances
		• RCRA inspections
		• Contained-in policy
		• Regulation of spills, corrective actions and management of contaminated soil and hazardous debris
		• LANL RCRA Permit

		RCRA Compliance Training (Live Briefing) to WMCs and DEPs • Hazardous waste treatment – what is it, permitted vs unpermitted treatment • Elementary neutralization • Absorption, permitted and exempt • Waste generator treatment • Recycling and other exemptions • Treatment to meat LDR standards • Dilution Where to find help

Appendix 8 – Table 1
(Continued)

Document Title	Location in this Ordered Action Response	Document Summary
		On-the-Job Training (OJT) for TSD Inspectors, Course #27745, Assesses a trainee's ability to inspect, recognize issues with, and address problems at TSDFs. Training is performed at A centralized training area, set up with simulated TSDF elements related to the LANL Hazardous Waste Facility Permit Inspection Record Form. The trainees will demonstrate successful application of the *LANL Hazardous Waste Permit Inspection Record Form* and accompanying instructions and relevant permit sections by performing a mock IRF inspection of a TSDF.
		RCRA Refresher for Waste Managers, Course #28426 The training consists of five modules: A Framework for Compliance, Waste Management Team, Waste Characterization, Processing vs. Treatment, and the LANL Permit and Compliance. Upon completion of the course, students will understand the importance of waste management requirements and practices: • The regulatory framework at the Laboratory, e.g., the New Mexico Environment Department (NMED) Hazardous Waste Facility Permit (HWFP); • Waste characterization – the Generator's responsibilities and required documentation including Appropriate Acceptable Knowledge (AK) and its use; • Waste segregation and the definition of secondary waste; • Waste chemical compatibility and how to document the evaluation; • Waste Processing versus Treatment – understanding the difference and the regulatory limitations on generator treatment; • Roles of the Waste Management Team; • RCRA compliance and the consequences tied to violations; and Whom to contact with questions and concerns.
		Waste Generation Overview, Course #23263 The course provides an overview of waste management regulations, policies and procedures for waste management operations. The course covers the activities involved in the cradle-to-grave waste management process and focuses on waste characterization and classification and the storage requirements for temporary waste accumulation areas at LANL. Students will be able to:

Appendix 8 – Table 1
(Continued)

Document Title	Location in this Ordered Action Response	Document Summary
		• Recognize federal, state, and LANL environmental requirements and their impact on waste operations; • Recognize the importance of the cradle-to-grave waste management process; • Identify the roles and responsibilities of key LANL waste management personnel; • Characterize a waste stream to determine whether it meets the definition of a hazardous waste; and Identify the requirements for setting up and managing temporary waste accumulation areas.
		RCRA Personnel Training (Live), Course #7488 Federal and state regulations require hazardous and mixed waste facility workers at treatment, storage, and disposal facilities (TSDFs) and <90-day accumulation areas to be trained in hazardous and mixed waste management. This course will re-familiarize and update <90-day accumulation area workers, TSDF workers, and supervisors of TSDF workers regarding: • Waste identification and characterization requirements, • Pollution prevention (P2) opportunities, • Storage area requirements, • Emergency response procedures, and • Record-keeping requirements. Students will be able to: • Recognize generator responsibilities associated with waste identification and characterization; • Recognize the relevancy and importance of the LANL P2 Program; • Recognize the storage area requirements for <90-day accumulation areas and TSDFs; • Identify the purpose of and major elements in the emergency management plan (EMP), the contingency plan, and the emergency and site-specific plan; and Recognize the importance of record keeping and reporting as required by federal and/or state environmental regulatory agencies.
		RCRA Personnel Training (Self-study), Refresher, Course #28582, Federal and state regulations require hazardous and mixed waste facility workers at treatment, storage, and disposal facilities (TSDFs) and <90-day accumulation areas to be trained in hazardous and mixed waste management. This course will re-familiarize and update <90-day accumulation area workers, TSDF workers, and supervisors of TSDF workers regarding:

Appendix 8 – Table 1
(Continued)

Document Title	Location in this Ordered Action Response	Document Summary
		• Waste identification and characterization requirements, • Pollution prevention (P2) opportunities, • Storage area requirements, • Emergency response procedures, and • Record-keeping requirements. Students will be able to: Recognize generator responsibilities associated with waste identification and characterization; • Recognize the relevancy and importance of the LANL P2 Program; • Recognize the storage area requirements for <90-day accumulation areas and TSDFs; • Identify the purpose of and major elements in the emergency management plan (EMP), the contingency plan, and the emergency and site-specific plan; and Recognize the importance of record keeping and reporting as required by federal and/or state environmental regulatory agencies.

Appendix 8 – Table 1
Training Course Summaries

Document Title	Location in this Ordered Action Response	Document Summary
Summary of Training Courses	Appendix X, Training Course Summaries	Education and training of waste management workers (management, supervisors, technicians, generators) to strengthen recognition of actions that constitute processing or treatment consists of the following:

		McCoy's 2015 RCRA Hazardous Waste Seminar
		A three day comprehensive review of the RCRA program requirements.
		• Background of the regulatory program
		• Identifying "solid wastes"
		• Identifying characteristic and listed wastes including:
		  o Spent solvents and commercial products
		  o The mixture and derived from rules
		  o Exclusions and exemptions
		• Satellite accumulation and 90/180 day accumulation
		• Container management and record keeping
		• Universal wastes and problem wastes.
		• Used oil management
		• RCRA training requirements
		• Treating wastes without a permit
		• Point of generation
		• Sampling and waste characterization
		• Regulatory violations
		• Land Disposal Restrictions (LDRs) and issues
		• Hazardous waste treatment standards, universal treatment standards and underlying hazardous constituents
		• Rules for applying characteristic codes to listed wastes
		• Radioactive mixed waste, waste storage and rules for treatability variances
		• RCRA inspections
		• Contained-in policy
		• Regulation of spills, corrective actions and management of contaminated soil and hazardous debris
		• LANL RCRA Permit

		RCRA Compliance Training (Live Briefing) to WMCs and DEPs • Hazardous waste treatment – what is it, permitted vs unpermitted treatment • Elementary neutralization • Absorption, permitted and exempt • Waste generator treatment • Recycling and other exemptions • Treatment to meat LDR standards • Dilution Where to find help

Appendix 8 – Table 1
(Continued)

Document Title	Location in this Ordered Action Response	Document Summary
		On-the-Job Training (OJT) for TSD Inspectors, Course #27745, Assesses a trainee's ability to inspect, recognize issues with, and address problems at TSDFs. Training is performed at A centralized training area, set up with simulated TSDF elements related to the LANL Hazardous Waste Facility Permit Inspection Record Form. The trainees will demonstrate successful application of the *LANL Hazardous Waste Permit Inspection Record Form* and accompanying instructions and relevant permit sections by performing a mock IRF inspection of a TSDF.
		RCRA Refresher for Waste Managers, Course #28426 The training consists of five modules: A Framework for Compliance, Waste Management Team, Waste Characterization, Processing vs. Treatment, and the LANL Permit and Compliance. Upon completion of the course, students will understand the importance of waste management requirements and practices: • The regulatory framework at the Laboratory, e.g., the New Mexico Environment Department (NMED) Hazardous Waste Facility Permit (HWFP); • Waste characterization – the Generator's responsibilities and required documentation including Appropriate Acceptable Knowledge (AK) and its use; • Waste segregation and the definition of secondary waste; • Waste chemical compatibility and how to document the evaluation; • Waste Processing versus Treatment – understanding the difference and the regulatory limitations on generator treatment; • Roles of the Waste Management Team; • RCRA compliance and the consequences tied to violations; and Whom to contact with questions and concerns.
		Waste Generation Overview, Course #23263 The course provides an overview of waste management regulations, policies and procedures for waste management operations. The course covers the activities involved in the cradle-to-grave waste management process and focuses on waste characterization and classification and the storage requirements for temporary waste accumulation areas at LANL. Students will be able to:

Appendix 8 – Table 1
(Continued)

Document Title	Location in this Ordered Action Response	Document Summary
		• Recognize federal, state, and LANL environmental requirements and their impact on waste operations; • Recognize the importance of the cradle-to-grave waste management process; • Identify the roles and responsibilities of key LANL waste management personnel; • Characterize a waste stream to determine whether it meets the definition of a hazardous waste; and Identify the requirements for setting up and managing temporary waste accumulation areas.
		RCRA Personnel Training (Live), Course #7488 Federal and state regulations require hazardous and mixed waste facility workers at treatment, storage, and disposal facilities (TSDFs) and <90-day accumulation areas to be trained in hazardous and mixed waste management. This course will re-familiarize and update <90-day accumulation area workers, TSDF workers, and supervisors of TSDF workers regarding: • Waste identification and characterization requirements, • Pollution prevention (P2) opportunities, • Storage area requirements, • Emergency response procedures, and • Record-keeping requirements. Students will be able to: • Recognize generator responsibilities associated with waste identification and characterization; • Recognize the relevancy and importance of the LANL P2 Program; • Recognize the storage area requirements for <90-day accumulation areas and TSDFs; • Identify the purpose of and major elements in the emergency management plan (EMP), the contingency plan, and the emergency and site-specific plan; and Recognize the importance of record keeping and reporting as required by federal and/or state environmental regulatory agencies.
		RCRA Personnel Training (Self-study), Refresher, Course #28582, Federal and state regulations require hazardous and mixed waste facility workers at treatment, storage, and disposal facilities (TSDFs) and <90-day accumulation areas to be trained in hazardous and mixed waste management. This course will re-familiarize and update <90-day accumulation area workers, TSDF workers, and supervisors of TSDF workers regarding:

Appendix 8 – Table 1
(Continued)

Document Title	Location in this Ordered Action Response	Document Summary
		• Waste identification and characterization requirements, • Pollution prevention (P2) opportunities, • Storage area requirements, • Emergency response procedures, and • Record-keeping requirements. Students will be able to: Recognize generator responsibilities associated with waste identification and characterization; • Recognize the relevancy and importance of the LANL P2 Program; • Recognize the storage area requirements for <90-day accumulation areas and TSDFs; • Identify the purpose of and major elements in the emergency management plan (EMP), the contingency plan, and the emergency and site-specific plan; and Recognize the importance of record keeping and reporting as required by federal and/or state environmental regulatory agencies.

Appendix 8 – Table 2
Training Analysis Summaries

Document Title	Location in this Ordered Action Response	Document Summary
Training Analysis Summaries	Appendix X Training Analysis Summaries	Training Analysis is a formal process defined in LANL guidance. In response to the SFO Attachment A documentation requirements, Learning objectives and target audience summaries for the following documents, are provided below: • On-the-Job Training for TSD Inspectors, Course #27745 • RCRA Refresher for Waste Managers, Course #28426 • RCRA Personnel Training (Live), Course #7488 • RCRA Personnel Training, Refresher, Course #28582 • Waste Generation Overview, Course #23263, and • Waste Generation Overview Refresher, Course #21464
		On-the-Job Training for TSD Inspectors, Course #27745 training analysis summary: <u>Learning Objectives:</u> • Demonstrate knowledge of and/or the ability to navigate the *LANL Hazardous Waste Facility Permit* by correctly answering at least 80% of knowledge questions in each OJT section. • Perform a simulated RCRA inspection using the *Hazardous Waste Facility Permit Inspection Record Form*, correctly completing all applicable permit sections. • Correctly identify all "actions required" for each applicable inspection item to the satisfaction of the OJT evaluator. • Discuss all requisite notifications and communications in relation to the inspection to the satisfaction of the OJT evaluator. <u>Target Audience:</u> The target audience consists of all LANL and subcontract personnel who perform TSD inspections in accordance with the LANL Hazardous Waste

Document Title	Location in this Ordered Action Response	Document Summary
		Permit, staff may include TSF personnel, qualified TSF operators, Hazardous Waste Generators, Deployed Environmental Professionals or Waste Management Coordinators assigned to TSDFs/permitted units.
		RCRA Refresher for Waste Managers, Course #28426 Learning Objectives: • To raise awareness regarding the LANL Hazardous Waste Facility Permit requirements. • To identify resources available to guide and assist waste generators and waste managers. • Clarify allowable waste processing and generator treatment so that planning can be done safely and compliantly. • Identify the tools needed to properly manage the wastes generated in the workplace, • Identify guidance to define adequate waste characterization, waste segregation requirements, and chemical compatibility Target Audience: • WMCs • DEPs, and • TSF Waste Operators
		RCRA Personnel Training (Live), Course #7488 Learning Objectives: • To recognize generator responsibilities associated with waste identification and characterization; • To recognize the relevancy and importance of the LANL P2 Program; • To recognize the storage area requirements for <90-day accumulation areas and TSDFs; • To identify the purpose of and major elements in the emergency management plan (EMP), the contingency plan, and the emergency and site-specific plan; and

Document Title	Location in this Ordered Action Response	Document Summary
		• To recognize the importance of record keeping and reporting as required by federal and/or state environmental regulatory agencies. Target Audience: The target audience includes all LANL [site] personnel who work in TSDFs or <90-day waste accumulation areas as required by LANL Procedure (P) 409, Waste Management. This includes waste generators and WMCs and remediation workers.
		RCRA Personnel Training, Refresher, Course #28582 Learning Objectives: • To recognize generator responsibilities associated with waste identification and characterization; • To recognize the relevancy and importance of the LANL P2 Program; • To recognize the storage area requirements for <90-day accumulation areas and TSDFs; • To identify the purpose of and major elements in the emergency management plan (EMP), the contingency plan, and the emergency and site-specific plan; and • To recognize the importance of record keeping and reporting as required by federal and/or state environmental regulatory agencies. Target Audience: The target audience includes all LANL [site] personnel who work in TSDFs or <90-day waste accumulation areas as required by LANL Procedure (P) 409, Waste Management. This includes waste generators and WMCs and remediation workers.
		Waste Generation Overview, Course #23263 Learning Objectives: • To recognize federal, state, and LANL environmental requirements and their impact on waste operations;

Document Title	Location in this Ordered Action Response	Document Summary
		• To recognize the importance of the cradle-to-grave waste management process; • To identify the roles and responsibilities of key LANL waste management personnel; • To characterize a waste stream to determine whether it meets the definition of a hazardous waste; and • To identify the requirements for setting up and managing temporary waste accumulation areas. <u>Target Audience:</u> The training course is required for all workers who generate waste (except office trash). There is no grace period for the training requirement; this training must be completed and current.
		Waste Generation Overview Refresher, Course #21464 <u>Learning Objectives:</u> • To recognize federal, state, and LANL environmental requirements and their impact on waste operations; • To recognize the importance of the cradle-to-grave waste management process; • To identify the roles and responsibilities of key LANL waste management personnel; • To characterize a waste stream to determine whether it meets the definition of a hazardous waste; and • To identify the requirements for setting up and managing temporary waste accumulation areas. <u>Target Audience:</u> The training course is required for all workers who generate waste (except office trash). There is no grace period for the training requirement; this training must be completed and current.

Appendix 9
Ordered Action 1.11

LA-UR-16-21743

Compliance Technical Assistance Program (CTAP)

Assessment and Gap Analysis Report

March 2016

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Appendix 1: Requirements Identified in the Permit

Appendix 2: ENV-CP-QP-115, **Compliance Technical Assistance Program (CTAP)**

1. Purpose

The purpose of this report is to identify the current Compliance Technical Assistance Program (CTAP), present the evolution of the program since 2006 and to document program history in terms of scope, staffing and effectiveness. The analysis of the program documents program objectives, evaluates performance, identifies program needs and defines opportunities for improvement.

2. Background

The CTAP (or Program) was designed to support regulatory compliance with the Los Alamos National Laboratory's (LANL or Laboratory) Hazardous Waste Facility Permit (Permit; November 30, 2010). The Permit became effective on December 30, 2010..

Compliance assessments were initially conducted under the Compliance Technical Assessment Program (CTAP, Phase 1) by the Compliance Team (Resource Conservation and Recovery Act [RCRA] Team) organized under the Environmental Protection and Compliance Division (EPC), EPC-RCRA Group. The assessment program became active in 2006 for the purpose of assessing RCRA compliance.

Funding limitations at the end of FY 2011 led to the de-activation and dismantlement of the CTAP assessment program. Laboratory waste operations continued to be conducted under existing guidance and policy with limited technical oversight or assistance. Waste Management Coordinator (WMC) and Deployed Environmental Professional (DEP) support was available to waste generators and TSD facility owners and operators, however, EPC-RCRA core-team field support was constrained by budget reductions and no independent assessments were performed.

In FY 2014 the EPC-RCRA group, Deployed Services and Waste Management were reorganized under Associate Directorate of Environment, Safety and Health (ADESH) within the Principal Associate Directorate of Operations and Business (PADOPS). This reorganization into PADOPS/ADESH coincided with the re-start of the CTAP assessments and consolidation of regulatory compliance support. The re-organization efforts centralized regulatory compliance, clarifying guidance to operations (e.g., Environmental Management Division [ADEM], and others) and funding -CTAP field support.

The Compliance Technical Assistance Program (CTAP, Phase 2) was initiated and its purpose re-defined as a program that "provides waste management oversight and compliance assurance for waste regulated by the LANL Hazardous Waste Facility Permit, and State and Federal regulations". The stated purpose noted that "The CTAP coordinates with waste generator facilities and conducts quarterly assessments of all hazardous and mixed waste, universal waste, used oil, NM Special waste and TSCA waste storage and treatment sites." Further, the CTAP program identifies potential non-compliance with the above waste management requirements and works with generating facilities to address potential issues. The program was explicitly intended to "provide in-the-field guidance and education of waste management requirements for generator/treatment sites." CTAP's goal is to provide broad assistance-based support to Generators, WMCs, and DEPs.

The Permit contains requirements distributed across various facilities and operational groups, including the Environmental Compliance team, the individual permitted facility owners and operators and waste

generators, see Appendix 1 (*Requirements Identified in the Permit*). Appendix 2 (ENV-CP-QP-115, *Compliance Technical Assistance Program*) is the current CTAP procedure and includes a copy of the two current CTAP Assessment Checklists.

3. Assessment

The Program is in place (Appendix 3) to assess waste management operations compliance with the Permit and to provide guidance to waste generators, WMCs, DEPs and facility operations at LANL.

3.1 Gap Analysis

In evaluating performance of the CTAP, it should be noted that the largest infraction incurred by the Laboratory occurred during the absence of the Program. Absence of the Program weakens the compliance chain at the Laboratory. The Program provides a resource to waste generators, WMCs and DEPs that is not available through any other group at the LANL. CTAP provides an independent and unbiased assessment of waste operations and their compliance with the Permit. Lack of the Program inhibits EPC-CP's ability to provide routine walk downs of waste facilities. The re-establishment of the CTAP leads to greater oversite of LANL waste operations and increased environmental compliance.

Ongoing improvement of the Program is a goal of EPC-CP and the CTAP team. Potential performance enhancements are noted in the section below.

3.2 Program Enhancements

Program improvements implemented over the life of the program, and subsequent to the 2014 WIPP Radiologic Release Event, include the following:

- Modifications to the Inspection Record Form (IRF) and instructions;
- Development of an inspection checklist specific to the permit requirements, (Appendix 3);
- Updates to LANL policy P409, *Waste Management,* and associated Tools, have been implemented jointly between Waste Management Division and ENV-CP to communicate the Permit requirements and provide improved guidance to waste generators, waste managers, WMCs, and DEPs, with access for all LANL workers on the Waste Management Inside LANL webpage;
- A RCRA Compliance database was developed to facilitate tracking of compliance issues and their resolution. CTAP findings are entered into the Compliance database which provides specific metrics of interest to ADESH management. Findings are also entered into the LANL-wide Performance Feedback and Improvement Tracking System (PFITS) database which provides management the ability to track incurrence and closeout metrics;
-
- TSDF Inspection training to WMCs, DEPs, and TSD operators (Course #27745 "RCRA TSF Inspection Record Form on job training (OJT): General Requirement");

- Training/live briefings to Construction, D&D subcontractors and Laboratory Maintenance and Site Services (MSS) crafts to strengthen their understanding of waste management requirements and practices;
- Updated roles, responsibilities and qualifications of WMCs and DEPs;
- A formal Class 1 permit modification request was submitted to the New Mexico Environmental Department (NMED) on July 7, 2015 to modify Attachment E, Inspection Plan, to clarify general text, and to add references to the Permit Inspection Plan, Inspection Record Form, and IRF Instructions. The NMED permit modification request approval is available in LA-UR-15-23536, dated July 2015;
- .
- Two RCRA permit specific training courses have been developed to address TSDF owner/operator, WMC and DEP knowledge base. The courses include:
    - Course 28426 *RCRA Refresher for Waste Managers*, and
    - Course 27745 *RCRA TSDF Inspection Record Form (IRF) On-the-Job Training; and*
- Updates to WMC and DEP qualification standards

4. Opportunities for Improvement

CTAP staff conduct quarterly assessments of all TSDFs, permitted facilities and a rotation of registered satellite and less than 90-day waste accumulation areas in accordance with the *Compliance Technical Assistance Program (CTAP)* procedure, ENV-CP-QP-115.

Observations, ongoing operations and WIPP-incident related corrective actions (Accident Investigation Board [AIB]) have identified other potential actions for consideration in the Program. A summary of the proposed improvement actions is noted below:

- WCATs error flag review as part of the waste stream profile (WSP) assessments. Suggestions include use of a WCATs error flag/warning summary report for each WSP reviewed. WM-DO led WSP review efforts have identified a significant number of legacy WSPs and generators and WMCs have collaborated to perform additional reviews against the more defined AK requirements provided by the USEPA (April 2015) and CCP guidance *CCP Acceptable Knowledge Documentation*, CCP-TP-005, Rev. 26 and successors.
- Enhanced WCATS (waste characterization panel data) review as part of the assessment. Suggestions include use of a standardized WCATS summary report for each WSP reviewed in the assessment. This enhancement could provide an additional (informal) WSP review (toxicity panels, generator process details, attachments provided, etc.). Details are proposed for discussion through the waste characterization and process review team;
- Additional staff to support Program expansion to include SAAs and <90-day accumulation areas and increased training (compliance status) reviews;
- Increased participation of the CTAP team in waste stream profile reviews

Appendix 1

Requirements Identified in the Permit
(December 30, 2010, as amended)

Provided on CD

Appendix 1
Requirements Identified in the Permit[1]

Requirement Category: 1 - Permited units; 2 -Notifications; 3 Modifications; 4 Reapplication; 5 Permit Compliance; 6 Waste Characterization; 7 Noncompliance; 8 Reporting; 9 Information; 10 Community Relations Plan; 11 Propertty Transfer; 12 D&D; 13 Waste ; 14 FOR; 15 Inspections; 16 Training; 17 Contingency Plan; 18 Closure; 19 Post Closure; 20 Corrective Actions

Requirement Types: AN – Analytical; C – Closure; CA – Corrective Actions; CL – Cleanup Levels or Standards; CM – Corrective Measures; CO – Consent Order; CP – Closure Plan; CR – Community Relations Plan; EC – Emission Controls; EM – Emergency Management; EQ – Equipment; HSP – Health and Safety Plan; IM – Interim Measures; IN – Investigations; IR – Information Repository; ISU – Interim Status Units; L – Labeling; M – Modifications; MAN – Waste Management; N – Notifications; NC – Noncompliance; NM – NMED; P –Permit; PC – Post Closure; PR – Presumptive Remedy; PT – Property Transfer; R – Releases (not emergencies); RA – Risk Assessment; S – Storage; SC – Secondary Containment ; SEC – Security; ST – Storage Tanks; T – Treatment; U – Permitted Units; W – Wells; WA – Waste Acceptance; WC – Waste Characterization; WM – Waste Minimization

Responsibilities: G – Generator; CP – RCRA Compliance Team; PO – Public Outreach (RG); LT – Land Transfer POC (ADESHQ); EP – ADEP (CA or WM); PUO – Permitted Unit Ops; ES – Environmental Stewardship; EPD – Environmental Protection Division; EMO – Emergency Management Organization; WES – Waste and Environmental Services

Permitted Unit: TA-3; TA-50; TA-54; TA-55; ISU - Interim Status Unit; A - Adminidtrative; CS - Container Storage units; IOU - Indoor and Outdoor Units; IU - Indoor Units; OU - Outdoor Units; P - Pads; ST - Storage Units at TA-3, TA-50, TA-54, and TA-55;

Section	Section Title	Page	Text/Condition/ Requirement	Summary	Specific Requirement	Requirement Category	Requirement Type	Permitted Unit	Responsibility	Notify/ Report/ Modification Required?	Facility Operating Record	Units Affected	Exceptions	Date Considerations	Comment
1.4.1	Effect of This Permit on Interim Status Units	12	For the interim status units listed in Table J-1 that the Permittees do not choose to operate, the Permittees shall submit to the Department within 180 days of the effective date of this Permit either a notice of intent to close in accordance with a current closure plan, or a revised closure plan. These documents shall indicate that the closure of these interim status units shall be initiated in accordance with 40 CFR § 265.113(a) no later than 270 days of the effective date of this Permit. For the interim status units listed in Table J-1 that the Permittees propose to permit, the Permittees shall submit to the Department 180 days of the effective date of this Permit a permit modification request in accordance with 40 CFR § 270.42 that includes all applicable information required at 40 CFR §§ 270.10, 270.11, 270.14, and 270.23 for each unit.	Interim status units(Table J-1): NOI and closure plans, or permit modification requests must be in to NMED within 180 days of Permit effective. Closure for units must begin no later than 270 days after Permit effective.	Y	2	ISU	ISU	CP/PUO	NOI or modification to NMED	Y	HWMUs not covered by Permit (interim status units, Table J-1)	N	Due by June 28, 2011	
1.5	Effect of Inaccuracies in Permit Application	12	This Permit is based on information submitted in the Permittees' Application. The Application has numerous iterations; however this Permit is based on: (1) the Part A Application dated June 2009; (2) the General Part B Permit Application dated August 2003; (3) the TA-3-29 CMR Part B Application dated September 1999; (4) the TA-50 Part B Permit Application dated August 2002; (5) the TA-54 Part B Permit Application dated June 2003; (6) the TA-55 Part B Permit Application dated September 2003; and (7) the TA-63 Permit Modification Request dated August 2011. Any inaccuracies found in the Application may be grounds for the termination, revocation and re-issuance, or modification of the Permit in accordance with 40 CFR §§ 270.41 through 270.43, which are incorporated herein by reference, and for enforcement action. The Permittees shall inform the Department of any deviation from, or changes in, the information contained in the Application that would affect the Permittees' ability to comply with this Permit. Upon knowledge of such deviations, the Permittees shall, within 30 days, provide this information in writing to the Department in accordance with Permit Sections 1.9.14 and 1.9.15 and 40 CFR §§ 270.30(l)(11) and 270.43(a)(2), which are incorporated herein by reference.	Inaccuracies in permit applications are grounds for Permit termination. Notify NMED in writing within 30 days of knowledge.	Y	2	P	A	CP	Notice to NMED	Y	All	N	30 days from finding	
1.6.2	Permit Modification	13	This Permit may be modified for both routine and significant changes as specified in 40 CFR §§ 270.41 through 270.43, and any modification shall conform to the requirements specified in these regulations. The filing of a permit modification request by the Permittees, or the notification by the Permittees of planned changes or anticipated noncompliance, does not stay the applicability or enforceability of any permit condition (see 40 CFR § 270.30(f)).	Modifications must meet the requirements of 40 CFR §§ 270.41-270.43	Y	3	M	A	CP/PUO	To NMED and email list	Y	All	N	N	
1.6.5	Permit Re-Application	14	If the Permittees intend to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittees shall submit a complete application for a new permit at least 180 days before the expiration date of this Permit unless permission for a later date has been granted by the Department in compliance with 40 CFR §§ 270.10(h) and 270.30(b). The Department will not grant permission for an application for a new permit that is submitted later than the expiration date of this Permit (see 40 CFR § 270.10(h)).	Re-application must be submitted 180 days before expiration of Permit.	Y	4	P	A	CP	Reapplication to NMED	Y	All	N	Expiration date Dec. 30, 2020	
1.9.1	Duty to Comply	18	The Permittees shall comply with all conditions in this Permit, except to the extent and for the duration such noncompliance is authorized in a temporary emergency permit pursuant to 40 CFR § 270.61. Any Permit noncompliance, except under the terms of an emergency permit, constitutes a violation of the HWA and RCRA and is grounds for enforcement or other Department action and may subject the Permittees to an administrative or civil enforcement action, including civil penalties and injunctive relief, as provided in Permit Section 1.9.2, or permit modification, suspension, termination, or revocation, or denial of a permit application or modification request under § 74-4-4.2 of the HWA and 40 CFR §§ 270.41 and 270.43.	Permittees shall comply with conditions of Permit or there will be enforcement.	Y	5	P	A	ALL	N	N	All	Noncompliance can be authorized in a temporary emergency permit.	N	
1.9.1	Duty to Comply	18	No delegation or assignment of the Permittees' responsibilities under this permit can be made to any person or entity, including a separately organized agency, without the expressed permission of the Department; this prohibition does not preclude the Permittees' use of contractors for remediation. The Permittees shall not allow any person or entity which currently exists or may be created, including a separately organized agency, to interfere with the performance of their obligations or responsibilities under this Permit.	Permittees shall not delegate or assign responsibilities to any person or entity without permission from the NMED.	Y	5	P	A	ALL	N	N	All	N	N	Added to final permit by Secretary's Order.
1.9.3	Transfer of Permit	19	The Permittees shall not transfer this Permit to any person except after prior written approval of the Department. The Department will require modification or revocation and re-issuance of the Permit, as specified in 40 CFR §§ 270.40(b) and 270.41(b)(2), to identify the new Permittees and incorporate other applicable requirements under the HWA, RCRA, and their implementing regulations. The prospective new Permittee shall file a disclosure statement with the Department, if applicable and as specified at § 74-4-4.7 of the HWA, prior to modification or revocation and re-issuance of the Permit. Before transferring ownership or operation of the Facility, the Permittees shall notify the new owner and operator in writing of all applicable requirements of this Permit and 40 CFR §§ 264.12(c) and 270.30(l)(3), which are incorporated herein by reference.	Permit shall not be transferred without approval. Transferee must be notified in writing of requirements.	Y	5	P	A	CP	To NMED, modification, and email list	N	All	N	N	
1.9.5	Duty to Mitigate	20	In the event of noncompliance with this Permit, the Permittees shall take all reasonable steps to minimize releases of hazardous wastes and hazardous constituents to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment (see 40 CFR § 270.30(d)).	Permittees must minimize releases in the event of noncompliance.	Y	5	R	A	PUO	N	Y	All	N	N	
1.9.6	Proper Operation and Maintenance	20	The Permittees shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the Permittees to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance and quality control (QA/QC) procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with this Permit (see 40 CFR § 270.30(e)).	Permittees shall properly operate and maintain units.	Y	5	U	A	PUO	N	Y	All	N	N	

1. LANL Hazardous Waste Permit , December 30, 2010, as ammended through March 6, 2015.

Appendix 1
Requirements Identified in the Permit[1]

Requirement Category: 1 - Permited units; 2 -Notifications; 3 Modifications; 4 Reapplication; 5 Permit Compliance; 6 Waste Characterization; 7 Noncompliance; 8 Reporting; 9 Information; 10 Community Relations Plan; 11 Propertty Transfer; 12 D&D; 13 Waste ; 14 FOR; 15 Inspections; 16 Training; 17 Contingency Plan; 18 Closure; 19 Post Closure; 20 Corrective Actions

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Section	Section Title	Page	Text/Condition/ Requirement	Summary	Specific Requirement	Requirement Category	Requirement Type	Permitted Unit	Responsibility	Notify/ Report/ Modification Required?	Facility Operating Record	Units Affected	Exceptions	Date Considerations	Comment
1.9.7	Duty to Provide Information	20	The Permittees shall furnish to the Department, within a reasonable time as specified by the Department, any relevant information which the Department may request to determine whether cause exists for modifying, suspending, terminating, or revoking this Permit or to determine compliance with this Permit. The Permittees shall also furnish to the Department, upon request, copies of records that are required to be kept by this Permit. Information and records requested by the Department pursuant to this condition shall be provided in a paper or an electronic format acceptable to the Department. In the event the requested information is not immediately available due to security restrictions, the Permittees shall provide the information as soon as reasonably possible (see 40 CFR § 270.30(h)). This Permit condition shall not be construed to limit in any manner the Department's authority under § 74-4-4.3 of the HWA, § 3007(a) of RCRA, or other applicable law (see 40 CFR §§ 264.74(a) and 270.30(h)).	Requested information shall be transmitted to the NMED in a reasonable timeframe.	Y	5	P	A	CP	Provide any Info Requested to NMED	Y	All	N	N	
1.9.8	Inspection and Entry	20	The Permittees shall allow authorized representatives of the Department, upon the presentation of credentials and at reasonable times, and under the conditions of this Permit, to: (1) enter upon the Permittees' premises where the permitted unit or activity is located or conducted or where records must be kept; (2) have access to and photograph any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required; (3) inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required; (4) have access to, and copy, any records that must be kept; and (5) sample or monitor, for the purposes of ensuring Permit compliance or as otherwise authorized by the HWA or RCRA, any substances or parameters at any location. (see 40 CFR § 270.30(i)) In the event that entry, access, or the ability to photograph or sample is not immediately available due to security or safety restrictions, the Permittees shall provide needed entry, photographs, or samples as soon as reasonably possible.	The NMED has the right to enter, photograph, inspect, have access to, and sample and monitor within reason.	Y	5	P	A	ALL	N	N	All	See final paragraph	N	
1.9.9.1	Representative Sampling	21	All samples and measurements taken by the Permittees under any condition in this Permit shall be representative of the medium, waste, or other material being sampled. To obtain a representative waste sample, the Permittees shall use an appropriate method from 40 CFR Part 261, Appendix I or an equivalent method approved by the Department. Laboratory methods must be those specified in the most current edition of Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846), or an equivalent method, as specified in Attachment C (Waste Analysis Plan) and Permit Section 2.4.	Permittees shall take representative samples.	Y	6	IN	A	G/EP/CP	N	Y	All	N	N	
1.9.10	Reporting Planned Changes	21	The Permittees shall give advance written notice to the Department as soon as possible, of any planned physical alterations or additions to any permitted unit at the Facility (see 40 CFR § 270.30(l)(1)).	Advance written notice of planned changes to the units must be transmitted to the NMED as soon as possible.	Y	2	U	A	PUO/CP	To NMED	Y	All	N	Before change	
1.9.11	Reporting Anticipated Noncompliance	21	The Permittees shall give advance written notice to the Department of any planned changes to any permitted unit at the Facility or activity which may result in noncompliance with Permit requirements (see 40 CFR § 270.30(l)(2)).	Advance written notice of changes that may result in a noncompliance must be transmitted to the NMED.	Y	2	U	A	PUO/CP	To NMED	Y	All	N	Before change	
1.9.12	24 Hour and Subsequent Reporting	21	The Permittees shall report to the Department, both orally and in writing, any noncompliance that may endanger human health or the environment and any incident that requires implementation of Attachment D (Contingency Plan) (see 40 CFR § 270.30(l)(6)). This report shall be submitted in accordance with Permit Sections 1.9.12.1 and 1.9.12.2.	Noncompliance that may endanger human health and the environment must be reported to the NMED orally and in writing. See Sections 1.9.12.1 & 1.9.12.2.	Y	7	NC	A	CP/PUO	See Sections 1.9.12.1 & 1.9.12.2	Y	All	N	See Below	
1.9.12.1	24 Hour Oral Report	22	The Permittees shall make an initial oral report within 24 hours after the time the Permittees become aware of the noncompliance or the incident specified in Permit Section 1.9.12. The oral report shall include, at a minimum, the following information: (1) a description of the occurrence and its cause including: a. name, address, and telephone number of the owner and operator; b. name, address, and telephone number of the Facility; c. date, time, and type of incident; d. name and quantity of materials involved; e. the extent of injuries, if any; f. an assessment of actual or potential hazards to the environment and human health outside the Facility, where this is applicable; and g. the estimated quantity and disposition of recovered material that resulted from the incident (see 40 CFR § 270.30(l)(6)(ii)); (2) information concerning the release of any hazardous waste or hazardous waste constituent which may endanger public drinking water supplies (see 40 CFR § 270.30(l)(6)(i)(a)); and (3) any information of a release or discharge of hazardous waste or hazardous waste constituents, or of a fire or explosion at a permitted unit, which may threaten the environment or human health inside or outside the permitted unit (see 40 CFR § 270.30(l)(6)(i)(b)). The oral report shall be made by calling the Department's Hazardous Waste Bureau's main telephone number during regular business hours, or by calling the New Mexico Department of Public Safety dispatch telephone number during non-business hours, and requesting that the report be forwarded to the Department spill number	Oral report of noncompliance that could threaten human health and the environment must be made within 24 hours.	Y	7	NC	A	PUO/CP	Orally to NMED within 24 hours	Y	All	N	24 hours	

1. LANL Hazardous Waste Permit , December 30, 2010, as ammended through March 6, 2015.

Appendix 1
Requirements Identified in the Permit[1]

Requirement Category: 1 - Permited units; 2 -Notifications; 3 Modifications; 4 Reapplication; 5 Permit Compliance; 6 Waste Characterization; 7 Noncompliance; 8 Reporting; 9 Information; 10 Community Relations Plan; 11 Propertty Transfer; 12 D&D; 13 Waste ; 14 FOR; 15 Inspections; 16 Training; 17 Contingency Plan; 18 Closure; 19 Post Closure; 20 Corrective Actions

Requirement Types: AN – Analytical; C – Closure; CA – Corrective Actions; CL – Cleanup Levels or Standards; CM – Corrective Measures; CO – Consent Order; CP – Closure Plan; CR – Community Relations Plan; EC – Emission Controls; EM – Emergency Management; EQ – Equipment; HSP – Health and Safety Plan; IM – Interim Measures; IN – Investigations; IR – Information Repository; ISU – Interim Status Units; L – Labeling; M – Modifications; MAN – Waste Management; N – Notifications; NC – Noncompliance; NM – NMED; P –Permit; PC – Post Closure; PR – Presumptive Remedy; PT – Property Transfer; R – Releases (not emergencies); RA – Risk Assessment; S – Storage; SC – Secondary Containment ; SEC – Security; ST – Storage Tanks; T – Treatment; U – Permitted Units; W – Wells; WA – Waste Acceptance; WC – Waste Characterization; WM – Waste Minimization

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1.9.12.2	Five Day Written Report	22	The Permittees shall submit a written report within five days after the time the Permittees become aware of the noncompliance or incident under Permit Section 1.9.12. The Permittees must include in the written report the information required in Permit Section 1.9.12.1(1)(a-g) and the following information: (1) the period of the noncompliance or incident including exact dates and times, and, if the noncompliance or incident has not been corrected, the anticipated time it is expected to be corrected; and (2) steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, incident or imminent hazard (see 40 CFR §§ 270.30(l)(6)(iii) and 270.32(b)(2)). The Permittees shall include in the report a description of the spill response activities as required in Permit Section 2.10.4. The Department may allow submittal of the written report within 15 calendar days in lieu of the five day requirement above if justifiable cause is provided in advance. The Permittees shall give notice by e-mail to persons on the e-mail notification list of the report of non-compliance or incident in accordance with Permit Section 1.13.	Written notice of a noncompliance that could threaten human health and the environment and response must be made within 5 days.	Y	7	NC	A	PUO/CP	Written to NMED within 5 days and email list	Y	All	Can extend to 15 days if justified in advance	5 or 15 days email list within 7 days of reporting to NMED	
1.9.13	Written Reporting of A Non-Threatening Release	23	The Permittees shall report to the Department in the submittal referenced in Permit Section 1.9.14 any release from or at a permitted unit that the Permittees do not deem a threat to human health or the environment. The written report shall include a description of the occurrence and its cause including the following information: (1) name, address, and telephone number of the owner and operator; (2) name, address, and telephone number of the Facility; (3) date, time, and type of incident; (4) name and quantity of materials involved; and (5) the estimated quantity and disposition of recovered material that resulted from the incident. The Permittees shall include in the report a description of the spill response activities as required in Permit Section 2.10.4 (see 40 CFR § 270.32(b)(2)).	Written reports of nonthreatening releases or noncompliance must be made annually.	Y	7	NC	A	PUO/CP	To NMED	Y	All	N	By December 1 each year	
1.9.14	Other Noncompliance	23	The Permittees shall report all instances of noncompliance not reported under Permit Section 1.9.11. This report shall be submitted to the Department annually by December 1 for the year ending the previous September 30. These reports shall contain the information listed in Permit Section 1.9.12.2 and 40 CFR § 270.30(1)(10), which is incorporated herein by reference. The Permittees shall notify the Department in writing if there were no instances of noncompliance during the reporting period. This notice shall be submitted to the Department by December 1 for the year ending the previous September 30.	Nonthreatening releases or noncompliance shall be reported annually by December 1 for the year ending in September 30.	Y	7	NC	A	PUO/CP	To NMED	Y	All	N	By December 1 each year	If no noncompliances for year must also notify in writing.
1.9.15	Omissions or Misstatements in Applications or Other Reports	24	Whenever the Permittees become aware that they have failed to submit any relevant facts in a permit application, or have submitted incorrect information in a permit application or a report to the Department, the Permittees shall promptly report such facts or information in compliance with 40 CFR § 270.30(1)(11), which is incorporated herein by reference.	Inaccurate applications and reports must be reported and fixed.	Y	8	M	A	CP	To NMED	Y	All	N	Promptly	
1.9.16	Signatory Requirement	24	The Permittees shall sign and certify all applications, reports, or information submitted to the Department and required by this Permit in compliance with 40 CFR §§ 270.11 and 270.30(k), which are incorporated herein by reference.	Applications, reports, and submitted information must be signed and certified.	Y	8	M	A	CP	N	Y	All	N	N	
1.9.17	Submissions to the New Mexico Environment Department	24	The Permittees shall submit all written reports, notifications, or other submissions required by this Permit to be submitted to the Department by certified mail or hand-delivery to: Bureau Chief Hazardous Waste Bureau New Mexico Environment Department 2905 Rodeo Park Drive East, Building 1 Santa Fe, NM 87505-6303 The Permittees shall ensure that any notice, deliverable, or other requirement that under the terms of this Permit would be due on a Saturday, Sunday, or a state or federal holiday shall be due the first business day following the	Applications, reports, and submitted information must be transmitted by certified mail or hand delivery to the NMED-HWB address.	Y	8	M	A	CP	N	Y	All	N	If due on a Saturday, Sunday, or a state or federal holiday shall be due the first business day following	
1.9.18	Approval of Submittals	24	All documents that the Permittees prepare under the terms of this Permit and submit to the Department that are subject to the requirements of 20.4.2 NMAC shall be subject to the procedures set forth therein. Documents requiring Department approval that are not subject to the requirements of 20.4.2 NMAC may be reviewed and approved, approved with modifications or directions, disapproved, denied, or rejected by the Department. Upon the Department's written approval, all submittals and associated schedules shall become enforceable as part of this Permit in accordance with the terms of the Department's written approval, and such documents, as approved, shall control over any contrary or conflicting requirements of this Permit. This provision does not affect any public process that is otherwise required by this Permit, the HWA, or its implementing regulations.	NMED-HWB approvals of documents prepared by the Permittees are enforceable under the Permit.	Y	8	M	A	CP	N	N	N	N	N	
1.9.21	New or Modified Permitted Units	25	The Permittees may not treat or store hazardous waste at a new permitted unit or in a modified portion of an existing permitted unit except as provided in 40 CFR § 270.42 until the Permittees have complied with the requirements of 40 CFR §§ 270.30(l)(2)(i) and (ii).	Permittees must receive a permit prior to using a new or modified unit and comply with 40 CFR § 270.42 and 40 CFR §§ 270.30(l)(2)(i) and (ii).	Y	5	P	A	CP/PUO	N	Y	All	N	N	
1.10	Information Repository	25	The Permittees shall establish both an electronic Information Repository (IR) accessible through the internet on the Permittees' environmental web site and a physical IR containing paper documents. (See 40 CFR § 124.33(d))	Permittees shall establish an electronic and physical IR.	Y	9	IR	A	CP	N	N	All	N	By June 28,2011	Final version changed by Secretary's decision.
1.10	Information Repository	25	The Permittees shall ensure that the electronic and physical IRs contain, unless specified otherwise, the following documents: (1) The Permittees' Part A and Part B Permit Applications associated with the permit renewal; (2) A link to this Permit as it appears on the Department's website (electronic IR only); (3) Permit modification requests associated with this Permit submitted pursuant to 40 CFR § 270.42 and any associated Department responses; (4) The Waste Minimization Report submitted pursuant to Permit Section 2.9; (5) The Biennial Report submitted pursuant to Permit Section 2.12.5; (6) Corrective action documents submitted pursuant to Permit Part 11; (7) Notices of deficiency or disapproval (NODs), NOD responses, final approval letters, and Department directions associated with the documents identified in Paragraphs 1, 3 and 6, above; and (8) Notices of violation (NOV), administrative compliance orders, responses required by the Department, and Department directions associated with this Permit.	Contents of the IR.	Y	9	IR	A	CP	N	N	All	N	By June 28,2011	Final version changed by Secretary's decision.

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1.10	Information Repository	26	Within 180 days of the effective date of this Permit, the Permittees shall establish the electronic IR, and inform the Department of the location, nature, and normal business hours of the physical IR. (See 40 CFR §§124.33 and 270.30(m))	Electronic IR shall be established within 180 days and shall notify NMED of location, nature, and business hours of the physical IR.	Y	9	IR	A	CP	N	N	All	N	Establish within 180 days of permit issuance, June 28, 2011	Final version changed by Secretary's decision.
1.10	Information Repository	26	The Permittees shall add new documents to the IR within ten days after the documents are submitted to, or received from, the Department. (See 40 CFR § 124.33(f))	Documents must be in the IR within 10 days.	Y	9	IR	A	CP	N	Y	All	N	Enter doc w/in 10 days of submittal to NMED. Email list notifications (Section 1.13) required with link to doc within 7 days.	
1.10	Information Repository	26	The Permittees shall inform the public of the existence of each IR by the following methods: (9) written notice to all individuals on the facility mailing list 30 days after the IR becomes operational; (10) public notice in area newspapers, including the Santa Fe New Mexican, the Albuquerque Journal, the Rio Grande Sun, the Taos News, and the Los Alamos Monitor when the IR becomes operational; (11) continuous notice on the Permittees' environmental home page of the existence of the IRs; and (12) in the public notice for any of the Permittees' requested permit modifications. (See 40 CFR § 124.33(e))	Permittees shall inform the public of the existence of the IR.	Y	9	IR	A	CP	Written notice to mailing list, publication in newspaper, notice on web page, within public notice for any permit modifications	Y	All	N	Original notice within 30 days of establishment	
1.10	Information Repository	26	The Permittees shall ensure that the electronic IR includes an electronic index of the documents contained in the IR that identifies each document by title, publication date, author, and any identification number, such as a Los Alamos Unrestricted Release (LAUR) number. The Permittees shall ensure that all documents maintained in the electronic IR are searchable by title, date, author, identification number, and individual words and phrases, and that all such documents are printable.	IR shall include an index and specified metadata.	Y	9	IR	A	CP	N	?	All	N	June 28,2011	
1.10	Information Repository	26	The Permittees shall conduct annual training to inform inexperienced computer users of how they can access and utilize the electronic IR. The Permittees shall inform the public of this training 30 days prior to the training by methods specified in Permit Section 1.10(9) through (11). The Permittees shall document the training content and all efforts to inform the public in the Facility Operating Record. The Permittees shall establish an electronic Information Repository (IR) accessible through the internet on the Permittees' environmental web site. (See 40 CFR § 124.33(d))	Permittees shall conduct annual training of how to use IR and inform the public about when that training will occur.	Y	9	IR	A	CP	Written notice to mailing list, newspaper, notice on web page	Y	All	N	Annually notify of training 30 days prior to training.	
1.10.1	Racer	27	The Permittees shall provide data from environmental media (i.e., soil, sediment, surface water, groundwater, air and biota) collected under this Permit and incorporated into LANL databases to the Risk Analysis Communication Evaluation Reduction (RACER) database through updates on a no less than monthly basis.	Environmental data collected must be updated on RACER no less than monthly.	Y	9	R	A	WES	N	Y	All	N	Monthly updates.	
1.11	General Documents and Information to Be Maintained At the Facility	27	The Permittees shall maintain at the Facility the following documents and all amendments, revisions, and modifications to these documents: (1) this Permit, including all attachments; (2) a topographic map as required by 40 CFR § 270.13(l) and this Permit; (3) the Waste Analysis Plan as required by 40 CFR § 264.13(b) and this Permit; (4) the Inspection Plan (see 40 CFR § 264.15(b)); and (5) a copy of emergency response agreements including all Memorandums of Agreement, Memorandums of Understanding, and Mutual Aid Agreements. The above-mentioned list is not intended to be exhaustive.	Maintain WAP, inspection plan, and emergency response agreements and other documents at the facility	Y	5	U	A	PUO	N	Y	All	N	N	
1.11	General Documents and Information to Be Maintained At the Facility	27	The Permittees shall maintain the documents referenced in this Permit Section in a paper or an electronic format acceptable to the Department.	Records can be hardcopy or electronic.	Y	9	P	A	CP	N	Y	All	N	N	
1.12	Community Relations Plan	27	The Permittees shall establish and implement a Community Relations Plan (CRP) to describe how the Permittees will keep communities and interested members of the public informed of Permit-related activities, including waste management, closure, post-closure, and corrective action (see 40 CFR § 270.32(b)(2)). The CRP shall explain how communities and interested members of the public can participate in Permit-related activities.	Permittees shall develop a CRP.	Y	10	CR	A	CP/PO	See remainder of section	Y	All	N	See Below	
1.12	Community Relations Plan	27	The CRP must describe how the Permittees will: (1) establish an open working relationship with communities and interested members of the public; (2) establish a productive government to government relationship with local tribes and pueblos (including the Pueblos of San Ildefonso, Santa Clara, Jemez, and Cochiti); (3) keep communities and interested members of the public informed of permit actions of interest (e.g., clean-up activities, implementation of the Contingency Plan, Permit modification requests); (4) minimize disputes and resolve differences with communities and interested members of the public; (5) provide a mechanism for the timely dissemination of information in response to individual requests; and (6) provide a mechanism for communities and interested members of the public to provide feedback and input to the Permittees. The DOE shall consult on a government-to-government basis with the tribes and pueblos and both Permittees shall communicate with and solicit comments from communities and interested members of the public when developing the CRP in an effort to ensure the program is responsive to their needs. The Permittees shall document in the Facility Operating Record all consultations, communications, agreements, and disagreements between the Permittees and all participating entities, with the approval of those entities, regarding the development of the CRP. The CRP shall specify how the DOE will consult on a government-to-government basis with the tribes and pueblos, and how the Permittees will solicit comments from communities and interested members of the public annually concerning how they may be made better informed of the issues related to this Permit. The CRP shall specify that the Permittees will, on or before September 1 of each year, post on the Permittees' web site a compilation of all such comments, including any statements of disagreement, with the approval of those entities in a manner set forth in the CRP.	The CRP will cover communication with the surrounding communities and communications while developing plan will be kept in the FOR.	Y	10	CR	A	CP/PO	Documented communication with tribes and pueblos and members of the public and posting of the plan on the web page	Y	All		Review plan annually with communities and publish comments on webpage on or before Sept. 1	
1.12	Community Relations Plan	28	The Permittees shall not document in the Facility Operating Record or post on the Permittees' web site consultations, communications, agreements, and disagreements between the DOE and tribes and pueblos unless those tribes and pueblos specifically request that the information be included in the Facility Operating Record or be posted on the Permittees' web site.	Government-to-government with tribes does not have to be in the FOR or web site unless specifically requested.	Y	9	N	A	CP/PO	N	If requested	All	Government-to-government not required to be part of FOR if tribes or pueblos		

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1.12	Community Relations Plan	28	The Permittees shall implement and post the CRP on the Permittees' web site within 180 days of the effective date of this Permit (see Permit Attachment I (Compliance Schedule)). The Permittees shall maintain the CRP until the termination of this Permit.	The CRP shall be posted on web within 180 days of effective date.	Y	10	CR	A	CP/PO	Publish on web page	Y	All	N	Shall implement and post plan on web by June 28, 2011.	
1.13	Public Notification Via Electronic Mail (E-Mail)	28	The Permittees shall notify individuals by e-mail of submittals as specified in this Permit. The Permittees shall maintain a list of individuals who have requested e-mail notification and send such notices to persons on that list. The notice shall be sent within seven days of the submittal date and shall include a direct link to the specific document to which it relates.	Permittees shall send an email notification to a maintained list within 7 days of specific actions by the Permittees as directed throughout the permit.	Y	9	N	A	CP/PO	Publish existence on web page and email list as outlined in sections 1.9.12.2, 1.9.19, 1.14.1, 1.15, 1.16, 2.2.1, 4.4, 9.2.2.1, 9.2.2.2, 9.2.2.3, 9.4.1, 11.3.1.1, 11.4.1.1, 11.6.2, 11.8.2.1, 11.8.2.2, 11.8.3, & 11.8.9	Y	All	N	Email list within 7 days of notification, request, or other submittal as required.	
1.13	Internet link for email notification list	29	The Permittees shall provide a link on the internet on the Permittees' environmental home page (http://www.lanl.gov/environment) whereby members of the public may submit a request to be placed on the e-mail notification list. In the event that the environmental home page stops operation, the Permittees shall use their best efforts to fully restore the page and its operation as soon as possible	Permittees shall provide a link on http://www.lanl.gov/environment where the public can request to be placed on email list.	y	9	IR	A	CP/PO	N	N	All	N	n	
1.15	Compliance Schedule	30	The Permittees shall submit documents to the Department for its approval, or perform other actions required by this Permit, in accordance with the schedule provided in Attachment I (Compliance Schedule) (see 40 CFR § 270.33(a)). If the action is not itself the submittal of a written document, the Permittees shall submit to the Department a written notification of their compliance with the schedule no later than 14 days following the scheduled date. The Permittees shall give notice by e-mail to persons on the e-mail notification list in accordance with Permit Section 1.13 of any such submittal or notification under this Permit Section (1.15) and Attachment I as established on the effective date of this Permit. Schedules required to be submitted by the conditions of this Permit are, upon approval of the Department, incorporated into this Compliance Schedule by reference and become an enforceable condition of this Permit. Such schedules are not subject to e-mail notification requirements under Permit Section 1.13.	Permittees shall submit documents/perform actions in compliance with Attachment I and notify NMED and the email notification list that they have complied if the item or action is not a submittal in itself.	Y	2	P	A	CP	Email list notification for all and if compliance item is not a written submittal, notification must be sent to NMED.	Y	All permitted units, plus units not in the permit	N	14 days to NMED when requirement is not a written document and to email list within 7 days of submittal to NMED for all.	
1.16	Transfer of Land Ownership	30	The provisions of this Permit Section shall apply to any transfer in fee of Facility property subject to the requirements of this Permit to another entity. This Section does not apply to Facility property subject to requirements of Section III.Y of the Consent Order. DOE shall not transfer any land without submitting a notice to the Department. DOE shall submit the notice at least 120 days prior to the proposed effective date of transfer. At a minimum, the notice shall include an update of the Facility boundaries, as indicated in Figures 1, 2, and 3 in Attachment N (Figures), at an appropriate scale to fully illustrate the boundaries of the transferred property and the modified Facility boundary. The notice for transfer of land ownership for part of the Facility shall: (1) identify the boundaries of the land proposed for transfer by providing the Department with a boundary survey certified by a registered professional surveyor; (2) provide the new owner's name, address, telephone number, and status as a federal, state, private, public, or other entity; (3) describe the location and identity of any unit subject to this permit including existing solid waste management units and areas of concern or permitted units, on the land proposed for transfer; (4) describe any known or suspected presence of hazardous waste, hazardous constituents, or radioactive waste in soil sediment, surface water, or groundwater at any depth within the boundaries of the land proposed for transfer; (5) describe the status of any past, present, or planned investigations or remediation of contamination of soil or groundwater at any depth within the boundaries of the land proposed for transfer; (6) comply with the requirements of § 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9620(h); and (7) state any applicable restriction (e.g., "the property shall not be used for any purpose other than [specify and define the use scenario on which DOE has based its cleanup of the property]. That means that the property shall not be used for [specify and define less restrictive uses]."). The Permittees shall give notice by e-mail to persons on the e-mail notification list of the notice for transfer of land ownership in accordance with Permit Section 1.13.	DOE shall not transfer property subject to this permit to another entity without submitting notice to NMED. Specific notification requirements in Part 1.17.	Y	11	PT	A	CP/LT	Notice to NMED, Modification	Y	All	Does not apply to property subject to Consent Order. Land transfers that don't involve permitted units must also have mod, but not as stringent.	Notice to NMED 120 days before transfer of land and to email list within 7 days of submittal to NMED.	
1.16.1	Determination of Need for Further Action	31	The Department will determine whether closure, post-closure, and any corrective actions implemented by the Permittees with regard to the property are protective of human health and the environment in light of the transferee's intended use of the property. If the Department determines that the closure, post-closure care activities, or the corrective actions are not sufficiently protective in light of the transferee's intended use, the Department will notify the Permittees whether additional actions are necessary. The Permittees must ensure the transferee is made aware of any remaining obligations associated with the property. Upon receipt of a determination that no (future) post-closure and corrective action activities are necessary, DOE may transfer the property and shall submit a permit modification request to reflect the Facility's new boundary.	NMED will determine if further action is necessary to address any potential releases at the site to be transferred.	Y	11	NM	A	EP/CP	Notify transferee of remaining obligations with property, modification	Y	All	If land has issues notification is required.	N	
1.16.2	Restricted Use	32	When DOE transfers property that has been remediated to a level less protective than that deemed by the Department appropriate for a residential use scenario, DOE shall include in the deed a restriction that limits future use of the property to the particular use scenario on which the Permittees have based their cleanup of the property (e.g., if the property was cleaned based on an industrial use scenario, future use of the property would be limited to industrial use). The language of the deed restriction governing future land use necessarily will differ for each deed, depending upon the facts and circumstances of the property being transferred. Such restriction shall, at a minimum, be consistent with the following language: The property shall not be used for any purpose other than [specify and define the use scenario on which DOE has based its cleanup of the property]. That means that the property shall not be used for [specify and define less restrictive uses]. At least 60 days prior to transfer, DOE shall provide the Department the opportunity to review and comment upon the language of the proposed deed restriction limiting future land use. The Department may provide comments on such proposed language.	Controls must be put in place if property to be transferred is less than residential levels and must let NMED know these controls prior to transfer.	Y	11	PT	A	EP/LT	Proposed deed to NMED	Y	All	Unrestricted use	60 days prior to transfer of land	

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1.16.3	Enforceability Against Transferee	32	The covenant required by CERCLA § 120(h)(3)(A)(ii), and the deed restriction described in Permit Section 1.16.2 (to the extent the property is not remediated for unrestricted use), are requirements within the meaning of CERCLA § 310(a)(1), 42 U.S.C. § 9659(a)(1). The contract of sale between the DOE and the transferee will state that the parties to the contract agree that the deed restriction to be set forth in the deed is a requirement within the meaning of CERCLA § 310(a)(1), 42 U.S.C. § 9659(a)(1). DOE shall ensure such statement within the Contract of Sale will survive the transfer of the deed. The deed transferring title from DOE to the transferee shall state that the restriction on land use set forth in the deed is intended to be an equitable servitude, that both the Department and the transferor are beneficiaries of the equitable servitude, that the parties intend for the restriction on land use to run with the land and to bind subsequent transferees, and that such restriction is enforceable by the Department and the transferor against any subsequent transferee that fails to comply with its terms. The deed shall be recorded in the appropriate recording office in the chain of title of the property to give notice of the use restriction to subsequent transferees of the property.	Required covenant by CERCLA and deed restriction in Section 1.16.2 will be required in the event of transfer of land when there is controls or restrictions on the land use.	Y	11	PT	A	EP/LT	N	Y	All	Unrestricted use	n	
1.16.4	EPA Institutional Controls Tracking System	32	For any deed transferring title from DOE to the transferee that contains a restriction on future land use, the Permittees shall, within 90 days of transfer of the property, notify EPA Region 6 of the transfer and identify for EPA the location of the property that is the subject of the transfer.	EPA Region 6 must be notified 90 days prior to transferring land with deed restrictions.	Y	11	PT	A	CP/EP/LT	Written to EPA Region 6	Y	All	Unrestricted use	90 days prior to transfer	
1.16.5	Transfer of Facility Property to Another Federal Agency	33	If the operational control of any portion of the Facility, subject to the requirements of this Permit, will be transferred from DOE to another agency, department, or instrumentality of the United States, the Permittees shall provide written notice of such operational transfer to the Department at least 120 days prior to the transfer. If, however, the Permittees learn of such decision fewer than 120 days prior to the transfer, the Permittees shall provide written notice under Permit Section 1.16 to the Department as soon thereafter as is reasonably practicable.	If operational control of any unit covered by the permit is transferred, 120 day notice must be sent to NMED.	Y	11	U	A	CP	Modification	Y	All	If Permitee learns of transfer less than 120 days before date, notifay as soon as practicle.	120 days before transfer of land and to email list within 7 days of submittal to NMED.	
1.17	Notice of Demolition Activities	33	On or before September 30 of each year, the Permittees shall provide notice to the Department of buildings and other fixed structures that may contain hazardous material scheduled to be demolished in the following federal fiscal year (October 1 through September 30). This notice shall be provided at least 30 days prior to demolition of any such building or structure.	Planned D&D activities for the next FY must be submitted to NMED by Sept. 30 and then updated quarterly for all buildings or fixed structures that may contain hazardous material scheduled for demolition.	Y	12	N	A	CP/EP	Written report to NMED	N	All	N	On or before September 30, and at least 30 days prior to building removal. Completion report within 30 days of writing.	
1.17.1	Notice of Demolition Activities	33	The Notice under this Permit Section shall include a list in the form of a table that contains the following general information for each building or fixed structure that may contain hazardous material to be demolished, to the extent it is available at the time it is submitted: (1) The Technical Area (TA) and building number; (2) A brief statement of current and historic uses of the building or fixed structure; (3) The approximate dates of operations of the building or fixed structure; (4) A list of any solid waste management units (SWMU) or Areas of Concern (AOC) within 50 feet of the footprint of the building or fixed structure; (5) The categories (e.g., chemical residues, RCRA metals, asbestos, high explosives residues, mixed waste) of potential wastes expected to be present in the building or fixed structure; (6) The date or the quarter in which the demolition is scheduled to begin or anticipated to begin; and (7) Any buildings or fixed structures identified in the previous fiscal year that were not demolished. The list shall be accompanied by an attachment that shall describe the processes or conditions that may result in the presence of hazardous material in each building or fixed structure.	Desc ribes information that must be included in report.	Y	12	N	A	RT/EP	Written report to NMED	N	All	N	December 31, March 30, June 30, September 30, and at least 30 days prior to building removal. Completion report within 30 days of writing.	
1.17.2	Demolition Activities Update	33	On or before the last day of each quarter (December 31, March 30, June 30, and September 30), the Permittees shall update the list to include any additional buildings and fixed structures that may contain hazardous material scheduled for demolition, or shall notify the Department in writing that no such additional demolitions have been scheduled.	Quarterly notification of any additional buildings and fixed structures that may contain hazardous material scheduled for demolition.	Y	12	N	A	CP/EP	Written report to NMED	N	All	N	December 31, March 30, June 30, September 30, and at least 30 days prior to building removal. Completion report within 30 days of writing.	
1.17.3	Notice of Demolition Activities	35	Based on the list, the Department may identify in writing those buildings or fixed structures for which it requires notice. If a demolition completion report is prepared for any building or fixed structure identified by the Department, the Permittees shall provide to the Department a copy of the report within 30 days after such final report is written.	If a demolition completion report is prepared, provide it to NMED wqithin 30 days.	Y	12	N	A	CP/EP	Written report to NMED	N	All	N	Provide demolition completin report within 30 days of writing.	
2.1	Design, Construction, Maintenance, and Operation of the Facility	35	The Permittees shall design, construct, maintain, and operate the Facility to minimize the possibility of fire, explosion, or any unplanned, sudden, or non-sudden release of hazardous waste or hazardous constituents to air, soil, groundwater, or surface water that could threaten human health or the environment (see 40 CFR § 264.31).	Permittees shall minimize the possibility of fire, explosion, or release that could threaten human health and the environment.	Y	5	MAN	A	PUO	N	N	All	N	N	
2.2	Authorized Wastes	35	The Permittees shall accept, store, treat, or otherwise manage at permitted units at the Facility only those hazardous wastes the Permittees proposed to manage at the units in the Permit Application, which are those wastes bearing the EPA Hazardous Waste Numbers (i.e., waste codes) listed in Attachment B (Part A Application), unless otherwise prohibited by this Permit.	Permittees shall manage at permitted units only the waste listed in Attachment B (Part A).	Y	13	MAN	A	PUO	N	Y	All	Unless otherwise prohibited in Permit	N	
2.2.1	Hazardous Waste From off-Site Sources	35	Requests to modify of the list of Attachment L (Listing of Off-Site Facilities) shall be Class 1 permit modification requests. The Permittees shall provide e-mail notification pursuant to Permit Section 1.13 of written notice under Permit Section 2.2.1(1)a.	Modifications of Attachment L will be a Class 1 permit modification and require email notification per section 1.13	Y	3	M	A	CP/PUO	Class 1 modification, email notification	Y	All	N	Modifications should be drafted within 7 days of implementation. Email notice within 7 days of notice to NMED.	
2.2.1(1)	Hazardous Waste From off-Site Sources	35	The Permittees may accept, store, treat or otherwise manage at permitted units at the Facility only the following hazardous wastes from off-site sources: (1) Treatment-derived waste or residues from wastes generated at the Facility, sent off site for treatment at a facility referenced in Attachment L (Listing of Off-Site Facilities), and subsequently returned to the Facility prior to final disposition off-site. Such wastes or waste residues may be managed at the Facility only subject to the following conditions: a. for wastes with no available site for final disposal, the Permittees shall provide written notice to the Department that there is no available site for final disposal within five days of receipt of treatment-derived waste or waste residues at the Facility; or b. for wastes with an available final disposal path, the Permittees shall store the wastes for no more than 60 days and shall ship the wastes off site	Permittees can accept treatment derived waste from off-site source if generated by LANL and source is listed in Attachment L.	Y	13	WA	A	PUO	Written to NMED and to email list if there is no path forward for the waste.	Y	All	N	Ship waste offsite within 60 days or notify NMED that there is no path forward within 5 days and email notice to list within 7 days of notifying NMED.	

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2.2.1(1)	Hazardous Waste From off-Site Sources	35	Requests to modify of the list of Attachment L (Listing of Off-Site Facilities) shall be Class 1 permit modification requests. The Permittees shall provide e-mail notification pursuant to Permit Section 1.13 of written notice under Permit Section 2.2.1(1)a.	Modifications of Attachment L will be a Class 1 permit modification and require email notification per section 1.13	Y	3	M	A	RT/PUO	Class 1 modification, email notification	Y	All	N	Modifications should be drafted within 7 days of implementation. Email notice within 7 days of notice to NMED.	
2.2.1(2)	Hazardous Waste From off-Site Sources	35	Hazardous waste generated by the Permittees at TA-57 (the Fenton Hill site);	Permittees can accept waste from Fenton Hill (TA-57).	Y	13	WA	A	PUO	N	Y	All	N	N	
2.2.1(3)	Hazardous Waste From off-Site Sources	36	Hazardous waste generated by the Permittees as a result of investigation or remediation of a solid waste management unit (SWMU) or area of concern (AOC) listed in Attachment K (Listing of SWMUs and AOCs); and	Permittees can accept waste from SWMUs and AOCs listed in Attachment K.	Y	13	WA	A	PUO/EP	N	Y	All	N	N	
2.2.1(4)	Hazardous Waste From off-Site Sources	36	Mixed waste sealed sources sent to the Facility. Such waste may be managed at the Facility only subject to the following conditions: a. The Permittees shall only accept mixed waste sealed sources that have a defense determination and meet Waste Acceptance Criteria that will allow the waste to be sent to the Waste Isolation Pilot Plant (WIPP) for final disposal, as provided in Conditions II.C-1 (WAP) and II.C-3 (TSDF-WAC) of the Hazardous Waste Facility Permit for WIPP (No. NM4890139088); b. The Permittees may accept an annual volume of no more than one 55-gallon drum of mixed waste sealed sources per year during the term of this Permit, except that during one of the first three years of the term of this Permit, the Permittees may accept no more than two 55-gallon drums of mixed waste sealed sources, and that the Permittees may request an increase in the maximum annual volume through a Class 2 permit modification pursuant to 40 CFR § 270.42(b), which is incorporated herein by reference; and c. All mixed waste sealed sources described in this Permit Section shall not be stored at the Facility for longer than one year.	Permittees can accept mixed waste sealed sources if they are going to WIPP for disposal, with an annual volume of 55-gallons, and waste shall not be stored for over one year.	Y	13	WA	A	PUO	Class 2 modification required to increase volume.	Y	All	First 3 years can except two 55 gal. drums. Increase volume through a Class 2 permit modification request	No storage for greater than 1 year.	
2.2.2	Hazardous Waste From Foreign Sources	36	The Permittees shall not accept, store, treat, or otherwise manage at permitted units at the Facility hazardous wastes from foreign sources.	Permittees shall not accept waste from foreign sources.	Y	13	WA	A	PUO	N	Y	All	N	N	
2.2.3	PCB -Contaminated Waste	36	The Permittees shall not store liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 parts per million (ppm) unless such storage is in compliance with 40 CFR § 268.50(f).	PCB-contaminated waste must be stored in accordance with 40 CFR § 268.50(f).	Y	1	S	A	G/PUO	N	Y	All	N	N	
2.3.1	Hazardous Waste Storage	36	The Permittees shall not store hazardous wastes beyond one year from the date that the wastes were first placed into storage at a permitted unit unless the Permittees are able to demonstrate to the Department that one of the following conditions exists: (1) storage is solely for the purpose of accumulating such quantities of hazardous waste restricted from land disposal as necessary to facilitate proper recovery, treatment, or disposal (see 40 CFR § 268.50(a)(2)); (2) the waste meets all of the applicable treatment standards under the Land Disposal Restrictions in 40 CFR Part 268, Subpart D, which are incorporated herein by reference; or (3) that a mixed waste is documented on the Site Treatment Plan (STP) database under the Federal Facility Compliance Order (FFCO) and such storage is otherwise in compliance with all requirements of the STP and FFCO. Except as provided in items 1 through 3 above, waste shall not be stored at a permitted unit for more than one year (see 40 CFR § 270.32(b)(2)).	Permittees shall not store waste greater than one year unless specifically exempted.	Y	1	S	A	PUO	N	Y	All permitted units	Exceptions outlined as 1, 2, & 3-accumulating, meets LDR, or on STP.	No storage for greater than 1 year.	
2.3.1	Hazardous Waste Storage	37	The Permittees shall ensure that each container of hazardous waste that is placed in storage at a permitted unit is clearly marked to identify the date the period of storage began (*see* 40 CFR § 268.50(a)(2)(i)).	Containers must be marked to identify the date that storage began.	Y	1	L	A	G/PUO	N	Y	All permitted units	N	N	
2.3.1	Hazardous Waste Storage	37	The Permittees shall ensure that each tank at a permitted unit into which hazardous waste is placed is clearly marked to identify the date the period of accumulation began, or ensure such information for each tank is recorded and maintained in the Facility Operating Record at the permitted unit (see 40 CFR § 268.50(a)(2)(ii)).	Tanks must be clearly marked to identify the date that storage began and maintain the information in the FOR.	Y	1	L	55-4	PUO	N	Y	TA-55-4-401 storage tanks	N	N	
2.3.2	Prohibition on Dilution	37	The Permittees shall not dilute a waste that is prohibited from land disposal or the residue from treatment of a prohibited waste as a substitute for treatment as specified at 40 CFR § 268.3, which is incorporated herein by reference. Dilution to avoid an applicable treatment standard includes, but is not limited to, the addition of solid waste to reduce a hazardous constituent's concentration or ineffective treatment that does not destroy, remove, or permanently immobilize hazardous constituents. Aggregating or mixing wastes as part of a legitimate treatment process is not prohibited dilution for purposes of this Permit.	Permittees shall not dilute waste as a substitute for treatment.	Y	13	T	A	G/PUO	N	Y	All	Aggregating or mixing as par part of treatment process.	N	
2.3.3	Documentation of Exclusion or Exemption	37	The Permittees shall place a one-time notice in the Facility Operating Record for any land disposal prohibited wastes that the Permittees determine are excluded from the definition of hazardous or solid waste or determine are exempted from Subtitle C regulation under 40 CFR §§ 261.2 through 261.6 subsequent to the point of generation (see 40 CFR § 268.7(a)(7)). Exemptions required to be documented include, but are not limited to, hazardous waste managed in wastewater treatment systems subject to the Clean Water Act (CWA) as specified at 40 CFR §§ 264.1(g)(6) and 260.10, which are incorporated herein by reference. The Facility's on-site files shall include in this documentation a description of the process that generated the waste, the justification for its exemption or exclusion, and a description of the final disposition of the waste.	A one-time notice and documentation in the FOR when an exclusion/exemption from the definition of hazardous or solid waste occurs.	Y	14	WC	A	PUO	N	Y	All	N	N	
2.4.1	General Waste Characterization Requirements	38	The Permittees shall accept, store, treat, or otherwise manage at permitted units at the Facility only those hazardous waste streams that have been fully characterized in accordance with the requirements of 40 CFR § 264.13, which is incorporated herein by reference, the conditions in this Permit Part, and Attachment C (Waste Analysis Plan).	Permittees shall only manage waste that has been fully characterized in accordance with Section 2.4 and Attachment C.	Y	13	WC	A	G/PUO/CP	N	Y	All	N	N	

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2.4.1	General Waste Characterization Requirements	38	At a minimum, the Permittees shall obtain and document all of the information that must be known to treat, store, or otherwise manage a hazardous waste stream in accordance with 40 CFR Parts 264 and 268 including, but not limited to: (1) all applicable EPA hazardous waste numbers; (2) waste characterization necessary to determine whether the waste stream is prohibited from land disposal; (3) waste characterization necessary to prevent the mixing or placing of incompatible wastes in the same container (see 40 CFR §§ 264.17 and 264.177) or tank system (see 40 CFR § 264.199), and to prevent the impairment of containers (see 40 CFR § 264.172), tanks, and secondary containment systems for tanks by incompatible wastes (see 40 CFR § 264.193(c)(1)); (4) waste characterization necessary to prevent accidental or spontaneous ignition or reaction of ignitable or reactive wastes, including, but not limited to, ignition or reaction in containers (see 40 CFR § 264.17) and tank systems (see 40 CFR § 264.198); (5) whether the waste is a mixed waste (see 40 CFR § 270.32(b)(2)); (6) whether the waste contains free liquids; (7) the waste stream name; (8) the unique waste stream identifier; (9) the waste stream generation location (e.g. building and room number); and (10) a detailed description of the waste stream generation process that includes all relevant material inputs or other information that identifies the chemical content and physical form of the waste.	The Permittees shall obtain and document all of the information that must be known to treat, store, or otherwise manage a hazardous waste stream in accordance with 40 CFR Parts 264 and 268.	Y	13	WC	A	G/PUO/CP	N	Y	All	N	N	
2.4.1	General Waste Characterization Requirements	39	The Permittees shall characterize waste streams by using current Department-approved sampling and analysis methods, acceptable knowledge, or a combination of the two. When acceptable knowledge is insufficient to fully characterize a waste stream, the Permittees shall utilize sampling and analysis to complete that characterization.	The Permittees shall characterize waste streams by using current Department-approved sampling and analysis methods, acceptable knowledge, or a combination of the two.	Y	6	WC	A	G/CP	N	Y	All	N	N	
2.4.1	General Waste Characterization Requirements	39	The Permittees shall maintain all waste characterization information in the Facility Operating Record. For records that contain waste characterization information concerning any hazardous or mixed wastes managed under this Permit, which are required to be archived elsewhere at the Facility (e.g., laboratory record books), the Permittees shall maintain a traceable identifier to this documentation to facilitate access by the Permittees and the Department (see 40 CFR § 270.32(b)(2)). The Permittees shall maintain waste characterization documentation in accordance with the record retention requirements in Permit Section 2.12.2.	Waste characterization information shall be kept in the FOR.	Y	14	WC	A	G/PUO	N	Y	All	N	N	
2.4.2	Sampling and Analysis for Hazardous Wastes	39	The Permittees shall perform all sampling and analytical procedures used for waste characterization in accordance with Department-approved laboratory analytical methods, including the most recent version of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (U.S. EPA Publication SW-846) and Tables C-16, C-17, and C-18 in Attachment C (Waste Analysis Plan). The Permittees shall ensure that samples collected and analyzed for waste characterization are representative of the chemical composition of the entire volume of the waste stream.	Sampling and analysis shall be performed in accordance with approved methods and must be representative of the chemical composition of the waste stream.	Y	6	WC	A	G/CP	N	Y	All	N	N	
2.4.2	Sampling and Analysis for Hazardous Wastes	39	The Permittees shall ensure that procedures used to collect a representative sample of a waste stream preserve its original physical form and composition and ensure prevention of contamination or changes in concentration of the constituents to be analyzed.	Sampling procedures must preserve original physical form and composition.	Y	6	WC	A	G/CP	N	Y	All	N	N	
2.4.2	Sampling and Analysis for Hazardous Wastes	39	The Permittees shall implement a quality assurance and quality control (QA/QC) program to ensure that sample collection and analytical procedures used to support waste characterization required under this Permit are technically accurate and statistically valid. This QA/QC program must comply with the requirements in SW-846. The Permittees shall identify and perform the appropriate number of control samples associated with each sample collected (e.g., trip and field blanks, field duplicates, field spikes). The Permittees shall maintain a record in the Facility Operating Record of all QA/QC procedures utilized in the sampling and analysis of a waste stream.	A QA/QC program shall be implemented to ensure that sample collection and analytical procedure are technically accurate and statistically valid. This shall be maintained in the FOR.	Y	6	AN	A	G/CP	N	Y	All	N	N	
2.4.2	Sampling and Analysis for Hazardous Wastes	39	When performing laboratory analysis, the Permittees, or a laboratory under contract to the Permittees, shall analyze the appropriate number of method blanks, laboratory duplicates, and laboratory control samples to assess the quality of the data resulting from laboratory analytical programs.	Laboratories must analyze the appropriate number of QC samples.	Y	6	AN	A	G/CP	N	Y	All	N	N	
2.4.2	Sampling and Analysis for Hazardous Wastes	39	If the Permittees use an independent contract laboratory to conduct waste analyses, the Permittees shall require the analytical laboratory to conduct such analysis in accordance with the waste analysis conditions set forth in Permit Part 2.4 and Attachment C (Waste Analysis Plan), Section C.3 (Characterization Procedures). Copies of contracts or other documentation identifying the independent laboratory and showing that the analytical laboratory is required to operate in accordance with the waste analysis conditions shall be kept in the Facility Operating Record (see 40 CFR § 270.32(b)(2)).	Permittees shall require that contract analytical laboratory to conduct analysis in accordance with the waste analysis condition in the Permit. Copies of contracts or other documentation must be kept in the FOR.	Y	6	AN	A	G/CP	N	Y	All	N	N	
2.4.2	Sampling and Analysis for Hazardous Wastes	40	The Permittees may propose to the Department an analytical method that deviates from Department-approved methods. The Permittees must submit a written request to the Department for review and approval 90 days prior to using the proposed sampling or analytical procedure.....The Permittees shall obtain written approval from the Department of the alternative method before substituting it for an approved method under this Permit, except that a change requested to conform with agency guidance or regulations shall be a Class 1 permit modification (see 40 CFR § 270.42 Appendix 1).	Proposal of an alternative analytical method for waste characterization	Y	6	AN	A	G/CP	Yes. The Permittees must submit a written request to the NMED for review and approval 90 days prior to using the proposed sampling or analytical procedure.	Y	All	N	Apply for NMED approval at least 90 days before use.	
2.4.3	Acceptable Knowledge	40	The Permittees may use acceptable knowledge to characterize waste in lieu of, or to supplement, sampling and analysis. The Permittees shall document all uses of acceptable knowledge, and include in the acceptable knowledge documentation all of the background information assembled and used in the characterization process relevant to the decision to use acceptable knowledge (see 40 CFR § 270.32(b)(2)). The record must document the resolution of any data discrepancies between different sources of acceptable knowledge. Acceptable knowledge documentation must be maintained in an auditable form in the Facility Operating Record. The Permittees shall assign a traceable identifier to this documentation to facilitate both access to this information and its verification by the Permittees and the Department.	Use and documentation of acceptible knowledge for waste characterization.	Y	6	WC	A	G	N	Y	All	N	Nh	

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2.4.4	Waste Received From off-Site	41	If a hazardous waste stream is received at the Facility from an off-site facility identified at Permit Section 2.2.1, the Permittees shall obtain from the facility a detailed characterization of a representative sample of the waste. If acceptable knowledge is used for the waste characterization, the Permittees shall require the facility to provide all acceptable knowledge documentation used to characterize the waste stream (see 40 CFR § 270.32(b)(2)). In addition, the Permittees shall ensure that all applicable waste characterization requirements specified in Permit Section 2.4 have been met and documented. The Permittees shall ensure that the waste matches the identity of the waste designated on the accompanying manifest or shipping paper. If discrepancies between the waste received from an off-site treatment facility and the information on the manifest are found, the Permittees shall comply with the requirements of 40 CFR § 264.72, which is incorporated herein by reference, to resolve the discrepancies.	Off-site wastes must have characterization information and Permittees must ensure that waste matches characterization information. Discrepancies shall comply with requirements of 40 CFR § 264.72.	Y	6	WC	A	PUO	N	Y	All	Discrepancies shall comply with requirements of 40 CFR § 264.72.	N	
2.4.5	Treatment-Derived Waste	41	The Permittees shall characterize treatment-derived wastes generated both on-site and off-site by determining whether the treatment residues meet the applicable treatment standard in accordance with 40 CFR § 268.7(b), which is incorporated herein by reference, unless the Permittees have documented that the purpose of the treatment process is not to attain the applicable treatment standard. The Permittees shall ensure adherence to notification and recordkeeping requirements specified at 40 CFR § 268.7(b)(3)(ii). If the waste remains a hazardous waste, the Permittees shall further characterize it in compliance with the applicable requirements of Permit Section 2.4.1.	Permittees shall ensure that treatment-derived wastes meet applicable treatment standards or document that the purpose of the treatment was not to attain the treatment standard. Notification and characterization requirements apply.	Y	6	T	A	PUO	N	Y	All	N	N	
2.4.7	Waste Characterization Review	41	The Permittees shall ensure that the initial characterization of any hazardous waste stream managed under this Permit is reviewed or repeated to verify that the characterization is accurate and up to date (see 40 CFR § 264.13(b)(4)). The Permittees shall document this review in the Facility Operating Record. The Permittees shall perform the following:	Permittees shall ensure that the initial characterization of any hazardous waste stream managed under this Permit is reviewed or repeated to verify that the characterization is accurate. This review will be documented in the FOR.	Y	6	WC	A	G/PUO/CP	N	Y	All	N	See below	
2.4.7(1)	Waste Characterization Review	41	Annually reevaluate all hazardous waste streams generated to verify the accuracy of initial and subsequent characterization results. The annual reevaluation shall be required no later than one year from the date of initial characterization of the hazardous waste stream or one year from the last annual reevaluation;	Permittees shall review or repeat annually the waste characterization of all hazardous waste streams. This review will be documented in the FOR.	Y	6	WC	A	G/PUO/CP	N	Y	All	N	Annually	
2.4.7(2)	Waste Characterization Review	42	Recharacterize hazardous wastes whenever there is a change in the waste-generating processes which includes a change in the status of the waste for purposes of Land Disposal Restrictions or when analytical results indicate a change in the waste stream;	Whenever there is a change in the waste-generating processes, status relative to LDRs, or a change in analytical results, recharacterize hazardous wastes.	Y	6	WC	A	G/PUO/CP	N	Y	All	N	When ever there is a change in status	
2.4.7(3)	Waste Characterization Review	42	Annually verify the waste characterization of one percent of hazardous waste streams characterized solely by acceptable knowledge (see 40 CFR §§ 264.13(b)(4) and 270.32(b)(2)). Such waste characterization verification shall be performed by quantitative chemical analyses appropriate for the waste as specified in Attachment C (Waste Analysis Plan). The one percent of wastes whose characterization is to be verified shall be determined in relation to the total number of unique waste streams characterized solely by acceptable knowledge and managed at TA-54 in the previous calendar year. The waste streams whose characterization is to be verified shall be chosen without further bias and the selection procedure shall be documented in the Facility Operating Record. Wastes not required to undergo this annual verification and not to be counted toward the total number of wastes managed in the previous year include mixed transuranic wastes, hazardous debris, and hazardous wastes that are hazardous only because they are listed at 40 CFR Part 261, Subpart D; and	Annually verify the waste characterization of one percent of hazardous waste streams characterized solely by acceptable knowledge and managed at TA-54.	Y	6	WC	A	G/PUO/CP	N	Y	All	N	Annually	
2.4.7(4)	Waste Characterization Review	42	Recharacterize a hazardous waste stream whenever the Permittees are notified by a receiving off-site facility that the characterization of a hazardous waste they obtained from the Permittees' Facility does not match a pre-approved waste analysis certification or accompanying waste manifest or shipping paper. The Permittees shall notify the Department in writing within three days of their receipt of the notice of the discrepancy from a receiving facility.	Recharacterize waste stream if receiving off-site facility if waste does not meet preapproved WAC or manifest. Documented in the FOR.	Y	6	WC	A	PUO/CP	Notification	Y	All units sending waste to TA-54	N	Within 3 days of notice of discrepancy.	
2.4.8	Waste Characterization for Compliance With RCRA Air Emission Requirements	42	The Permittees shall characterize hazardous wastes managed in containers and tanks to determine the average volatile organic compound (VOC) concentration relative to 500 parts per million by weight (ppmw) at the point of waste origination in compliance with 40 CFR Part 264, Subpart CC. The Permittees shall determine the average VOC concentration either by utilizing acceptable knowledge or by using the procedures specified in 40 CFR § 264.1083(a), which is incorporated herein by reference. The Permittees shall review and update this determination at least once every 12 months following the date of the initial determination in compliance with 40 CFR § 264.1082(c)(1), which is incorporated herein by reference. The Permittees shall not be required to control air pollutant emissions from a container or tank and thus shall not be required to characterize the waste for its average VOC concentration in the following circumstances: (1) if the container or tank stores mixed waste (see 40 CFR § 264.1080(b)(6)); (2) if the container storing the wastes has a total capacity of less than 0.1 cubic meter (approximately 26 gallons)(see 40 CFR § 264.1080(b)(2)); or (3) if a tank has stopped receiving hazardous waste and is undergoing closure (see 40 CFR § 264.1080(b)(3)). The Permittees shall not be required to determine the average VOC concentration of wastes if control of air pollution emissions from containers is achieved utilizing the container construction specifications and operation requirements specified in 40 CFR § 264.1086(b), which is incorporated herein by reference.	Permittees shall determine the VOC concentration of wastes and update the determination at least every 12 months.	Y	6	WC	A	G/PUO	N	Y	All	Permittees not required to determine and verify the VOC concentration if an exemption is met.	Annual reevaluation	
2.4.9	Waste Characterization for Compliance With Land Disposal Restrictions	43	The Permittees shall ensure that before any hazardous waste is managed at a permitted unit a determination has been made as to whether the waste has to be treated before it can be land disposed (see 40 CFR § 268.7(a)). The Permittees must characterize waste designated to be disposed of at the Waste Isolation Pilot Plant (WIPP) to determine whether it is subject to the land disposal prohibitions, except that such waste is not required to be characterized to determine all applicable underlying hazardous constituents listed in 40 CFR § 268.48.	Permittees shall determine if the waste has to be treated before it can be land disposed prior to managing of that waste.	Y	6	WC	A	G/PUO	N	Y	All	N	N	

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2.4.9	Waste Characterization for Compliance With Land Disposal Restrictions	43	When performing or obtaining laboratory analysis to demonstrate that a waste meets its applicable treatment standard concentrations specified in 40 CFR § 268.40, Treatment Standards for Hazardous Wastes, in compliance with 40 CFR §§ 268.7(a) and (b), which are incorporated herein by reference, the Permittees shall ensure that analytical method practical quantification limits are not higher than the applicable treatment standard (see 40 CFR § 270.32(b)).	Permittees must demonstrate that applicable treatment standard concentrations specified in 40 CFR § 268.40 are met and PQLs not higher than standards.	Y	6	WC	A	G/PUO	N	Y	All	N	N	
2.4.9	Waste Characterization for Compliance With Land Disposal Restrictions	43	The Permittees shall characterize treatment-derived wastes by determining whether the waste is a hazardous or mixed waste in compliance with the requirements in Permit Section 2.4.1 and in compliance with the notification and recordkeeping requirements specified in 40 CFR § 268.7(b)(3)(ii), Treatment Facility Paperwork Requirements Table, which is incorporated herein by reference.	Treatment derived waste must be characterized in compliance with the requirements in Section 2.4.1.	Y	6	WC	A	G/PUO	Notification requirements in 40 CFR 268.7(b)(3)(ii)	Y	All	N	N	
2.4.9	Waste Characterization for Compliance With Land Disposal Restrictions	43	When using laboratory analysis as part of a hazardous waste characterization pursuant to Attachment C (Waste Analysis Plan), Section C.3.1.2, the Permittees shall require the laboratory to report concentrations of all hazardous constituents listed at 40 CFR § 268.48, Table UTS that the analytical test method used is capable of measuring, as specified at the most recent version of the U.S. EPA's Test Methods for Evaluating Solid Wastes (SW-846). When performing this laboratory analysis the Permittees will not be required to perform sample preparation or determinative procedures other than those performed routinely for the target analytes.	Permittees shall require analytical laboratory to report concentration of all hazardous constituents that the test method is capable of measuring.	Y	6	WC	A	G/PUO/CP	N	Y	All	N	N	
2.4.9	Waste Characterization for Compliance With Land Disposal Restrictions	44	The Permittees shall characterize treatment-derived wastes, including those wastes that are formerly characteristic and no longer hazardous or mixed waste, to determine whether the waste meets the applicable treatment standard specified at 40 CFR §§ 268.40, 268.45, 268.48, and 268.49, in compliance with 40 CFR § 268.7(b), which is incorporated herein by reference. Pursuant to 40 CFR § 268.7(b)(3)(ii), the Permittees shall characterize treatment-derived wastes to determine the presence of any constituents of concern for hazardous waste codes F001 through F005, F039, and the presence of underlying hazardous constituents in characteristic wastes as defined at 40 CFR § 268.2(i), which is incorporated herein by reference.	Treatment-derived wastes, including those wastes that are formerly characteristic and no longer hazardous or mixed waste, must be characterized and meet the applicable treatment standard specified at 40 CFR §§ 268.40, 268.45, 268.48, and 268.49, in compliance with 40 CFR § 268.7(b).	Y	6	WC	A	G/PUO	N	Y	All	N	N	
2.5	Security	44	The Permittees shall prevent the unknowing entry and minimize the possibility for the unauthorized entry of persons or livestock onto the permitted units at the Facility (*see* 40 CFR § 264.14).	Permittees shall prevent unknowing entry and minimize the possibility for unauthorized entry.	Y	1	SEC	A	PUO	N	N	All	N	N	
2.5	Security	44	The Permittees shall ensure the permitted units' security by implementing the following measures: (1) 24-hour surveillance system continuously monitoring and controlling entry into the permitted units at the Facility; or (2) controlled entry into the permitted units at all times via gates, stations, or other means (e.g., attendants, locks, prohibited or controlled roadway access).	Permittees shall ensure the unit's security through surveillance or controlled entry.	Y	1	SEC	A	PUO	N	N	All	N	N	
2.5	Security	44	The Permittees shall maintain and ensure the effectiveness of all security fences, entry gates, and entry stations surrounding the permitted units as specified in Figures 4 through 10 in Attachment N (*Figures)* .	Permittees shall ensure the effectiveness of security fences, entry gates and stations.	Y	1	SEC	A	PUO	N	Y	All	N	N	
2.5.1	Warning Signs	44	The Permittees shall post bilingual warning signs (in English and Spanish) at all gates and perimeter fences, where present, around the permitted units (see 40 CFR § 264.14(c)). Signs shall be posted in sufficient numbers to be visible at all angles of approach as well as from a distance of at least 25 feet. The Permittees shall include on the signs the following or an equivalent warning: DANGER – UNAUTHORIZED PERSONNEL KEEP OUT (PELIGRO – SE PROHIBE LA ENTRADA A PERSONAS NO AUTORIZADAS) The Permittees shall post warning signs in the appropriate dialect of Tewa in a manner equivalent to the bilingual warning signs in English and Spanish along shared boundaries with the Facility's permitted units and the Pueblo of San Ildefonso (PO WHO GEH). The Permittees shall post signs requested by Santa Clara Pueblo (Kha-'Po). The Permittees shall include on the signs the following warning: Wi-i ts'uni pi' – (DO NOT ENTER)	Permittees shall post warning signs as required.	Y	1	SEC	A	PUO	N	N	All	N	N	
2.6	General Inspection Requirements	45	The Permittees shall inspect all the permitted units for malfunctions, deterioration, operator errors, and discharges which may cause or may lead to: (1)a release of hazardous constituents to the environment; or (2) a threat to human health. (see 40 CFR § 264.15(a))	Permittees shall inspect all permitted units for issues that may cause a release or a threat to human health.	Y	15	U	A	PUO	N	Y	All	N	See Attachment E	
2.6	General Inspection Requirements	45	Inspections shall be conducted of all waste management structures, base materials, containers, monitoring equipment, safety and emergency equipment, security devices, and operating equipment that are important in preventing, detecting, and responding to environmental or human health hazards associated with hazardous wastes (see 40 CFR § 264.15(b)(i)).	Inspections shall be conducted of all structures and equipment that are important to prevent, detect, and respond to a threat to human health or the environment.	Y	15	U	A	PUO	N	Y	All	N	See Attachment E	
2.6	General Inspection Requirements	45	The Permittees shall implement the inspection program for the permitted units in compliance with the operating schedule, recordkeeping, and response action commitments in Attachment E (*Inspection Plan*).	Permittees shall implement Attachment E (Inspection Plan).	Y	15	U	A	PUO	N	Y	All	N	See Attachment E	
2.6	General Inspection Requirements	45	The Permittees shall maintain Attachment E (Inspection Plan) at the administrative office of all applicable permitted units or at the permitted unit. The Permittees' ability to access an electronic version of this Permit's inspection requirements at the above locations shall be deemed to satisfy this Permit condition.	Permittees shall maintain the Inspection Plan at permitted units.	Y	15	U	A	PUO	N	Y	All	N	See Attachment E	
2.6.1	Inspection Schedule	45	The Permittees shall conduct inspections to identify problems in time to correct them before they harm human health or the environment (see 40 CFR § 264.15(a)). The Permittees shall inspect the permitted units and all associated structures and equipment, in compliance with the inspection schedules contained in Attachment E (Inspection Plan).	Permittees shall conduct inspections in accordance with the Inspection Plan.	Y	15	U	A	PUO	N	Y	All	N	See Attachment E	
2.6.1	Inspection Schedule	45	The Permittees shall inspect areas subject to spills, such as loading and unloading areas, daily when in use (see 40 CFR § 264.15(b)(4)).	Permittees shall inspect areas subject to spills.	Y	15	U	A	PUO	N	Y	All	N	Daily, when in use	

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2.6.2	Repair of Equipment and Structures	45	The Permittees shall remedy any deterioration or malfunction of equipment or structures discovered during an inspection which may lead to an environmental or human health hazard. The Permittees shall mitigate such deterioration or malfunction within 24 hours of discovery of the problem. The Permittees shall immediately implement remedial action where a hazard is imminent or has already occurred (see 40 CFR § 264.15(c)).	Permittees shall fix deterioration or malfunctions within 24 hours and shall immediately address where there is an imminent hazard or a release has already occurred.	Y	15	U	A	PUO	N	Y	All	N	Mitigate within 24 hours	
2.6.3	Inspection Logs and Records	46	The Permittees shall record the results of inspections on the Hazardous and Mixed Waste Facility Inspection Record Form in Attachment E (Inspection Plan) for each inspection conducted in accordance with Permit Section 2.6 and Attachment E. At a minimum, the Permittees shall produce a handwritten record of the date and time of the inspection, an identification of the permitted unit and associated structures or equipment, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions taken (see 40 CFR § 264.15(d)). The Permittees shall ensure that these records are clearly legible, all handwritten information is in ink, and errors are crossed out with a single line, initialed, and dated by the individual making the correction. The Permittees shall maintain the inspection logs and records in a paper format. The Permittees may transfer the inspection logs and records into an electronic format acceptable to the Department. The paper format shall be retained for the period of time specified in Permit Section 2.12.2.	Permittees shall record results of inspections and keep them within the FOR. Corrections must be maid with a single line, initialed and dated by the individual.	Y	15	U	A	PUO	N	Y	All	N	N	
2.6.3	Inspection Logs and Records	46	The Permittees shall record the following observations or actions in the Facility Operating Record: (1) the results of any preventive maintenance activities including, but not limited to, maintenance on floors, secondary containment structures, unit drainage structures, and fire protection equipment at a permitted unit; (2) any malfunctions and deterioration of such structures or equipment; (3) any errors affecting waste containment or compliance with this Permit; (4) the locations, dimensions, and repairs of all identified cracks or gaps in floors or base materials; (5) any discharges of hazardous waste, hazardous constituents, or fire suppression systems at a permitted unit; and (6) any occurrences that might cause or exacerbate contamination of a permitted unit.	Results of preventative maintenance, malfunctions and deterioration or structures or equipment, errors affecting waste containment or compliance, repairs of all floors or base materials, discharged of waste or fire suppression systems, and occurrences that might cause of exacerbate contamination must all be recorded in the FOR.	Y	14	U	A	PUO	N	Y	All	N	N	
2.6.3	Inspection Logs and Records	46	The Permittees shall maintain inspection logs in the Facility Operating Record as specified in Permit Section 2.12.2.	Permittees shall maintain the records of inspection in the FOR.	Y	14	U	A	PUO	N	Y	All	N	N	
2.7	Personnel Training	46	The Permittees shall ensure that all Facility personnel who are involved in hazardous waste management activities regulated under this Permit successfully complete all training programs in compliance with the training requirements of 40 CFR § 264.16, which is incorporated herein by reference, as well as the training requirements in Attachment F (Personnel Training Plan).	Permittees shall ensure that personnel are trained in compliance with 40 CFR 264.16 and Attachment F.	Y	16	U	A	PUO	N	Y	All	N	See Attachment F	
2.8	Special Requirements for Ignitable, Reactive, or Incompatible Waste	47	The Permittees shall manage ignitable, reactive, and incompatible hazardous wastes in containers and tanks in compliance with the requirements of 40 CFR §§ 264.17, 264.176, 264.177, 264.198, and 264.199, which are incorporated herein by reference, and Permit Parts 3 and 4. The Permittees shall ensure that containers holding ignitable or reactive wastes are located at least 15 meters from the facility boundary defined as the technical area (TA) specific boundary identified in Figures 11, 16, 22, 24, and 38 in Permit Attachment N (Figures) (see 40 CFR §§ 264.176 and 270.32(b)(2)).	Permittees shall manage ignitable, reactive, and incompatible wastes in containers and tanks in compliance with Permit Parts 3 & 4. These containers must be at least 15 meters from the TA boundary.	Y	1	MAN	A	PUO	N	N	All	N	N	
2.8	Special Requirements for Ignitable, Reactive, or Incompatible Waste	47	The Permittees shall take precautions during the treatment or storage of ignitable or reactive waste, the mixing of incompatible waste, or the mixing of incompatible wastes and other materials to prevent reactions that could lead to or cause the following: (1) generation of extreme heat, pressure, fire, explosions, or violent reactions; (2) production of uncontrolled toxic mist, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment; (3) production of uncontrolled inflammable fumes or gases in sufficient quantities to pose a risk of fire or explosions; (4) damage to the structural integrity of the container, tank, permitted unit, or other structure associated with the permitted unit; and (5) a threat to human health or the environment. (see 40 CFR § 264.17(b))	Permittees shall take precautions during treatment, storage, and mixing of wastes not to ignite or react ignitable or reactive waste.	Y	1	MAN	A	PUO	N	N	All	N	N	
2.8.1	Ignitable and Reactive Waste Precautions	47	The Permittees shall prevent accidental ignition or reaction of ignitable or reactive wastes by taking the following precautions: (1) ensure there are no sources of open flames in, on, or around the container or tank; (2) segregate and separate ignitable or reactive wastes and protect them from sources of ignition or reaction such as cutting and welding, frictional heat, sparks (e.g., static, electrical, mechanical), spontaneous ignition, and radiant heat; (3) maintain adequate clearance around fire hydrants at permitted units; (4) use only non-sparking tools when managing hazardous waste containers that contain ignitable or reactive wastes; (5) ensure appropriate lightning protection is provided for all storage and treatment units; (6) perform ongoing inspection, testing, and maintenance of fire protection equipment to determine appropriate test criteria and preventative maintenance activities; (7) confine smoking and open flames to designated areas that are a minimum of 50 feet from areas where ignitable or reactive wastes are handled; (8) stack containers of ignitable and reactive wastes no more than 2 drums high to comply with the National Fire Protection Association's (NFPA) Flammable and Combustible Liquids Code; and (9) ensure that each permitted unit's fire suppression system is compatible with the hazardous waste being stored or treated at the permitted unit.	Permittees shall prevent accidental ignition or reaction.	Y	1	MAN	A	PUO	N	Y	All	N	N	
2.8.1	Ignitable and Reactive Waste Precautions	48	The Permittees shall assume that all drums with volume capacities between 55 and 110 gallons that hold mixed transuranic wastes and that are not vented , and standard waste boxes that hold mixed transuranic waste and are not vented, contain hydrogen gas and the associated wastes are subject to the conditions of this Permit Section (2.8.1).	Permittees shall assume mixed waste containers between 55 and 110 gallons and standard waste boxes that are not vented contain hydrogen gas and must be managed as subject to Section 2.8.1.	Y	1	MAN	SU	PUO	N	N	Storage units at TA-3, TA-50, TA-54 & TA-55	N	N	

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Requirement Types: AN – Analytical; C – Closure; CA – Corrective Actions; CL – Cleanup Levels or Standards; CM – Corrective Measures; CO – Consent Order; CP – Closure Plan; CR – Community Relations Plan; EC – Emission Controls; EM – Emergency Management; EQ – Equipment; HSP – Health and Safety Plan; IM – Interim Measures; IN – Investigations; IR – Information Repository; ISU – Interim Status Units; L – Labeling; M – Modifications; MAN – Waste Management; N – Notifications; NC – Noncompliance; NM – NMED; P –Permit; PC – Post Closure; PR – Presumptive Remedy; PT – Property Transfer; R – Releases (not emergencies); RA – Risk Assessment; S – Storage; SC – Secondary Containment ; SEC – Security; ST – Storage Tanks; T – Treatment; U – Permitted Units; W – Wells; WA – Waste Acceptance; WC – Waste Characterization; WM – Waste Minimization

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2.8.2	Incompatible Waste Precautions	48	The Permittees shall ensure that a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers must be separated from the other materials (or waste) or is protected from them by means of a dike, berm, wall, or other device not to include the container, in order to, in the event of leakage from containers under conditions normally incident to storage, prevent the commingling of the incompatible wastes or materials (see 40 CFR § 264.177(c)).	Storage containers holding hazardous waste that is incompatible with any waste or other materials stored nearby must be separated or protected from them.	Y	1	MAN	SU	PUO	N	N	Storage units at TA-3, TA-50, TA-54 & TA-55	N	N	
2.8.2	Incompatible Waste Precautions	48	The Permittees shall ensure that incompatible wastes or materials are not stored within or on the same secondary containment structure.	Incompatible wastes or materials will not be stored on the same secondary containment structure.	Y	1	MAN	SU	PUO	N	N	Storage units at TA-3, TA-50, TA-54 & TA-55	N	N	
2.8.2	Incompatible Waste Precautions	48	The Permittees shall ensure that incompatible wastes or materials are not stored so that a release or spill of these wastes might commingle in a fire suppression water holding area or tank.	Incompatible wastes or materials must be stored so that a release or spill will not commingle in a fire suppression water area or tank.	Y	1	MAN	SU	PUO	N	N	Storage units at TA-3, TA-50, TA-54 & TA-55	N	N	
2.8.2	Incompatible Waste Precautions	48	The Permittees shall ensure that all waste and materials are segregated and stored in accordance with the Department of Transportation's (DOT) compatibility groupings or classes contained in 49 CFR § 177.848 (*see* 40 CFR § 270.32(b)(2)).	Permittees shall ensure that incompatible wastes are segregated and stored in accordance with DOT or classes in 49 CFR 177.848.	Y	1	MAN	SU	PUO	N	N	Storage units at TA-3, TA-50, TA-54 & TA-55	N	N	
2.8.2	Incompatible Waste Precautions	49	The Permittees shall not store cyanides and cyanide mixtures or solutions with acids if a mixture of the materials could generate hydrogen cyanide. The Permittees shall not store Class 8 (corrosive) liquids above or adjacent to Class 4 (flammable) or Class 5 (oxidizing) wastes except when it is known that the mixture of the wastes could not cause a fire or a dangerous evolution of heat or gas.	Permittees shall not store cyanides with other materials that could generate hydrogen cyanide.	Y	1	MAN	SU	PUO	N	N	Storage units at TA-3, TA-50, TA-54 & TA-55	N	N	
2.8.2	Incompatible Waste Precautions	49	The Permittees shall ensure that hazardous wastes are not placed in an unwashed container (*see* 40 CFR § 264.177(b)) or tank (*see* 40 CFR § 264.199(b)) that previously held an incompatible waste or material.	Permittees shall ensure that hazardous wastes are not placed in an unwashed container that held incompatible waste or material.	Y	1	MAN	SU	PUO	N	Y	Storage units at TA-3, TA-50, TA-54 & TA-55	N	N	
2.9	Waste Minimization Program	49	The Permittees shall implement and maintain a waste minimization program to reduce the volume and toxicity of hazardous wastes generated at the Facility (see 40 CFR § 264.73(b)(9)). The waste minimization program shall include proposed, practicable methods of treatment and storage currently available to the Permittees to minimize the present and future threat to human health and the environment. The Waste Minimization Program shall include the following items: (1) written policies or statements that outline goals, objectives, and methods for source reduction and recycling of hazardous waste at the Facility; (2) employee training or incentive programs designed to identify and implement source reduction and recycling opportunities for all hazardous wastes; (3) source reduction or recycling measures implemented in the last five years or planned for the next federal fiscal year; (4) estimated dollar amounts of capital expenditures and operating costs devoted to source reduction and recycling of hazardous waste; (5) factors which have prevented implementation of source reduction or recycling; (6) summary of additional waste minimization efforts that could be implemented at the Facility that analyzes the potential for reducing the quantity and toxicity of each waste stream through production process changes, production reformulations, recycling, and all other appropriate means including an assessment of the technical feasibility, cost, and potential waste reduction for each option; (7) flow charts and/or tables summarizing all hazardous waste streams produced by the Facility by quantity, type, building or area, and program; and (8) demonstration of the need to use those processes which produce a particular hazardous waste due to a lack of alternative processes, available technology, or available alternative processes that would produce less volume or less toxic waste. The Permittees shall submit to the Department a report regarding progress made in the waste minimization program in the previous year. The report shall address items (1)-(8) above, shall show changes from the previous report, and shall be submitted annually by December 1 for the year ending the previous September 30.	Permittees shall implement and maintain a waste minimization program. A report shall address certain items and shall show changes from the previous report. It shall be submitted annually by December 1 for the year ending the previous September 30.	Y	8	WM	A	ES/CP	Written report to NMED	Y	All	N	Annually by December 1	
2.10	Preparedness and Prevention	50	The Permittees shall maintain and operate each permitted unit in a manner that minimizes the possibility of fire, explosion or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituent to the air, soil or surface water that could threaten human health or the environment (see 40 CFR § 264.31). In addition to the general preparedness and prevention requirements identified here, the Permittees shall comply with the TA-specific preparedness and prevention requirements and shall maintain the equipment identified in Attachment A (Technical Area Unit Descriptions) and Attachment D (Contingency Plan).	Permittees shall maintain and operate units in a manner that minimized the possibility of a fire, explosion, or release that may threaten human health and the environment by complying with this section and the requirements in Attachments A & D (Technical Area Unit Descriptions & Contingency Plan).	Y	1	U	A	PUO	N	Y	All	N	N	See specific sections within Attachment A and Attachment D for each unit.
2.10.1	Required Equipment	50	At a minimum, the Permittees shall maintain at the Facility and at each permitted unit the internal communication and alarm system devices, fire control equipment, spill control equipment, and decontamination equipment listed in the tables in Attachment A (Technical Area Unit Descriptions) and Attachment D (Contingency Plan) (see 40 CFR § 264.32(b)(2)).	The Permittees shall maintain the equipment listing in Attachments A & D (Technical Area Unit Descriptions & Contingency Plan). Permit modifications shall be submitted when lists are changed.	Y	1	EQ	A	PUO	N	Y	All	N	N	See specific sections within Attachment A and Attachment D for each unit.
2.10.1	Required Equipment	50	The Permittees shall ensure that any changes to the emergency equipment lists adhere to the permit modification requirements at 40 CFR §§ 270.41 through 270.43.	Permit modifications shall be submitted when emergency equipment lists are changed.	Y	3	M	A	PUO/CP	Modification if changed			Modification if changed	Permit mod requirements.	See specific sections within Attachment A and Attachment D for each
2.10.1	Required Equipment	50	The Permittees shall maintain spill kits at each permitted container storage and tank unit as specified in Attachment D (Contingency Plan). These spill kits shall be capable of mitigating small containable spills of acidic, caustic, inflammable, and otherwise hazardous waste present at the unit. For larger spills, the Permittees shall have plugging and diking equipment, siphon pumps, and loaders readily available at the Facility.	Permittees shall maintain spill kits or other equipment capable of mitigating acidic, caustic, inflammable and other hazardous waste present at the unit.	Y	1	EQ	A	PUO	N	N	All	N	N	
2.10.1	Required Equipment	50	The Permittees shall ensure that there is adequate water pressure and volume available to each permitted unit to provide for fire suppression (*see* 40 CFR § 264.32(d)).	Permittees shall ensure adequate water pressure and volume available for fire suppression.	Y	1	EQ	A	PUO	N	N	All	N	N	
2.10.1	Required Equipment	50	The Permittees shall operate and maintain the area-wide environmental monitoring network as specified in Section D.7.3 of Attachment D (*Contingency Plan*).	Permittees shall operate and maintain an environmental monitoring network as described in Attachment D (Contingency Plan).	Y	5	EM	A	EP	N	N	All	N	N	Section D.7.3 pertains to nonsudden release surveillance

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2.10.1	Required Equipment	50	At permitted units where equipment is necessary to mitigate the effects of a power outage, the Permittees shall maintain batteries, generators, or some other form of backup power supply capable of operating equipment including evacuation alarms, emergency communication equipment, automatic fire suppression systems, and emergency lights (See 40 CFR 270.14(b)(8)(iv) and 270.32(b)(2)).	Permittees shall maintain equipment capable of mitigating the effects of power outages where necessary.	Y	1	EQ	A	PUO	N	Y	All	N	N	
2.10.1	Required Equipment	50	The Permittees shall ensure that it is possible to provide fuel to backup generators under adverse conditions.	The Permittees shall ensure fuel is available for backup generators under adverse conditions.	Y	1	EQ	A	PUO	N	N	All	N	N	
2.10.2	Testing and Maintenance of Equipment	51	The Permittees shall test the equipment listed in Section E.1.1 of Attachment E (Inspection Plan) in accordance with the schedule identified in Attachment E to ensure its functionality in the event of an emergency. The Permittees shall maintain the equipment specified in Permit Section 2.10.1 to ensure its proper operation in the event of an emergency (see 40 CFR § 264.33). This equipment shall undergo inspection in accordance with Attachment E (Inspection Plan). The Permittees shall document such inspections in the Facility Operating Record in accordance with this Permit Part.	Permittees shall test and inspect equipment listed in Attachments A & D as detailed in Attachment E (Inspection Plan).	Y	1	EQ	A	PUO	N	Y	All	N	See Attachment E, Section E.1.1.	E.1.1 indicates that evacuation alarms, ventilation alarms, fire alarms, and fire pumps must be inspected monthly.
2.10.2	Testing and Maintenance of Equipment	51	If testing or inspections identify any missing or nonfunctioning communication equipment, alarm system, fire protection component, spill control, or decontamination equipment, the Permittees shall ensure it is promptly repaired or provide substitute equipment. The Permittees shall ensure that employees and contractors working in the area are notified of the presence of substitute equipment and, if necessary, provide them with training in its use (see 40 CFR § 270.32(b)(2)). The Permittees shall document in the Facility Operating Record instances of such notifications and trainings. The Permittees shall ensure that malfunctioning equipment is clearly marked as out of use and that the location of the substitute equipment is clearly posted on or adjacent to the faulty equipment (see 40 CFR §§ 264.31 and 270.32(b)(2)).	Permittees shall ensure that missing or nonworking equipment is promptly replaced or repaired and that workers within the area are notified and trained on substitute equipment. FOR should contain info on notifications and trainings. Nonfunctional equipment should be clearly marked with the location of substitute equipment clearly posted or near faulty equipment.	Y	1	EQ	A	PUO	N	Y	All	Extra posting when equipment is out of order	As promptly as possible	
2.10.3	Access to Communications or Alarm System	51	Whenever an employee is present at a permitted unit and the unit contains hazardous waste, the Permittees shall ensure that all personnel at the unit have immediate access to an internal alarm or emergency communication device either directly or through visual or voice contact with another employee (see 40 CFR § 264.34(a)). The Permittees shall ensure that communication devices are easily accessible without personnel having to enter another building (see 40 CFR § 270.32(b)(2)).	Personnel at the unit must have immediate access to an internal alarm or emergency communication without having to enter another building.	Y	1	EM	A	PUO	N	N	All	N	N	
2.10.3	Access to Communications or Alarm System	51	The Permittees shall ensure that any employee working alone at a permitted unit is capable of summoning external emergency assistance and shall have immediate access to a device, such as a hand-held two-way radio, a cell phone, or a landline telephone (see 40 CFR § 264.34(b)). The Permittees shall ensure that communication devices are easily accessible without personnel having to enter another building (see 40 CFR § 270.32(b)(2)).	Permittees shall ensure that employees are capable of summoning external emergency assistance without having to enter another building.	Y	1	EM	A	PUO	N	N	All	N	N	
2.10.4	Spill Response	51	The Permittees shall ensure that spills of hazardous wastes, including small localized spills that can be managed without the assistance of emergency management personnel, are managed utilizing, at a minimum, the following procedures: (1) isolate the immediate area and deny entry to all unauthorized personnel; (2) contain the spill (e.g., spreading sorbents, forming temporary dikes); (3) define the nature and extent of the spilled waste; (4) package the spilled waste and contaminated materials in containers; and (5) decontaminate the area, all clean-up equipment, and personnel.	Permittees shall ensure that spills that can be managed without emergency management personnel are managed and remediated.	Y	5	R	A	PUO	Include in report required by Section 1.9.14	N	All	N	Section 1.9.13	
2.10.5	Arrangements With Local Authorities	52	The Permittees shall maintain its preparedness and prevention agreement with the Los Alamos County Emergency Management and Response Office and support agreements with the Los Alamos County Fire Department, the Los Alamos County Police Department, and the Los Alamos Medical Center (see 40 CFR § 264.37). The Permittees shall provide the Chief of the Los Alamos Fire Department (LAFD) with information that would ensure that emergency response personnel are at all times familiar with the potential hazards in performing their duties associated with the hazardous wastes at LANL's permitted hazardous waste management units. This information shall be specific to each permitted units and at a minimum include: (1) Waste types, e.g., ignitable, reactive, corrosive; (2) Waste names that identify principle hazardous chemical constituents; (3) Approximate quantities of each waste type; and (4) General location of waste types. The Permittees' Primary Emergency Manager identified in Attachment D (Contingency Plan) shall annually sign a certification stating that the LAFD has been provided with this information to the satisfaction of the Chief of the LAFD. These certification statements shall be maintained in the Facility Operating Record.	Permittees shall maintain agreements with LA County Emergency Response, Fire Department, and LA Med Center. The Permittees shall annually certify that the LAFD has been notified of specific information about each of the permitted units.	Y	2	EM	A	EMO/CP	N	Y	All	N	Annually certify that LAFD has been notified.	
2.11.1	Implementation of Contingency Plan	52	The Permittees shall immediately implement Attachment D (Contingency Plan) whenever there is an incident (such as a fire, an explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituents) at a permitted unit that threatens human health or the environment (see 40 CFR § 264.51(b)).	Permittees shall implement Contingency Plan (Attachment D) whenever there is an incident at a permitted unit threatens human health or the environment.	Y	17	EM	A	PUO/EMO	See Section 1.9.12	Y	All	N	See Section 1.9.12	
2.11.1	Implementation of Contingency Plan	52	The Contingency Plan shall be implemented immediately and without consideration to potential threat to human health and the environment if any of the following hazards occur at a permitted unit: (1) release of a hazardous waste: (a.) that cannot be contained with secondary containment or application of sorbents; (b.) of inflammable material creating a fire or explosion hazard; or (c.) that results in toxic fumes; (2) explosion: (a) if an unplanned explosion involving hazardous waste occurs; or (b) if an imminent danger of an explosion involving hazardous waste exists; (3) fire: (a) if a fire involving hazardous waste occurs; or (b) if any building, grass, forest, or non-hazardous waste fire exists that threatens to volatilize, react, or ignite hazardous waste.	Permittees shall implement Contingency Plan (Attachment D) immediately, with no consideration of potential threat to human health or the environment when a fire, explosion, or a release that cannot be contained occurs.	Y	17	EM	A	PUO/EMO	See Section 1.9.12	Y	All	N	Section 1.9.12	

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2.11.1	Implementation of Contingency Plan	53	The Permittees shall ensure that an adequate number of trained emergency response personnel are available at all times, including but not limited to, holidays, nights, and weekends.	Permittees shall ensure that an adequate number of trained personnel are available for emergency response at all times.	Y	17	EM	A	EMO	N	Y	All	N	N	
2.11.2	Content of the Contingency Plan	53	The Permittees shall maintain the Contingency Plan to ensure that it at all times includes the following for each permitted unit: (1) a description of the actions Facility personnel shall take to respond to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituents to air, soil, and surface water at a permitted unit; (2) a description of all arrangements agreed upon by local police and fire departments, hospitals, federal, state, and local emergency response teams, and tribal governments to coordinate emergency services; (3) a description of all contracts with emergency response contractors and equipment suppliers; (4) the names and phone numbers (i.e., office, home, cell, pager) of a primary and alternate individual assigned to act as Emergency Manager; (5) a list of all on-site emergency equipment associated with each permitted unit including fire control, spill control, communication, decontamination, and personal protective equipment including a description of where this equipment is located, and a physical description of each item; and (6) an evacuation plan, including a description of the signal(s) to be used to begin evacuation as well as primary and alternate evacuation routes, for personnel at a permitted unit where there is a possibility that evacuation may be necessary.	Permittees shall maintain an updated Contingency Plan (Attachment D).	Y	17	EM	A	CP	N	Y	All	N	At all times	
2.11.3	Distribution	54	The Permittees shall maintain copies of the Contingency Plan, including all revisions and amendments, at or in the following locations (1) each permitted unit; (2) the Emergency Management and Response Office; and (3) the Facility Operating Record.	Permittees shall maintain copies of the Contingency Plan at each permitted units, the EMO, and in the FOR.	Y	17	EM	A	PUO/EMO/CP	N	Y	All	N	Within 10 days of permit issuance and approval of modifications	
2.11.3	Distribution	54	The Permittees shall distribute copies of the current Contingency Plan to all entities with which the Permittees have emergency Memorandums of Understanding or Mutual Assistance Agreements, including: (4) the Los Alamos County Emergency Management Coordinator; (5) the Los Alamos Fire Department; (6) the Los Alamos County Police Department; and (7) the Los Alamos Medical Center. The Permittees shall also distribute copies of the current Contingency Plan to the State of New Mexico's Department of Homeland Security and Emergency Management (DHSEM) Area 3 Emergency Coordinator.	Permittees shall distribute copies of the Contingency Plan to LA County Emergency Management, LAFD, LACPD, LAMC, and the current NM DHSEM Area 3 Emergency Coordinator.	Y	18	EM	A	CP	N	Y	All	N	Within 10 days of permit issuance and approval of modifications	
2.11.3	Distribution	54	The Permittees shall distribute the Contingency Plan within ten days of the effective date of this Permit and within ten days of receipt of any Department approval to a modification of the Contingency Plan. The Permittees shall ensure that all copies of the Contingency Plan distributed outside the Facility are sent by certified mail with a return receipt, or by an equivalent method, to ensure distribution. A record of compliance with this requirement shall be maintained in the Facility Operating Record (see 40 CFR § 270.32(b)(2)).	Permittees shall distribute copies of the Contingency Plan within 10 days of the effective date of this permit and within 10 days of receipt of approval to a permit modification for the plan. A record of compliance with this requirement must be maintained in the FOR.	Y	17	EM	A	CP	Distribution of Contingency Plan	Y	All	N	Within 10 days of permit issuance and approval of modifications	I says 5 days in Attachment I. When was it distributed?
2.11.3	Distribution	54	The Permittees shall ensure that evacuation routes for a permitted unit are prominently posted at each permitted unit (*see* 40 CFR § 270.32(b)(2)).	Permittees shall ensure evacuation routes for a permitted unit are posted at each unit.	Y	17	EM	A	PUO	N	N	All	N	N	
2.11.4	Amendments to Plan	54	Pursuant to 40 CFR § 264.54, which is incorporated herein by reference, the Permittees shall review the Contingency Plan and amend the Plan, if necessary, whenever: (1) this Permit is revised; (2) the Permittees' Emergency Management Plan is revised; (3) a Building Emergency Plan for a building which houses a permitted unit is changed and that change is contrary to a requirement in the Contingency Plan; (4) the Contingency Plan fails during a drill or an emergency; (5) the Permittees modify a permitted unit in either its design, construction, operation, maintenance, or other circumstances in a manner that increases the potential for fires, explosions, or releases of hazardous wastes or hazardous waste constituents; (6) the permitted unit design or operation affects the emergency response; (7) the Permittees modify the list of Emergency Managers; (8) the Permittees modify the list of emergency response equipment; or (9) the Permittees review and evaluate their emergency response resources and capabilities with respect to hazardous waste management and find deficiencies.	Permittees shall review and amend the Contingency Plan whenever the Permit is revised, the EMP is revised, the BEP changes, the permit is modified, the Emergency Managers change, the list of emergency equipment changes, the Permittees find deficiencies.	Y	17	EM	A	CP/PUO	Distribution of Contingency Plan	Y	All	N	Within 10 days of approval of modifications	
2.11.4	Amendments to Plan	55	The Permittees shall ensure that all amendments to the Contingency Plan adhere to the permit modification requirements at 40 CFR §§ 270.41 through 270.43, which are incorporated herein by reference, including the modification classifications at 40 CFR § 270.42 Appendix 1, Category B.6, which is incorporated herein by reference.	The Permittees shall ensure that all amendments to the Contingency Plan adhere to permit modification requirements.	Y	17	EM	A	CP	Modification, distribution of plans	Y	All	N	Permit modification requirements, distribution requirements (10 days)	
2.11.4	Amendments to Plan	55	The Permittees shall ensure that all primary and alternate Emergency Managers listed in Attachment D (Contingency Plan), Section D.1.1, review the Contingency Plan, at a minimum annually and log each review in the Facility Operating Record (see 40 CFR § 270.32(b)(2)).	The Permittees shall ensure that Emergency Managers listed in Contingency Plan review the plan annually.	Y	17	EM	A	CP/EMO	N	Y	all	N	Annual	

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Responsibilities: G – Generator; CP – RCRA Compliance Team; PO – Public Outreach (RG); LT – Land Transfer POC (ADESHQ); EP – ADEP (CA or WM); PUO – Permitted Unit Ops; ES – Environmental Stewardship; EPD – Environmental Protection Division; EMO – Emergency Management Organization; WES – Waste and Environmental Services

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2.11.5	Emergency Manager	55	The Permittees shall designate an Emergency Manager or Incident Commander equivalent to the Emergency Coordinator required at 40 CFR § 264.55, which is incorporated herein by reference, who shall be responsible for coordinating all emergency response measures related to the management of hazardous wastes. An Emergency Manager shall be on call at all times, be familiar with the Contingency Plan, and shall have the authority to commit promptly the personnel and financial resources needed to implement the Contingency Plan (see 40 CFR § 264.55). The Permittees shall notify the Department in writing of changes to the personnel designated as Emergency Managers and referenced in Attachment D (Contingency Plan), Section D.1.1, and their telephone numbers. This notification shall be a Class 1 permit modification.	Permittees shall designate an Emergency Manager or Incident Commander equivalent to the Emergency Coordinator in regs, on call at all times. Change in personnel is a Class 1 mod.	Y	17	EM	A	EMO/CP	Modification	Y	All	N	Permit modification requirements.	
2.11.6.1	Immediate Actions	55	In the event of an imminent or actual emergency situation, building or area personnel shall immediately activate the internal facility alarm or communication systems to notify all potentially affected facility personnel. The Emergency Manager shall ensure that the appropriate federal, tribal, state, and local agencies with designated response roles are notified and shall implement the other requirements specified in 40 CFR § 264.56, which is incorporated herein by reference, and the Contingency Plan. The Permittees shall ensure that one individual shall be named Incident Commander and others shall be identified in the order that they will assume that responsibility as alternates to the Incident Commander.	Personnel shall immediately activate the internal facility alarm or communication system in the event of an emergency. The Emergency Manager shall ensure appropriate entities are notified.	Y	17	EM	A	PUO	See Section 1.9.12	Y	All	N	See Section 1.9.12	
2.11.6.2	Release, Fire, or Explosion	56	The Emergency Manager shall, in the event of a fire, explosion, or release of hazardous waste or constituents: (1) as soon as practicable, identify the character source, amount, and areal extent of any released materials by observation, review of facility records, or by chemical analysis (see 40 CFR § 264.56(b)); and (2) assess possible hazards to human health or the environment that may result from the release, fire, or explosion including both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat induced explosions) (see 40 CFR § 264.56(c)).	Emergency Manager shall identify source, amount, and extent of released materials and assess the possible hazards to human health or the environment.	Y	17	EM	A	EMO	See Section 1.9.12	Y	All	N	See Section 1.9.12	
2.11.6.3	Reporting Findings	56	In the event that the Emergency Manager determines that there has been a release, fire, or explosion that may threaten human health or the environment outside the boundaries of the Facility, he or she shall report the findings as follows: (1) if an assessment indicates that evacuation of local areas may be advisable, he or she shall immediately notify the appropriate local and tribal authorities and shall be available to assist appropriate officials in deciding whether local areas should be evacuated (see 40 CFR § 264.56(d)(1)); and (2) immediately notify either the government official designated as the on-scene coordinator for that geographical area, the New Mexico Department of Public Safety dispatcher (505-827-9329), or the 24-hour National Response Center (800-424-8802) (see 40 CFR § 264.56(d)(2)). This notification shall include: (a) the name and telephone number of the person reporting the incident; (b) the specific Facility location where the incident occurred; (c) the time and type of incident; (d) the name and quantities, to the extent known, of materials involved; (e) the extent of any injuries, if any; and (f) the possible hazards to human health and the environment outside the Facility.	In the event of that human health or the environment is threatened the Emergency Manager shall report the findings to anyone who needs to be evacuated and those who would need to help the evacuation process and the government official designated as the on-scene coordinator for that geographic area.	Y	17	EM	A	EMO	See Section 1.9.12	Y	All	N	See Section 1.9.12	
2.11.6.4	Mitigative Measures	57	When the Contingency Plan is implemented under Permit Section 2.11.1, the Emergency Manager shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous wastes at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released wastes, and removing or isolating containers (see 40 CFR § 264.56(e)).	When the Contingency Plan is implemented, the Emergency Manager shall take all reasonable measures necessary to ensure that the fires, explosions, and releases do not occur or spread to other hazardous wastes at the facility.	Y	17	EM	A	EMO	See Section 1.9.12	Y	All	N	See Section 1.9.12	
2.11.6.5	Monitoring	57	When the Contingency Plan is implemented under Permit Section 2.11.1, the Emergency Manager shall utilize available air monitoring resources, as appropriate, to measure and characterize any air emissions both inside and outside the Facility boundary caused by a fire, explosion, or release to the atmosphere (see 40 CFR § 270.32(b)(2)). In the event that the Facility stops operations in response to a fire, release, or explosion, the Emergency Manager shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment as appropriate (see 40 CFR § 264.56(f)).	When the Contingency Plan is implemented, the Emergency Manager shall utilize air monitoring resources inside and outside the Facility boundary and shall monitor for leaks, pressure buildup, gas generation, or ruptures at the Facility as appropriate.	Y	17	EM	A	EMO	See Section 1.9.12	Y	All	N	See Section 1.9.12	
2.11.7	Post-Emergency Procedures	57	Immediately after an emergency in which the Contingency Plan was implemented, the Emergency Manager shall provide for the treatment, storage, or disposal of recovered wastes, contaminated soils or surface water, or any other material or contaminated environmental media that resulted from the fire, explosion, or release at the Facility (see 40 CFR § 264.56(g)).	Immediately after an emergency, the Emergency Manager shall provide for treatment, storage, or disposal of any material or contaminated environmental media that resulted from the emergency.	Y	17	EM	A	EMO	See Section 1.9.12	Y	All	N	See Section 1.9.12	
2.11.7	Post-Emergency Procedures	57	The Emergency Manager shall ensure that in the affected areas of the Facility: (1) no waste that may be incompatible with the released material is treated, stored, or disposed of in the impacted area until cleanup procedures are completed; and (2) all emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use before operations are resumed. (see 40 CFR § 264.56(h))	Emergency Manager shall ensure that affected facility has no waste that may be incompatible with the released material and that all emergency equipment listed in the Contingency Plan is cleaned and fit for use prior to resuming operations.	Y	17	EM	A	EMO	See Section 2.11.9	Y	All	N	See Section 1.9.12	
2.11.9	Notification and Record Keeping	58	The Permittees shall notify the Department of implementation of the Contingency Plan in compliance with Permit Section 1.9.12 (see 40 CFR § 264.56(i)).	Permittees shall notify the NMED of implementation of Contingency Plan in compliance with Section 1.9.12.	Y	2	EM	A	CP/EMO/PUO	See Section 1.9.12 and governments in compliance with Section 2.11.7	Y	All	N	See Sections 1.9.12 & 2.11.7	

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			The Permittees shall notify the Department, local authorities, and tribal governments before operations resume in the Facility's affected areas that the Facility is in compliance with Permit Section 2.11.7 (see 40 CFR § 270.32(b)(2)).	Permittees shall notify the NMED, local authorities and governments before operations resume.											
2.11.9	Notification and Record Keeping	58	The Permittees shall notify the Department, local authorities, and tribal governments before operations resume in the Facility's affected areas that the Facility is in compliance with Permit Section 2.11.7 (see 40 CFR § 270.32(b)(2)).	Notify the NMED, local authorities and governments before operations resume.	Y	2	EM	A	RT/EMO/PUO	See Section 2.11.7	Y	All	N	See Section 2.11.7	
2.11.9	Notification and Record Keeping	58	For purposes of a permitted unit closure, the Permittees shall document in the Facility Operating Record all instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a waste storage pad regardless of whether the activation of the fire suppression system is due to an emergency, emergency testing, or the result of an accident or break in a system (see 40 CFR § 270.32(b)(2)).	Permittees shall document in the FOR all instances where indoor fire suppression system has been activated.	Y	14	U	A	PUO	N	Y	All	N	N	
2.12	Recordkeeping and Reporting	58	The Permittees shall comply with the recordkeeping and reporting requirements specified throughout this Permit and at 40 CFR § 264.73, which is incorporated herein by reference.	Permittees shall comply with recordkeeping and reporting requirements.	Y	14	U	A	PUO	See Section 2.12.2	Y	All	N	N	
2.12.1	Manifest Systems	58	The Permittees shall comply with the recordkeeping and reporting requirements associated with manifests in accordance with 40 CFR §§ 264.71, 264.72, and 264.76, which are incorporated herein by reference, whenever a shipment of hazardous waste is either received at, or initiated from, the Facility.	Permittees shall comply with recordkeeping and reporting requirements associated with manifests.	Y	14	U	A	PUO	Only when exception applies	Y	All	Reporting required when significant discrepancy occur see 40 CFR 264.72 & 264.76	N	
2.12.2	Facility Operating Record	58	The Permittees shall maintain a written Facility Operating Record for the operations of each permitted unit at the Facility until the Department has approved either the closure certification statement or, if the unit enters post-closure care, the post-closure certification statement with respect to such unit as specified in Permit Sections 9.5 and 10.2.3 respectively (see 20.4.1.500 and 501 NMAC). For documents that address the entire Facility (e.g., certifications of a Facility program to reduce the volume and toxicity of hazardous waste), the Permittees shall maintain these documents throughout the active life of the Facility including the post-closure care period.	Permittees shall maintain a written FOR.	Y	14	U	A	PUO	N	Y	All	N	Keep up to date	
2.12.2(1-8)	Facility Operating Record	59	The Permittees shall incorporate, as soon as it becomes available, into the Facility Operating Record the following information: (1) a description of the hazardous waste received and the methods and dates of treatment and storage at each permitted unit in accordance with Appendix I of 40 CFR Part 264, which is incorporated herein by reference; (2) the location of each type of hazardous waste within each permitted unit and the total quantity of all wastes and waste types at each unit (the location shall be identified as one of the permitted units listed in Attachment J (Hazardous Waste Management Units) and any associated structure (e.g., room, dome)); (3) records and results of waste analyses and waste determinations that are performed pursuant to Permit Section 2.4, Attachment C (Waste Analysis Plan), and 40 CFR §§ 264.1083, 268.7, and 268.9, which are incorporated herein by reference; (4) incident reports and details of all incidents that required the implementation of Attachment D (Contingency Plan), any instance of fire, explosion, spill, or release from, or at, a permitted unit regardless of whether the incident required implementation of the Contingency Plan or Permit Part 11 (see 40 CFR § 270.32(b)(2)); (5) records and results of inspections as required in Permit Section 2.6 and Attachment E (Inspection Plan) (these records and results shall be kept for the period specified in Permit Section 2.6); (6) monitoring, testing, analytical data, and response actions when required by 40 CFR §§ 264.191, 264.193, 264.195, 264.602, 264.1063(d) through 264.1063(i), 264.1064, and 264.1082 through 264.1090, which are incorporated herein by reference; (7) notices to off-site generators as specified in 40 CFR § 264.12(b), which is incorporated herein by reference; (8) Reserved;	The FOR shall consist of at least the list of information in this section.	Y	14	U	A	PUO	N	Y	All	N	Keep up to date	
2.12.2(9-18)	Facility Operating Record	59	The Permittees shall incorporate, as soon as it becomes available, into the Facility Operating Record the following information: (9) an annual certification stating a Facility program is in place to reduce the volume and toxicity of hazardous waste generated; (10) for treated wastes, the information contained in the notice and certification required under 40 CFR § 268.7(b), which is incorporated herein by reference; (11) if applicable, for hazardous wastes left in the ground after closure (i.e., disposal units), the information required of a treatment facility under 40 CFR § 268.7(b), which is incorporated herein by reference; (12) for stored wastes, the notice (or information contained in the notice for wastes generated on-site) and certification required at 40 CFR § 268.7, which is incorporated herein by reference; (13) all monitoring reports and records required by this Permit, including but not limited to: (a) records of all monitoring data used to complete Permit Application(s); (b) all data gathered or generated during the closure or post-closure process; and (c) all laboratory reports, drilling logs, bench-scale or pilot scale data; (14) documentation demonstrating distribution of the Contingency Plan in accordance with Permit Section 2.11.3; (15) documentation demonstrating the installation and maintenance of secondary containment system coatings or sealants as required at Permit Section 3.7.1(4) and 4.4(4); (16) personnel training records including both introductory and continuing training programs used to prepare employees to safely operate and maintain a permitted unit in compliance with 40 CFR § 264.16(d), which is incorporated herein by reference, and this Permit; (17) documentation of notifications and trainings associated with alternate emergency equipment as required at Permit Section 2.10.2; and (18) documentation of all instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a waste storage pad.	The FOR shall consist of at least the list of information in this section.	Y	14	U	A	PUO	N	Y	All	N	Keep up to date	

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2.12.3	Availability of Facility Operating Record	60	The Permittees shall furnish and make reasonably available for inspection, upon request by any officer, employee, or representative of the Department, the Facility Operating Record and all other records required under 40 CFR Part 264 or this Permit (see 40 CFR § 264.74(a) and pursuant to 74-4-4.3 NMSA 1978). Information and records requested by the Department pursuant to this condition shall be made available for inspection in a paper or electronic format, or both, as specified by the Department (see 40 CFR § 270.32(b)(2)).	Permittees shall furnish and make reasonably available for inspection the FOR and all other records required.	Y	14	U	A	PUO	N	N	All	N	"Reasonably available"	
2.12.4	Record Retention	61	The Permittees shall retain all records required by this Permit during the course of any unresolved enforcement action regarding the Facility or as required by the Department (see 40 CFR § 264.74(b))..	Permittees shall retain records required by this Permit as required by the NMED.	Y	14	U	A	CP/PUO	N	Y	All	N	As required by NMED	
2.12.5	Biennial Report	61	The Permittees shall submit a biennial report, which includes all of the information specified in 40 CFR § 264.75, which is incorporated herein by reference, to the Department by March 1 of each even numbered year.	Permittees shall submit the biennial report of the information specified in 40 CFR § 264.75.	Y	8	P	A	CP/PUO	Written to NMED	Y	All	N	Every even # year by March 1	
3.1(1)	General Conditions	63	The Permittees shall store and otherwise manage containers of hazardous waste in accordance with 40 CFR Part 264, Subpart I, which is incorporated herein by reference, and Attachment A (*Technical Area Unit Descriptions*).	Hazardous waste shall be stored/managed in accordance with 40 CFR 264, I and Attachment A.	Y	1	MAN	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.1(2)	General Conditions	63	The Permittees shall only store hazardous waste containers at the permitted units identified as utilizing waste process code S01 and specified in Attachment J (Hazardous Waste Management Units), Table J-1 (Active Portion of the Facility). The Permittees are authorized to store only those wastes identified by EPA Hazardous Waste Numbers (waste codes) listed in Attachment B (Part A Application) and identified as utilizing waste process code S01. The Permittees shall not store containers of hazardous waste in excess of the maximum capacities for each permitted container storage unit (CSU) identified in Attachment J, Table J-1. However, for purposes of compliance with secondary containment requirements, the holding of a hazardous waste container within a permitted unit for a period not to exceed 24 hours, for transportation, treatment, characterization, or packaging, shall not be deemed storage.	Permitted units shall only store hazardous waste containers as specified in Attachment J, Table J-1 and Attachment B (Part A). Capacities Shall not exceed those identified in Attachment J, Table J-1.	Y	1	U	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	Holding < 24 hrs ≠ storage	N	
3.1(3)	General Conditions	63	The Permittees shall ensure that the figures in Attachment N (Figures) and in the closure plans in Attachment G accurately reflect the location of all buildings and structures, regardless of whether they manage hazardous waste, at hazardous waste management units. The Permittees may change the location of a building or structure at a hazardous waste management unit only in accordance with a Class 1 permit modification requirements at 40 CFR § 270.42(a). Any change to the location of a building or structure within which hazardous waste is managed shall be a Class 1 modification with prior approval of the Department (see 40 CFR § 270.42(a)(2)). Any change to the location of a building or structure within which hazardous waste has not been managed shall be a Class 1 modification without prior approval (see 40 CFR § 270.42(a)(1)).	Permittee Shall keep all figures in Attachments N and G updated. Any change in location of a building/structure is a Class 1 mod.	Y	1	U	CS	PUO	Class 1 modification before/when changes made	Y	Container storage at TA-3, TA-50, TA-54, TA-55	No prior approval if waste not managed.	Prior approval if waste managed.	
3.2	Condition of Containers	63	The Permittees shall ensure that all containers used to store hazardous wastes subject to this Permit are in good condition (e.g., no severe rusting or apparent structural defects) in accordance with 40 CFR § 264.171, which is incorporated herein by reference. If a container is not in good condition or begins to leak, the Permittees shall transfer the waste from such a container into a container that is in good condition within 24 hours of discovery of the problem, and in accordance with 40 CFR § 264.171.	All containers used to store hazardous wastes must be in good condition. If not in good condition or leaking, the waste shall be transferred the waste into a container that is in good condition within 24 hours of discovery of the problem.	Y	1	S	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	Transfer or overpack if not in good condition	New container must occur within 24 hrs	
3.3	Acceptable Storage Containers	64	The Permittees shall only use containers that comply with 40 CFR Part 264 Subpart I (Use and Management of Containers) for storage of hazardous waste at permitted units.	Containers shall comply with 40 CFR Part 264 Subpart I (Use and Management of Containers) for storage of hazardous waste.	Y	1	S	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.3	Acceptable Storage Containers	64	Prior to shipment of hazardous waste, containers must comply with Department of Transportation (DOT) shipping container regulations (see 49 CFR § 173 - Shippers - General Requirements for Shipment and Packaging, and 49 CFR § 178 - Specifications for Packaging).	Containers must comply with Department of Transportation (DOT) shipping container regulations (see 49 CFR § 173 - Shippers - General Requirements for Shipment and Packaging, and 49 CFR § 178 - Specifications for Packaging).	Y	1	S	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.3	Acceptable Storage Containers	64	Solid, oversize items (e.g., glovebox, glovebox parts, vacuum pumps, tanks, duct work, piping, HEPA filters) contaminated with hazardous wastes that cannot be containerized in the waste containers referenced in the previous paragraph shall be subject to this Permit Part. These items shall be wrapped in plastic with a minimum of two layers of plastic to prevent dispersion of contaminating material.	Oversize items contaminated with hazardous wastes that cannot be containerized shall be wrapped in plastic with a minimum of two layers of plastic to prevent dispersion of contaminating material.	Y	1	S	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.4	Compatibility of Waste With Containers	64	The Permittees shall use containers made of, or lined with, materials that are compatible with and will not react with the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired (see 40 CFR § 264.172).	Containers and liners must be compatible and not react with wastes.	Y	1	S	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.5(1)	Management of Containers	64	The Permittees shall ensure that all containers are kept closed during storage except when waste is added to or removed from the container or when a container's contents need to be repackaged (see 40 CFR § 264.173(a)). The Permittees shall not open, handle, or store a container holding hazardous waste in a manner that may rupture the container or cause the container to leak (see 40 CFR § 264.173(b)).	Containers must be closed except when waste is added or container repackaged. Containers shall not be handled/stored in a way to case leaks.	Y	1	S	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.5(2)	Management of Containers	64	The Permittees shall establish and maintain lines of demarcation which identify the boundaries of all permitted CSUs. The line may be identified by paint, tape, or other permanent, visible marking on the floor or base material (see 40 CFR § 270.32(b)(2)). Permanent fences marking the unit boundary, or rooms or buildings whose walls constitute the boundary of the permitted units, satisfy this requirement.	Boundaries of all CSUs will be established and marked in a visible manner.	Y	1	U	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.5(3)	Management of Containers	64	The Permittees shall ensure that drums stored in movable buildings (*e.g.,* modular buildings, transportainers) with non-grated floors are stored on wheeled drum dollies, steel pallets, or are otherwise elevated.	Drums stored in movable buildings (e.g., modular buildings, transportainers) with non-grated floors shall be stored on wheeled drum dollies, steel pallets, or are otherwise elevated.	Y	1	S	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.5(4)	Management of Containers	64	The Permittees shall ensure that when waste containers are moved during storage, the location of each hazardous waste and the quantity at each location is documented in accordance with Permit Section 2.12 (*see* 40 CFR § 264.73(b)(2))	The location and quantity of hazardous wastes must be tracked at all times.	Y	1	MAN	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	

1. LANL Hazardous Waste Permit , December 30, 2010, as ammended through March 6, 2015.

Appendix 1
Requirements Identified in the Permit[1]

Requirement Category: 1 - Permited units; 2 -Notifications; 3 Modifications; 4 Reapplication; 5 Permit Compliance; 6 Waste Characterization; 7 Noncompliance; 8 Reporting; 9 Information; 10 Community Relations Plan; 11 Propertty Transfer; 12 D&D; 13 Waste ; 14 FOR; 15 Inspections; 16 Training; 17 Contingency Plan; 18 Closure; 19 Post Closure; 20 Corrective Actions

Requirement Types: AN – Analytical; C – Closure; CA – Corrective Actions; CL – Cleanup Levels or Standards; CM – Corrective Measures; CO – Consent Order; CP – Closure Plan; CR – Community Relations Plan; EC – Emission Controls; EM – Emergency Management; EQ – Equipment; HSP – Health and Safety Plan; IM – Interim Measures; IN – Investigations; IR – Information Repository; ISU – Interim Status Units; L – Labeling; M – Modifications; MAN – Waste Management; N – Notifications; NC – Noncompliance; NM – NMED; P –Permit; PC – Post Closure; PR – Presumptive Remedy; PT – Property Transfer; R – Releases (not emergencies); RA – Risk Assessment; S – Storage; SC – Secondary Containment ; SEC – Security; ST – Storage Tanks; T – Treatment; U – Permitted Units; W – Wells; WA – Waste Acceptance; WC – Waste Characterization; WM – Waste Minimization

Responsibilities: G – Generator; CP – RCRA Compliance Team; PO – Public Outreach (RG); LT – Land Transfer POC (ADESHQ); EP – ADEP (CA or WM); PUO – Permitted Unit Ops; ES – Environmental Stewardship; EPD – Environmental Protection Division; EMO – Emergency Management Organization; WES – Waste and Environmental Services

Permitted Unit: TA-3; TA-50; TA-54; TA-55; ISU - Interim Status Unit; A - Adminidtrative; CS - Container Storage units; IOU - Indoor and Outdoor Units; IU - Indoor Units; OU - Outdoor Units; P - Pads; ST - Storage Units at TA-3, TA-50, TA-54, and TA-55;

Section	Section Title	Page	Text/Condition/ Requirement	Summary	Specific Requirement	Requirement Category	Requirement Type	Permitted Unit	Responsibility	Notify/ Report/ Modification Required?	Facility Operating Record	Units Affected	Exceptions	Date Considerations	Comment
3.5.1(1)	Storage Configuration and Minimum Aisle Space	65	The Permittees shall maintain adequate aisle space at all times to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment within the permitted units. Additionally, emergency egress aisles with a minimum aisle space of two feet must be maintained at all personnel doors (see 40 CFR § 264.35).	Maintain adequate aisle space for movement, fire protection, spill control, and decontamination equipment. Emergency egress aisles of at least two feet must be maintained.	Y	1	S	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.5.1(2)	Storage Configuration and Minimum Aisle Space	65	The Permittees are authorized to stack containers greater than or equal to 30 gallons of hazardous waste to no more than three containers high. Stacked containers of this volume shall be palletized, and each layer shall be bound together (see 40 CFR § 270.32(b)(2)).	Containers of 30 gallons or greater may not be stacked more than three containers high, be palletized, and each layer bound together.	Y	1	S	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.5.1(3)	Storage Configuration and Minimum Aisle Space	65	The Permittees shall ensure that hazardous waste containers stored outdoors are not stored within five feet of the perimeter (i.e., permitted unit boundary) fence, within five feet of any permanent structure, or within five feet of a paved or unpaved roadway.	Hazardous waste containers shall not be stored within 5 feet of unit boundary, a permanent structure, or a roadway.	Y	1	S	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.5.1(4)	Storage Configuration and Minimum Aisle Space	65	The Permittees shall store hazardous waste gas cylinders in cylinder racks, baskets, or on specially constructed pallets that provide support and restraint.	Hazardous waste gas cylinders must be stored in racks, baskets, or specially constructed pallets.	Y	1	S	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.5.1(5)	Storage Configuration and Minimum Aisle Space	65	The Permittees shall ensure that hazardous waste containers that are stored outdoors and are not being actively managed are protected from contact with precipitation using weather protective equipment (e.g., containment shell, secured tarp) or are protected by the design of the equipment (e.g., transportainer, Transuranic Waste Package Transporter II container) (see 40 CFR § 270.32(b)(2)).	Containers stored outdoors and not actively managed must be protected from precipitation by design or protective equipment.	Y	1	S	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.6(1)	Waste Container Labeling	65	The Permittees shall ensure that all containers storing hazardous waste have a "Hazardous Waste" label (see 40 CFR § 262.34(a)(3)) that lists the generator's name, address, and EPA Identification number, the date the container was placed in storage at the permitted unit (see 40 CFR § 262.34(a)(2)), and all applicable EPA Hazardous Waste Number(s) (see 40 CFR § 268.50(a)(2)(i)). All containers holding mixed waste shall be labeled "Radioactive." Records for all containers will be maintained in accordance with Permit Section 2.12.	Containers storing hazardous waste must be labeled with: "Hazardous Waste" Generator's name Date placed in storage EPA Hazardous Waste Number If mixed waste, container must be labeled "Radioactive."	Y	1	L	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.6(2)	Waste Container Labeling	65	The Permittees shall ensure that containers holding free liquids have a "free liquids" label. The free liquids reference may be included on a label identifying other waste characteristics (*see* 40 CFR § 270.32(b)(2)).	All containers containing free liquids must be labeled "Free Liquids"	Y	1	L	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.7	Containment Systems	65	The Permittees shall store containers of hazardous waste in a manner that prevents contact with any accumulated liquids (see 40 CFR § 264.175(b)(2)).	Hazardous waste must be kept from contact with accumulated liquids.	Y	1	MAN	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.7.1(1)	Containers With Free Liquids	66	The Permittees shall maintain secondary containment systems in all permitted units used to store wastes which contain free liquids in compliance with 40 CFR § 264.175, which is incorporated herein by reference.	Wastes with free liquids shall have secondary containment.	Y	1	SC	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.7.1(2)	Containers With Free Liquids	66	The Permittees shall remove spilled or leaked waste and accumulated precipitation from sumps or secondary containment systems. If the sumps or secondary containment system are the sole means of secondary containment the Permittees must remove the spilled or leaked waste and/or accumulated precipitation in liquid form within 24 hours of detection or immediately if necessary to prevent overflow of the secondary containment system. Otherwise, the Permittees must remove the spilled or leaked waste and/or accumulated precipitation in any form in as timely a manner as is necessary to prevent overflow of the containment system and shall, while the system's capacity is diminished, measure the system daily to demonstrate that the system retains sufficient capacity to contain 10% of the volume of containers or the volume of the largest container holding free liquids, which ever is greater. (see 40 CFR §§ 264.175(b)(4) and (5)). The Permittees shall document this measurement in the Facility Operating Record. Requests for extension of time for any deadline under this subparagraph may be made by e-mail.	Remove spilled or leaked waste and accumulated precipitation from sumps or secondary containment systems. If the sumps or secondary containment system are the sole means of secondary containment, remove liquid within 24 hours. Otherwise remove in timely manner and measure system daily to demonstrate that the system retains sufficient capacity to contain the greater of, 10% of the volume of containers or the volume of the largest container.	Y	1	SC	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	24 hous to remove liquid, if sole means of containment. Can request extension by email and send copy to email list	24 hours to remove or request extension	
3.7.1(3)	Containers With Free Liquids	66	The Permittees shall maintain the base of secondary containment systems to ensure they are impervious in order to contain leaks, spills, and/or accumulated precipitation until the collected liquids are detected and removed. The Permittees shall ensure that the secondary containment system have adequate structural strength to withstand the stresses of daily operations (see 40 CFR § 264.175(b)(1)).	Secondary containment systems shall be maintained as impervious to liquids, and have the strength to withstand operational stresses.	Y	1	SC	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.7.1(4)	Containers With Free Liquids	66	If a coating or sealant is used as a component of a secondary containment system, the Permittees shall maintain documentation in the Facility Operating Record that the coating or sealant was applied and maintained in accordance with the manufacturer's specifications. This documentation shall include a copy of the manufacturer's specifications as well as a certification stating the Permittees' installation and maintenance procedures were in accordance with the manufacturer's specifications. If the base of the containment unit has expansion or construction joints, the Permittees shall install and maintain chemically resistant water stops, which are embedded in the concrete, or equivalent external systems (e.g. sealant systems) (see 40 CFR § 270.32(b)(2)).	Coating and sealant information including, the manufacturer's specifications, certification of installation, and maintenance procedures shall be maintained in the FOR. Expansion joints shall have water stops or other barrier systems.	Y	1	SC	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	See Section 3.12.3 for specific structures at units.
3.7.1(5)	Containers With Free Liquids	66	If a flexible liner is used as a secondary containment system after July 1, 2014, the Permittees shall maintain documentation in the Facility Operating Record that the flexible liner was installed and maintained in accordance with the manufacturer's specifications. This documentation shall include a copy of the manufacturer's specifications as well as a certification stating that the Permittees' installation and maintenance procedures have been conducted in accordance with the manufacturer's specifications (see 40 CFR § 270.32(b)(2)).	After July 1, 2014 maintain documentation in the FOR that flexible liners installed and maintained in accordance with manufacturer's specifications.	Y	1	SC	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	After July 1, 2014	See Section 3.12.3.7 for specific structures
3.7.1(6)	Containers With Free Liquids	67	Unless waste is removed or another form of secondary containment is provided, the Permittees shall repair any damage to a secondary containment system within 15 days of detecting the problem. The Permittees shall perform any concrete or asphalt repair using an appropriate repair method (e.g., ACI standards or manufacturer's recommendations), which will prevent future damage at the location (see 40 CFR §§ 264.15(c), 270.32(b)(2)). The Permittees shall apply coatings or sealants, if applicable, to the repaired area before waste storage activities resume.	Permittees shall repair any damage to a secondary containment system within 15 days, unless waste removed or other secondary containment provided. Repairs will be done to manufacturer's specifications, including coating. Activities must be recorded in inspection logs.	Y	1	SC	CS	PUO	See Sections 2.6.3 & 2.12.2	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	Within 15 days	

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Permitted Unit: TA-3; TA-50; TA-54; TA-55; ISU - Interim Status Unit; A - Adminidtrative; CS - Container Storage units; IOU - Indoor and Outdoor Units; IU - Indoor Units; OU - Outdoor Units; P - Pads; ST - Storage Units at TA-3, TA-50, TA-54, and TA-55;

Section	Section Title	Page	Text/Condition/ Requirement	Summary	Specific Requirement	Requirement Category	Requirement Type	Permitted Unit	Responsibility	Notify/ Report/ Modification Required?	Facility Operating Record	Units Affected	Exceptions	Date Considerations	Comment
3.7.1(7)	Containers With Free Liquids	67	The Permittees shall ensure that the number of 55-gallon drums stored on a secondary containment pallet does not exceed the design capacity of the pallet.	The number of 55-gallon drums stored on a secondary containment pallet shall not exceed the design capacity of the pallet.	Y	1	SC	CS	PUO	N	Document design capacity	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.7.1(8)	Containers With Free Liquids	67	The Permittees shall ensure that all metal secondary containment pallets are coated with chemically-resistant urethane. The Permittees shall maintain the chemical-resistant urethane in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	All metal secondary containment pallets shall be coated with chemically-resistant urethane and maintained in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	Y	1	SC	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.7.2(1)	Containers Without Free Liquids	67	For container storage areas that will store only wastes without free liquids (see Attachment J (Hazardous Wastes Management Units), Table J-1 (Active Portion of the Facility)), the Permittees shall ensure that: (a) the storage areas are sloped or otherwise designed and operated to drain and remove liquid resulting from precipitation or other liquids (see 40 CFR § 264.175(c)(1)); or (b) the containers are elevated or otherwise protected from contact with accumulated liquids (see 40 CFR § 264.175(c)(2)).	CSUs storing only wastes without free liquids shall be sloped or otherwise designed and operated to drain and remove liquid resulting from precipitation or other liquids, or the containers elevated or otherwise protected from contact with accumulated liquids.	Y	1	U	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.7.2(2)	Containers Without Free Liquids	67	The Permittees shall comply with the secondary containment requirements for hazardous wastes that do not contain free liquids and have the following waste codes: F020, F021, F022, F023, F026 and F027 (*see* 40 CFR § 264.175(d)(1)).	Comply with secondary containment requirements for hazardous wastes that do not contain free liquids and have the following waste codes: F020, F021, F022, F023, F026 and F027 (see 40 CFR § 264.175(d)(1)).	Y	1	SC	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.7.2(3)	Containers Without Free Liquids	67	The Permittees shall ensure that the permitted units identified in Attachment J (*Hazardous Waste Management Units*), Table J-1 (*Active Portion of the Facility*), as managing "non-liquid wastes only" only manage non-liquid wastes.	Units in Table J-1 designated as managing "nonliquid wastes" shall only manage nonliquid wastes.	Y	1	U	CS	PUO	N	N	Container storage at TA-55	N	N	Only TA-55-4, B05, TA-55-4, B45, and TA-55-184 are designated "nonliquid" in Table J-1
3.8(1)	Inspection Schedules and Procedures	67	The Permittees shall inspect the permitted CSUs at least weekly for evidence of leaks or deterioration of the containment system by corrosion, cracking, differential settlement or other factors (*see* 40 CFR § 264.174).	CSUs shall be inspected at least weekly for evidence of leaks or deterioration.	Y	1	U	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.8(2)	Inspection Schedules and Procedures	67	The Permittees shall store containers in a manner that allows the containers to be inspected for leaks, corrosion, deterioration, and for container labels to be read without moving them (*see* 40 CFR §§ 264.174 and 270.32(b)(2)).	Containers shall be stored so that they may be inspected and labels can be read without moving containers.	Y	1	L	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.9(1)	Volatile Organic Air Emissions	68	The Permittees shall control air pollutant emissions from each hazardous waste container at a permitted unit in accordance with the applicable regulations in 40 CFR Part 264 Subpart CC. The Permittees shall also manage hazardous wastes subject to emission controls in accordance with Attachment E (Inspection Plan). (2) The Permittees shall not be required to control air pollutant emissions from a container in accordance with the exemptions in 40 CFR	Air pollutant emissions shall be controlled at permitted units in accordance with CFR Part 264 Subpart CC and Attachment E. If exemptions in 40 CFR §§ 264.1080(b)(1) met, no emission controls required.	Y	1	EC	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	When exemptions are met, no controls required	N	Leads back to exemptions in Section 2.4.8 and Attachment E.
3.9(2)	Volatile Organic Air Emissions	68	The Permittes shall not be required to control air pollutant emissions from a container in accordance with the exemptions in 40 CFR 264.1080(b)(1) through (8).	Permittees are subjerct to exemptions in 40 CFR 264.1080(b)(1) through (8)	Y	1	EC	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	When exemptions are met, no controls required	N	Leads back to exemptions in Section 2.4.8 and Attachment E.
3.9(3)	Volatile Organic Air Emissions	68	If the Permittees claim an exemption from air pollution emission controls due to a container holding radioactive mixed waste, the Permittees shall clearly label the container in accordance with Permit Section 3.6.	If exemption claimed due to a container holding radioactive mixed waste it will be labeled in accordance with Permit Section 3.6.	Y	1	EC	CS	PUO	N	N	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.9(4)	Volatile Organic Air Emissions	68	A suitable method to control container air pollution emissions is the utilization of the container construction specifications and operation requirements specified in 40 CFR § 264.1086(b). This emission control method is met if the containers adhere to the following requirements: (a) the containers have a capacity of greater than 0.1 cubic meters and less than 0.46 cubic meters (approximately 119 gallons); (b) the containers meet U.S. Department of Transportation (DOT) specifications under 49 CFR Part 178; (c) the containers are kept closed during storage; and (d) the containers are inspected weekly to ensure lids and openings are securely closed and there in no possibility of air emissions (see 40 CFR §§ 264.1086(c)(3) and (4)).`	Emission control requirements may be met by following specifications in 40 CFR § 264.1086(b); containers have capacity between 0.1-0.46 cu. m.; meet DOT specifications (49 CFR Part 178); kept closed during storage; inspected weekly.	Y	1	EC	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.9(5)	Volatile Organic Air Emissions	68	All containers that are not exempted under 40 CFR 264, Subpart CC, shall be subject to Container Level 1 requirements except that the Permittees shall identify containers subject to Container Level 2 controls on a list in the Facility Operating Record.	All nonexempt containers shall be subject to Container Level 1 requirements. Containers subject to Container Level 2 Controls will be listed in the FOR.	Y	14	EC	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.9(6)	Volatile Organic Air Emissions	68	Containers may be opened for the purpose of adding and removing waste or as otherwise allowed at 40 CFR 264.1086(c)(3), which is incorporated herein by reference.	Containers may be opened as allowed in 40 CFR 264.1086(c)(3).	Y	1	EC	CS	PUO	N	Y	Container storage at TA-3, TA-50, TA-54, TA-55	N	N	
3.9(7)	Volatile Organic Air Emissions	68	The Permittees shall characterize hazardous wastes subject to emission controls in accordance with Permit Section 2.4 (*Waste Analysis*) and Attachment C (*Waste Analysis Plan*).	Hazardous wastes shall be characterized subject to emission controls in accordance with Permit Section 2.4 and Attachment C.	Y	6	WC	CS	G	N	Y	All Generators	N	N	
3.10.1	General Operating Conditions	69	The Permittees shall ensure that storage of hazardous or mixed waste in containers at TA-3-29 occurs only in the CSU in Rooms 9010, and portions of Rooms 9020, and 9030 identified in Attachment A (Technical Area Unit Descriptions) and Attachment J (Hazardous Waste Management Units), Table J-1 (Active Portion of the Facility).	Storage of hazardous or mixed waste in containers at TA-3-29 shall occur only in the CSU in Rooms 9010, and portions of Rooms 9020, and 9030.	Y	1	S	3-29	PUO	N	N	TA-3-29, Rms 1091, 1092, 1093	N	N	
3.10.2	Secondary Containment	69	The Permittees shall paint the floors in Rooms 9010, 9020, and 9030 within the TA-3-29 permitted unit with an epoxy sealant. The sealant must be maintained in accordance with Permit Section 3.7.1 of this Part and the manufacturer's specifications.	Floors in Rooms 9010, 9020, and 9030 within TA-3-29 shall be painted with an epoxy sealant. The sealant must be maintained in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	Y	1	U	3-29	PUO	N	N	TA-3-29, Rms 1091, 1092, 1093	N	N	
3.11.1(1)	General Operating Conditions	69	The Permittees shall ensure that storage of hazardous or mixed waste in containers at TA-50 occurs only in two areas: 1) an indoor storage area located in Building 69 (TA-50-69), Rooms 102 and 103; and 2) an outdoor storage area (TA-50-69, Outdoor) located south/southeast of Building 69, comprised of an asphalt pad and modular transportainer units, as identified in Attachment A (Technical Area Unit Descriptions) and Attachment J (Hazardous Waste Management Units)	Storage of hazardous or mixed waste in containers at TA-50 shall occur only in two areas: 1) an indoor storage area located in Building 69 (TA-50-69), Rooms 102 and 103; and 2) an outdoor storage area at TA-50-69.	Y	1	S	50-69IO	PUO	N	N	TA-50-69 indoor and outdoor units	N	N	

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Permitted Unit: TA-3; TA-50; TA-54; TA-55; ISU - Interim Status Unit; A - Adminidtrative; CS - Container Storage units; IOU - Indoor and Outdoor Units; IU - Indoor Units; OU - Outdoor Units; P - Pads; ST - Storage Units at TA-3, TA-50, TA-54, and TA-55;

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3.11.1(2)	General Operating Conditions	69	The Permittees shall ensure that ignitable wastes will not be stored inside the glovebox located within the indoor permitted unit.	Ignitable wastes will not be stored inside the glovebox located within TA-50-69.	Y	1	S	50-69IO	PUO	N	N	TA-50-69 indoor unit	N	N	
3.11.1(3)	General Operating Conditions	69	The Permittees shall at all times maintain a fire access lane between the TA-50-69 Outdoor and Indoor permitted units (*see* 40 CFR § 270.32(b)(2)).	A fire access lane shall be maintained between the TA-50-69 Outdoor and Indoor permitted units at all times.	Y	1	EM	50-69IO	PUO	N	N	TA-50-69 indoor & outdoor units	N	N	
3.11.2	Preventing Hazards in Loading/Unloading	69	The Permittees shall not load or unload waste at TA-50 during precipitation events.	Waste shall not be unloaded during precipitation events. (Mod submitted)	Y	1	MAN	50-69IO	PUO	N	N	TA-50-69 indoor and outdoor units	N	N	
3.11.3	Preventing Run-on	69	The Permittees shall prevent surface water run-on from contacting stored waste containers at the TA-50 permitted units. The Permittees shall annually inspect and when necessary maintain the drainage swales located south of the permitted unit between the permitted unit and Material Disposal Area (MDA) C, and located on the west side of the permitted unit between Pecos Drive and the TA-50 fence line, to ensure that potential run-on is directed away from the permitted units (see 40 CFR § 264.175(c)(1)).	Surface water run-on to TA-50 permitted units shall be prevented. Annually inspect drainage swales and maintain as necessary.	Y	1	U	50-69IO	PUO	N	N	TA-50-69 Indoor and Outdoor Units	N	N	
3.12.1	General Operating Conditions TA-54	70	The Permittees shall ensure that storage of hazardous waste in containers at TA-54 occurs only in the permitted unit at Area L, the nine permitted units at Area G, the two permitted units at TA-54 West, and as identified in Attachment A (Technical Area Unit Descriptions) and Attachment J (Hazardous Waste Management Units).	Storage of Hazardous waste at TA-54 will occur only in permitted areas.	Y	1	S	54-LGW	PUO	N	N	TA-54 Area L, Area G, and west units	N	N	
3.12.1(1)	General Operating Conditions Area G	70	The Permittees shall remove all fluids above the HDPE liner at Area G, Dome 224 within 24 hours of discovery (see 40 CFR § 270.32(b)(2)).	All fluids above the HDPE liner at Area G, Dome 224 shall be removed within 24 hours of discovery.	Y	1	SC	54-224	PUO	N	Y	TA-54-224 on Area G Pad 5 Unit	N	24 hours after discovery	
3.12.1(1)	General Operating Conditions Area G	70	The Permittees shall include a record of the evacuation in the Facility's Operating Record including a complete chemical analysis of the fluid.	A record of the removal of all fluids above the HDPE liner at Area G, Dome 224 shall be placed in the FOR, including a complete chemical analysis of the fluid.	Y	14	SC	54-224	PUO	N	Y	TA-54-224 on Area G Pad 5	N	N	
3.12.1(1)	General Operating Conditions Area L	70	The 10,000 gallon holding tank at Area L, Dome 215 shall be inspected monthly and any detected fluids shall be characterized and removed within 3 days.	The holding tank at Dome 215 shall be inspected monthly and any detected fluids shall be characterized and removed within 3 days.	Y	15	U	54-L	PUO	N	Y	TA-54, Area L	N	Within 3 days of occurance	
3.12.1(1)	General Operating Conditions Area L	70	The Permittees shall include a record of all holding tank inspections and evacuations in the Facility's Operating Record, including a complete chemical analysis of the tank contents (see 40 CFR § 270.32(b)(2)).	A record of all holding tank inspections and evacuations shall be placed in the FOR, including a complete chemical analysis of the tank contents.	Y	14	ST	54-L	PUO	N	Y	TA-54, Area L	N	N	
3.12.1(2)	General Operating Conditions Area G	70	The Permittees shall ensure that at Area G, all containers storing hazardous waste with free liquids are stored on secondary containment pallets, except inside the following structures: Domes 230, and Sheds 144, 145, 146, 177, 1027, 1028, 1029, and 1041.	All containers storing hazardous waste with free liquids shall be stored on secondary containment pallets at Domes 230, and Sheds 144, 145, 146, 177, 1027, 1028, 1029, and 1041.	Y	1	SC	54-G	PUO	N	N	TA-54, Area G storage units	TA-54-230, 144, 145, 146, 177, 1027, 1028, 1029, & 1041	N	
3.12.1(2)	General Operating Conditions Area L	70	The Permittees shall ensure that at Area L, all containers storing hazardous waste with free liquids are stored on secondary containment pallets, except when inside the following structures: Sheds 31, 68, 69, 70; concrete pad with canopy TA-54-32; concrete pads TA-54-35 and TA-54-36; building TA-54-39 (Room 101 and South Containment Pad), and modular unit TA-54-58.	All containers storing hazardous waste with free liquids shall be stored on secondary containment pallets. Sheds 31, 68, 69, 70; concrete pad with canopy TA-54-32; concrete pads TA-54-35 and TA-54-36; building TA-54-39 (Room 101 and South	Y	1	SC	54-L	PUO	N	N	TA-54, Area L	TA-54-31, 68, 69, 70, 32, 35, 36, 39 & 58	N	
3.12.1	General Operating Conditions TA-54 West		The Permittees may store mixed TRU wastes in sealed Nuclear Regulatory Commission (NRC) certified Type-B shipping containers at the TA-54 West Outdoor permitted unit without secondary containment and weather protection. The Permittees may use the Outdoor Pad excess storage capacity listed in Attachment J, Table J-1, only as specified in Permit Attachment A, Section A.4.3.2 (see 40 CFR § 270.32(b)(2)). The Permittees shall send a notification to the Secretary upon using the excess storage capacity that provides justification for its use. The Permittees shall send the notification to the e-mail notification list as specified in Permit Section 1.13.	Mixed TRU wastes in sealed Nuclear Regulatory Commission (NRC) certified Type-B shipping containers can be stored at TA-54 West Outdoor permitted unit without secondary containment and weather protection. The Outdoor Pad excess storage capacity can only be used as listed in Permit. A notification must be sent to the NMED upon using the excess storage capacity that provides justification for its use.	Y	1	SC	54-West	PUO	Y	N	TA-54 West	N		
3.12.2.1	Run-on Run-off Domes 153 & 283	71	The Permittees shall repair the 6-inch-high, 8-inch-wide curb at the perimeter of Domes 153 and 283 to prevent run-on/run-off to and from the permitted unit.	The 6-inch-high, 8-inch-wide curb at the perimeter of Domes 153 and 283 shall be kept in repair to prevent run-on/run-off.	Y	1	U	54-GP6	PUO	N	N	TA-54, Area G, Pad 6	N	N	
3.12.2.2	Run-on Run-off Storage Shed 8	71	The Permittees shall repair the 6-inch high, 8-inch-wide curb at Storage Shed 8 in as timely a manner as possible to prevent run-on/run-off to and from the permitted unit. The concrete slab on the south side of the shed shall be sloped away from the shed's foundation to prevent run-on. If the concrete slab is damaged, the Permittees shall repair the slab to prevent run-on to the permitted unit.	The 6-inch high, 8-inch-wide curb at Storage Shed 8 shall be repaired in as timely a manner as possible to prevent run-on/run-off to and from the permitted unit. The concrete slab on the south side of the shed shall be sloped away from the shed's foundation and kept in repair to prevent run-on.	Y	1	U	54-8	PUO	N	N	TA-54-8	N	As timely as possible	

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3.12.2.3	Run-on Run-off TA-54-33	71	The Permittees shall repair the 6-inch-high, 8-inch-wide concrete curb at the perimeter of the dome at TA-54-33 to prevent run-on/run-off to and from the permitted unit. The concrete floors of Rooms 100, 100A, 100B, 100C, and 105 shall slope inward to prevent run-off. If the concrete floors are damaged, the Permittees shall repair the floor(s) to prevent run-off from the permitted unit.	The 6-inch-high, 8-inch-wide concrete curb at the perimeter of the dome at TA-54-33 shall be repaired to prevent run-on/run-off. The concrete floors of Rooms 100, 100A, 100B, 100C, and 105 shall slope inward and kept in repair to prevent run-off.	Y	1	U	54-33	PUO	N	N	TA-54-33	N	N	
3.12.3.1	Secondary Containment TA-54-32	71	The Permittees shall treat the concrete sumps with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	The concrete sumps shall be treated and maintained with chemical-resistant epoxy filler-sealer and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	Y	1	U	54-LP32	PUO	N	N	TA-54, Area L, Pad 32	N	N	
3.12.3.2	Secondary Containment TA-54-35	71	The Permittees shall treat the concrete berms and the base of the concrete pad with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	The concrete berms and the base of the concrete pad shall be treated and maintained with chemical-resistant epoxy filler-sealer and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	Y	1	U	54-LP35	PUO	N	N	TA-54, Area L, Pad 35	N	N	
3.12.3.3	Secondary Containment TA-54-36	71	The Permittees shall treat the concrete berms and the base of the concrete pad with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	The concrete berms and the base of the concrete pad shall be treated and maintained with chemical-resistant epoxy filler-sealer and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	Y	1	U	54-LP36	PUO	N	N	TA-54, Area L, Pad 36	N	N	
3.12.3.4	Secondary Containment TA-54-58	72	The Permittees shall treat the concrete berms and the base of the concrete pad with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	The concrete berms and the base of the concrete pad shall be treated and maintained with chemical-resistant epoxy filler-sealer and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	Y	1	U	54-LP58	PUO	N	N	TA-54, Area L, Pad 58	N	N	
3.12.3.5.i	Secondary Containment TA-54-39 Room 101	72	The Permittees shall treat the curb and floor of this 878 square foot room with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	The curb and floor shall be treated and maintained with chemical-resistant epoxy filler-sealer and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	Y	1	U	54-39	PUO	N	N	TA-54-39, Area L	N	N	
3.12.3.5.ii	Secondary Containment TA-54-39 Containment Pad	72	The Permittees shall treat the concrete floor and curb with chemical-resistant epoxy filler-sealer and protective coating, providing an impervious seal to contain any potential leaks, spills, or accumulation of precipitation. The Permittees shall maintain the chemical-resistant epoxy and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	The concrete floor and curb shall be treated and maintained with chemical-resistant epoxy filler-sealer and protective coating in accordance with Permit Section 3.7.1 and the manufacturer's specifications.	Y	1	U	54-39	PUO	N	N	TA-54-39, Area L	N	N	
3.12.3.6	Secondary Containment Storage Sheds 144, 145, 146, and 177	72	The Permittees shall ensure the interior of each shed and sump is treated with chemically-resistant epoxy paint. The Permittees shall maintain the chemically-resistant epoxy paint in accordance with Permit Section 3.7.1 of this Permit Part and the manufacturer's specifications.	The interior of each shed and sump shall be treated and maintained with chemically-resistant epoxy paint in accordance with Permit Section 3.7.1 of this Permit Part and the manufacturer's specifications.	Y	1	U	54-L	PUO	N	N	TA-54, Area L, 144, 145, 146, & 177	N	N	
3.12.3.7	Secondary Containment Dome 224	72	The Permittees shall not rely on the engineered high-density polyethylene (HDPE) liner in Dome 224 as a method of secondary containment and shall instead store all hazardous waste containers holding free liquids on secondary containment pallets.	Engineered high-density polyethylene (HDPE) liner in Dome 224 shall not be relied on as a method of secondary containment and all hazardous waste containers holding free liquids shall be on secondary containment pallets.	Y	1	SC	54-224	PUO	N	N	TA-54-224 on Area G Pad 5	N	N	
3.13.1	General Operating Conditions TA-55	73	The Permittees shall ensure that storage of hazardous or mixed waste in containers at TA-55 occurs only in the permitted units B45, B40, B05, K13, the vault located at TA-55-4, TA-55-185, and the outdoor container storage pad located northwest of TA-55-4, and as identified in Attachment A (Technical Area Unit Descriptions) and Attachment J (Hazardous Waste Management Units).	Ensure that storage of hazardous or mixed waste in containers at TA-55 occurs only in the permitted units B45, B40, B05, K13, the vault located at TA-55-4, TA-55-185, and the outdoor container storage pad located northwest of TA-55-4.	Y	1	S	55-CS	PUO	N	N	TA-55 Container storage units	N	N	
3.14.1	General Operating Conditions TA-63	73	The Permittees shall ensure that storage and characterization of hazardous waste in containers at the Transuranic Waste Facility (TWF) occurs only on the permitted unit pad at TA-63, and as identified in Attachment A (Technical Area Unit Descriptions) and Attachment J (Hazardous Waste Management Units). This includes five storage buildings, the storage and characterization building, the characterization trailers, and the outside areas of the concrete pad within the unit boundary subject to the provisions of Permit Section 3.5.1, Storage Configuration and Minimum Aisle Space.	Ensure that storage and characterization of hazardous waste in containers at the Transuranic Waste Facility (TWF) occurs only as identified in Attachment A (Technical Area Unit Descriptions) and Attachment J (Hazardous Waste Management Units).	Y	1	S	63-CS	PUO	N	N	TA-63 Container storage units	N	N	
3.14.1(1)	General Operating Conditions TA-63	73	The Permittees shall store all hazardous waste containers known or suspected of holding free liquids on secondary containment pallets. If containers with free liquid are stored in the characterization trailers without secondary containment pallets for longer than 24 hours, the Permittees shall follow the reporting conditions of Permit Section 1.9.14, Other Noncompliance.	All hazardous waste containers known or suspected of holding free liquidsmust be on secondary containment pallets. It mus be reported if containers with free liquid are stored in the characterization trailers without secondary containment pallets for longer than 24 hours,	Y	1	S	63-SC	PUO	N	N	TA-63 Container storage units	N	Reporting conditions of Permit Section 1.9.14,	
3.14.1(2)	General Operating Conditions TA-63	73	The Permittees shall not store containers with ignitable or reactive waste (E.P.A. Hazardous Waste Numbers D001 or D003) within 15 meters of the permitted unit's security fence shown in Figure 55 (see 40 CFR §264.176 and §270.32(b)(2)).	Ignitable or reactive waste (E.P.A. Hazardous Waste Numbers D001 or D003)cannot be within 15 meters of the permitted unit's security fence.	Y	1	S	63-CS	PUO	N	N	TA-63 Container storage units	N	N	
3.14.1(3)	General Operating Conditions TA-63	73	The Permittees shall only accept TRU and mixed TRU waste containers at the TWF if they are closed and equipped with filter vents approved for containers destined for the Waste Isolation Pilot Plant. The Permittees shall not open waste containers during storage or characterization at the TWF, although the Permittees may replace filter vents on TRU and mixed TRU waste containers if necessary (see 40 CFR §270.32(b)(2)).	TRU and mixed TRU waste containers may be atorede at the TWF if they are closed and equipped with filter vents approved for containers destined for the Waste Isolation Pilot Plant. Containers may not be opened during storage.	Y	1	WA	63-WA	PUO	N	N	TA-63 Container storage units	N	N	
3.14.1(4)	General Operating Conditions TA-63	73	The Permittees shall not accept the following waste for storage at the TWF: a. Remote-handled TRU waste b. Waste containers that are known or suspected to contain greater than 1% free liquid, as defined in 40 CFR § 260.10 c. Mixed waste generated prior to December 31, 2015 (see 40 CFR §270.32(b)(2))	Cannot accept remote-handled TRU, containers with >1% free liquids, or mixed waste generated beforeDecember 31, 2015.	Y	1	WA	63-WA	PUO	N	N	TA-63 Container storage units	N	N	

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3.14.2	Retension Basin TA-63	75	The Permittees shall inspect the retention basin as required by Permit Section 2.6, General Inspection Requirements, and in accordance with Permit Attachment E, Inspection Plan, for evidence of contamination and deterioration during each inspection.	The retention basin will be as required by Permit Section 2.6, General Inspection Requirements, and in accordance with Permit Attachment E, Inspection Plan, for evidence of contamination and deterioration during each inspection.	Y	15	U	63-RB	PUO	N	N	TA-63 Retension Basin	N	N	
3.14.2	Retension Basin TA-63	75	The Permittees shall record inspection results and any remediation in the Operating Record. Any decontamination of the retention basin will be subject to the provisions of Permit Attachment D, Contingency Plan.	Inspection records and remediations shall be put in the FOR. Any decontamination activity is subject to the Contingency Plan.	Y	14	U	63-RB	PUO	N	Y	TA-63 Retension Basin	N	N	
3.14.2(1)	Retension Basin TA-63	75	The Permittees shall control run-on and run-off as specified in Permit Attachment A, Section A.6.9., Control of Run-on/Run-off. Run-off collected in the retention basin shall be evaluated before discharge. If the run-off is known to be or potentially contaminated with hazardous waste constituents from a spill, leak, or other release, it shall be sampled.	Run-on and run-off must be controlled, sampled if potentially contaminated.	Y	1	U	63-RB	PUO	N	N	TA-63 Retension Basin	N	N	
3.14.2(1)	Retension Basin TA-63	75	The Permittees shall collect a water sample within 24 hours of discovery of the known or suspected contamination. The analytical testing shall include all appropriate methods based on the composition of waste stored at the unit. If the run-off present in the retention basin is determined to be hazardous waste, the Permittees shall implement Attachment D, Contingency Plan, and manage the waste spill as required by Permit Section D.4. The Permittees shall use the analytical results, together with information from the Operating Record, to characterize the water in accordance with Permit Attachment C, Waste Analysis Plan.	Collect water sample and analyze appropriately. If hazardous, mange appropriately.	Y	1	A	63-RB	PUO	N	N	TA-63 Retension Basin	N	24 hours of discovery	
3.14.2(1)	Retension Basin TA-63	75	The Permittees shall record the type and quantity of waste water present in the retention basin, the date of the incident, and the date of removal of the waste water in the Operating Record.	The type and quantity of waste water present in the retention basin, the date of the incident, and the date of removal of the waste wate shall be recorded r in the Operating Record.	Y	14	U	63-RB	PUO	N	Y	TA-63 Retension Basin	N	N	
3.14.2(1)	Retension Basin TA-63	75	If the Permittees determine that the storm water is not hazardous waste, but that it is contaminated with hazardous waste constituents, the Permittees shall ensure the storm water meets the applicable clean-up requirements in Permit Section 11.4.3, Surface Water Clean-up Levels, prior to discharge. If the Permittees determine that the storm water is not contaminated with hazardous waste constituents, the Permittees shall manage the storm water in accordance with The Multi-Sector General Permit For Stormwater Discharges Associated with Industrial Activity (MSGP) for the facility.	If the storm water is not hazardous waste, but is contaminated with hazardous waste constituents, ensure the storm water meets the applicable clean-up requirements in Permit Section 11.4.3, Surface Water Clean-up Levels, prior to discharge.	Y	6	U	63-RB	PUO	N	N	TA-63 Retension Basin	N	N	
3.14.2(2)	Retension Basin TA-63	75	Within 24 hours of a fire event, the Permittees shall collect a sample of fire suppression water collected in the retention basin and analyze it for any hazardous waste constituents managed at the facility. If the fire suppression water present in the retention basin is determined to be hazardous waste, the Permittees shall manage the waste water as required by Attachment D, Contingency Plan. The Permittees shall use the analytical results, together with information from the Operating Record, to characterize the water in accordance with Permit Attachment C, Waste Analysis Plan. The Permittees shall record the type and quantity of waste water present in the retention basin, the date of the incident, and the date of removal of the waste water in the Operating Record. If the Permittees determine that the fire suppression water is not a hazardous waste, the Permittees shall ensure the water meets the applicable clean-up requirements in Permit Section 11.4.3, Surface Water Clean-up Levels, prior to discharge.	If the Permittees determine that the storm water is not contaminated with hazardous waste constituents, the Permittees shall manage the storm water in accordance with the Multi-Sector General Permit For Stormwater Discharges Associated with Industrial Activity (MSGP) for the facility.	Y	6	U	63-RB	PUO	N	Y	TA-63 Retension Basin	N	N	
3.14.3	Subsurface Vapor Monitoring TA-63	77	The Permittees shall monitor subsurface vapors to evaluate for releases from Material Disposal Area (MDA) C. If soil vapors are determined to present a potential risk to site workers, then the Permittees shall initiate corrective action as necessary to protect human health.	Soil vapor monitoring will be conducted and corrective action will be initiated as necessary.	Y	20	W	TA-63	ADEP-CA	N	N	TA-63	N		
3.14.3	Subsurface Vapor Monitoring TA-63	78	If sample results, reported in accordance with Permit Section 11.10.3, indicate that volatile organic constituents are present at concentrations above soil gas screening levels at any port in any of the vapor detection network wells, the Permittees must: (1) Notify NMED in writing within 24 hours of detection; (2) Resample the wells as soon as is practicable within ten business days to confirm results. Confirmatory samples must be processed on a rush basis at the analytical laboratory; (3) If the confirmatory analytical sample results verify the accuracy of the initial sample results, the Permittees must notify NMED in writing within 24 hours of confirmation in order to discuss whether subsurface mitigation measures are required to protect human health.	If VOCs present above SGSLs, notify NMED in writing within 24 hours, resamplewithin 10 business days, if confirmed notify NMED within 24 hours.	Y	20	N	TA-63	ADEP/CP	Notify NMED in writing within 24 hours of detection;	Y	TA-63	N	24 hour notificaions	
3.14.3	Subsurface Vapor Monitoring TA-63	78	The Respondents shall notify the Department in writing within fifteen days after review of the analytical data if the data indicate any of the following: (1) Detection of a contaminant in a vapor monitoring well if that contaminant has not previously been detected in the well. (2) Detection of a contaminant in a vapor monitoring well at a concentration that exceeds one-half the soil gas screening level, if that contaminant has not previously exceeded one-half such screening level in the well. (3) Detection of a contaminant in a vapor monitoring well at a concentration that exceeds one-half the soil gas screening level and that has increased for the third consecutive sampling of that well. The written notification shall be submitted to the Department in a letter report that includes, at a minimum, in table format, the date or dates of the sampling event, the well designation, the location of the well, a list of the analytical data that triggered the reporting requirement, any known issues with sample quality, and the specific category for which the data is reported under this Section (3.14.3).	Notify NMED within 15 days if: neew contamination detected; concentration exceeds 1/2 the SGSL for first time; the concentration has increassed for three consecutive samplings.	Y	20	N	TA-63	ADEP/CP	Notify NMED in writing within fifteen days	Y	TA-63	N	Within 15 days	
4.1(1)	General Conditions	83	The Permittees shall store mixed waste in tanks in accordance with the requirements of 40 CFR Part 264, Subpart J.	Store mixed waste in tanks in accordance with the requirements of 40 CFR Part 264, Subpart J.	Y	1	ST	55-4	PUO	N	N	TA-55-4-401 storage tank	N	N	
4.1(1)	General Conditions	83	The Permittees shall treat mixed waste by stabilization in accordance with the requirements of 40 CFR Part 264, Subpart X	Treat mixed waste by stabilization in accordance with the requirements of 40 CFR Part 264, Subpart X.	Y	13	T	55-4	PUO	N	N	TA-55-4-401 treatment unit	N	N	
4.1(2)	General Conditions	83	The Permittees shall, in accordance with this Permit Part, maintain and operate the mixed waste storage tank unit, the stabilization unit, all ancillary equipment as defined in 40 CFR § 260.10, and the associated secondary containment system at TA-55 as described at Attachment A.	Maintain and opperate tank, equipment , and secondary containment as directed in Attachment A.	Y	1	ST	55-4	PUO	N	N	TA-55-4-401 treatment unit	N	N	
4.1(3)	General Conditions	83	The Permittees shall store mixed waste only in the tank systems associated with the permitted unit identified with process code S02 in Attachment J (Hazardous Waste Management Units), Table J-1.	Store mixed waste only in the tank systems associated with the permitted unit identified with process code S02 in Attachment J, Table J-1.	Y	1	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	

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Requirement Types: AN – Analytical; C – Closure; CA – Corrective Actions; CL – Cleanup Levels or Standards; CM – Corrective Measures; CO – Consent Order; CP – Closure Plan; CR – Community Relations Plan; EC – Emission Controls; EM – Emergency Management; EQ – Equipment; HSP – Health and Safety Plan; IM – Interim Measures; IN – Investigations; IR – Information Repository; ISU – Interim Status Units; L – Labeling; M – Modifications; MAN – Waste Management; N – Notifications; NC – Noncompliance; NM – NMED; P –Permit; PC – Post Closure; PR – Presumptive Remedy; PT – Property Transfer; R – Releases (not emergencies); RA – Risk Assessment; S – Storage; SC – Secondary Containment ; SEC – Security; ST – Storage Tanks; T – Treatment; U – Permitted Units; W – Wells; WA – Waste Acceptance; WC – Waste Characterization; WM – Waste Minimization

Responsibilities: G – Generator; CP – RCRA Compliance Team; PO – Public Outreach (RG); LT – Land Transfer POC (ADESHQ); EP – ADEP (CA or WM); PUO – Permitted Unit Ops; ES – Environmental Stewardship; EPD – Environmental Protection Division; EMO – Emergency Management Organization; WES – Waste and Environmental Services

Permitted Unit: TA-3; TA-50; TA-54; TA-55; ISU - Interim Status Unit; A - Adminidtrative; CS - Container Storage units; IOU - Indoor and Outdoor Units; IU - Indoor Units; OU - Outdoor Units; P - Pads; ST - Storage Units at TA-3, TA-50, TA-54, and TA-55;

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4.1(3)	General Conditions	83	The Permittees shall treat mixed waste by stabilization only in the permitted unit identified with process code T04 in Attachment J, Table J-1.	Treat mixed waste by stabilization only in the permitted unit identified with process code T04 in Attachment J, Table J-1.	Y	1	T	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.1(3)	General Conditions	83	The Permittees shall not store or treat mixed waste in quantities that exceed the operating capacities identified in Table J-1.	Do not store or treat mixed waste in quantities that exceed the operating capacities identified in Table J-1.	Y	1	S	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.1(4)	General Conditions	83	The Permittees shall store in the tank unit and treatin the stabilization unit only those wastes with EPA Hazardous Waste Numbers listed in association with the applicable storage tank unit and stabilization unit in Attachment B (*Part A Application*).	Store and treat wastes only with EPA Hazardous Waste Numbers listed in Attachment B.	Y		S	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.1(5)	General Conditions	83	The Permittees shall ensure that mixed wastes or treatment reagents are not placed in the storage tank or stabilization units if they could cause the units, their ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail (see 40 CFR § 264.194(a)).	Ensure that mixed wastes or treatment reagents are not placed in the storage tank or stabilization units if they could cause the units, ancillary equipment, or the containment system to fail.	Y	1	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.2	Existing Tank System Integrity	83	The Permittees shall maintain in the Facility Operating Record the written integrity assessments of the existing tank unit system provided with the Permittees' Permit Application	Maintain the written integrity assessments of the existing tank unit system in the FOR.	Y	14	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.3(1)	Replacement Tank System and Stabilization Unit Components	83	The Permittees shall ensure either that storage tank or stabilization system repairs are performed in accordance with 40 CFR §§ 264.196(e)(2) through (4), or that the system be closed in accordance with the conditions of this Permit and 40 CFR § 264.197, which is incorporated herein by reference.	Ensure that storage tank or stabilization system repairs are performed in accordance with 40 CFR §§ 264.196(e)(2) through (4), or that the system be closed in accordance with the conditions of this Permit and 40 CFR § 264.197.	Y	1	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.3(2)	Replacement Tank System and Stabilization Unit Components	84	During the replacement of tank unit systems and stabilization unit ancillary equipment the Permittees shall ensure that proper handling procedures are adhered to in order to prevent damage to the units, their components, or any ancillary equipment (see 40 CFR § 264.192(b)). Replacement equipment shall be made of the same or similar materials as those described in Attachment A.	Ensure that during replacement of tank unit systems and ancillary equipment that proper handling procedures are adhered to in order to prevent damage. Replacement equipment shall be as described in Attachment A.	Y	1	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.3(3)	Replacement Tank System and Stabilization Unit Components	84	The Permittees shall ensure that prior to replacing a portion of the tank or stabilization unit systems, a registered engineer trained and experienced in the proper installation of tank systems or components inspects the system in accordance with the requirements of 40 CFR § 264.192(b). A record of this inspection shall be maintained in the Facility Operating Record.	A registered engineer shall inspect the system prior to replacing a portion of the tank or stabilization unit systems. Record this inspection in the FOR.	Y	15	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.3(4)	Replacement Tank System and Stabilization Unit Components	84	If the Permittees repair the storage tank unit or the stabilization unit systems, the Permittees shall certify that the system is capable of handling mixed wastes without release for the intended life of the system in accordance with the requirements of 40 CFR § 264.196(f), which is incorporated herein by reference. This certification must be submitted to the Department within seven days after returning the tank system to use.	After repair the Permittees shall certify that the system can handle missed wastes without release for the life of the system. Submit to NMED within 7 days of return to use.	Y	1	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	Certification to NMED within 7 days of return to use	
4.3(5)	Replacement Tank System and Stabilization Unit Components	84	Replacement tanks, their ancillary equipment, and stabilization unit ancillary equipment shall be tested for tightness prior to being placed into use (see 40 CFR § 264.192(d)). If a replacement tank, tank ancillary equipment or the stabilization unit ancillary equipment is found not to be tight, all repairs necessary to remedy the leak(s) in the system shall be performed prior to the system being placed into use.	Replacement tanks, ancillary equipment, and stabilization unit ancillary equipment shall be tested for tightness prior to being placed into use. If found to leak, all repairs shall be performed prior to use.	Y	1	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.3(6)	Replacement Tank System and Stabilization Unit Components	84	The Permittees shall obtain and keep in the Facility Operating Record the written statements required at 40 CFR § 264.192, which is incorporated herein by reference.	Keep in the FOR the written statements required at 40 CFR § 264.192 in the FOR	Y	14	U	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.4(1)	Tank Systems and Stabilization Unit Containment	84	The Permittees shall ensure that the tank and stabilization units have an associated secondary containment system that conforms to the requirements specified at 40 CFR § 264.193, which is incorporated herein by reference. The Permittees shall consider the walls and floor of Room 401 as the secondary containment system for the storage tank and the stabilization units.	Ensure that the tank and stabilization units have a secondary containment system that conforms to the requirements specified at 40 CFR § 264.19. The walls and floor of Room 401 are the secondary containment system for the storage tank and the stabilization units.	Y	1	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.4(2)	Tank Systems and Stabilization Unit Containment	84	The Permittees shall use appropriate controls and practices to prevent spills and overflows from the storage tank unit, the stabilization unit, or their associated containment system in accordance with 40 CFR § 264.194(b), which is incorporated herein by reference.	Prevent spills and overflows from the storage tank unit, the stabilization unit, or their associated containment system in accordance with 40 CFR § 264.194(b).	Y	1	ST	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.4(3)	Tank Systems and Stabilization Unit Containment	85	The Permittees shall ensure that spilled, leaked, or otherwise accumulated liquids are removed from the secondary containment system, including but not limited to the sumps, within 24 hours of detection of the spill, leak, or accumulation. The Permittees may seek an extension of time if the Permittees can demonstrate that removal of the released waste or accumulated liquids cannot be accomplished within 24 hours (see 40 CFR § 264.193(c)(4)). Such a determination must be made within 24 hours of detection of the spill, leak of the released waste. The Permittees shall notify the Department of any accumulated liquids within the secondary containment system within five days of detection of such liquids (see 40 CFR § 270.32(b)(2)).	Ensure that spilled, leaked, or otherwise accumulated liquids are removed from the secondary containment system, within 24 hours of detection of the spill, leak, or accumulation. Can seek extension, if demonstrate cannot be accomplished in 24 hrs.	Y	1	SC	55-4	PUO	Written to NMED	Y	TA-55-4-401 storagetank and treatment units	Request extension within 24 hrs if can't be removed within 24 hrs & send notification to email list	Clean up within 24 hours and notification within 5 days of detection	
4.4(4)	Tank Systems and Stabilization Unit Containment	85	(4) The Permittees shall ensure that the secondary containment system comprised in part by floor, wall, or joint sealants, is installed and maintained in accordance with the sealant manufacturer's recommendations.	Ensure that the secondary containment system is installed and maintained in accordance with the sealant manufacturer's recommendations.	Y	1	SC	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	If not already documented, must reseal (see below)	N	
4.4(4)	Tank Systems and Stabilization Unit Containment	85	Shall maintain documentation of this fact in the Facility Operating Record. This documentation shall include a copy of the manufacturer's recommendations and a certification from a registered engineer stating the Permittees' installation and maintenance procedures were performed in accordance with the recommendations.	Maintain documentation that secondary containment system installed and maintained according to manufacturer's recommendations and include a certification from a registered engineer in the FOR.	Y	14	SC	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.4(5)	Tank Systems and Stabilization Unit Containment	85	Secondary containment systems utilizing sealants existing at the time of this Permit's issuance but not having associated sealant manufacturer's recommendations or an associated certification statement shall be re-sealed within 90 days of the effective date of this Permit (see 40 CFR § 270.32(b)(2)).	If not documented, must be resealed within 90 days of issuance of the permit.	Y	1	SC	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	If not already documented, must reseal	Reseal within 90 days of permit issuance

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4.4(6)	Tank Systems and Stabilization Unit Containment	85	The Permittees shall ensure that all tank and stabilization unit ancillary equipment have secondary containment in accordance with 40 CFR § 264.193(f), which is incorporated herein by reference. Above ground waste piping, including welded flanges, joints, and connections, shall be inspected for leaks each operating day (i.e., each day that waste is present in a tank or stabilization unit).	Ensure that all tank and ancillary equipment have secondary containment in accordance with 40 CFR § 264.193(f). Inspect above ground waste piping, including welded flanges, joints, and connections, for leaks each operating day.	Y	1	SC	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	Daily	
4.4(7)	Tank Systems and Stabilization Unit Containment	85	The Permittees shall ensure that a storage tank unit, stabilization unit, secondary containment system, or a portion of these units or systems, from which there has been a leak or spill, or which is unfit for use, is removed from service immediately and otherwise complies with the requirements of 40 CFR § 264.196, which is incorporated herein by reference.	Ensure that a storage tank unit, stabilization unit, secondary containment system from which there has been a leak or spill, or which is unfit for use, is removed from service immediately and otherwise complies with the requirements of 40 CFR § 264.196.	Y	1	SC	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.4(8)	Tank Systems and Stabilization Unit Containment	85	The Permittees shall ensure that any release of mixed waste from a storage tank or stabilization unit to the environment (e.g., soil, surface water, groundwater, atmosphere) is reported to the Department by e-mail or facsimile within 24 hours of its detection (see 40 CFR § 264.196(d)). Within 30 days of detection of a release to the environment, the Permittees shall submit a written report to the Department containing the information at 40 CFR § 264.196(d)(3), which is incorporated herein by reference. (9) The Permittees shall give notice by e-mail to persons on the e-mail notification list of the written report under 40 CFR § 264.196(d)(3) in accordance with Permit Section 1.13.	Report any release of mixed waste from a storage tank or stabilization unit to the environment to the Department by e-mail or facsimile within 24 hours of its detection. Submit a written report to the Department within 30 days of detection of a release, containing the information at 40 CFR § 264.196(d)(3).	Y	2	R	55-4	PUO/CP	Email or fax to NMED and follow with written report & email list notification	Y	TA-55-4-401 storagetank and treatment units	N	24 hours to email or fax, 30 days written report, and 7 days to email list after submittal of report to NMED	
4.5	Ignitable, Reactive, or Incompatible Wastes	86	The Permittees shall ensure that the mixed waste storage tank and stabilization units do not manage ignitable or reactive waste. The Permittees shall ensure that incompatible wastes, or wastes and other materials that are incompatible, are not placed in the same tank system or stabilization unit (see 40 CFR § 264.199).	Ensure the mixed waste storage tank and stabilization units do not manage ignitable, reactive waste, or incompatible wastes, or wastes and other materials that are incompatible, are not placed in the same tank system or stabilization unit (see 40 CFR § 264.199).	Y	1	SC	55-4	PUO	N	Y	TA-55-4-401 storagetank and treatment units	N	N	
4.6	TA-50 Radioactive Liquid Waste Treatment Facility	86	The Permittees shall discharge all treated wastewater from the TA-50 Radioactive Liquid Waste Treatment Facility (RLWTF) through the outfall permitted under Section 402 of the federal Clean Water Act, or as otherwise authorized by the terms of an applicable Clean Water Act permit that regulates the treatment and use of wastewater. If the Permittees intentionally discharge through a location other than the permitted outfall, they will fail to comply with this requirement, and as a consequence the wastewater treatment unit exemption under 40 CFR § 264.1(g)(6) will no longer apply to the RLWTF. The Permittees shall not accept listed hazardous wastes as specified at 40 CFR Part 261 Subpart D at the RLWTF.	Discharge all treated wastewater from the TA-50 RLWTF through the outfall permitted under the Federal Clean Water Act. Failure to comply will result in the wastewater treatment unit exemption under 40 CFR § 264.1(g)(6) no longer applying to the RLWTF. The Permittees shall not accept listed hazardous wastes as specified at 40 CFR Part 261 Subpart D at the RLWTF.	Y	1	T	50-RLTF	PUO	N	Y	TA-50 RLWTF	N	N	Requested removal of section during permit hearing.
9.1	Introduction	96	The Permittees shall adhere to the closure performance standards in Permit Section 9.2 for all the permitted units addressed in this Permit Section. The Permittees shall close the permitted storage and treatment units in accordance with the requirements in 40 CFR §§ 264.110 through 264.116, 264.178, and 264.197 (which are incorporated herein by reference), this Permit Part (9), and the procedures described in the permitted unit-specific closure plans in Attachment G (Closure Plans).	Adhere to the closure performance standards in Permit Section 9.2 for all the permitted units addressed Section 9, requirements in 40 CFR §§ 264.110 through 264.116, 264.178, and 264.197, and procedures described in the permitted unit-specific closure plans in Attachment G.	Y	18	C	A	PUO/EP/CP	N	N	All	N	N	
9.1.1	Regulated Units	96	The regulated units shall not accept hazardous or mixed waste and shall undergo closure. The Permittees shall adhere to the closure performance standards in Permit Section 9.2 and the closure requirements in Permit Sections 9.3 and 9.5 for the closure of these units.	Regulated units shall not accept hazardous or mixed waste and shall undergo closure and adhere to the closure performance standards in Permit Section 9.2 and the closure requirements in Permit Sections 9.3 and 9.5.	Y	18	S	A	PUO/EP/CP	See Section 9.3 and 9.5	Y	All	N	See Section 9.5	
9.1.2	Indoor Units	96	Indoor units are buildings (e.g., TA-54-412 DVRS), structures (e.g., storage sheds, domes, transportainers, canopies, trailers, and permacons), or rooms within a building (e.g., TA-3 Room 9010). The Permittees shall comply with the specific closure requirements in Permit Sections 9.4 and 9.5 for these units and comply with the closure performance standards in Permit Section 9.2.	Indoor units shall comply with the specific closure requirements in Permit Sections 9.4 and 9.5 for these units and comply with the closure performance standards in Permit Section 9.2.	Y	18	C	IU	PUO/EP/CP	See Section 9.4 and 9.5	Y	All buildings, structures, rooms	N	See Section 9.4 and 9.5	
9.1.3	Outdoor Units	97	Any building or structure, or its associated equipment, situated on an outdoor unit shall meet the specific closure requirements in Permit Sections 9.4 and 9.5 and meet the closure performance standard in Permit Section 9.2.	Structures associated with pads shall meet the specific closure requirements in Permit Sections 9.4 and 9.5 and meet the closure performance standard in Permit Section 9.2.	Y	18	C	A	PUO/EP/CP	See Section 9.4 and 9.5	Y	Structures associated with pads	N	See Section 9.4 and 9.6	
9.1.3	Outdoor Units	97	The Permittees shall comply with the specific closure requirements in Permit Sections 9.4 and 9.5 for these units and adhere to the closure performance standards in Permit Section 9.2.	Outdoor units shall comply with the specific closure requirements in Permit Sections 9.4 and 9.5 for these units and adhere to the closure performance standards in Permit Section 9.2.	Y	18	CL	OU	PUO/EP/CP	See Section 9.4 and 9.5	Y	Outdoor Units	N	See Section 9.4 and 9.5	
9.2.1(1)	Clean Closure	97	Remove all hazardous waste residues and hazardous constituents; and	To achieve clean closure all hazardous waste residues and constituents must be removed.	Y	18	CL	A	PUO/EP/CP	N	N	All	Nonresidential use	N	
9.2.1(2)	Clean Closure	97	Ensure contaminated media do not contain concentrations of hazardous constituents greater than the clean-up levels established in accordance with Permit Sections 11.4 and 11.5. For soils the cleanup levels shall be established based on residential use. The Permittees must also demonstrate that there is no potential to contaminate groundwater.	Must demonstrate that hazardous constituents are below cleanup levels in Sections 11.4 and 11.5 an no potential to contaminate ground water.	Y	18	CL	A	PUO/EP/CP	N	N	All	Nonresidential use	N	
9.2.2(1)	Inability to Achieve Clean Closure Performance Standards	97	Control hazardous waste residues, hazardous constituents, and, as applicable, contaminated media such that they do not exceed a total excess cancer risk of 10-5 for carcinogenic substances and, for non-carcinogenic substances, a target Hazard Index of 1.0 for human receptors, and meet Ecological Screening Levels established under Permit Section 11.5;	Human health and ecological requirements	Y	18	RA	A	PUO/EP/CP	N	N	All	N	N	
9.2.2(2)	Inability to Achieve Clean Closure Performance Standards	97	Minimize the need for further maintenance; and	Minimized need for maintenance	Y	18	PC	A	PUO/EP/CP	N	N	All	N	N	

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9.2.2(3)	Inability to Achieve Clean Closure Performance Standards	97	Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground, groundwater, surface waters, or atmosphere (see 40 CFR § 264.111).	Minimize migration of contaminants in the environment.	Y	18	PC	A	PUO/EP/CP	N	N	All	N	N	
9.2.2	Inability to Achieve Clean Closure Performance Standards	97	The Permittees may remove any structure pursuant to Permit Section 9.4.3.2 instead of attaining the closure performance standards under this Permit Part (9) for that structure.	Remove structures pursuant to Section 9.4.3.2.	Y	18	C	A	PUO/EP/CP	N	N	All	N	N	
9.2.2.1	Indoor Units	98	The Permittees shall notify the Department in accordance with 40 CFR § 264.112 if closure performance standard at Permit Section 9.2.1(1) or (2) is not attainable for an indoor unit (see Permit Section 9.1.2). The notification shall include a demonstration that justifies the Permittees' inability to achieve the standard. The Permittees shall concurrently submit a permit modification request in accordance with 40 CFR §§ 264.112 and 270.42 that describes the measures that will be taken to ensure compliance with the closure performance standards at Permit Sections 9.2.2(1) through (3), and a post-closure plan, if necessary, to maintain the measures. The Permittees shall conduct any post-closure care in accordance with Permit Part 10 (Post-Closure Care).	Notify NMED if closure performance standards in 9.2.1 are not attainable.	Y	2	CL	IU	PUO/EP/CP	Permit mod, post closure plan	Y	Indoor units	N	N	
9.2.2.1	Indoor Units	98	The Permittees shall give notice by e-mail to persons on the e-mail notification list, in accordance with Permit Section 1.13, of the notice to the Department provided under this Permit Section (9.2.2.1).	Notice to email list if closure performance standards in 9.2.1 are not attainable.	Y	2	CL	IU	CP	Notice to email list	N	Indoor units	N	See Section 1.13	
9.2.2.2	Outdoor Units Co-Located With Regulated Units	98	The Permittees may petition the Department for alternative closure requirements in accordance with 40 CFR § 264.110(c) if the closure performance standards at Permit Sections 9.2.1(1) and (2) are not attainable for an outdoor unit (including associated indoor structures) co-located with a regulated unit (see Permit Section 9.1.3(1)).	May petition NMED for alternative closure requirements if Section 9.2.1(1) and (2) can't be met.	Y	3	CL	OU	PUO/EP/CP	Petition/mod	N	Outdoor units co-located with regulated units.	N		
9.2.2.2	Outdoor Units Co-Located With Regulated Units	98	The Permittees shall give notice by e-mail to persons on the e-mail notification list, in accordance with Permit Section 1.13, of the petition to the Department provided under this Permit Section (9.2.2.2).	Notice to email list of the petition to the Department for alternative closure requirements provided under this Permit Section (9.2.2.2).	Y	2	CL	OU	CP	Notice to email list	N	Outdoor units co-located with regulated units.	N	See Section 1.13	
9.2.2.3	Other Outdoor Units	98	The Permittees shall notify the Department in accordance with 40 CFR § 264.112(c) if the closure performance standards at Permit Sections 9.2.1(1) and (2) are not attainable for an outdoor unit (including associated indoor structures) not co-located with a regulated unit (see Permit Section 9.1.3(2)). The notification shall include a demonstration that justifies the Permittees' inability to achieve the standard. The Permittees shall concurrently submit a permit modification request in accordance with 40 CFR §§ 264.112 and 270.42 that describes the measures that will be taken to ensure compliance with the closure performance standards at Permit Sections 9.2.2(1) through (3), and a post-closure plan, if necessary, to maintain the measures. The Permittees shall conduct any post-closure care in accordance with Permit Part 10 (Post-Closure Care). The Permittees shall give notice by e-mail to persons on the e-mail notification list, in accordance with Permit Section 1.13, of the notice to the Department under this Permit Section (9.2.2.3).	Notify NMED if standards in 9.2.1 are not attainable. Also submit a permit modification and post closure plan.	Y	2	CL	OU	PUO/EP/CP	Notice to NMED, permit mod, notice to email list	N	Outdoor units not co-located with regulated units.	N	See Section 1.13	
9.3	Closure Requirements for Regulated Units	99	Closure of the regulated units must meet the corrective action requirements of the March 1, 2005 Compliance Order on Consent (Consent Order). The Consent Order is an enforceable document that sets forth alternative closure requirements in accordance with 40 CFR § 264.110(c). The Permittees shall propose remedies in the Corrective Measures Evaluation Report under the Consent Order that achieve compliance with the closure performance standards at 40 CFR § 264.111. Fulfilling the requirements of the approved Corrective Measures Implementation Plan under the Consent Order shall also satisfy the requirements of 40 CFR Part 264, Subpart G.	Regulated units must meet Consent Order requirements and those in Section G.	Y	18	CO	A	PUO/EP/CP	N	N	All	N	See consent Order and Section G	
9.4.1	Closure Schedule	99	The Permittees shall notify the Department in writing at least 45 days prior to the date on which they expect to begin closure of a permitted unit in accordance with 40 CFR § 264.112(d)(1), which is incorporated herein by reference. The beginning of closure is marked by initiating removal of waste from a permitted unit for the purpose of closure. In accordance with 40 CFR 264.112(d)(2), incorporated herein by reference, the date when the Permittees begin closure shall be no later than 30 days after the date on which a permitted unit receives the known final volume of hazardous wastes, or if there is a reasonable possibility that the permitted unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. In accordance with 40 CFR § 264.113(a), within 90 days after receiving the permitted unit's final volume of hazardous waste, the Permittees shall remove or treat, as applicable, in accordance with the approved closure plan, all hazardous waste from a permitted unit. The Permittees shall give notice by e-mail to persons on the e-mail notification list, in accordance with Permit Section 1.13, of the notice to the Department provided under this Permit Section (9.4.1).	Indoor and Outdoor Units: Notify NMED in writing 45 days before closure begins. Closure must begin 30 days after receiving known final waste or one year after last waste, if a reasonable possibility of receiving more waste exists. All waste shall be removed within 90 days of final receipt of waste.	Y	2	C	IOU	PUO/EP/CP	Notification in writing to NMED and notice to email list.	Y	Indoor and outdoor units	N	Notify NMED 45 days before closure begins.	
9.4.1.1	Time Allowed for Closure	100	The Permittees shall complete all closure activities in compliance with this Permit Part within 180 days after receiving the final volume of hazardous waste at a permitted unit unless an extension is approved by the Department (see 40 CFR §§ 264.113(a)(1) and (2) or 264.113(b)(1) and (2), which are incorporated herein by reference).	Complete all closure activity 180 days after receiving final waste, unless extension approved by NMED	Y	18	C	IOU	PUO/EP	N	N	Indoor and outdoor units	Extention requested	Closure complete in 180 days	
9.4.2	Removal of Hazardous Waste	100	Within 90 days after receiving the final volume of hazardous waste at a permitted unit, the Permittees shall treat or remove from the unit all hazardous waste in accordance with 40 CFR §§ 264.112 through 114, which are incorporated herein by reference.	All waste shall be removed within 90 days of final receipt of waste.	Y	18	C	IOU	PUO/EP	N	N	Indoor and outdoor units	N	All waste gone in 90 days	
9.4.3	Decontamination and Removal	100	The Permittees shall decontaminate, remove, or both, all structures and related equipment and materials (e.g., asphalt pads) in accordance with this Permit Part and the requirements for closure plans in 40 CFR §§ 264.112(b)(4) and 264.114.	All structures must be removed, decontaminated, or both	Y	18	C	IOU	PUO/EP	N	N	Indoor and outdoor units	N	180 days from start of closure	
9.4.3.1	Decontamination of Surfaces, Structures, and Related Equipment	100	The Permittees shall identify in each permitted unit's closure plan what surfaces, structures, and related equipment from the permitted unit will be decontaminated and the methods by which they will be decontaminated.	Each unit's closure plan will identify what will be decontaminated and how.	Y	8	C	IOU	PUO/EP	Closure Plan	Y	Indoor and outdoor units	N	In Closure Plan	

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9.4.3.1	Decontamination of Surfaces, Structures, and Related Equipment	100	The Permittees shall decontaminate by pressure-washing or steam-cleaning the floors, walls (up to 11 feet from the floor, or another height approved by the Department), and ceilings (lower than 11 feet high, or another height approved by the Department), of all surfaces and structures at permitted indoor and outdoor units as well as all related equipment (e.g., railings, stairs, secondary containment pallets, piping). If such methods are not practicable, the Permittees shall propose to the Department, for its approval, an alternative decontamination method in their closure plans.	Decontaminate by pressure-washing or steam-cleaning or other method approved by NMED	Y	18	C	IOU	PUO/EP	Notification if other method required	Y	Indoor and outdoor units	N	180 days from start of closure	
9.4.3.1	Decontamination of Surfaces, Structures, and Related Equipment	100	To achieve the performance standards for volatile organic compounds (VOCs), the Permittees shall decontaminate all structures and related equipment at indoor and outdoor permitted units at least twice. The Permittees shall identify and provide rationale in the sampling and analysis plan for the permitted unit and the structures and related equipment that do not undergo this type of decontamination.	Decon at least twice for VOCs or submit rationale to NMED	Y	18	C	IOU	PUO/EP	Notification of rationale, if not doing	Y	Indoor and outdoor units	If rationale provided	N	
9.4.3.2	Removal of Structures, Related Equipment, and Pads	100	The Permittees shall ensure that structures and related equipment at permitted indoor and outdoor units that cannot be decontaminated in accordance with Permit Section 9.4.3.1 are removed (or containerized) in accordance with 40 CFR § 264.114, which is incorporated herein by reference, and managed in compliance with Permit Section 9.4.5.	Structures and equipment not deconned must be managed in accordance with Section 9.4.5.	Y	18	C	IOU	PUO/EP	See 9.4.5	Y	Indoor and outdoor units	N	See 9.4.5	
9.4.3.2	Removal of Structures, Related Equipment, and Pads	101	The Permittees shall identify in the closure plans for each permitted unit the structures and related equipment that will be removed from the units.	Closure plans will identify structures and equipment to be removed.	Y	8	C	IOU	PUO/EP/CP	Closure Plan	Y	Indoor and outdoor units	N	In Closure Plan	
9.4.3.2	Removal of Structures, Related Equipment, and Pads	101	After the Permittees conduct the structural assessment (in accordance with Permit Section 9.4.6) of an outdoor permitted unit constructed of asphalt, the Permittees shall remove the asphalt pad in its entirety.	Asphalt pads will be removed	Y	18	C	P	PUO/EP	N	Y	Asphalt pads	N	180 days from start of closure	
9.4.4	Decontamination Verification and Soil Sampling	101	The Permittees shall verify that each indoor permitted unit has been decontaminated, that soils beneath each outdoor and indoor (as applicable) permitted unit are free of contamination, and that each indoor structure associated with an outdoor permitted unit has been decontaminated. Except for the VOCs, the Permittees shall verify decontamination of surfaces (e.g., walls, equipment, benches, pipes, doors) and that environmental media are free of contamination through sampling and analysis.	Verify that all areas and environmental media associated with permitted unit are free from contamination.	Y	18	C	IOU	PUO/EP	N	N	Indoor and outdoor units	N	180 days from start of closure	
9.4.4	Decontamination Verification and Soil Sampling	101	The Permittees may collect wipe samples for radionuclide analysis for use as indicators of contaminant releases in units where radionuclides were stored. The Permittees shall not, however, use these as surrogates for validation of attainment of a closure performance standard at a permitted unit (see 40 CFR § 270.32(b)(2)).	Wipe samples for radionuclides may not be used for verification of closure standards.	Y	18	C	IOU	PUO/EP	N	N	Indoor and outdoor units	N	N	
9.4.4.1	Decontamination Verification and Soil Sampling Activities	101	Wipe sampling shall be used to verify the absence of contamination after decontamination of surfaces, structures, and related equipment at indoor and outdoor permitted units. Wipe samples shall be analyzed for metals, SVOCs, and polychlorinated biphenyls (PCBs). Decontamination shall be considered verified and the clean closure performance standards in Permit Section 9.2.1 achieved when wipe samples have hazardous constituent concentrations that are less than the detection limits for the analytical methods in the approved unit-specific closure plan.	Wipe samples can be used for verification of decontamination for metals, SVOCs and PCBs if results below specified detection limits.	Y	18	C	IOU	PUO/EP	N	N	Indoor and outdoor units	N	N	
9.4.4.1	Decontamination Verification and Soil Sampling Activities	101	Soils underlying pads at outdoor and indoor (as applicable) permitted units shall be sampled for total metals, VOCs, SVOCs, PCBs, and explosive compounds, as applicable.	Soils shall be sampled for metals, VOCs, SVOCs, PCBs, and explosive compounds, as applicable.	Y	18	C	IOU	PUO/EP	N	N	Indoor and outdoor units	N	N	
9.4.4.1	Decontamination Verification and Soil Sampling Activities	101	All sampling activities shall be conducted in accordance with the Department-approved closure plans.	Sampling in accordance with approved closure plan	Y	18	CP	IOU	PUO/EP	N	N	Indoor and outdoor units	N	N	
9.4.5	Management and Disposal Procedures for Waste Generated During Closure	101	By removing any hazardous wastes or hazardous waste constituents during closure, the Permittees may become a generator of hazardous waste. The Permittees shall manage and dispose of any waste generated from closure of indoor and outdoor permitted units closed in compliance with this Permit Part and all applicable state, federal, and local requirements for wastes generated during closure activities (see 40 CFR § 264.114). These wastes include, but are not limited to: (1) demolition debris; (2) asphalt and concrete pads; (3) containerized waste; and (4) decontamination waste. All decontamination waters used on structures and related equipment shall be containerized, characterized, and managed in compliance with all applicable regulations.	All wastes generated from closure activities will be managed appropriately and in accordance with the permit.	Y	18	C	IOU	PUO/EP/CP	N	N	Indoor and outdoor units	N	N	
9.4.6	Records Review and Structural Assessment	102	The Permittees shall conduct a records review (review) for, and a structural assessment (assessment) of, each permitted unit prior to closure. The findings of the review and the assessment may result in a change(s) to the sampling and analysis plan (SAP) for the permitted units. If the Permittees update a SAP, they shall submit a permit modification request to the Department to amend the closure plan in accordance with Permit Section 9.4.8 and include the updated SAP in the amended closure plan.	Conduct a records review and a structural assessment of, each permitted unit prior to closure and if update to SAP needed, submit a permit modification to NMED to amend the closure plan in accordance with Permit Section 9.4.8 and include the updated SAP in the amended closure plan.	Y	3	C	IOU	PUO/EP/CP	Modification, updated SAP	y	Indoor and outdoor units	N	N	
9.4.6.1	Records Review	102	The Permittees shall review the permitted unit's Facility Operating Record, including but not limited to, inspection and contingency plan implementation records. The Permittees shall as a result of the review, update the list of constituents (see Permit Section 9.4.7.1(3), List of Hazardous Constituents) in the SAP, as necessary, to accurately reflect at the time of closure the hazardous wastes managed at the unit. The Review shall occur within ten days of the completed removal or treatment of all waste from the permitted unit (see 40 CFR 270.32(b)).	Review the permitted unit's Facility Operating Record and update list of constituents in SAP, as needed, within 10 days of removal of all waste from unit.	Y	3	C	IOU	PUO/EP/CP	Modification, update SAP, if necessary	Y	Indoor and outdoor units	N	Within 10 days of removal of all waste from unit.	

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9.4.6.1	Records Review	102	The Permittees shall determine whether any spills or releases, defects, deterioration, damage, or hazards (e.g., damage to the flooring or other building materials) affecting waste containment occurred or developed during the operational life of the unit during which hazardous waste was managed. If the records indicate any such incidents, the Permittees shall include the locations of the incidents, as well as applicable sampling methods and procedures, in the updated SAP for purposes of the spill release assessment (see 40 CFR § 270.32(b)(2)).	Determine whether any releases, defects, deterioration, damage, or hazards affecting waste containment occurred during the while hazardous waste was managed at the unit and document in SAP.	Y	3	C	IOU	PUO/EP/CP	Modification, update SAP, if necessary	Y	Indoor and outdoor units	N	N	
9.4.6.2	Structural Assessment	102	The structural assessment is an assessment of a unit's physical condition and shall occur within ten days of the completed removal or treatment of all waste from the permitted unit (see 40 CFR 270.32(b)). The Permittees shall notify the Department at least 30 days prior to the scheduled assessment so the Department may have the opportunity to participate in the assessment. The notification shall include the date on which the Permittees expect to conduct the assessment. If the assessment reveals any evidence of a release (e.g., stains) or damage (e.g., cracks, gaps, chips) to the flooring or building materials, the Permittees must incorporate these locations for sampling, and include appropriate sampling procedures, in the updated SAP (see 40 CFR § 270.32(b)(2)).	The structural assessment shall occur within ten days of the completed removal of all waste from the unit. Notify the NMED at least 30 days prior to the assessment so they can participate. If the assessment reveals evidence of a release or damage, update SAP with locations for sampling, and appropriate sampling procedures.	Y	3	C	IOU	PUO/EP/CP	Notice to NMED, modification and update SAP, as necessary	Y	Indoor and outdoor units	N	Notify NMED 30 days before assessment, perform assessment within 10 days of removing last waste from unit.	
9.4.7	Closure Plans	103	The Permittees shall submit to the Department for its approval a closure plan for each permitted unit in accordance with 40 CFR § 264.112, incorporated herein by reference, and include in it all of the requirements addressed in this Permit Part, as applicable. Closure plans for indoor and outdoor permitted units (see Permit Sections 9.1.2 and 9.1.3) are contained in Attachment G (Closure Plans).	Submit a closure plan to NMED for approval for each permitted unit which includes all requirements addressed in this Permit Part, as applicable. Current plans are contained in Attachment G.	Y	3	CP	IOU	PUO/EP/CP	Modification, closure Plan to NMED	Y	Indoor and outdoor units	N	N	
9.4.7	Closure Plans	103	The closure plans shall, at a minimum, describe how each permitted unit will be closed to meet the closure performance standards in Permit Section 9.2.	Closure plans shall describe how each permitted unit will be closed to meet the closure performance standards in Permit Section 9.2.	Y	18	CP	IOU	PUO/EP/CP	N	N	Indoor and outdoor units	N	See Section 9.2	
9.4.7	Closure Plans	103	The closure plan shall include a SAP in accordance with Permit Section 9.4.7.1.	Closure plan will include a SAP.	Y	18	CP	IOU	PUO/EP/CP	N	N	Indoor and outdoor units	N	See Section 9.2	
9.4.7	Closure Plans	103	The schedule for each closure plan (*see* 40 CFR § 264.112(b)(6)) shall meet the requirements of Permit Section 9.4.1.	The schedules for closure plans shall meet the requirements of Permit Section 9.4.1.	Y	18	CP	IOU	PUO/EP/CP	N	N	Indoor and outdoor units	N	See Section 9.4.1	
9.4.7.1	Sampling and Analysis Plan	103	(1) verifies decontamination of surfaces, structures, and all related equipment; and (2) determines whether a release of hazardous constituents to any environmental media has occurred.	SAPs shall verify decontamination complete and document any releases of hazardous constituents.	Y	18	CP	IOU	PUO/EP	N	N	Indoor and outdoor units	N	N	
9.4.7.1	Sampling and Analysis Plan	103	All SAPs shall, at a minimum, include: (3) List of Hazardous Constituents. A list of hazardous constituents to be sampled and analyzed shall be submitted for each permitted unit. The list shall include all hazardous constituents as defined in Permit Section 1.8. The Permittees may propose to the Department in the SAP a list of constituents limited only to those contained within the hazardous wastes managed at the permitted unit, if the Permittees can demonstrate that the Facility Operating Record is complete with respect to the history of hazardous waste management operations at the permitted unit undergoing closure. The list of hazardous constituents shall be utilized to select the analytical methods capable of detecting those constituents.	SAPs shall include all hazardous constituents managed at the unit (if FOR complete) which shall be used to select analytical methods for the SAP.	Y	18	CP	IOU	PUO/EP	N	N	Indoor and outdoor units	N	N	
9.4.7.1	Sampling and Analysis Plan	103	(4) Site Plan for Verification and Soil Samples. The site plan shall include: a. a figure depicting the boundaries of the permitted unit and verification and soil sampling locations. The locations shall include, but not be limited to, where applicable: discharge points (e.g., storm water run-off locations); sumps and catch basins; secondary containment areas; conveyance systems (e.g., pipe drains, drainage swales); locations of spills or other releases of hazardous waste or hazardous constituents during operation of the unit; loading and unloading areas; other potential release locations; and Permit required sampling grid location points (see Permit Sections 9.4.7.1.i and 9.4.7.1.ii(a) and (b)); and b. rationale for the number and locations of samples. (5) Type of Samples. The type of samples to be collected (e.g., wipe, core, chip, soil) and the rationale for the selection of sample types must be identified. (6) Sampling Methods. A description of the approved EPA SW-846 sampling methods and procedures that will be used to collect each type of sample must be included. (7) Analytical Methods. A description of the approved EPA SW-846 laboratory analytical methods that will be used to measure hazardous constituent concentrations must be included. (8) Quality Assurance and Quality Control Procedures. The SAP must include a description of the quality assurance and quality control (QA/QC) procedures that include, but are not limited to: a. duplicates, trip blanks, equipment blanks; b. a description of methods for decontamination of re-usable sampling equipment; and c. a description of all sample preservation, handling, labeling, and chain-of-custody procedures.	The SAP shall include a sampling location plan, types of samples to be collected, sampling methods, analytical methods, and QA/QC procedures.	Y	18	CP	IOU	PUO/EP	N	N	Indoor and outdoor units	N	N	

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Appendix 1
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9.4.7.1.i	Decontamination Verification Sampling Grid for Indoor Units or Structures	104	The Permittees shall collect one verification sample as described at Section 9.4.4.1 every 250 square feet or less in loading and unloading zones and one verification sample every 900 square feet or less on floors, walls (up to 11 feet from the floor, or another height approved by the Department), and ceilings (lower than 11 feet high, or another height approved by the Department). If the permitted unit (e.g., TA-54 Area G storage shed 8) or the structures related to the permitted unit (e.g., modular unit 35 at TA-54 Area L) have walls with areas less than 900 square feet, the Permittees shall collect at least one verification sample from each wall, floor, and, if applicable, ceiling. If the Permittees have proposed an alternative decontamination method pursuant to Permit Section 9.4.3.1, the Permittees shall also propose an alternative sampling method in their closure plan. The Permittees shall collect samples at all additional locations identified in Permit Section 9.4.7.1.ii.a where applicable.	Collect one verification sample every 250 square feet or less in loading and unloading zones and every 900 square feet or less on floors, walls (up to 11 feet from the floor, or height approved by NMED), and ceilings (lower than 11 feet high, or height approved by NMED). If the permitted unit or associated structures have walls with areas less than 900 square feet collect at least one verification sample from each wall, floor, and, ceiling. If the alternative decontamination method is approved an alternative sampling method will be proposed in the closure plan. Also collect samples at all additional locations identified in Permit Section 9.4.7.1.ii.	Y	18	C	IU	PUO/EP	NMED approval needed for alternative methods	Y	Indoor units	N	N	
9.4.7.1.ii	Soil Sampling for Outdoor Storage Units	105	The Permittees shall collect soil samples at the outdoor storage units from the soils below the sub-grade, from the soils beneath the pad at the interface of fill and native soil or tuff, and from the following locations: (1) One sample for every 250 square feet in loading and unloading zones; (2) One sample for every 900 square feet under the pad; (3) One sample at each discharge point (storm water run-off locations); (4) One sample at the discharge point of any underground piping; (5) One sample directly beneath all sumps and catch basins; (6) One sample at all secondary containment areas; (7) One sample at all joints and intersections of piping; and (8) One sample every 30 feet beneath the axis of the lowest portions of any open conveyance drainage system in any permitted unit that has sloped flooring (see 40 CFR § 270.32(b)).	Collect soil samples at outdoor storage units from the soils below the sub-grade, from the soils beneath the pad at the interface of fill and native soil or tuff, and from every 255 sq ft in loading zone, 900 sq ft under pad, each discharge point, under sumps and catch basins, secondary containment areas, at each joint in piping, and every 30 feet beneath axis of lowest portions of drainage systems in any unit with sloped floors.	Y	18	C	OU	PUO/EP	N	N	Outdoor units	N	N	
9.4.8	Amendment of the Closure Plan	105	The Permittees shall submit a permit modification request (see 40 CFR § 264.112(c) and Part 270) to seek authorization of a change in the approved closure plan upon the occurrence of events listed in 40 CFR § 264.112(c)(2), which is incorporated herein by reference. The request must include a copy of the amended closure plan and all proposed modifications to the plan. The Permittees shall amend a permitted unit's closure plan whenever: (1) newly identified hazardous constituents are determined to have been managed at the unit; and (2) new sampling locations are determined as a result of the records review and structural assessment (see Permit Section 9.4.6) (see 40 CFR §§ 264.112(c)(2)(iii)).	Submit a permit modification request for a change in the approved closure plan, including a copy of the amended closure plan and all proposed modifications to the plan, whenever: new hazardous constituents are identified at the unit; or new sampling locations are determined from records review or structural assessment.	Y	3	M	IOU	PUO/EP/CP	Modification	Y	Indoor and outdoor units	N	See Permit Section 9.4.6	
9.4.9	Variance to Decontamination Verification Standards	105	The Permittees may seek approval of a variance from the decontamination verification wipe standards in Permit Section 9.4.4.1 for surfaces and related equipment at indoor and outdoor units by submitting to the Department a written request for a determination that attainment of the standards are impracticable because of the inherent properties of the materials subjected to wipe sampling. The request shall include, at a minimum, the following: (1) a statement of the proposed variance; (2) a discussion of decontamination activities performed in accordance with the SAP; (3) a discussion of the properties of the equipment or surface pertinent to the requested variance; (4) the analytical data demonstrating the effectiveness of decontamination, as well as the analytical data demonstrating the chemical or physical properties of the equipment or surface that inhibit attainment of the standards; (5) a justification for why further decontamination beyond the requirements in the SAP would not be effective; (6) all other supporting documentation and analyses; and (7) any other information requested by the Department.	Approval of a variance from the decontamination verification wipe standards in Permit Section 9.4.4.1 may be sought if attainment of the standards are impracticable. Must include the proposed variance; decon activities performed; properties of materials pertinent to variance; data on decon effectiveness and attainment of standards; Justification for no further decon; supporting documentation and requested information.	Y	18	CL	IOU	PUO/EP	Written request to NMED.	Y	Indoor and outdoor units	N	N	
9.5	Closure Certification Report to the Department	106	At the completion of closure of any permitted unit, the Permittees shall submit, by registered mail, a closure report (Report) for Department review and approval. The Report shall document that the permitted unit has been closed in compliance with the specifications in this Permit Part and the approved closure plans. The Report shall summarize all activities conducted during closure including, but not limited to, the following: (1) the results of all investigations; (2) remediation waste management; (3) decontamination; (4) decontamination verification and soil sampling activities; and (5) results of all chemical analyses and other characterization activities. The Permittees shall submit the Report to the Department no later than 60 days after completion of closure of a permitted unit. The Department may require interim reports that document the progress of closure. The certification must be signed by the Permittees and by an independent professional engineer registered in the State of New Mexico (see 40 CFR § 264.115).	Submit within 60 days of the completion of closure, by registered mail, a closure report, summarizing all activities conducted during closure, for Department review and approval within 60 days of the completion of closure. The report must be certified by the Permittees and an independent registered engineer. Interim reports may also be required by NMED.	Y	8	C	IOU	PUO/EP/CP	Closure Report and Interim Reports, if requested.	Y	Indoor and outdoor units	N	60 days after completion of closure.	

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9.5	Closure Certification Report to the Department	106	The report will document the permitted unit's closure and contain, at a minimum, the following information: (6) a copy of the certification pursuant to 40 CFR § 264.115; (7) any variance, and the reason for the variance, from the activities approved in this closure plan; (8) documentation of the structural assessment and records review conducted under this Permit Part 9; (9) a summary of all sampling results, showing: a. sample identification; b. sampling location; c. data reported; d. detection limit for each analyte; e. a measure of analytical precision (e.g., uncertainty, range, variance); f. identification of analytical procedure; g. identification of analytical laboratory; (10) a QA/QC statement on analytical data validation and decontamination verification; (11) the location of the file of supporting documentation, including: a. field logbooks; b. laboratory sample analysis reports; c. QA/QC documentation; d. chain-of-custody forms; (12) storage or disposal location of hazardous waste resulting from closure activities; (13) a copy of the Human Health and Ecological Risk Assessment Reports, if a site-specific risk assessment was conducted pursuant to Permit Sections 11.10.4 and 11.10.5 for the permitted unit; and (14) a certification statement of the accuracy of the Closure Report.	The closure report will contain all required information.	Y	8	C	IOU	PUO/EP/CP	Closure report	Y	Indoor and outdoor units	N	60 days after completion of closure.	
9.5	Closure Certification Report to the Department	107	If the Permittees leave waste in place, they shall submit to the Department a survey plat as required by 40 CFR § 264.116 in conjunction with the closure certification report. Documentation supporting the independent registered professional engineer's certification must be furnished to the Department before the Permittees are released from the financial assurance requirements for closure under 40 CFR § 264.143.	If waste is left in place a survey plat will be submitted and a registered engineer's certification submitted to be released from financial assurance requirements.	Y	2	C	IOU	PUO/EP/CP	Survey plat and Certification to NMED	Y	Indoor and outdoor units	N	60 days after completion of closure.	
10.1	Post-Closure Care	108	The Permittees shall conduct all post-closure care activities in accordance with the provisions in 40 CFR §§ 264.117 through 264.120, which are incorporated herein by reference.	Conduct post-closure care activities in accordance with the provisions in 40 CFR §§ 264.117 through 264.120.	Y	19	P	IOU	PUO/EP/CP	N	Y	Indoor and outdoor units	Clean closed units	30 year duration	
10.1	Post-Closure Care	108	In accordance with 40 CFR § 264.117(a)(1), post-closure care for any permitted unit subject to these requirements must begin after completion of closure of the unit, continue for 30 years after that date, and must consist of at least the following: (1) monitoring and reporting in accordance with the requirements of 40 CFR Part 264, Subparts F, N, and X; and (2) maintenance and monitoring of waste containment systems in accordance with the requirements of 40 CFR Part 264, Subparts F, N, and X.	Post closure care must continue for 30 years. Monitoring, maintenance, and reporting in accordance with the requirements of 40 CFR Part 264, Subparts F, N, and X.	Y	19	C	IOU	PUO/EP/CP	N	Y	Indoor and outdoor units	Clean closed units	30 year duration	
10.1	Post-Closure Care	108	The Permittees shall submit a request to modify this Permit in accordance with 40 CFR § 270.42 to conduct post-closure care. The request shall be submitted to the Department no later than 90 days from the date that the Permittees or the Department determine that the permitted unit will be closed with waste in place. The Permittees shall submit with the permit modification request a copy of the post-closure care plan (see 40 CFR § 270.32(b)(2)).	Submit permit modification and post closure care plan within 90 days of closure with waste in place.	Y	3	M	IOU	PUO/EP/CP	Modification and post closure care plan	Y	Indoor and outdoor units	Clean closed units	Within 90 days of closure	
10.1	Post-Closure Care	108	The Permittees shall conduct all post-closure care activities in accordance with the provisions of the Department-approved post-closure care plans at Attachment H (*Post-Closure Plans*) (*see* 40 CFR § 264.117(d)).	Post -closure care will be done in accordance with post-closure care plans in Attachment H.	Y	19	PC	IOU	PUO/EP/CP	N	N	Indoor and outdoor units	Clean closed units	30 year duration	
10.1.1	Post-Closure Care Plan	109	The Permittees shall ensure that the post-closure care plan identifies all the activities after closure of each permitted unit for which clean closure is not achieved, and the frequency of these activities, including but not limited to: (1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with 40 CFR Part 264, Subparts F, N, and X; (2) A description of the planned maintenance activities, and frequencies at which they will be performed to ensure: a. the integrity of the cap and final cover or other containment systems in accordance with the requirements of 40 CFR Part 264, Subparts F, N, and X; b. the function of the monitoring equipment in accordance with the requirements of 40 CFR Part 264, Subparts F, N, and X; (3) The name, address and phone number of the person(s) or office to contact regarding the unit during the post-closure care period; (4) Sampling and analysis of waste, contaminated media, or both, during the post-closure period: (5) Security requirements during the post-closure period; (6) Inspection requirements, including schedules: (7) The alternative requirements, if any, under 40 CFR § 264.110(c), that apply to the closed unit, or a reference to the enforceable document containing those requirements: and (8) Post-closure care plans shall define the beginning date and duration of post-closure care in accordance with this Permit Section 10.1. (see 40 CFR §§ 264.118(a) and (b)) After final closure has been certified, the person or office specified in Permit Section 10.1.1.3 of the Permit Part shall keep the approved post-closure care plan during the remainder of the post-closure period (see 40 CFR § 264.118(c)).	The post-closure care plan shall identify all the activities after closure of each permitted unit for which clean closure is not achieved, and the frequency of these activities.	Y	8	PC	IOU	PUO/EP/CP	Post-closure plan	Y	Indoor and outdoor units	Clean closed units	Within 90 days of closure	

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10.1.2	Amendment of the Post-Closure Care Plan	109	The Permittees shall submit a request for a permit modification in accordance with 40 § CFR 264.118(d) to authorize a change in the approved post-closure care plan. The written request must include a copy of the amended post-closure care plan for review and approval by the Department. The Permittees may submit a request to the Department to modify the permit to amend the post-closure care plan at any time during the life of the unit or the post-closure care period (see 40 CFR § 264.118(d)(1)). The Permittees shall submit a request for a permit modification to authorize a change in the approved post-closure care plan whenever: (1) changes in the operating plans or facility design affect the approved post-closure care plan; (2) there is a change in the expected year of final closure; (3) events which occur during the active life of the facility affect the approved post-closure care plan; or (4) the Permittees request the Department to apply alternative requirements to a regulated unit under 40 CFR § 264.110(c). (see 40 CFR § 264.118(d)(2)(i-iv))	Submit a request for a permit modification to authorize a change in the approved post-closure care plan when necessary.	Y	3	M	IOU	PUO/EP/CP	Permit modification and amended post-closure plan	Y	Indoor and outdoor units	Clean closed units	N	
10.2.1	Notification Requirements	110	The Permittees shall submit to the Department a record of the type, location, and quantity of hazardous wastes and hazardous constituents remaining within each permitted unit. For hazardous wastes disposed of before January 12, 1981, the Permittees shall identify the type, location, and quantity of the hazardous wastes in accordance with all records retained (see 40 CFR §§ 264.119(a) and 270.32(b)(2)).	Submit to NMED a record of the type, location, and quantity of hazardous wastes and hazardous constituents remaining within each permitted unit. For hazardous wastes disposed of before January 12, 1981, identify hazardous wastes in accordance with all records retained.	Y	2	PC	A	PUO/EP/CP	Waste report for each permitted unit.	Y	All	N	N	
10.2.1	Notification Requirements	110	The Permittees shall maintain in the Facility Operating Record copies of all documentation submitted to the local zoning authority or the authority with jurisdiction over local land use.	FOR shall contain all documentation submitted to authority with jurisdiction over land use.	Y	14	U	A	PUO/CP	N	Y	All	N	N	
10.2.2	Record Requirements	110	The Permittees shall maintain documentation of certification of closure of all hazardous waste management units in accordance with 40 CFR § 264.119(b), which is incorporated herein by reference (see 40 CFR § 270.32(b)(2)).	Maintain documentation of certification of closure of all hazardous waste management units.	Y	14	C	A	EP/CP	N	Y	All	N	N	
10.2.2	Record Requirements	110	The Permittees shall record a notation on the deed to the Facility property, or on some other instrument that is normally examined during the title search, that will in perpetuity notify any potential purchaser of the property of the following: (1) the land has been used to manage hazardous wastes; (2) its use is restricted under 40 CFR Part 264, Subpart G; and (3) the survey plat and record of the type, location, and quantity of hazardous wastes managed at the permitted unit a the Facility have been filed with the Department. (see 40 CFR §§ 264.119(b)(1) and 270.32(b)(2))	Record a notation on the deed to the Facility property, or on some other instrument that will in perpetuity notify any potential purchaser hazardous waste has been managed on the land, its use is restricted, and a record has been filed with NMED.	Y	11	PT	A	LT/EP/CP	N	Y	All	Clean closed units	N	
10.2.3	Completion of Post-Closure Requirements	111	No later than 60 days after completion of the established post closure care period for each permitted unit required to conduct post-closure care, the Permittees shall submit to the Department, by registered mail, a certification that the post-closure care for the hazardous waste management unit was performed in accordance with the requirements of the approved Post-Closure Care Plan. The certification must be signed by the Permittees and an independent, New Mexico registered professional engineer. Documentation supporting the independent, registered professional engineer's certification must be furnished to the Department in conjunction with the certification (see 40 CFR §§ 264.120 and 270.32(b)(2)).	Submit to NMED, by registered mail, a certification signed by an independent registered engineer that post-closure care for the hazardous waste management unit was performed in accordance with the requirements of the approved Post-Closure Care Plan within 60 days of completion.	Y	2	PC	A	CP/EP/PUO	Certification	Y	All	Clean closed units	60 days after end of post-closure care period	
11.2	Corrective Action Requirements Under the Permit	112	Corrective action for releases from hazardous waste management units that commingle with releases originating from other sources shall be conducted under the Consent Order.	Corrective action for releases from hazardous waste management units that commingle with releases originating from other sources shall be conducted under the Consent Order.	Y	20	CO	A	PUO/EP	N	N	All	Clean closed units	N	
11.2	Corrective Action Requirements Under the Permit	112	The Permittees shall conduct corrective action under this Permit (or other enforceable document) rather than under the Consent Order, in the following circumstances: (1) new releases and newly discovered releases of hazardous waste or hazardous constituents from hazardous waste management units at the Facility; (2) the closure and post-closure care requirements of 40 CFR Part 264, Subpart G, as they apply to hazardous waste management units at the Facility; (3) implementation of the controls, including long-term monitoring, for any SWMUs or AOCs on Attachment K (Listing of SWMUs and AOCs), Table K-2 (Corrective Action Complete with Controls); and (4) any corrective action conducted under this Part (11) to address releases of hazardous waste or hazardous constituents that occur or are discovered after the date on which the Consent Order terminates. (see § III.W.1 of the Consent Order)	Requirements for corrective actions under the Permit include new or newly discovered releases; closure/post-closure requirements; implementation of controls/monitoring for SWMUs and AOCs in Attachment K; corrective action under Part 11 for occurrences after termination of the Consent Order.	Y	20	CA	A	PUO/EP/CP	N	N	All	N	After termination of Consent Order	
11.2	Corrective Action Requirements Under the Permit	112	In circumstances where Corrective Action is required under the Permit, the Permittees shall conduct corrective action pursuant to this Permit in accordance with §§ 74-4-4(A)(5)(h) and (i) and 74-4-4.2(B) of the HWA. The Permittees shall coordinate all corrective action conducted under this Permit with corrective action conducted under the Consent Order.	Conduct corrective action pursuant to this Permit in accordance with §§ 74-4-4(A)(5)(h) and (i) and 74-4-4.2(B) of the HWA and coordinate with Consent Order.	Y	20	CA	A	PUO/EP/CP	N	N	All	Clean closed units	N	
11.2	Corrective Action Requirements Under the Permit	112	Any SWMU or AOC for which corrective action is required that is not subject to corrective action under the Consent Order shall be subject to corrective action under this Permit Part and 40 CFR §§ 264.100 and 264.101, which are incorporated herein by reference.	Any SWMU or AOC for which corrective action is required that is not subject to corrective action under the Consent Order shall be subject to corrective action under this Permit Part.	Y	20	CA	A	PUO/EP/CP	N	N	All	Clean closed units	N	

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11.2.1	Identification of SWMUs and AOCs Requiring Corrective Action	113	Attachment K, Table K-1 (SWMUs and AOCs Requiring Corrective Action) lists SWMUs and AOCs at the Facility for which corrective action is required under the Consent Order. If any additional SWMUs or AOCs are discovered while the Consent Order is in effect, corrective action for such units shall be conducted under the Consent Order. Table K-1 will be modified to include any newly identified SWMUs and AOCs for tracking purposes. Attachment K, Table K-2 lists SWMUs and AOCs at the Facility for which corrective action is complete with controls. Attachment K, Table K-3 (Corrective Action Complete without Controls) lists SWMUs at the Facility for which corrective action is complete without controls and that do not require monitoring. Attachment J, Table J-1 (Active Portion of the Facility) lists hazardous waste management units at the Facility and their status (e.g., interim status, permitted operating, closed).	If additional SWMUs or AOCs are discovered while the Consent Order is in effect, corrective action for such units shall be conducted under the Consent Order and Table K-1 will be modified.	Y	20	CO	A	EP	Modify Table K-1	Y	All	Clean closed units	N	
11.3.1	Groundwater Monitoring	113	The Permittees shall conduct groundwater monitoring for all regulated units, as defined in 40 CFR § 264.90(a)(2), at the Facility subject to the groundwater monitoring requirements of 40 CFR Part 264, Subpart F and subject to corrective action under Permit Section 11.2. The Permittees shall coordinate such monitoring with the monitoring conducted under the Interim Facility Wide Groundwater Monitoring Plans, and any Department-approved Long-term Groundwater Monitoring Plans for the Facility, as approved under the Consent Order. So long as the Consent Order is in effect, fulfilling the groundwater monitoring requirements of the Consent Order shall fulfill the groundwater monitoring requirements of 40 CFR §§ 264.90 through 100. The Permittees shall notify the Department, in writing, of any new detections of hazardous waste and hazardous waste constituents in groundwater at any location that was received during the previous month as described in Permit Section 11.3.1.1. For purposes of this Permit Section (11.3), "hazardous constituent" includes explosive compounds, any toxic pollutant identified at 20.6.2.7.WW NMAC and any contaminant listed in 20.6.2.3103 NMAC. Such detections of hazardous waste or hazardous constituents shall also be highlighted in the periodic groundwater monitoring report submitted to the Department, in accordance with Permit Section 11.3.2, summarizing the groundwater monitoring results for the appropriate monitoring period.	Conduct groundwater monitoring for regulated units, subject to the groundwater monitoring requirements of 40 CFR Part 264, Subpart F and subject to corrective action under Permit Section 11.2, the Interim Facility Wide Groundwater Monitoring Plan and any other approved plans. Notify NMED in writing of detections of hazardous constituents during the previous month and in the periodic groundwater monitoring report.	Y	20	W	A	EP/CP	Written notification	Y	All with GW monitoring	N	Report the following month	
11.3.1.1	Notification of Detections	114	By the fifteenth day of each month, the Permittees shall review the analytical data from all groundwater monitoring conducted under this Permit that was received during the previous month, and shall record the date of such review in the Operating Record. If the fifteenth day of a month is a non-business day, then the review shall be conducted by the next business day. The Permittees shall notify the Department orally within one business day after review of the analytical data if such data show detection of a contaminant in a well screen interval or spring at a concentration that exceeds the groundwater cleanup levels established in Permit Section 11.4.1 if that contaminant has not previously exceeded such water quality standard or cleanup level in such well screen interval or spring. The Permittees shall notify the Department in writing within fifteen days after review of the analytical data if the data show any of the following:	Review ground water data by 15th of each month. If analyte exceeds GW cleanup level (Section 11.4.1) orally notify NMED within one business day. Notify in writing within 15 days of review if detect previously undetected organic, metal or inorganic; constituent at 1/2 or more of the standard or screening level ; perchlorate is detected at 2 ug/L or more; metal or inorganic at 2x background; constituent at greater than 1/2 the cleanup level and has increase for three samplings. Submit letter report and give email notification in accordance with Section 1.13.	Y	20	W	A	EP/CP	Oral notification, written letter report, email notification	Y	All with GW monitoring	N	One day oral, 15 day written, email in accordance with 1.13.	
11.3.1.1	Notification of Detections	114	(1) Detection of a hazardous constituent that is an organic compound in a spring or screened interval of a well if that hazardous constituent has not previously been detected in the spring or screened interval; (2) Detection of a hazardous constituent that is a metal or other inorganic compound at a concentration above the background level in a spring or screened interval of a well if that hazardous constituent has not previously exceeded the background level in the spring or screened interval; (3) Detection of a hazardous constituent in a spring or screened interval of a well at a concentration that exceeds one-half the cleanup level established in Permit Section 11.4.1, if that hazardous constituent has not previously exceeded one-half such standard or screening level in the spring or screened interval; (4) Detection of perchlorate in a spring or screened interval of a well at a concentration of 2 µg/L or greater if perchlorate at such concentration has not previously been detected in the spring or screened interval; (5) Detection of a hazardous constituent that is a metal or other inorganic compound in a spring or screened interval of a well at a concentration that exceeds two times the background level for the third consecutive sampling of the spring or screened interval; and (6) Detection of a hazardous constituent in a spring or screened interval of a well at a concentration that exceeds one-half the cleanup level established in Permit Section 11.4.1 and that has increased for the third consecutive sampling of that spring or screened interval.	Review ground water data by 15th of each month. If analyte exceeds GW cleanup level (Section 11.4.1) orally notify NMED within one business day. Notify in writing within 15 days of review if detect previously undetected organic, metal or inorganic; constituent at 1/2 or more of the standard or screening level ; perchlorate is detected at 2 ug/L or more; metal or inorganic at 2x background; constituent at greater than 1/2 the cleanup level and has increase for three samplings. Submit letter report and give email notification in accordance with Section 1.13.	Y	20	W	A	EP/CP	Oral notification, written letter report, email notification	Y	All with GW monitoring	N	One day oral, 15 day written, email in accordance with 1.13.	
11.3.1.1	Notification of Detections	114	The written notification shall be submitted to the Department in a letter report in table format that includes, but is not limited to, the date or dates of the sampling event, an identification of the well or spring, the location of the well or spring, the depth of the screened interval of the well or zone sampled, a list of the analytical data that triggered the reporting requirement, any known issues with sample quality, and the specific category for which the data is reported under this Permit Section (11.3.1.1). Previous data to be evaluated under this Permit Section (11.3.1.1) to determine whether specified levels have been exceeded, or to determine trends in data for three consecutive samples shall include only data acquired after September 30, 2009. For the purpose of the notice requirements of this Permit Section (11.3.1.1), the background level of a contaminant shall be the most recent Department-approved 95 percent upper tolerance limit for the background for that contaminant set forth in the Groundwater Background Investigation Report approved by the Department, including any approved revisions, as it may be revised or replaced with another document. The Permittees shall give notice by e-mail to persons on the e-mail notification list of groundwater analytical data reported under this Permit Section (11.3.1.1) in accordance with Permit Section 1.13.	Review ground water data by 15th of each month. If analyte exceeds GW cleanup level (Section 11.4.1) orally notify NMED within one business day. Notify in writing within 15 days of review if detect previously undetected organic, metal or inorganic; constituent at 1/2 or more of the standard or screening level ; perchlorate is detected at 2 ug/L or more; metal or inorganic at 2x background; constituent at greater than 1/2 the cleanup level and has increase for three samplings. Submit letter report and give email notification in accordance with Section 1.13.	Y	20	W	A	EP/CP	Oral notification, written letter report, email notification	Y	All with GW monitoring	N	One day oral, 15 day written, email in accordance with 1.13.	

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11.3.1.2	Source Identification and Corrective Action	115	The Permittees shall provide written notification to the Department if a detected concentration exceeds the cleanup levels established in Permit Section 11.4.1, within seven business days of discovery of the exceedance in accordance with 40 CFR § 264.99(h)(1). The Permittees shall include in the notification whether or not they intend to attempt to make a determination that the source of the detected hazardous constituent is not the regulated unit, in accordance with 40 CFR § 264.99(i)(1). The Permittees shall submit a report to the Department within 90 days of such determination that demonstrates that the source of the detected hazardous constituent is not the regulated unit, in accordance with 40 CFR § 264.99(i)(2). If the source of the detection is the regulated unit, the Permittees shall determine the nature and extent of the release in accordance with Permit Section 11.8.5, and take all steps necessary to contain and otherwise mitigate the release. The Permittees shall conduct a corrective measures evaluation (CME) in accordance with the procedures included in Permit Section 11.8.6 (Corrective Measures Evaluation), if the Department determines that such evaluation is necessary in order to select a remedy to achieve the cleanup levels included in Permit Section 11.4.1.	Provide written notification to the Department if a detected concentration exceeds the cleanup levels established in Permit Section 11.4.1, within seven business days of discovery, including if source determination to be made. Report within 90 days if source is not the permitted unit. If source is regulated unit determine nature and extent, and contain and mitigate release. Conduct CME if directed by NMED.	Y	2	IN	A	EP/CP	Written notification within 7 days, Report source within 90 days, CME if directed by NMED.	Y	All with GW monitoring	N	Excedence within 7 business days, Source within 90 days.	
11.3.2	Groundwater Monitoring Reporting	115	The Permittees shall submit to the Department periodic monitoring reports in accordance with the schedule in the Interim Facility Wide Groundwater Monitoring Plan (IFGMP) or the Department-approved Long-term Groundwater Monitoring Plans. The reports shall be prepared in accordance with Permit Section 11.12. The Permittees shall submit to the Department periodic groundwater monitoring reports for all groundwater monitoring data generated pursuant to this Permit. The Permittees shall propose a schedule for such reporting to the Department for approval. Such reporting shall be coordinated with, and may be combined with, the reporting conducted under § IV.A.6 of the Consent Order.	Submit to NMED periodic monitoring reports in accordance with the schedule in the Interim Facility Wide Groundwater Monitoring Plan or the Department-approved Long-term Groundwater Monitoring Plans. The Permittees shall propose schedule for reporting all GW data pursuant to permit.	Y	8	CA	A	EP/CP	Periodic GW reports	Y	All with GW monitoring	N	Schedule to be proposed.	
11.3.3	Corrective Action Beyond the Facility Boundary	116	The Permittees shall notify the Department, orally and in writing in accordance with Permit Section 1.9.12, upon discovering that a release of hazardous waste or hazardous constituents has migrated beyond the Facility boundary or has the potential to migrate beyond the Facility boundary. In the event that hazardous waste or hazardous constituents migrate beyond the Facility boundary, the Permittees shall implement corrective action beyond the Facility boundary as necessary to protect human health and the environment, unless the Permittees demonstrate to the Department that, despite the Permittees' best efforts, the Permittees are unable to obtain the necessary permission to undertake such actions. The Permittees are not relieved of any responsibility to clean up a release that has migrated beyond the Facility boundary where off-site access has been denied. On-site measures to address such releases shall be taken, to be determined on a case-by-case basis (see 40 CFR § 264.101(c)).	Notify NMED, orally and in writing in accordance with Permit Section 1.9.12,if a release of hazardous waste or hazardous constituents has migrated, or has the potential to migrate beyond the Facility boundary mitigate as possible.	Y	2	R	A	EP/CP	Written notification (Section 1.9.12)	Y	All with GW monitoring	N	In accordance with Permit Section 1.9.13	
11.3.4	Off-Site Access	116	To the extent that any corrective action requirement of this Permit requires access to property not owned or controlled by the Permittees, the Permittees shall use their best efforts to obtain access from the present owners of such property to conduct the required activities and to allow the Department access to such property to oversee such activities. In the event that the Permittees do not obtain such access, the Permittees shall notify the Department in writing regarding its best efforts and its failure to obtain such access.	Permittees shall use their best efforts to obtain access from owners of property not owned or controlled to conduct required activities and allow NMED access to such property. If access is not obtained, NMED shall be notified in writing regarding best efforts and failure to obtain access.	Y	20	P	A	EP	Written notification of failure	Y	All with GW monitoring	N	N	
11.3.5	Newly Discovered Releases	116	The Permittees shall notify the Department, orally and in writing in accordance with Permit Section 1.9.12, upon discovery of any previously unknown release of hazardous waste or hazardous constituents into soil, sediment, surface water, or groundwater. The Department may determine that further investigation of the release is needed. The Department may also determine that corrective action is needed to address the release. If the Department makes such a determination, it will notify the Permittees in writing.	Notify NMED, orally and in writing in accordance with Permit Section 1.9.12, upon discovery of any previously unknown release of hazardous waste or hazardous constituents into soil, sediment, surface water, or groundwater. NMED may determine if further investigation or corrective action is necessary and notify Permittee in writing.	Y	2	R	A	EP/CP	Oral and written notification	Y	All with GW monitoring	N	N	
11.3.6	Field Activities	116	The Permittees shall notify the Department in writing of any field sampling or other field activities undertaken pursuant to any corrective action requirement of this Permit, and shall allow the Department to collect split samples upon request of the Department. For such sampling or other field activities, the Permittees shall notify the Department no less than 15 days prior to the commencement of such sampling.	Notify NMED in writing at least 15 days before any field sampling or other field activities undertaken pursuant to corrective action requirements of this Permit, and allow NMED to collect split samples upon request.	Y	2	IN	A	EP/CP	Written notification	Y	All with GW monitoring	N	At least 15 days before action.	
11.3.7	Health and Safety Plan	116	The Permittees shall prepare Health and Safety Plans for all field activities. The Health and Safety Plans shall be prepared in accordance with all applicable provisions of this Permit and all local, State and federal regulations and be developed as stand-alone documents.	Prepare Health and Safety Plans for all field activities in accordance with all applicable provisions of this Permit and all local, State and federal regulations.	Y	20	HSP	A	EP	N	Y	All with GW monitoring	N	N	
11.3.8	Recordkeeping	117	The Permittees shall maintain all monitoring data, including sampling procedures, records of field measurements, laboratory analytical data, quality assurance/quality control documents, chain-of-custody records, well completion reports and periodic monitoring reports in the Facility Operating Record for a minimum of three years after the end of the operating life of the Facility and a minimum of three years after the end of any post-closure care periods.	Maintain all monitoring data and records, well completion reports and periodic monitoring reports in the FOR a minimum of 3 years after operating life of the Facility and at least 3 years after any post-closure care periods.	Y	14	U	A	EP/PUO/CP	N	Y	All with GW monitoring	N	N	

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11.4	Cleanup Levels	117	The Department and the New Mexico Water Quality Control Commission (WQCC) have separately specified certain cleanup goals and methods of calculating cleanup levels. The Department has also specified certain reporting requirements for sites where corrective action is required in response to releases to the environment. In general, the Department has selected a human health target risk level of 10-5 for carcinogenic substances and a Hazard Index (HI) of 1.0 for non-carcinogenic substances as cleanup goals for establishing site-specific cleanup levels for one or more contaminants for which toxicological data are published. The Permittees shall follow the cleanup and screening levels described in this Permit Part in implementing the corrective action requirements of this Permit. In addition, cleanup levels for the protection of the environment shall address ecological risk consistent with the Department's guidance for assessing ecological risk as specified in Permit Section 11.5.	The Permittees shall follow the cleanup and screening levels described in this Permit Part and in Part 11.5 in implementing the corrective action requirements of this Permit.	Y	20	CL	A	PUO/EP/CP	N	N	All undergoing closure	N	N	
11.4.1	Groundwater Cleanup Levels	117	The cleanup levels for all contaminants in groundwater shall be the WQCC groundwater quality standards, 20.6.2.3103 NMAC, the cleanup levels for toxic pollutants calculated in accordance with 20.6.2.7.WW NMAC, and the drinking water maximum contaminant levels (MCLs) adopted by EPA under the federal Safe Drinking Water Act (42 U.S.C. §§ 300f to 300j-26) or the New Mexico Environmental Improvement Board (EIB), 20.7.10 NMAC. If both a WQCC water quality standard and an MCL have been established for an individual substance, then the lower of the levels shall be the cleanup level for that substance. The most recent version of NMED's Tap Water Screening Levels listed in Table A-1 of Technical Background Document for Development of Soil Screening Levels (as updated) shall be used to establish the cleanup level if either a WQCC standard or an MCL has not been established for a specific substance. In the absence of an NMED tap water screening level then the EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites (RSLs) for tap water shall be used. If no WQCC groundwater standard or MCL has been established for a contaminant for which toxicological information is published, the Permittees shall use a target excess cancer risk level of 10-5 for carcinogenic substances and a HI of 1.0 for non-carcinogenic substances as the basis for proposing a cleanup level for the contaminant. If the background concentration of an inorganic constituent, as established in accordance with Permit Section 11.10.6, exceeds the standard then the cleanup level is the background concentration for that specific substance. Any cleanup level based on a risk assessment must be submitted to the Department for its review and approval. The Permittees shall give notice by e-mail to persons on the e-mail notification list in accordance with Permit Section 1.13 of a submittal to the Department under this Permit Section (11.4.1).	GW cleanup levels shall be the WQCC groundwater quality standards, cleanup levels for toxic pollutants calculated in accordance with 20.6.2.7.WW NMAC, and the drinking water maximum contaminant levels from EPA or the New Mexico Environmental Improvement Board. The lowest value shall apply. If no standard exists then NMED's Tap Water Screening Levels will apply or if no screening level, then EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites (RSLs) for tap water shall be used. If tox data exists the Permittees may propose a cleanup level based on 10^{-5} risk or HI of 1.0 for approval.	Y	20	CL	A	EP	If cleanup level calculated.	Y	All with GW monitoring	N	N	
11.4.1.1	Groundwater Cleanup Level for Perchlorate	118	If, during the term of this Permit, the WQCC adopts a groundwater quality standard for perchlorate, or EPA or the EIB adopts an MCL for perchlorate, such standard or MCL shall be the cleanup level in accordance with Permit Section 11.4.1. If perchlorate is detected, the Permittees shall evaluate the nature and extent of the perchlorate contamination. In the absence of a groundwater quality standard or MCL, if perchlorate is detected at concentrations at or greater than 4 µg/L, then the cleanup level shall be established using a HI of 1.0 in accordance with Permit Section 11.4.1 above.	If a standard is adopted for perchlorate, the lowest shall apply. If detected, nature and extent will be determined. If detected at 4 ug/L or more the cleanup level will be established using a HI of 1.0.	Y	20	CL	A	EP	If cleanup level calculated.	Y	All with GW monitoring	N	N	
11.4.2	Soil and Sediment	118	The cleanup levels for soil and sediments shall be the cleanup levels for soil set forth in this Permit Section (11.4.2). Should the Permittees be unable to achieve the Soil Cleanup Levels established under Permit Section 11.4.2.1, they shall conduct risk assessments in accordance with Permit Sections 11.10.4 and 11.10.5. Any cleanup level based on a risk assessment must be submitted to the Department for its review and approval.	If the Permittees are unable to achieve the Soil Cleanup Levels established under Permit Section 11.4.2.1, they shall conduct risk assessments in accordance with Permit Sections 11.10.4 and 11.10.5 subject to NMED approval.	Y	20	RA	A	EP	Risk assessment , if necessary	Y	All units undergoing closure.	N	N	
11.5	Ecological Risk Evaluation	119	Screening for ecological risk shall be conducted using the LANL Ecological Screening Levels (ESLs), which are included in LANL's Screening Level Ecological Risk Assessment Methods, (as updated and approved by the Department). In the absence of ESLs, the Permittees may use U.S. EPA's ECO-SSLs with the Department approval. If the LANL's ESL database does not contain a screening value for the receptor or contaminant, the Permittees shall derive a screening level using the methodology in the Department's Guidance for Assessing Ecological Risks Posed by Chemicals: Screening-Level Ecological Risk Assessment (as updated) or in LANL's Screening Level Ecological Risk Assessment Methods. Ecological risk at each site shall be evaluated in a manner consistent with the Department's Guidance for Assessing Ecological Risks Posed by Chemicals: Screening-Level Ecological Risk Assessment (as updated) and, if appropriate, Assessing Ecological Risks Posed by Radionuclides: Screening-Level Radioecological Risk Assessment (as updated).	Ecological risk shall be determined using the LANL Ecological Screening Levels (ESLs). If there is none EPA ECO-SSLs may be used with NMED approval or a screening level may be derived with NMED approval.	Y	20	RA	A	EP/CP	Risk assessment , if necessary	Y	All units undergoing closure.	N	N	
11.6	Variance from Clean-Up Levels	119	The Permittees may seek a variance from a particular cleanup level in accordance with this Permit Section (11.6).	May seek a variance from a particular cleanup level in accordance with this Permit Section (11.6).	Y	20	CL	A	CP	Y, a variance request	N	All units undergoing closure.	N	N	
11.6.1	Water Quality Standards	120	For a cleanup level based on a water quality standard set by the WQCC, the Permittees may seek approval of an alternative abatement standard in accordance with the process specified in the WQCC Regulations, 20.6.2.4103.E and F NMAC.	If a cleanup level is based on a water quality standard set by the WQCC, approval of an alternative abatement standard may be sought in accordance with the process specified in the WQCC Regulations.	Y	2	CL	A	EP	Documentation of alternative	N	All units undergoing closure.	N	N	

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11.6.2	Other Cleanup Levels	120	For all other cleanup levels, the Permittees may seek approval of a variance from a cleanup level by submitting to the Department a written request for a determination that attainment of the cleanup level is impracticable. The request must include a demonstration that attaining the cleanup level is technically or physically impossible or otherwise impractical using potential corrective action remedies. The request shall include, at a minimum, the following: (1) a discussion of the effectiveness of potential corrective action remedies; (2) a discussion of whether the proposed variance would result in a present or future hazard to public health or the environment; (3) proposed alternate cleanup levels that are practical, based on potential corrective action remedies and a site-specific risk assessment; (4) all supporting documentation and analyses; and (5) any other information requested by the Department. If the Department approves the Permittees' impracticability demonstration, it will notify the Permittees in writing, and such notice will describe the specific action to be taken by the Permittees. The Permittees shall give notice by e-mail to persons on the e-mail notification list of a request under this Permit Section (11.6.2), in accordance with Permit Section 1.13.	Approval of a variance from all other cleanup levels may be requested in writing from NMED for a determination that attainment of the cleanup level is impracticable. The request will include discussion of effectiveness of remedies; weather there is an present or future hazard to health or environment; supporting documentation; any info requested by NMED. Response from NMED in writing with specific actions required if approved. Email notifications in accordance with Permit Section 1.13.	Y	2	CL	A	EP	Request for variance, email notice	Y	All units undergoing closure.	N	N	
11.7	Permit Modification for Corrective Action Complete	120	The Permittees may submit to the Department a request for a Class 3 permit modification to change the status of a SWMU or AOC from "corrective action required" to "corrective action complete". The permit modification will move the SWMU or AOC from Attachment K (Listing of SMWUs and AOCs), Table K-1 (SWMUs and AOCs Requiring Corrective Action) to Attachment K, Table K-2 (Corrective Action Complete with Controls) or Attachment K, Table K-3 (Corrective Action Complete without Controls) pursuant to the terms of this Permit. The Department's determination that corrective action is complete for a SWMU or AOC placed on either the Corrective Action Complete with Controls list or the Corrective Action Complete without Controls list will be subject to the Department's reservation of rights for new information or unknown conditions. In the event the Department seeks to require additional work at any SWMU or AOC contained on either of the two lists, the Department will initiate a permit modification to remove the SWMU or AOC from the corrective action complete lists.	Submit a Class 3 permit mod when corrective action complete or if NMED seeks additional actions they will initiate permit modification.	Y	3	M	A	CP/EP	Class 3 permit modification	Y	All units undergoing closure.	N	N	
11.7.1	Long-Term Monitoring and Maintenance of SWMUs and AOCs	121	The Permittees shall submit a Long-term Monitoring and Maintenance Plan as part of the permit modification request, as described in Permit Section 11.7, to change the status of a SWMU or AOC from corrective action required (i.e., listed in Attachment K, Table K-1) to corrective action complete with controls (i.e., listed in Attachment K, Table K-2). The Plan shall describe the combination of ongoing measures required to ensure protection of human health and the environment, such as maintenance of physical or institutional controls, monitoring of environmental media, or other measures. Upon approval, such plans shall be included in Attachment O (Long-term Monitoring and Maintenance Plans).	Submit a Long-term Monitoring and Maintenance Plan as part of the permit modification request, as described in Permit Section 11.7	Y	3	CA	A	EP	Long-term Monitoring and Maintenance Plan	Y	All units undergoing closure.	N	N	
11.8	Corrective Action Procedures	121	The Permittees shall conduct corrective action at sites where releases of hazardous waste or hazardous constituents have occurred. If corrective action is necessary to protect human health or the environment, the Department will direct the Permittees to complete one or more of the requirements included in this Permit Section (11.8). The conditions listed below apply to all corrective action conducted under this Permit unless otherwise specified in Permit Part 9 (Closure).	Conduct corrective action according to Section 11.8 at sites where releases of hazardous waste or hazardous constituents have occurred.	Y	20	P	A	EP/CP	N	N	All units undergoing closure.	N	N	
11.8.3	Emergency Interim Measures	123	The Permittees may determine, during implementation of site investigation activities, that emergency interim measures are necessary to address an immediate threat of harm to human health or the environment. The Permittees shall notify the Department within one business day of discovery of the facts giving rise to the threat, and shall propose emergency interim measures to address the threat. If the Department approves the emergency interim measures in writing, the Permittees may implement the proposed emergency interim measures without submitting an IM Work Plan. If circumstances arise resulting in an immediate threat to human health or the environment such that initiation of emergency interim measures are necessary prior to obtaining written approval from the Department, the Permittees shall notify the Department within one business day of taking the emergency interim measure. The notification shall contain a description of the emergency situation, the types and quantities of contaminants involved, the emergency interim measures taken, and contact information for the emergency coordinator handling the situation. The notification shall also include a written statement justifying the need to take the emergency action without prior written approval from the Department. This requirement shall not be construed to conflict with 40 CFR §§ 264.1(g)(8) or 270.61. The Permittees shall give notice by e-mail to persons on the e-mail notification list of a submittal made under this Permit Section (11.8.3), in accordance with Permit Section 1.13.	If emergency interim measures are necessary to address an immediate threat of harm to human health or the environment, notify NMED within one business day of discovery of the threat, and propose emergency interim measures to address the threat. May implement emergency action without IM Work Plan , if approved. Measure may be initiated immediately with notice within one day, if necessary to reduce threat. Notice to e-mail list in accordance with Permit Section 1.13.	Y	2	IM	A	PUO/CP	Notice to NMED and email list	Y	All units undergoing closure.	N	One day	
11.8.4	IM Work Plan Requirements	123	The IM Work Plan shall ensure that the interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and is consistent with, and integrated into, any final corrective measures at the Facility. The IM Work Plan shall include the interim measures objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.	The IM Work Plan shall mitigate any current or potential threat(s) to human health or the environment and be part of any final corrective measure. The IM Work Plan shall include the interim measures objectives, procedures for implementation, and schedules.	Y	20	IM	A	PUO/EP/CP	IM Work Plan	Y	All units requiring IM Work Plan	N		
11.8.4.1.i	Implementation and Completion of Approved IM Work Plan	123	The Permittees shall implement interim measures required under Permit Section 11.8.2 in accordance with the Department-approved IM Work Plan. The Permittees shall complete interim measures within 180 calendar days of the start of implementation of the interim measure.	Implement interim measures in accordance with approved IM Work Plan. Complete interim measures within 180 calendar days of the start of implementation of the interim measure.	Y	20	IM	A	EP	N	Y	All units requiring IMs	N	Complete IM within 180 days	
11.8.4.1.i	Implementation and Completion of Approved IM Work Plan	123	The Permittees may submit a written request to the Department to extend the period for implementation of the interim measure. The request must provide justification for the extension and a proposed schedule for completion of the interim measure. The Department will notify the Permittees, in writing, of the approval or disapproval of the request within 30 calendar days of receipt of the IM implementation extension request.	Submit written request with justification for extension. NMED will reply within 30 days.	Y	2	IM	A	EP/CP/PUO	Request for extension	Y	All units requiring IMs	N	NMED will reply in 30days	

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11.8.4.1.ii	Notification of Changes	124	The Permittees shall give notice to the Department as soon as possible of any planned changes, reductions or additions to the IM Work Plan required by the Department under Permit Section 11.8.2.1 or initiated by the Permittees in accordance with Permit Section 11.8.2.2.	Give notice to NMED of any planned changes, reductions or additions to the IM Work Plan.	Y	2	IM	A	EP	Notice	Y	All units requiring IM Work Plan changes	N	As soon as possible	
11.8.4.1.iii	Interim Measures Reports	124	The Permittees shall submit to the Department for review and approval, within 90 calendar days of completion of interim measures, an IM Report summarizing the results of interim measure implementation. The IM Report shall contain, at a minimum, the following information: (1) a description of interim measures implemented; (2) summaries of results; (3) summaries of all problems encountered during IM investigations; (4) summaries of accomplishments and/or effectiveness of interim measures; and, (5) copies of all relevant laboratory/monitoring data, maps, logs, and other related information.	Submit an IM Report to NMED for review and approval, within 90 days of completion of interim measures, summarizing interim measures implemented; results; problems encountered; accomplishments and/or effectiveness; and, copies of all relevant information.	Y	8	IM	A	EP	IM Report	Y	All units requiring IMs	Units with no IM	Within 90 days of completion of IM	
11.8.5.1.i	Investigation Work Plan Submittal	124	The Permittees shall submit to the Department Investigation Work Plans for permitted or interim status units where the Department determines that corrective action is necessary to investigate releases to the environment.	Submit an Investigation Work Plan for permitted or interim status units where NMED determines that corrective action is necessary.	Y	8	IN	A	EP	Investigation Work Plan	Y	All units requiring corrective action	Units with no corrective actions	N	
11.8.5.1.ii	Investigation Work Plan Requirements	124	Investigation Work Plans shall meet the requirements specified in Permit Section 11.12 (Reporting Requirements). Investigation Work Plans shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of contamination and the potential pathways of contaminant releases to the air, soil, surface water, and ground water. The Permittees shall provide sufficient justification and associated documentation that a release is not probable or has already been characterized if a unit or a media/pathway associated with a unit (ground water, surface water, soil, subsurface gas, or air) is not included in an Investigation Work Plan. Such deletions of a unit, medium, or pathway from the work plan(s) are subject to the approval of the Department. The Permittees shall provide sufficient written justification for any omissions or deviations from the minimum requirements specified in Permit Section 11.12 (Reporting Requirements). Such omissions or deviations are subject to the approval of the Department. In addition, Investigation Work Plans shall include all investigations necessary to ensure compliance with 40 CFR § 264.101.	Investigation Work Plans shall meet the requirements specified in Permit Section 11.12.	Y	8	IN	A	EP	N	Y	All units requiring corrective action	Units with no corrective actions	N	
11.8.5.1.iii	Historical Documents	125	The Permittees shall submit to the Department a summary of the historical information and assessment of potential contaminant releases relating to each unit in conjunction with the unit-specific Investigation Work Plan including the most complete, legible, extant (i.e., existing) copies of all associated photographic imprints, maps, figures, drawings, tables, attachments, enclosures, appendices and other relevant supporting documentation. Such summaries shall be submitted as separate documents and not as part of the site-specific Investigation Work Plans.	Submit to NMED a stand alone summary of the historical information and assessment of potential contaminant releases relating to each unit in conjunction with the unit-specific Investigation Work Plan.	Y	8	IN	A	EP	Summary report with information and assessment of all release at a unit.	Y	All units requiring corrective action	Units with no corrective actions	N	
11.8.5.1.iv	Investigation Work Plan Implementation	125	The Permittees shall implement Investigation Work Plans as approved by the Department. The Permittees shall notify the Department at least 15 days prior to any permit or corrective action-related field activity (e.g., drilling, sampling).	Investigation Work Plans must be approved by NMED. NMED must be notified at least 15 days prior to any permit or corrective action-related field activity.	Y	2	IN	A	EP	Notification of field activities	Y	All units requiring corrective action	Units with no corrective actions	At least 15 days prior to start	
11.8.5.2	Corrective Action Investigation Reports	125	The Permittees shall prepare and submit to the Department Investigation Reports for the investigations conducted in accordance with Investigation Work Plans submitted under Permit Section 11.8.5.1. The Permittees shall submit the Investigation Reports to the Department for review and approval in accordance with the schedules included in its approved Investigation Work Plans. The Investigation Reports shall include an analysis and summary of all required investigations conducted under this Permit. The summary shall describe the type and extent of contamination at each unit investigated, including sources and migration pathways, identify all hazardous waste or constituents present in all media, and describe actual or potential receptors. The Investigation Report shall also describe the extent of contamination (qualitative and quantitative) in relation to background levels for the area. If the Investigation Report concludes that further work is necessary, the report shall include a schedule for submission of a work plan for the next phase of investigation.	Submit Investigation Report to NMED with analysis and summary if all investigations performed for a unit. Include a summary of further work, if necessary.	Y	8	IN	A	EP	Investigation Report	Y	All units requiring corrective action	Units with no corrective actions	N	
11.8.5.2.i	Cleanup Levels	125	The Investigation Reports shall identify the applicable cleanup levels in accordance with Permit Sections 11.4 through 11.6 for each hazardous waste or hazardous constituent found at each unit where corrective action is required. The Permittees shall propose in the Investigation Report or in a subsequent Risk Assessment or Corrective Measures Evaluation appropriate cleanup levels for those hazardous wastes or hazardous constituents without established cleanup levels based upon human and ecological risk.	Investigation Reports shall identify the applicable cleanup levels in accordance with Permit Sections 11.4 through 11.6 for each hazardous waste or hazardous constituent found at each unit.	Y	8	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.8.5.2.ii	Requirement to Proceed	126	Based upon the Department's review of the Investigation Report, the Department will notify the Permittees of the need for further investigative action, if necessary, and inform the Permittees, if not already notified, of the need for a Corrective Measures Evaluation. The Department will notify the Permittees if corrective action is complete. If the Department determines that further investigation is necessary, the Department will require the Permittees to submit a work plan for approval that includes a proposed schedule for additional investigation(s).	NMED will determine the need for further investigative action, and inform the Permittees, of the need for a Corrective Measures Evaluation. If further investigation needed a work plan and schedule shall be submitted to NMED.	Y	8	IN	A	EP	Work Plan and schedule, if needed	N	All units requiring further investigations	Units with no further investigations	N	
11.8.5.3	Risk Assessment	126	The Permittees shall attain the cleanup goals outlined in Permit Sections 11.4 through 11.6. If the Department determines that the cleanup levels included in Permit Sections 11.4 and 11.5 cannot be achieved at a site, the Department will require performance of risk analyses to establish alternative cleanup levels. Such risk analyses shall be prepared in the format included in the Permit Section 11.12 (Reporting Requirements). The Permittees shall submit to the Department for approval a Risk Assessment Report in accordance with this Permit Section (11.8.5.3) according to the schedule set forth by the Department for sites where risk analyses are conducted.	If NMED determines cleanup levels included in Permit Sections 11.4 and 11.5 cannot be achieved, risk analyses will be done to establish alternative cleanup levels. The risk analyses shall use the format Permit Section 11.12.	Y	20	RA	A	EP	Risk assessment, If needed	N	All units unable to meet cleanup levels	Units with no corrective actions	TBD by NMED	
11.8.6.1	General	126	The Department will require corrective measures at a unit if the Department determines, based on the Investigation Report and other relevant information available to the Department, that there has been a release of contaminants into the environment at the site and that corrective action is necessary to protect human health or the environment from such a release. Upon making such a determination, the Department will notify the Permittees in writing. The Department will specify a date for the submittal of the necessary reports and evaluations in the written notification.	NMED will require CM based on Inv. Rep. and other information if necessary to protect human health and environment. Schedule TBD by NMED.	Y	20	CM	A	EP	TBD by NMED	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	

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11.8.6.2	Corrective Measures Evaluation Report	126	Following written notification from the Department that a corrective measures evaluation is required, the Permittees shall submit to the Department for approval a Corrective Measures Evaluation Report. The Permittees shall follow the Corrective Measures Evaluation Report format outlined in Permit Section 11.12 (Reporting Requirements). The corrective measures evaluation shall evaluate potential remedial alternatives and shall recommend a preferred remedy that will be protective of human health and the environment and that will attain the appropriate cleanup goals. The Corrective Measures Evaluation Report shall, at a minimum, comply with Permit Section 11.12 (Reporting Requirements) and include the following: (1) a description of the location, status, and current use of the site; (2) a description of the history of site operations and the history of releases of contaminants; (3) a description of site surface conditions; (4) a description of site subsurface conditions; (5) a description of on- and off-site contamination in all affected media; (6) an identification and description of all sources of contaminants; (7) an identification and description of contaminant migration pathways; (8) an identification and description of potential receptors; (9) a description of cleanup standards or other applicable regulatory criteria; (10) an identification and description of a range of remedy alternatives; (11) remedial alternative pilot or bench scale testing results; (12) a detailed evaluation and rating of each of the remedy alternatives, applying the criteria set forth in Permit Section 11.8.6.4 including costs for long-term monitoring and maintenance (Reporting Requirements); (13) an identification of a proposed preferred remedy or remedies; (14) design criteria of the selected remedy or remedies; and (15) a proposed schedule for implementation of the preferred remedy	If NMED determines a CME is required, it will be submitted in accordance with Permit Section 11.12.	Y	8	CM	A	EP	CME Report	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.6.3	Cleanup Standards	127	Following written notification from the Department that a corrective measures evaluation is required, the Permittees shall submit to the Department for approval a Corrective Measures Evaluation Report. The Permittees shall follow the Corrective Measures Evaluation Report format outlined in Permit Section 11.12 (Reporting Requirements). The corrective measures evaluation shall evaluate each of the remedy alternatives. The Permittees shall select corrective measures that are capable of achieving the clean-up standards and goals outlined in Permit Sections 11.4 through 11.6 (Clean-up Levels) including, as applicable, approved alternative clean-up goals established by a risk assessment.	Select CMs that are capable of achieving the clean-up standards and goals outlined in Permit Sections 11.4 through 11.6 including, as applicable, approved alternative clean-up goals established by a risk assessment.	Y	20	CM	A	EP	CME Report	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.6.4.i	Remedy Evaluation Criteria Threshold Criteria	127	The Permittees shall evaluate each of the remedy alternatives for the following threshold criteria. To be selected, the remedy alternative must: (1) be protective of human health and the environment; (2) attain media cleanup standards; (3) control the source or sources of releases so as to reduce or eliminate, to the extent practicable, further releases of contaminants that may pose a threat to human health and the environment; and (4) comply with applicable standards for management of wastes.	Selected remedies must meet requirements set forth in the Permit.	Y	20	CM	A	EP	CME Report	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.6.4.ii	Remedial Alternative Evaluation Criteria	128	The Permittees shall evaluate each of the remedy alternatives for the factors described in this Permit Section (11.8.6.4). These factors shall be balanced in proposing a preferred alternative.	Selected remedies must meet requirements set forth in the Permit.	Y	20	CM	A	EP	CME Report	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.6.4.iii	Long-term Reliability and Effectiveness	128	The remedy shall be evaluated for long-term reliability and effectiveness. This factor includes consideration of the magnitude of risks that will remain after implementation of the remedy; the extent of long-term monitoring, or other management or maintenance that will be required after implementation of the remedy; the uncertainties associated with leaving contaminants in place; and the potential for failure of the remedy. The Permittees shall give preference to a remedy that reduces risks with little long-term management, and that has proven effective under similar conditions.	Selected remedies must be evaluated for reliabiliuty and effectiveness, and meet requirements set forth in the Permit.	Y	20	CM	A	EP	CME Report	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.6.4.iv	Reduction of Toxicity, Mobility, or Volume	128	The remedy shall be evaluated for its reduction in the toxicity, mobility, and volume of contaminants. The Permittees shall give preference to a remedy that uses treatment to more completely and permanently reduce the toxicity, mobility, and volume of contaminants.	The remedy must reduce toxicity, mobility, and volume of contaminants.	Y	20	CM	A	EP	CME Report	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.6.4.v	Short-Term Effectiveness	128	The remedy shall be evaluated for its short-term effectiveness. This factor includes consideration of the short-term reduction in existing risks that the remedy would achieve; the time needed to achieve that reduction; and the short-term risks that might be posed to the community, workers, and the environment during implementation of the remedy. The Permittees shall give preference to a remedy that quickly reduces short-term risks, without creating significant additional risks.	The remedy shall be evaluated for its short-term effectiveness.	Y	20	CM	A	EP	CME Report	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.6.4.vi	Implementability	128	The remedy shall be evaluated for its implementability or the difficulty of implementing the remedy. This factor includes consideration of installation and construction difficulties; operation and maintenance difficulties; difficulties with cleanup technology; permitting and approvals; and the availability of necessary equipment, services, expertise, and storage and disposal capacity. The Permittees shall give preference to a remedy that can be implemented quickly and easily, and poses fewer and lesser difficulties.	The remedy shall be evaluated for its implementability.	Y	20	CM	A	EP	CME Report	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	

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11.8.6.4.vii	Cost	129	The remedy shall be evaluated for its cost. This factor includes a consideration of both capital costs, and operation and maintenance costs. Capital costs shall include, without limitation, construction and installation costs; equipment costs, land development costs; and indirect costs including engineering costs, legal fees, permitting fees, startup and shakedown costs, and contingency allowances. Operation and maintenance costs shall include, without limitation, operating labor and materials costs; maintenance labor and materials costs; replacement costs; utilities; monitoring and reporting costs; administrative costs; indirect costs; and contingency allowances for the entire anticipated post-closure care or long term monitoring period. All costs shall be calculated based on their net present value. Permittees shall give preference to a remedy that is less costly, but does not sacrifice protection of health and the environment.	The remedy shall be evaluated for its cost.	Y	20	CM	A	EP	CME Report	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.6.5	Approval of Corrective Measures Evaluation Report	129	The Department will review and approve the Corrective Measures Evaluation Report in accordance with Permit Section 11.9. If the Department disapproves the Corrective Measures Evaluation Report, the Department will notify the Permittees in writing of the Corrective Measures Evaluation Report's deficiencies and specify a due date for submission of a revised Corrective Measures Evaluation Report. Upon receipt of such notification of disapproval, the Permittees shall submit to the Department, within the specified time, a revised Corrective Measures Evaluation Report that corrects the deficiencies. If the Department approves the Corrective Measures Evaluation Report, the Department will notify the Permittees in writing.	The CME Report must be approved by NMED. If disapproved, NMED will specify why and give date for resubmission.	Y	8	CM	A	EP	Notification from NMED of approval or disapproval. Revised CME Report, if needed	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.6.6	Relationship to Corrective Action Requirements	129	The Corrective Measures Evaluation shall serve as a Corrective Measures Study for the purposes of RCRA compliance [see 55 Fed. Reg. 30875-77 (July 27, 1990) (proposed 40 CFR §§ 264.520 through 264.524)].	For RCRA compliance the Corrective Measures Evaluation shall serve as a Corrective Measures Study.	Y	5	CM	A	CP						
11.8.6.7	Statement of Basis	129	Upon approval of the Corrective Measures Evaluation Report, the Department will select a remedy or remedies for the unit. The Department may choose a different remedy from that recommended by the Permittees. The Department will issue a Statement of Basis for selection of the remedy, and will receive public comment on the remedy. The public comment period will extend for at least 45 days from the date of the public notice of the Statement of Basis. The Department will provide an opportunity for a public hearing on the remedy, at which all interested persons will be given a reasonable chance to submit data, views or arguments orally or in writing and to examine witnesses testifying at the hearing. The comment period will automatically be extended to the close of the public hearing. The public hearing will follow the hearing requirements under section 20.4.1.901.F NMAC. The Department will select a final remedy and issue a response to public comments to all commenters, after the end of the public comment period. In selecting a remedy, the Department will follow the public participation requirements applicable to remedy selection under 40 CFR §§ 270.41 through 270.42 and 20.4.1.901 NMAC. The administrative record for the Facility will be made available to the public for review at the Department's offices in Santa Fe, New Mexico. All significant written and signed comments, including e-mailed comments, will be considered by the Department prior to approving a final remedy or remedies. The Department's decision on the final remedy or remedies shall follow the requirements under section 20.4.1.901 NMAC, Secretary's Decision. The Department will issue a response to public comments at the time of the Department's final decision.	NMED will select a remedy from the CME. It may not be the recommended remedy. There will be a public hearing on the remedy as required by 20.4.4.901.F NMAC. NMED will consider written and oral public comments and select the final remedy.	Y	20	CM	A	EP	NMED will issue a Statement of Basis for remedy selection and schedule a public hearing and comment period	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.7.1	General	130	The Permittees shall implement the final remedy selected by the Department.	Implement the final remedy selected by the Department	Y	20	CM	A	EP	N	Y	All units requiring further corrective measures	Units with no further corrective measures	TBD by NMED	
11.8.7.2	Corrective Measures Implementation Plan	130	Within 90 days after the Department's selection of a final remedy, or as otherwise specified by the schedule contained in the approved Corrective Measure Evaluation Report or as specified by a schedule required by the Department in the written approval notification, the Permittees shall submit to the Department for approval a Corrective Measures Implementation Plan outlining the design, construction, operation, maintenance, and performance monitoring for the selected remedy, and a schedule for its implementation. The implementation plan shall be submitted to the Department for review in accordance with the procedures in Permit Section 11.9. The Corrective Measures Implementation Plan shall, at a minimum, include the following elements: (1) a description of the selected final remedy; (2) a description of the cleanup goals and remediation system objectives; (3) an identification and description of the qualifications of all persons, consultants, and contractors that will be implementing the remedy; (4) detailed engineering design drawings and systems specifications for all elements of the remedy; (5) a construction work plan; (6) an operation and maintenance plan; (7) the results of any remedy pilot tests; (8) a plan for monitoring the performance of the remedy, including sampling and laboratory analysis of all affected media; (9) a waste management plan; (10) a proposed schedule for submission to the Department of periodic progress reports; and (11) a proposed schedule for implementation of the remedy.	Submit a Corrective Measures Implementation Plan to NMED for approval that outlines the design, construction, operation, maintenance, and performance monitoring for the selected remedy, and a schedule for implementation.	Y	20	CM	A	EP	CMIP	Y	All units requiring further corrective measures	Units with no further corrective measures	Within 90 days of remedy selection, or determined by NMED	
11.8.7.3	Health and Safety Plan	131	The Permittees shall conduct all activities in accordance with a site-specific or facility-wide Health and Safety Plan during all construction, operation, maintenance, and monitoring activities conducted during corrective measures implementation.	Must have site-specific or facility-wide HASP.	Y	20	HSP	A	EP	N	Y	All units requiring further corrective measures	Units with no further corrective measures	Before start of corrective measures implimentation	

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11.8.7.4	Progress Reports	131	The Permittees shall submit to the Department progress reports in accordance with the schedule approved in the Corrective Measures Implementation Plan. The progress reports shall, at a minimum, include the following information: (1) a description of the remedy work completed during the reporting period; (2) a summary of problems, potential problems, or delays encountered during the reporting period; (3) a description of actions taken to eliminate or mitigate the problems, potential problems, or delays; (4) a discussion of the remedy work projected for the next reporting period, including all sampling events; (5) copies of the results of all monitoring, including sampling and analysis, and other data generated during the reporting period; and (6) copies of all waste disposal records generated during the reporting period.	Submit CMI progress reports	Y	8	CM	A	EP	Progress reports for each reporting period	Y	All units requiring further corrective measures	Units with no further corrective measures	At end of reporting period	
11.8.8.1	Remedy Completion Report	131	Within 90 days after completion of remedy, the Permittees shall submit to the Department a Remedy Completion Report. The report shall, at a minimum, include the following items: (1) a summary of the work completed; (2) a statement, signed by a registered professional engineer, that the remedy has been completed in accordance with the Department approved work plan for the remedy; (3) as-built drawings and specifications signed and stamped by a registered professional engineer; (4) copies of the results of all monitoring, including sampling and analysis, and other data generated during the remedy implementation, if not already submitted in a progress report; (5) copies of all waste disposal records, if not already submitted in a progress report; and (6) a certification, signed by a responsible official of DOE/LANS (owner/operator), stating: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."	Submit a certified Remedy Completion Report signed by registered engineer and DOE/LANS official.	Y	8	CM	A	EP	Remedy Completion Report	Y	All units requiring further corrective measures	Units with no further corrective measures	Within 90 days of completion	
11.8.9	Accelerated Clean-Up Process	132	If the Permittees identify a corrective action or measure that, if implemented voluntarily, will reduce risks to human health and the environment to levels acceptable to the Department, will reduce cost and/or will achieve cleanup of a SWMU, AOC or other contaminated location, ahead of schedule, the Permittees may implement the corrective measure as provided in this Permit Section (11.8.9), in lieu of the process established in Permit Section 11.8. The accelerated cleanup process shall be used at sites to implement presumptive remedies (see 61 Fed. Reg. 19432, 19439-40)(May 1, 1996) at small-scale and relatively simple sites where groundwater contamination is not a component of the accelerated cleanup, where the remedy is considered to be the final remedy for the site, and where the field work will be accomplished within 180 days of the commencement of field activities.	Permittee can implement accelerated, presumptive remedy at sites where GW contamination is not a factor, it is a final remedy, and work will be accomplished in 180 days.	Y	20	PR	A	EP	Accelerated Action Work Plan, notification to email list	Y	Units requiring further corrective measures where GW not a factor	Units with no further corrective measures, units where GW is a factor	Remedy complete within 180 days after start of field work	
11.8.9.1	Accelerated Corrective Measures Work Plan	133	The proposed accelerated cleanup will be documented in an Accelerated Corrective Measure Work Plan, which shall include: (1) a description of the proposed remedial action, including details of the unit or activity that is subject to the requirements of this Permit; (2) an explanation of how the proposed cleanup action is consistent with the overall corrective action objectives and requirements of this Permit; (3) the methods and procedures for characterization and remediation sample collection and analyses; and (4) a schedule for implementation and reporting on the proposed cleanup action. The Permittees shall notify the Department of the planned accelerated corrective measure a minimum of 30 days prior to the commencement of any accelerated field activity. The notification shall include the submittal of the Plan if not already submitted to the Department. The Permittees shall give notice by e-mail to persons on the e-mail notification list of a notification made under this Permit Section (11.8.9), in accordance with Permit Section 1.13. The Permittees shall obtain approval of an Accelerated Corrective Measures Work Plan prior to implementation. The Permittees shall prepare the Work Plan in general accordance with the requirements of Permit Section 11.12 (Reporting Requirements). The Work Plan shall be submitted to the Department for review in accordance with the procedures in Permit Section 11.9. If the Department disapproves the Accelerated Corrective Measures Work Plan, the Department will notify the Permittees in writing of the Plan's deficiencies and specify a due date for submission of a revised Accelerated Corrective Measures Work Plan. The Permittees shall include an implementation schedule in the revised Accelerated Corrective Measures Work Plan.	An Accelerated CMWP must be prepared. The ACMWP must be approved by NMED. If disapproved a revised plan must be prepared .Notify NMED 30 days prior to start of field activities	Y	8	CM	A	EP	Accelerated Action Work Plan	Y	Units requiring further corrective measures where GW not a factor	Units with no further corrective measures, units where GW is a factor	At least 30 days prior to start of field work	
11.8.9.2	Accelerated Corrective Measures Implementation	133	The Permittees shall implement the accelerated corrective measures in accordance with the approved Accelerated Corrective Measures Work Plan. Within 90 days of completion of the accelerated corrective measures, the Permittees shall submit to the Department for approval a Remedy Completion Report in a format approved by the Department in general accordance with Permit Section 11.12 (Reporting Requirements). If upon review, the Department identifies any deficiencies in the Remedy Completion Report, the Department will notify the Permittees in writing.	Submit a Remedy Completion Report in accordance with Permit Section 11.12.	Y	8	CM	A	EP	Remedy Completion Report	Y	Units requiring further corrective measures where GW not a factor	Units with no further corrective measures, units where GW is a factor	Within 90 days of completion	
11.8.10	Well Completion Report	133	The Permittees shall submit to the Department a well completion summary fact sheet within 30 days of completion of each intermediate-perched and regional aquifer well. Installation of all wells shall be considered complete when the well casing has been installed to its final position and the casing rim can be measured relative to the ground surface. Well development must be completed within 30 days of the completion of well installation. The 120-day clock for well completion report submittal for regional aquifer wells will begin 30 days after well completion, as defined above. The details of all drilling and well construction for alluvial depth wells shall be included in the site- or canyon-specific investigation reports. Investigation reports that document the results of the site-specific investigations shall be prepared in accordance with the format described in Section 11.12 of this Permit.	Submit to NMED a well completion summary fact sheet within 30 days of completion of each intermediate-perched and regional aquifer well. The 120 day clock for submittal of a well completion report for regional aquifer wells will begin 30 days after well completion.	Y	8	W	A	EP	Completion Summary Fact Sheet, Completion Report	Y	Units requiring further corrective measures where GW not a factor	Units with no further corrective measures, units where GW is a factor	Summary within 30 days, Completion report 120 days after that.	
11.9	Approval of Submittals	133	All documents shall be subject to the review and approval procedures described in Permit Section 1.9.18.	All submitted documents are subject to the review and approval procedures Section 1.9.18.	Y	8	P	A	EP/CP	N	Y	All	N	N	

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11.10	Methods and Procedures	133	The Permittees shall submit to the Department, for review and written approval, site-specific work plans for sites prior to the commencement of field activities where environmental investigation, corrective action, sampling or monitoring is being conducted or proposed. The site-specific work plans shall include the methods to be used to conduct all activities at each site or unit and shall be prepared in accordance with the format described in the Permit Section 11.12 (Reporting Requirements). The Permittees shall provide notification to the Department of corrective action field activities a minimum of 15 days prior to commencing the activity. The methods used to conduct investigation, remediation, and monitoring activities shall be sufficient to fulfill the requirements of this Permit and provide accurate data for the evaluation of site conditions, the nature and extent of contamination and contaminant migration, and for remedy selection and implementation, where necessary. The methods presented in this Permit Section (11.10) are minimum requirements for environmental investigation and sampling, and are not intended to include all methods that may be necessary to fulfill the requirements of this Permit. The methods for conducting investigations, corrective actions, and monitoring at the Facility must be determined based on the conditions and contaminants that exist at each site or unit.	Submit to NMED, for review and written approval, site-specific work plans, prepared in accordance with Sections 11.10 and 11.12, prior to start of field activities.	Y	8	IN	A	PUO/EP/CP	Work Plan	Y	All	Units requiring no further action	N	
11.10.1	Standard Operating Procedures	134	The Permittees shall provide a brief description of investigation, sampling or analytical methods and procedures in documents submitted to the Department that includes sufficient detail to evaluate the quality of the acquired data. Facility standard operating procedures (SOPs) shall not be substituted for such descriptions.	Provide a brief description of investigation, sampling or analytical methods and procedures in documents submitted to NMED that have sufficient detail to evaluate the quality of the data.	Y	8	IN	A	EP/CP	Work Plan	Y	All	Units requiring no further action	N	
11.10.2.2	Field Exploration Activities	135	Exploratory borings shall be advanced at locations specified in the Department approved site-specific work plans. The Department may require additional exploratory borings to fulfill the requirements of this Permit. Any additional boring locations, if required, will be determined or approved by the Department. The depths and locations of all exploratory and monitoring well borings shall be specified in the site-specific work plans submitted to the Department for approval prior to the start of the respective field activities. The Department must approve proposed unit aggregates grouped for the purpose of site investigation, remediation, and/or monitoring activities.	All borings shall be in accordance with approved work plans.	Y	20	IN	A	EP	Work plans	Y	All units requiring investigational borings	Units with no corrective actions	N	
11.10.2.3	Sub-Surface Features/Utility Geophysical Surveys	135	The Permittees shall conduct surveys to locate underground utilities, pipelines structures, drums, debris, and other buried features, including buried waste, in the shallow subsurface prior to the start of field exploration activities. The methods used to conduct the surveys, such as magnetometer, ground penetrating radar, resistivity, or other methods, shall be selected based on the characteristics of the site and the possible or suspected underground structures. The results of the surveys shall be included in the investigation reports submitted to the Department.	Conduct surveys to locate underground utilities, pipelines structures, drums, debris, and other buried features, including buried waste, in the shallow subsurface prior to the start of field exploration activities.	Y	20	IN	A	EP	N	Y	All units requiring investigational borings	Units with no corrective actions	Before start of field activities	
11.10.2.4.i	Drilling	135	Exploratory and monitoring well borings shall be drilled using the most effective, proven, and practicable method for recovery of undisturbed samples and potential contaminants. The Department shall approve the drilling methods selected for advancement of each boring prior to the start of field activities. Based on the drilling conditions, the borings shall be advanced using one of the following methods: (1) hollow-stem auger; (2) air rotary; (3) mud rotary; (4) percussion hammer; (5) sonic; (6) dual wall air rotary; (7) direct Push Technology (DPT); (8) cryogenic; and (9) cable tool.	Drilling requirements	Y	20	W	A	EP	N	N	All units requiring investigational borings	Units with no corrective actions	N	
11.10.2.4.i	Drilling	136	Hollow-stem auger or DPT drilling methods are preferred if vapor-phase or VOC contamination is known or suspected to be present. The type of drilling fluid used, if necessary, shall be approved by the Department prior to the start of drilling activities or prior to use at any site. All drilling equipment shall be in good working condition and capable of performing the assigned task. Drilling rigs and equipment shall be operated by properly trained, experienced, and responsible crews. The Permittees are responsible for ensuring that contaminants from another site or facility are not introduced into the site under investigation due to malfunctioning equipment or poor site maintenance. The drilling equipment shall be properly decontaminated before drilling each boring. Exploratory borings shall be advanced to unit- and location-specific depths specified or approved by the Department. The Permittees shall propose drilling depths in the site-specific work plans submitted for each subject area. Unless otherwise specified by the Department, the borings shall be advanced to the following minimum depths: (1) in all borings, 25 ft below the deepest detected contamination based on field screening, laboratory analyses, and/or previous investigations at the site; (2) 20 ft below the base of disposal units if contamination is not detected; (3) five ft below the base of shallow structures such as tanks, piping or building sumps, or other building structures; (4) 50 ft below the deepest known intermediate perched groundwater zone; (5) 50 ft below the top of the regional aquifer; and (6) depths specified by the Department based on regional or unit specific data needs.	Drilling requirements	Y	20	W	A	EP	N	N	All units requiring investigational borings	Units with no corrective actions	N	

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11.10.2.4.i	Drilling	136	The Permittees shall notify the Department as early as practicable if conditions arise or are encountered that do not allow the advancement of borings to the depths specified by the Department or proposed in an approved work plan so that alternative actions may be discussed. Precautions shall be taken to prevent the migration of contaminants between geologic, hydrologic, or other identifiable zones during drilling and well installation activities. Contaminant zones shall be isolated from other zones encountered in the borings. The drilling and sampling shall be accomplished under the direction of a qualified engineer or geologist who shall maintain a detailed log of the materials and conditions encountered in each boring. Both sample information and visual observations of the cuttings and core samples shall be recorded on the boring log. Known site features and/or site survey grid markers shall be used as references to locate each boring prior to surveying the location as described in Permit Section 11.10.2.5. The boring locations shall be measured to the nearest foot, and locations shall be recorded on a scaled site map upon completion of each boring. Trenching and other exploratory excavation methods shall follow the applicable general procedures outlined in this Permit Section. The particular methods proposed for use by the Permittees for exploratory excavation and sampling at any specific unit shall be included in the site-specific investigation work plan submitted to the Department. The Department will include any changes or additional requirements for conducting exploratory excavation and sampling activities at the subject unit in its response to the Permittees after review of the investigation work plans.	Drilling requirements	Y	20	W	A	EP	N	N	All units requiring investigational borings	Units with no corrective actions	N	
11.10.2.4.ii	Soil and Rock Sampling	137	Relatively undisturbed discrete soil and rock samples shall be obtained, where possible, during the advancement of each boring for the purpose of logging, field screening, and analytical testing. Generally, the samples shall be collected at the following intervals and depths: (1) at 5-ft intervals, 10-ft intervals, continuously, or as approved by the Department; (2) at the depth immediately below the base of the disposal unit or facility structure; (3) at the maximum depth of each boring; (4) at the depths of contacts or first encounter, observed during drilling, with geologic units of different lithology, changes in structural or textural characteristics, or zones of relatively higher or lower permeability; (5) of soil or rock types relatively more likely to sorb or retain contaminants than surrounding lithology; (6) at the depth of the first encounter, during drilling, with shallow or intermediate saturated zones; (7) at intervals suspected of being source or contaminated zones; (8) at the top of the regional aquifer; and (9) at other intervals approved or required by the Department. The sampling interval for the borings may be modified, or samples may be obtained from a specific depth, based on field observations. A decontaminated split-barrel sampler lined with brass sleeves, a coring device, or other method approved by the Department shall be used to obtain samples during the drilling of each boring. A split barrel sampler lined with brass sleeves or a coring device is the preferred sampling method for borehole soil, rock, and sediment sampling. The following procedures should be followed if a split barrel sampler is used. Upon recovery of the sample, one or more brass sleeves shall be removed from the split barrel sampler and the open ends of the sleeves covered with Teflon tape or foil and sealed with plastic caps fastened to the sleeves with tape for shipment to the analytical laboratory. If brass sleeves are not used, a portion of the sample shall be placed in pre-cleaned, laboratory-prepared sample containers for laboratory chemical analysis. The remaining portions of the sample shall be used for logging and field screening, as described in Permit Sections 11.10.2.4.v and 11.10.2.4.vi, respectively. Discrete samples shall be collected for field screening and laboratory analyses. Homogenization of discrete samples collected for analyses other than for VOC and SVOC analyses shall be performed by the analytical laboratory, if necessary. The Permittees may submit site-specific, alternative methods for homogenization of samples in the field to the Department for review and written approval. Samples to be submitted for laboratory analyses shall be selected based on: 1) the results of the field screening or mobile laboratory analyses; 2) the position of the sample relative to groundwater, suspected releases, or site structures; 3) the sample location relative to former or altered site features or structures; 4) suspected migration pathways and the stratigraphy encountered in the boring; and 5) the specific objectives and requirements of this Permit and the approved site-specific work plan. The proposed number of samples and analytical parameters shall be included as part of the site-specific work plan submitted to the Department for approval prior to the start of field investigation activities at each unit. The work plans shall allow for flexibility in modifying the project-specific tasks based on information obtained during the course of the investigation. Modifications to site-specific work plan tasks must be pre-approved in writing by the Department.	Soil and rock sampling requirements	Y	20	IN	A	EP	N	N	All units requiring soil and rock samples	Units with no corrective actions	N	
11.10.2.4.iii	Sediment Sampling	138	Sediment samples shall be collected in the same manner as described in Permit Section 11.10.2.4.ii for soil and rock sampling where borings are drilled to explore alluvial subsurface conditions. The sampling device shall be a decontaminated, hand-held stainless steel coring device, shelby tube, thin-wall sampler, or other device approved by the Department where sediment sampling is conducted without the use of the drilling methods described in Permit Section 11.10.2.4.i. The samples shall be transferred to pre-cleaned laboratory prepared containers for submittal to the laboratory. Samples obtained for volatiles analysis shall be collected using shelby tubes, thin-wall samplers, or other device approved by the Department. The ends of the samplers shall be lined with Teflon tape or aluminum foil and sealed with plastic caps fastened to the sleeves with tape for shipment to the analytical laboratory. The physical characteristics of the sediment (such as mineralogy, ASTM soil classification, AGI (American Geological Institute) rock classification, moisture content, texture, color, presence of stains or odors, and/or field screening results), depth where each sample was obtained, method of sample collection, and other observations shall be recorded in the field log.	Sediment sampling requirements	Y	20	IN	A	EP	N	N	All units requiring sediment sampling	Units with no corrective actions	N	

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11.10.2.4.iv	Drill Cuttings (Investigation Derived Waste)	138	Drill cuttings, excess sample material and decontamination fluids, and all other investigation derived waste (IDW) shall be contained and characterized using methods based on the boring location, boring depth, drilling method, and type of contaminants suspected or encountered. Proposed IDW management shall be included with the unit-specific investigation work plan submitted to the Department for approval prior to the start of field investigations. The Department shall approve the method of containment for drill cuttings prior to the start of drilling activities. Borings not completed as groundwater or vapor monitoring wells shall be properly abandoned in accordance with the methods listed in Permit Section 11.11.6 or other method approved by the Department. Borings completed as groundwater monitoring wells shall be constructed in accordance with the requirements described in Permit Section 11.11.3.2 (Well Construction Techniques).	Requirements for drill cuttings	Y	20	W	A	EP	N	N	All units producing drill cuttings	Units with no corrective actions	N	
11.10.2.4.v	Logging of Soil/Rock and Sediment Samples	139	Samples obtained from all exploratory borings and excavations shall be visually inspected and the soil or rock type classified in general accordance with ASTM D2487 (Unified Soil Classification System) and D2488, or AGI Methods for soil and rock classification. Detailed logs of each boring shall be completed in the field by a qualified engineer or geologist. Additional information, such as the presence of water-bearing zones and any unusual or noticeable conditions encountered during drilling shall be recorded on the logs. Field boring logs, test pit logs, and field well construction diagrams shall be converted to the format acceptable for use in final reports submitted to the Department. If requested, draft boring logs, test pit logs, and well construction diagrams shall be submitted to the Department for review within 30 days after the completion of each boring or monitoring well.	Requirements for logging of soil/rock and sediment samples	Y	20	IN	A	EP	N	N	All units requiring soil/rock and sediment sampling	Units with no corrective actions	N	
11.10.2.4.vi	Soil, Rock, and Sediment Sample Field Screening	139	Samples obtained from borings shall be screened in the field for evidence of the potential presence of contaminants. Field screening results shall be recorded on the exploratory boring and excavation logs. Field screening results are used as a general guideline to determine the nature and extent of possible contamination. In addition, screening results shall be used to aid in the selection of soil, rock, sediment, and vapor-phase samples for laboratory analysis. The Department recognizes that field screening alone will not detect the possible presence or full nature and extent of all contaminants that may be encountered at the site. The primary screening methods to be used shall include: 1) visual examination; 2) headspace vapor screening for VOCs; and 3) metals screening using X-ray fluorescence (XRF). Additional screening for site- or release-specific characteristics such as pH, High Explosives (HE), Total Petroleum Hydrocarbons (TPH), nitrates, or for other specific compounds using field test kits shall be conducted where appropriate. Headspace vapor screening shall target VOCs and shall be conducted by placing a soil or rock sample in a plastic sample bag or a foil-sealed container allowing space for ambient air. The container shall be sealed and then shaken gently to expose the soil or rock to the air trapped in the container. The sealed container shall be allowed to rest for a minimum of five minutes while vapors equilibrate. Vapors present within the sample bag headspace will then be measured by inserting the probe of the instrument in a small opening in the bag or through the foil. The maximum value and the ambient air temperature shall be recorded on the field boring or test pit log for each sample. The monitoring instruments shall be calibrated each day to the manufacturer's standard for instrument operation. A photo ionization detector (PID) equipped with a 10.6 or higher electron volt (eV) lamp, combustible gas indicator, or other instrument approved by the Department shall be used for VOC field screening. The limitations, precision, and calibration procedures of the instrument to be used for VOC field screening shall be included in the site-specific investigation work plan prepared for each unit. XRF may be used to screen soil, rock, or sediment samples for the presence of metals. XRF screening requires proper sample preparation and proper instrument calibration. Sample preparation and instrument calibration procedures shall be documented in the field logs. The methods and procedures for sample preparation and instrument calibration shall be approved by the Department prior to the start of field activities. Field XRF screening results for selected metals may be used in lieu of laboratory analyses upon written approval by the Department; however, the results shall, at a minimum, be confirmed by laboratory analyses at a frequency of 20 percent (1 sample per every 5 analyzed by XRF analysis). Field screening results are site- and boring-specific and the results vary with instrument type, media screened, weather conditions, moisture content, soil or rock type, and type of contaminant. The Permittees shall record on the field logs all conditions capable of influencing the results of field screening. The Permittees shall submit to the Department conditions potentially influencing field screening results as part of the site-specific investigation, remediation, or monitoring reports. At a minimum, the Permittees shall submit the samples with the greatest apparent degree of contamination, based on field observations and field screening, for laboratory analysis. The Permittees shall also use the location of the sample relative to groundwater, stratigraphic units or contacts, and the proximity to significant site or subsurface features or structures as a guideline for sample selection. In addition, the Permittees shall submit the samples with no or little apparent contamination, based on field screening, for laboratory analysis if the intention is to confirm that the base (or other depth interval) of a boring or other sample location is not contaminated.	Requirements for soil, rock, and sediment sample field screening	Y	20	IN	A	EP	N	N	All units requiring soil,rock, and sediment sampling	Units with no corrective actions	N	
11.10.2.4.vii	Soil, Rock, and Sediment Sample Types	140	The Permittees shall collect soil, rock, and sediment samples at the frequencies outlined in the site-specific investigation, corrective action, or monitoring work plans for each unit, or other site submitted by the Permittees for review and written approval by the Department. The samples collected shall be representative of the media and site conditions being investigated or monitored. The Permittees shall collect QA/QC samples to monitor the validity of the soil, rock, and sediment sample collection procedures. Field duplicates will be collected at a rate of ten percent. The Permittees shall collect equipment blanks from all sampling apparatus at a frequency of ten percent for chemical analysis. Equipment blanks shall be collected at a frequency of one per day if disposable sampling equipment is used. The Permittees shall collect field blanks at a frequency of one per day for each medium (with the exception of air samples) at each unit, or other site. Reagent blanks shall be used if chemical analytical procedures requiring reagents are employed in the field as part of the investigation or monitoring program. The resulting data will provide information on the variability associated with sample collection, handling, and laboratory analysis operations. The blanks and duplicates shall be submitted for laboratory analyses associated with the project-specific contaminants, data quality concerns, and media being sampled	Requirements for soil, rock, and sediment sample types	Y	20	IN	A	EP	N	N	All units requiring soil,rock, and sediment sampling	Units with no corrective actions	N	

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11.10.2.5	Sample Point and Structure Location Surveying	141	The horizontal and vertical coordinates of the top of each monitoring well casing and the ground surface at each monitoring well location shall be determined by a registered New Mexico professional land surveyor in accordance with the State Plane Coordinate System (§§ 47-1-49 through 56 NMSA 1978)). The surveys shall be conducted in accordance with Sections 500.1 through 500.12 of the Regulations and Rules of the Board of Registration for Professional Engineers and Surveyors Minimum Standards for Surveying in New Mexico. Horizontal positions shall be measured to the nearest 0.1-ft, and vertical elevations shall be measured to the nearest 0.01-ft. The Permittees shall prepare site map(s), certified by a registered New Mexico professional land surveyor, presenting all surveyed locations and elevations including relevant site features and structures for submittal with all associated reports to the Department. Site attributes (e.g., soil sample locations, sediment sample locations, springs, outfalls, pertinent structures, monitoring stations, as well as staked out sampling grids), shall be located by using the global positioning system (GPS), another the Department-approved surveying system, or by using a registered New Mexico Registered Land Surveyor using the methods described in the paragraph above. If using GPS, horizontal locations shall be measured to the nearest 0.5 ft. The Permittees shall provide the Department a statement of accuracy for survey data upon request.	Requirements for sample point and structure location surveying	Y	20	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.6	Subsurface Vapor-Phase Monitoring and Sampling	141	Samples of subsurface vapors shall be collected from vapor monitoring points from both discrete zones, selected based on investigation and field screening results, and as total well subsurface vapor samples where required by the Department. Subsurface vapor samples shall be collected using methods approved by the Department that will produce reliable and representative results from the zones subject to investigation or monitoring. During subsurface drilling explorations at sites where there is a potential for vapor-phase contamination to be present, soil gas samples shall be obtained at the Department-approved intervals for field screening and/or laboratory analyses. An inflatable packer shall be dropped to isolate the bottom two to three feet of the borehole. The isolated portion of the borehole shall be purged by slowly removing approximately five times the volume of the annular space beneath the packer, followed by a VOC measurement using a PID equipped with a 11.7 eV lamp, a combustible gas indicator or other instrument approved by the Department. The data shall be logged and also used for determining the samples to be sent to an analytical laboratory. The Permittees shall, as directed by the Department, collect vapor samples for field measurement of the following during subsurface vapor monitoring activities: (1) percent oxygen; (2) organic vapors (using a photo-ionization detector with an 11.7 eV (electron volt) lamp, a combustible vapor indicator or other method approved by the Department); (3) percent carbon dioxide; (4) static subsurface pressure; and (5) other parameters (such as carbon monoxide and hydrogen sulfide) as required by the Department. The Permittees also shall collect vapor samples for laboratory analysis of the following as required: (6) percent moisture; (7) VOCs; and (8) other analytes required by the Department. Vapor samples analyzed by the laboratory for percent moisture and VOCs shall be collected using SUMMA canisters or other sample collection method approved by the Department. The samples shall be analyzed for VOC concentrations by EPA Method TO-15, as it may be updated or equivalent VOC analytical method. Field vapor measurements, the date and time of each measurement, and the instrument used shall be recorded on a vapor monitoring data sheet. The instruments used for field measurements shall be calibrated daily in accordance with the manufacturer's specifications and as described in Permit Section 11.10.2.12. The methods used to obtain vapor-phase field measurements and samples shall be approved by the Department in writing prior to the start of air monitoring at each Facility site where vapor-phase monitoring is conducted.	Requirements for subsurface vapor-phase monitoring and sampling	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.7.i	Groundwater Monitoring Groundwater Levels	142	Groundwater level measurements shall be obtained at intervals required by the Department. Groundwater levels also shall be obtained prior to purging in preparation for a sampling event. Measurement data and the date and time of each measurement shall be recorded on a site monitoring data sheet. The depth to groundwater shall be measured to the nearest 0.01 feet. The depth to groundwater shall be recorded relative to the surveyed well casing rim or other surveyed datum. Groundwater levels shall be measured in all wells at the facility (or the number of wells otherwise specified in a Department approved groundwater monitoring work plan) within 14 days of the commencement of the monitoring activities. The Permittees shall conduct periodic measuring events, the schedule for which shall be provided in the groundwater monitoring work plans.	Requirements for taking GW levels	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.8	Groundwater Sampling	143	Groundwater samples shall initially be obtained from newly installed monitoring wells between ten and 30 days after completion of well development. Groundwater monitoring and sampling shall be conducted at an interval approved by the Department after the initial sampling event. The Permittees shall sample all saturated zones screened to allow entry of groundwater into each monitoring well during each sampling event (or as otherwise specified in the Department approved groundwater monitoring work plan). All requests for variances from the groundwater sampling schedule shall be submitted to the Department, in writing, no less than 30 days prior to the start of scheduled monitoring and sampling events. Groundwater samples shall be collected from all saturated zones, where possible, within exploratory borings not intended to be completed as monitoring wells prior to abandonment of the borings.	Requirements for GW sampling.	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.10.2.8.i	Well Purging	144	All zones in each monitoring well shall be purged by removing groundwater prior to sampling and in order to ensure that formation water is being sampled. Purge volumes shall be determined by monitoring, at a minimum, groundwater pH, specific conductance, dissolved oxygen concentrations, turbidity, redox potential, and temperature during purging of volumes and at measurement intervals approved by the Department in writing. The groundwater quality parameters shall be measured using a flow-through cell and instruments approved by the Department in writing. The volume of groundwater purged, the instruments used, and the readings obtained at each interval shall be recorded on the field monitoring log. In general, water samples may be obtained from the well after the measured parameters of the purge water have stabilized to within ten percent for three consecutive measurements. Well purging may also be conducted in accordance with the Department's Position Paper "Use of Low-Flow and other Non-Traditional Sampling Techniques for RCRA Compliant Groundwater Monitoring" (October 30, 2001). The Permittees may submit, to the Department for approval, a written request for a variance from the described methods of well purging for individual wells no later than 90 days prior to scheduled sampling activities. The Department will respond to the request, in writing, within 60 days of receipt of the variance request.	Requirements for well purging.	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.8.ii	Groundwater Sample Collection	144	Groundwater samples shall be obtained from each well after a sufficient amount of water has been removed from the well casing to ensure that the sample is representative of formation water. Groundwater samples shall be obtained using methods approved by the Department within 24 hours of the completion of well purging. Sample collection methods shall be documented in the field monitoring reports. The samples shall be transferred to the appropriate, clean, laboratory-prepared containers provided by the analytical laboratory. Sample handling and chain-of-custody procedures are described in Permit Section 11.10.2.9. Decontamination procedures shall be established for reusable water sampling equipment as described in Permit Section 11.10.2.11. All purged groundwater and decontamination water shall be temporarily stored at satellite accumulation areas or transfer stations in labeled 55-gallon drums, less-than-90-day storage areas or other containers approved by the Department until proper characterization and disposal can be arranged. The methods for disposal of purge/decontamination water shall be approved by the Department prior to removal from the temporary storage area. Disposable materials shall be handled as described in Permit Section 11.10.2.13. Groundwater samples intended for metals analysis shall be submitted to the laboratory as total metals samples. If required by the Department, the Permittees shall obtain groundwater samples for dissolved metals analysis to be filtered using disposable in-line filters with a 0.45 micron or other mesh size approved by the Department.	Requirements for groundwater sampling.	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.8.iii	Surface Water Sample Collection	145	Surface water samples shall be collected using methods approved by the Department. Samples shall be collected in clean laboratory-prepared sampling containers. The methods and instruments used to measure field parameters shall be approved by the Department prior to conducting surface water sampling. The sampling and monitoring techniques used and the measurements obtained shall be recorded in the field monitoring reports.	Requirements for surface water sampling.	Y	20	CA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.8.iv	Groundwater and Surface Water Sample Types	145	Groundwater samples shall be collected from each monitoring well and surface water samples shall be collected at predetermined locations. Field duplicates, field blanks, equipment rinsate blanks, reagent blanks, if necessary, and trip blanks shall be obtained for quality assurance during groundwater and surface water sampling activities. The samples shall be handled as described in Permit Section 11.10.2.9. Field duplicate surface water and groundwater samples shall be obtained at a frequency of ten percent. At a minimum, one duplicate sample per sampling event shall always be obtained. Field blanks shall be obtained at a frequency of no less than one per day per site or unit. Field blanks shall be generated by filling sample containers in the field with deionized water and submitting the samples, along with the groundwater or surface water samples, to the analytical laboratory for the appropriate analyses. Equipment rinsate blanks shall be obtained for chemical analysis at the rate of five percent but no fewer than one rinsate blank per sampling day. Equipment rinsate blanks shall be collected at a rate of one per sampling day if disposable sampling apparatus is used. Rinsate samples shall be generated by rinsing deionized water through unused or decontaminated sampling equipment. The rinsate sample then shall be placed in the appropriate sample container and submitted with the groundwater or surface water samples to the analytical laboratory for the appropriate analyses. Reagent blanks shall be obtained at a frequency of ten percent but no fewer than one per day per unit if chemical analyses requiring the use of chemical reagents are conducted in the field during water sampling activities. Trip blanks shall accompany laboratory sample bottles and shipping and storage containers intended for VOC analyses. Trip blanks shall consist of a sample of analyte-free deionized water prepared by the laboratory and placed in an appropriate sample container. The trip blank shall be prepared by the analytical laboratory prior to the sampling event and shall be kept with the shipping containers and placed with other water samples obtained from the site each day. Trip blanks shall be analyzed at a frequency of one for each shipping container of samples.	Types of water samples requiered.	Y	20	A	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.10.2.9	Sample Handling	146	At a minimum, the following procedures shall be used at all times when collecting samples during investigation, corrective action, and monitoring activities unless otherwise specified in a Department-approved work plan: (1) neoprene, nitrile, or other protective gloves shall be worn when collecting samples. New disposable gloves shall be used to collect each sample; (2) all samples collected of each medium for chemical analysis shall be transferred into clean sample containers supplied by the project analytical laboratory with the exception of soil, rock, and sediment samples obtained in brass sleeves, shelby tubes, thin wall samplers, or in Encore™ samplers. Upon recovery of the sample collected using split barrel samplers with brass sleeves, the brass sleeves shall be removed from the split barrel sampler and the open ends of the sleeves shall be lined with Teflon tape or foil and sealed with plastic caps. The caps shall be fastened to the sleeve with tape for storage and shipment to the analytical laboratory. Samples collected in shelby tubes or thin wall samplers shall be capped in a similar fashion. The sample depth and the top of the sample shall be clearly marked. Sample container volumes and preservation methods shall be in accordance with EPA SW-846 and established industry practices for use by accredited analytical laboratories. Sufficient sample volume shall be obtained for the laboratory to complete the method-specific QC analyses on a laboratory-batch basis; and (3) sample labels and documentation shall be completed for each sample following procedures included in the site-specific work plans approved by the Department. Immediately after the samples are collected, they shall be stored in a cooler with ice or other appropriate storage method until they are delivered to the analytical laboratory. Standard chain-of-custody procedures, as described in Permit Section 11.10.2.14.ii, shall be followed for all samples collected. All samples shall be submitted to the laboratory soon enough to allow the laboratory to conduct the analyses within the method holding times. All samples shall be submitted to the laboratory within 48 hours after their collection. Shipment procedures shall include the following: (4) individual sample containers shall be packed to prevent breakage and transported in a sealed cooler with ice or other suitable coolant or other EPA or industry-wide accepted method. The drainage hole at the bottom of the cooler shall be sealed and secured in case of sample container leakage. Temperature blanks shall be included with each shipping container; (5) each cooler or other container shall be delivered directly to the analytical laboratory; (6) glass bottles shall be separated in the shipping container by cushioning material to prevent breakage; (7) plastic containers shall be protected from possible puncture during shipping using cushioning material; (8) the chain-of-custody form and sample request form shall be shipped inside the sealed storage container to be delivered to the laboratory; (9) chain-of-custody seals shall be used to seal the sample-shipping container in conformance with EPA protocol; and (10) signed and dated chain-of-custody seals shall be applied to each cooler prior to transport of samples from the site.	Requirements for sample handling	Y	20	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.10	In-Situ Testing	147	In-situ permeability tests, remediation system pilot tests, stream flow tests, and other tests conducted to evaluate site and subsurface conditions shall be designed to accommodate specific site conditions and to achieve the test objectives. The testing methods shall be approved, in writing, by the Department prior to implementation. The tests shall be conducted in order to appropriately represent site conditions and in accordance with USGS, ASTM or other methods generally accepted by the industry. Detailed logs of all relevant site conditions and measurements shall be maintained during the testing events. If requested, a summary of the general test results, including unexpected or unusual test results and equipment failures or testing limitations shall be reported to the Department within 30 days of completion of the test. The summary shall be presented in a format acceptable to the Department and in general accordance with the report formats outlined in Permit Section 11.12 (Reporting Requirements). A report summarizing the results of each test shall be submitted to the Department within 120 days of completion of each test.	Requirements for in-situ testing	Y	20	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.11	Decontamination Procedures	148	The objective of the decontamination procedures is to minimize the potential for cross-contamination. A designated decontamination area shall be established for decontamination of drilling equipment, reusable sampling equipment and well materials. The drilling rig shall be decontaminated prior to entering the site or unit. Drilling equipment or other exploration equipment that may come in contact with the borehole shall be decontaminated by steam cleaning, by hot-water pressure washing, or by other method approved by the Department prior to drilling each new boring. Sampling or measurement equipment, including but not limited to, stainless steel sampling tools, split-barrel or core samplers, well developing or purging equipment, groundwater quality measurement instruments, water level measurement instruments, and reusable vapor sampling equipment shall be decontaminated in accordance with the following procedures or other applicable methods approved by the Department before each sampling attempt or measurement: (1) brush equipment with a wire or other suitable brush, if necessary or practicable, to remove large particulate matter; (2) rinse with potable tap water; (3) wash with nonphosphate detergent or other detergent approved by the Department (examples include Fantastik™, Liqui-Nox®) followed by a tap water rinse; (4) rinse with 0.1 molar nitric acid (to remove trace metals, if necessary) followed by a tap water rinse; (5) rinse with methanol (to remove organic compounds, if necessary) followed by a tap water rinse; (6) rinse with potable tap water; and (7) double rinse with deionized water. All decontamination solutions shall be collected and stored temporarily as described in Permit Section 11.10.2.11. Decontamination procedures and the cleaning agents used shall be documented in the daily field log.	Decontamination requirements	Y	20	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.10.2.12	Field Equipment Calibration Procedures	148	Field equipment requiring calibration shall be calibrated to known standards, in accordance with the manufacturers' recommended schedules and procedures. At a minimum, calibration checks shall be conducted daily, or at other intervals approved by the Department, and the instruments shall be recalibrated, if necessary. Calibration measurements shall be recorded in the daily field logs. If field equipment becomes inoperable, its use shall be discontinued until the necessary repairs are made. In the interim, a properly calibrated replacement instrument shall be used.	Field equipment calibration requirements	Y	20	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.13	Collection and Management of Investigation Derived Waste	149	Investigation derived waste (IDW) includes general refuse, drill cuttings, excess sample material, water (decontamination, development and purge), and disposable equipment generated during the course of investigation, corrective action, or monitoring activities. All IDW shall be properly characterized and disposed of in accordance with all Federal, State, and local rules and regulations for storage, labeling, handling, transport, and disposal of waste. The Permittees shall include a description of anticipated management of IDW as part of the applicable work plan submitted to the Department for approval prior to disposal of any IDW produced during investigation, corrective action, or monitoring activities. The Permittees may submit a request to the Department to dispose of IDW on a case-by-case basis prior to submittal of the applicable work plan. All water generated during sampling and decontamination activities shall be temporarily stored at satellite accumulation areas or transfer stations in labeled 55-gallon drums or other containers approved by the Department until proper characterization and disposal can be arranged. The IDW may be characterized for disposal based on the known or suspected contaminants potentially present in the waste. The methods for waste characterization and disposal of IDW shall be approved by the Department prior to removal from the temporary storage area.	Requirements for IWD	Y	20	MAN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.14i	Documentation of Field Activities General	149	Daily field activities, including observations and field procedures, shall be recorded on appropriate forms. The original field forms shall be maintained at the Facility. Copies of the completed forms shall be maintained in a bound and sequentially numbered field file for reference during field activities. Indelible ink shall be used to record all field activities. Photographic documentation of field activities shall be performed, as appropriate. The daily record of field activities shall include the following: (1) site or unit designation; (2) date; (3) time of arrival and departure; (4) field investigation team members including subcontractors and visitors; (5) weather conditions; (6) daily activities and times conducted; (7) observations; (8) record of samples collected with sample designations and locations specified; (9) photographic log; (10) field monitoring data, including health and safety monitoring if conditions arise that require modification of required work; (11) equipment used and calibration records, if appropriate; (12) list of additional data sheets and maps completed; (13) an inventory of the waste generated and the method of storage or disposal; and	Requirements for documenting field activities	Y	20	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.2.14.ii	Sample Custody	150	All samples collected for analysis shall be recorded in the field report or data sheets. Chain-of-custody forms shall be completed at the end of each sampling day, prior to the transfer of samples off site, and shall accompany the samples during shipment to the laboratory. A signed and dated custody seal shall be affixed to the lid of the shipping container. Upon receipt of the samples at the laboratory, the custody seals will be broken, the chain-of-custody form shall be signed as received by the laboratory, and the conditions of the samples shall be recorded on the form. The original chain-of-custody form shall remain with the laboratory and copies shall be returned to the relinquishing party. The Permittees shall maintain copies of all chain-of-custody forms generated as part of sampling activities. Copies of the chain-of-custody records (either paper copies or electronically scanned in PDF format) shall be included with all draft and final laboratory reports submitted to the Department.	Requirements for documenting field activities	Y	20	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.3	Chemical Analyses	150	The Permittees shall submit all samples for laboratory analysis to accredited contract laboratories. The laboratories shall use the most recent EPA and industry-accepted extraction and analytical methods for chemical analyses for target analytes as the testing methods for each medium sampled. The Permittees shall use the most sensitive laboratory methods (with the lowest detection limits) available unless specific conditions preclude their use. The Permittees shall submit a list of analytes and analytical methods to the Department, for review and written approval as part of each site-specific investigation, corrective action, or monitoring work plan. The detection limits for each method shall be less than applicable background, screening, and regulatory cleanup levels. The preferred method detection limits are a maximum of 20 percent of the cleanup, screening, or background levels. Analyses conducted with detection limits that are greater than applicable background, screening, and regulatory cleanup levels shall be considered data quality exceptions and the reasons for the elevated detection limits shall be reported to the Department. These data cannot be used for statistical analyses. All analytical data (non-detects, estimated blanks, and detects) shall be included in the electronic or magnetic copy of the investigation report in Microsoft™ Excel format with qualifiers as attached from the analytical laboratory. The summary tables shall include only detects of the data based on the corresponding qualifiers. The Permittees shall not censor the data based on detection limits, quantitation limits, or measurement uncertainty.	Requirements for chemical analysis of samples	Y	20	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.3.1	Laboratory QA/QC Requirements	151	The following requirements for laboratory QA/QC procedures shall be considered the minimum QA/QC standards for the laboratories employed by the Permittees that provide analytical services for environmental investigation, corrective action, and monitoring activities conducted at the Facility. The Permittees shall provide the names of the contract analytical laboratories and copies of the laboratory quality assurance manuals to the Department within 90 days of awarding a contract for analytical services to any contract laboratory.	Laboratory QA/QC Requirements	Y	20	AN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.10.3.1.i	Quality Assurance Procedures	151	Contract analytical laboratories shall maintain internal quality assurance programs in accordance with EPA and industry-wide accepted practices and procedures. At a minimum, the laboratories shall use a combination of standards, blanks, surrogates, duplicates, matrix spike/matrix spike duplicates (MS/MSD), blank spike/blank spike duplicates (BS/BSD), and laboratory control samples to demonstrate analytical QA/QC. The laboratories shall establish control limits for individual chemicals or groups of chemicals based on the long-term performance of the test methods. In addition, the laboratories shall establish internal QA/QC that meets EPA's laboratory certification requirements. The specific procedures to be completed are identified in the following sections.	Laboratory QA/QC Requirements	Y	20	AN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.3.1.ii	Equipment Calibration Procedures and Frequency	151	The laboratories' equipment calibration procedures, calibration frequency, and calibration standards shall be in accordance with the EPA test methodology requirements and documented in the laboratories' quality assurance and SQP manuals. All instruments and equipment used by the laboratory shall be operated, calibrated, and maintained according to manufacturers' guidelines and recommendations. Operation, calibration, and maintenance shall be performed by personnel who have been properly trained in these procedures. A routine schedule and record of instrument calibration and maintenance shall be kept on file at the laboratory.	Laboratory QA/QC Requirements	Y	20	AN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.3.1.iii	Laboratory QA/QC Samples	151	Analytical procedures shall be evaluated by analyzing reagent or method blanks, surrogates, MS/MSDs, BS/BSDs, and laboratory duplicates, as appropriate for each method. The laboratory QA/QC samples and frequency of analysis to be completed shall be documented in the cited EPA or DOE test methodologies. At a minimum, the laboratory shall analyze laboratory blanks, MS/MSDs, BS/BSDs, and laboratory duplicates at a frequency of one in twenty for all batch runs requiring EPA test methods and at a frequency of one in ten for non-EPA test methods. Laboratory batch QA/QC samples shall be specific to the project.	Laboratory QA/QC Requirements	Y	20	AN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.3.1.iv	Laboratory Deliverables	152	The laboratory analytical data package submitted to the Department shall be prepared in accordance with EPA-established Level II analytical support protocol. The laboratory analytical data package kept on file at the Facility shall be prepared in accordance with EPA-established Level III or IV analytical support protocol. The following shall be provided by the contract analytical laboratories to the Permittees in the analytical laboratory reports submitted to the Permittees either electronically, magnetically or in hard (paper) copy for each project: (1) transmittal letter, including information about the receipt of samples, the testing methodology performed, any deviations from the required procedures, any problems encountered in the analysis of the samples, any data quality exceptions, and any corrective actions taken by the laboratory relative to the quality of the data contained in the report; (2) sample analytical results, including sampling date; date of sample extraction or preparation; date of sample analysis; dilution factors and test method identification; soil, rock, or sediment sample results in consistent units (mg/kg) or micrograms per kilogram in dry-weight basis; water sample results in consistent units (milligrams per liter or micrograms per liter (µg/L)); vapor sample results in consistent units (ppm or µg/m3); and detection limits for undetected analytes. Results shall be reported for all field samples, including field duplicates and blanks, submitted for analysis; (3) method blank results, including detection limits for undetected analytes; (4) surrogate recovery results and corresponding control limits for samples and method blanks (organic analyses only); (5) MS/MSD and/or BS/BSD spike concentrations, percent recoveries, relative percent differences (RPDs), and corresponding control limits; (6) laboratory duplicate results for inorganic analyses, including relative percent differences and corresponding control limits; (7) sample chain-of-custody documentation; (8) holding times and conditions; (9) conformance with required analytical protocol(s); (10) instrument calibration; (11) blanks; (12) detection/quantitation limits; (13) recoveries of surrogates; (14) variability for duplicate analyses; (15) completeness; and (16) data report formats. The following data deliverables for organic compounds shall be required from the laboratory: (17) a cover letter referencing the procedure used and discussing any analytical problems, deviations, and modifications, including signature from authority representative certifying to the quality and authenticity of data as reported; (18) report of sample collection, extraction, and analysis dates, including sample holding conditions; (19) tabulated results for samples in units as specified, including data qualification in conformance with EPA protocol, and definition of data descriptor codes; (20) reconstructed ion chromatograms for gas chromatograph/mass spectrometry (GC/MS) analyses for each sample and standard calibration; (21) selected ion chromatograms and mass spectra of detected target analytes (GC/MS) for each sample and calibration with associated library/reference spectra; (22) gas chromatograph/electron capture device (GC/ECD) and/or gas chromatograph/flame ionization detector (GC/FID) chromatograms for each sample and standard calibration; (23) raw data quantification reports for each sample and calibrations, including areas and retention times for analytes, surrogates, and internal standards; (24) a calibration data summary reporting calibration range used and a measure of linearity [include decafluorotriphenylphosphine (DFTPP) and p-bromofluorobenzene (BFB) spectra and compliance with tuning criteria for GC/MS]; (25) final extract volumes (and dilutions required), sample size, wet-to-dry weight ratios, and instrument practical detection/quantitation limit for each analyte; (26) analyte concentrations with reporting units identified, including data qualification in conformance with the CLP Statement of Work (SOW) (include definition of data descriptor codes);	Laboratory QA/QC Requirements	Y	20	AN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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			(27) quantification of analytes in all blank analyses, as well as identification of method blank associated with each sample; (28) recovery assessments and a replicate sample summary, including all surrogate spike recovery data with spike levels/concentrations for each sample and all MS/MSD results (recoveries and spike amounts); and (29) report of tentatively identified compounds with comparison of mass spectra to library/reference spectra. The following data deliverables for inorganic compounds shall be required from the laboratory: (30) a cover letter referencing the procedure used and discussing any analytical problems, deviations, and modifications; including signature from authority representative certifying to the quality and authenticity of data as reported; (31) report of sample collection, digestion, and analysis dates, with sample holding conditions; (32) tabulated results for samples in units as specified, including data qualification in conformance with the CLP SOW (including definition of data descriptor codes); (33) results of all method QA/QC checks, including inductively coupled plasma (ICP) Interference Check Sample and ICP serial dilution results; (34) tabulation of instrument and method practical detection/quantitation limits; (35) raw data quantification report for each sample; (36) a calibration data summary reporting calibration range used and a measure of linearity, where appropriate; (37) final digestate volumes (and dilutions required), sample size, and wet-to-dry weight ratios; (38) quantification of analytes in all blank analyses, as well as identification of method blank associated with each sample; and (39) recovery assessments and a replicate sample summary, including post-digestate spike analysis; all MS data (including spike concentrations) for each sample, if accomplished; all MS results (recoveries and spike amounts); and laboratory control sample analytical results). The Permittees shall present summary tables of these data and Level II QA/QC results to the Department in the formats described in Permit Section 11.12 (Reporting Requirements). The raw analytical data, including calibration curves, instrument calibration data, data calculation work sheets, and other laboratory support data for samples from this project, shall be compiled and kept on file at the Facility for reference. The Permittees shall make the data and all Level III or Level IV QA/QC data available to the Department upon request.											
11.10.3.2	Review of Field and Laboratory QA/QC Data	154	The Permittees shall evaluate the sample data, field, and laboratory QA/QC results for acceptability with respect to the data quality objectives (DQOs). Each group of samples shall be compared with the DQOs and evaluated using data validation guidelines contained in EPA guidance documents, the latest version of SW-846, and industry-accepted QA/QC methods and procedures. The Permittees shall require the laboratory to notify the Facility project manager of data quality exceptions within one business day of discovery in order to allow for sample re-analysis, if possible. The Facility project manager shall contact the Department within one business day of receipt of laboratory notification of data quality exceptions that may affect the ability to meet the objectives of the investigation or compliance activity in order to discuss the implications and determine whether the data will still be considered acceptable or if sample re-analysis or resampling is necessary. The Facility project manager shall summarize the results of the discussion with the Department project leader regarding the data quality exceptions in a memorandum. The Permittees shall submit the memorandum to the Department by fax or electronic mail within three business days of the conclusion of the data quality discussion.	Requirements for review of laboratory QA/QC data	Y	20	AN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.3.3	Blanks, Field Duplicates, Reporting Limits, and Holding Times	155	11.10.3.3.i Blanks The analytical results of field blanks and field rinsate blanks shall be reviewed to evaluate the adequacy of the equipment decontamination procedures and the possibility of cross-contamination caused by decontamination of sampling equipment. The analytical results of trip blanks shall be reviewed to evaluate the possibility for contamination resulting from the laboratory-prepared sample containers or the sample transport containers. The analytical results of laboratory blanks shall be reviewed to evaluate the possibility of contamination caused by the analytical procedures. If contaminants are detected in field or laboratory blanks, the sample data shall be qualified, as appropriate. 11.10.3.3.ii Field Duplicates Field duplicates shall consist of 2 samples either split from the same sample device or collected sequentially. Field duplicate samples shall be collected at a minimum frequency of 10 percent of the total number of samples submitted for analysis. RPDs for field duplicates shall be calculated. A precision of no more than 20 percent for duplicates shall be considered acceptable for soil, rock, and sediment sampling conducted at the Facility. The analytical DQO for precision shall be used for water duplicates. 11.10.3.3.iii Method Reporting Limits Method reporting limits for sample analyses for each medium shall be established at the lowest level practicable for the method and analyte concentrations and shall not exceed soil, groundwater, surface water, or vapor emissions background levels, cleanup standards, and screening levels. The preferred method detection limits are a maximum of 20 percent of the background, screening, or cleanup levels. Detection limits that exceed established soil, groundwater, surface water, or air emissions cleanup standards, screening levels, or background levels and are reported as "not detected" shall be considered data quality exceptions and an explanation for the exceedance and its acceptability for use shall be provided. 11.10.3.4.iv Holding Times The Permittees shall review the sampling, extraction, and analysis dates to confirm that extraction and analyses were completed within the recommended holding times, as specified by EPA protocol. Appropriate data qualifiers shall be noted if holding times were exceeded.	Requirements for blanks, duplicates, reporting limits, and holding times	Y	20	AN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.10.3.4	Representativeness and Comparability	156	11.10.3.4.i Representativeness Representativeness is a qualitative parameter related to the degree to which the sample data represent the relevant specific characteristics of the media sampled. The Permittees shall implement procedures to assure representative samples are collected and analyzed, such as repeated measurements of the same parameter at the same location over several distinct sampling events. The Permittees shall note any procedures or variations that may affect the collection or analysis of representative samples and shall qualify the data. 11.10.3.4.ii Comparability Comparability is a qualitative parameter related to whether similar sample data can be compared. To assure comparability, the Permittees shall report analytical results in appropriate units for comparison with other data (past studies, comparable sites, screening levels, and cleanup standards), and shall implement standard collection and analytical procedures. Any procedure or variation that may affect comparability shall be noted and the data shall be qualified.	Requirements for implementing procedures to assure representativeness and comparability.	Y	20	AN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.3.5	Laboratory Reporting, Documentation, Data Reduction, and Corrective Action	156	Upon receipt of each laboratory data package, data shall be evaluated against the criteria outlined in the previous sections. Any deviation from the established criteria shall be noted and the data will be qualified. A full review and discussion of analytical data QA/QC and all data qualifiers shall be submitted as appendices or attachments to investigation and monitoring reports prepared in accordance with Permit Section 11.12 (Reporting Requirements). Data validation procedures for all samples shall include checking the following, when appropriate: (1) holding times; (2) detection limits; (3) field equipment rinsate blanks; (4) field blanks; (5) field duplicates; (6) trip blanks; (7) reagent blanks; (8) laboratory duplicates; (9) laboratory blanks; (10) laboratory matrix spikes; (11) laboratory matrix spike duplicates; (12) laboratory blank spikes; (13) laboratory blank spike duplicates; and (14) surrogate recoveries. If significant quality assurance problems are encountered, appropriate corrective action shall be implemented. All corrective action shall be defensible and the corrected data shall be qualified.	Requirements for laboratory reporting, documentation, data reduction, and corrective action	Y	20	AN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.4	Site-Specific Human Health Risk Assessment	157	Should the Permittees be unable to meet the cleanup levels in Permit Section 11.4, they shall conduct a site-specific risk assessment in accordance with current and acceptable EPA, Regional EPA, and Department guidance and methodology (as updated). If the Department determines that a human health risk assessment work plan is necessary, the Permittees shall submit to the Department for its review and approval a work plan that includes, at a minimum, the site-specific exposure assumptions and any additional sampling needed to support the risk assessment. The Permittees shall prepare a Human Health Risk Assessment Report in support of corrective action, and, if necessary, for closure in accordance with Permit Part 9.	When a site-specific human health risk assessment is needed.	Y	20	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.4.1	Human Health Risk Assessment Methods	157	A risk assessment may be required for human receptors that are potentially exposed to site-related chemicals in environmental media. The risk assessment shall contain a conceptual site model (CSM), which shall aid in understanding and describing each site. The CSM shall address the following components: (1) identification of suspected sources; (2) identification of contaminants; (3) identification of contaminant releases; (4) identification of transport mechanisms; (5) identification of affected media; (6) identification of land use scenarios; (7) identification of potential receptors under current land use scenario; (8) identification of potential receptors under future land use scenario; and (9) identification of potential routes of exposure. Potential human receptors under current and/or future land use scenarios may include residential, industrial, construction, and recreational. Other special receptors may be required on a site-specific basis.	Requirements for a site-specific human health risk assessment	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.4.1.i	Exposure Pathways	158	The identification of exposure pathways shall include of discussion of all potential pathways and justify whether the pathways are complete. Pathways that shall be considered include soil, groundwater, air, surface water, sediment, and biota. An evaluation of the potential for contaminants to migrate from soil to groundwater shall also be provided. The risk assessment shall also address exposure mechanisms for each exposure pathway, including ingestion, inhalation, dermal, and inhalation of volatile organic compounds volatilized from soil and/or groundwater.	Requirements for a site-specific human health risk assessment	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.4.1.ii	Data Quality Assurance	158	The risk assessment shall include an evaluation of analytical data and the usability of the data in the assessment. Data validation shall be conducted in accordance with current EPA guidelines. The evaluation of data shall also include a comparison of detection limits with appropriate and current risk-based screening levels, if MDLs are inconsistent and do not achieve the requirements of Permit	Requirements for a site-specific human health risk assessment	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.10.4.1.iii	Constituents of Potential Concern	158	11.2.1.1.iii Constituents of Potential Concern Appropriate EPA and/or the Department guidance shall be used to identify constituents of potential concern (COPCs). With the exception of chemicals attributed to field or laboratory contamination, all analytes detected in sampled media (i.e., soil, air, surface water, groundwater, biota, and/or sediment) shall be retained or eliminated as COPCs using one or more of the following processes: (1) site attribution analysis; (2) essential nutrients; and/or (3) risk-based toxicity screen. Unless sufficient evidence and special circumstances can be provided by the Permittees, all detected organics not attributable to field or laboratory contamination shall be retained and treated as site-related chemicals. Inorganics detected in site media shall be compared to an appropriate background data set to determine if concentrations are present at levels significantly above background. The site attribution analysis may consist of a tiered approach as follows: (4) comparison of maximum site concentrations to a background reference value (e.g., upper tolerance limit, UTL); (5) if the site maximum exceeds the background reference value, and sample size is sufficient, statistically compare the site data set to the background data set using appropriate statistical analyses (e.g., Wilcoxon Rank Sum Test). If the sampling size is not sufficient to perform statistical analysis, a comparison of the maximum site concentration to the maximum background concentrations shall be used; (6) conduct a graphical analysis of site data and background data (e.g., histograms and/or box and whisker plots); (7) conduct a geochemical analysis of site data to a background reference chemical; and/or (8) evaluate essential nutrients and compare to recommended daily allowances and/or upper intake limits. All inorganics for which the site attribution analyses indicate are present above natural background shall be retained as COPCs for the risk assessments.	Requirements for a site-specific human health risk assessment	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.4.1.iv	Exposure Point Concentrations	159	The Permittees shall determine exposure point concentrations (EPCs) that are representative of the concentrations of chemicals in each given medium to which a receptor may be exposed. Current EPA methodology for handling non-detects and replicates in the risk assessment shall be applied. EPA recommends a 95% or greater estimate of the upper confidence limit (UCL ≥ 95%) on the arithmetic mean be used as an EPC for chronic exposures. If conditions are identified where acute exposures must be evaluated, the maximum detected site concentration shall be used as the EPC. The EPCs shall be determined using statistical analyses that are data distribution and size dependent. EPA and/or the Department accepted guidance and methodologies shall be used, such as the ProUCL software. EPCs shall be calculated for soil, groundwater, surface water, sediment, and biota. EPA does not recommend estimating intakes for the air inhalation pathway, but rather compares estimated volatile/particulate air concentrations adjusted for exposure frequencies, duration, and time. For inhalation of volatiles/particulates from soil, EPCs shall be determined based upon the current EPA and/or Department methodology, based upon the volatilization factor or particulate emission factor. Indoor air concentrations shall be determined using EPA and Department accepted approaches, such as the EPA-recommended Johnson and Ettinger model.	Requirements for a site-specific human health risk assessment	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.4.1.v	Toxicity Assessment	159	The Permittees shall use the most recently available toxicity factors to calculate carcinogenic and noncarcinogenic risks/hazards based upon the currently acceptable hierarchy of sources for toxicity data.	Requirements for a site-specific human health risk assessment	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.4.1.vi	Risk Characterization	159	The Permittees shall quantitatively estimate the potential for carcinogenic (risk) and non-carcinogenic (hazard) effects for all chemicals with toxicity data and provide a discussion of uncertainties associated with the risk assessment. Cumulative effects for risk and hazard for all media and pathways shall be determined. For those chemicals without toxicity data, appropriate surrogate data may be applied. If surrogate toxicity data are not available, risks/hazards shall be qualitatively addressed in the uncertainties section of the report.	Requirements for a site-specific human health risk assessment	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.4.1.vii	Uncertainties	160	The Permittees shall provide an uncertainties section that discusses all assumptions, professional judgments, and data which may result in uncertainties in the final estimates of risk and hazard. The uncertainties shall also discuss whether risks/hazards may have been under or overestimated due to the assumptions made in the assessment.	Requirements for a site-specific human health risk assessment	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.5	Site-Specific Ecological Risk Assessment Methods	160	If the screening level ecological risk assessment indicates unacceptable risk, then the Permittees shall conduct a site-specific ecological risk assessment. If the Department determines that an ecological risk assessment work plan is necessary, the Permittees shall submit to the Department for its review and approval a work plan that includes, at a minimum, the site-specific exposure assumptions and any additional sampling needed to support the risk assessment. In addition, the Permittees shall prepare a site-specific Ecological Risk Assessment Report in support of corrective action, and, if necessary, for closure in accordance with Permit Part 9 (Closure). The assessment shall be conducted using EPA and/or the Department approved guidance and methodologies. The ecological risk assessment shall follow the same methodologies outlined above in the human health risk assessment for determining constituent of potential ecological concern (COPEC) and data quality assurance.	When a site-specific ecological risk assessment is needed and methods required.	Y	20	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.10.6	Determination of Background	160	The Permittees shall determine an appropriate background data set for inorganic constituents at the site. The Permittees shall determine whether one or more background data sets are appropriate depending on soil types and geology at the site. Background concentrations for groundwater shall be collected from upgradient wells. The background data set shall be representative of natural conditions unaffected by site activities and shall be statistically defensible. A sufficient number of background samples shall be collected for use in the risk assessment, including conducting site attribution analyses and comparison of data sets. The Permittees shall provide summary statistics for background metals concentrations in each medium of concern and include the following information: (1) number of detects; (2) total number of samples; (3) frequency of detection; (4) minimum detected concentration; (5) maximum detected concentration; (6) minimum sample quantitation limit (SQL); (7) maximum SQL; (8) arithmetic mean; (9) median; (10) standard deviation; and (11) coefficient of variation. The Permittees shall determine the 95% upper tolerance limit (UTL) for each metal using a distribution-based statistical method.	Requirements for a background data set	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.10.6.1	Comparing Site Data to Background	161	The 95% UTL for each metal shall be used as the background reference value for use in screening assessments and determining whether metals are present in the subject media (e.g., soil, groundwater, surface water, sediment) due to site activities. The site maximum detected concentration shall be compared to the 95% UTL for each metal. If the site maximum detected concentration is greater than the background reference value, then additional site attribution analyses shall be conducted. Site attribution analyses shall be conducted in accordance with Permit Section 11.10.4.1.iii and current EPA and/or the Department accepted guidance. The site attribution analyses shall consist of a statistical comparison of the background data set to the site data set, if sufficient samples are available, using distribution based tests such as the Wilcoxon Rank Sum Test. If the results of the site attribution analyses indicate that the metal is present at the site above naturally occurring levels, then the Permittees shall include that metal as a site contaminant.	Requirements for comparing site-specific data to background	Y	8	RA	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.11.1	Types of Monitoring Wells	161	Two types of groundwater monitoring wells may be installed at the Facility: single completion (containing one screened interval) and with Department approval, doublescreened wells.	Types of monitoring wells allowed.	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.11.2.3	Water Rotary and Mud Rotary	164	The water and mud rotary drilling methods consist of rotary drilling techniques where water or drilling mud is used as the circulating fluid. In both methods, the circulating fluid is pumped down through the drill pipe and is returned back up the borehole through the annular space. The circulating fluid stabilizes the borehole, cools the drill bit, and carries the drill cuttings up to the surface. While the water and mud rotary drilling techniques are rapid and effective drilling methods, the recognition of water-bearing zones is hampered by the addition of water into the system. Mud rotary drilling methods are discouraged if the well is to be used for monitoring of water quality. Mud rotary drilling is similar to water rotary drilling with the exception that mud additives are added to the water to change the properties (e.g., density, viscosity, yield point, gel strength, fluid-loss-control effectiveness, and lubricity) of the circulating fluid. Drilling muds provide greater borehole stabilization than water alone. There are several types of mud presently available, including bentonite, barium sulfate, organic polymers, cellulose polymers, and polyacrylamides. While drilling muds enhance the stability of the borehole and allow for drilling in formations not appropriate to other methods, they can adversely affect the hydrologic properties and geochemistry of the aquifer. For example, drilling fluid invasion and the buildup of borehole filter cake may reduce the effective porosity of the aquifer in the vicinity of the borehole. In addition, bentonite drilling muds may affect the pH of groundwater and organic polymer drilling muds have been observed to facilitate bacterial growth, which reduces the reliability of sampling results. If polymer emulsions are to be used in the drilling program at the Facility, polymer dispersion agents shall be used at the completion of the drilling program to remove the polymers from the boreholes. For example, if EZ Mud® is used as a drilling additive, a dispersant (e.g., BARAFOS® or five percent sodium hypochlorite) shall be used to disperse and chemically break down the polymer prior to developing and sampling the well. If drilling fluids are used as part of well installation, the Permittees must demonstrate that all data acquired from the well is representative of existing subsurface conditions using methods approved by the Department. The Department may require additional sampling and testing periodically to ensure that the data collected is not affected by residual drilling fluids.	Description of and requirements for water rotary and mud rotary drilling	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.11.3.1	Well Construction Materials	166	Well construction materials shall be selected based on the goals and objectives of the proposed monitoring program and the geologic conditions at the site. When selecting well construction materials, the primary concern shall be selecting materials that will not contribute foreign constituents or remove contaminants from the groundwater. Other factors to be considered include the tensile strength, compressive strength, and collapse strength of the materials; length of time the monitoring well will be in service; and the material's resistance to chemical and microbiological corrosion. Generally, if the monitoring program requires the analysis of only organic constituents, stainless steel should be used. However, if the monitoring program requires only inorganic constituent analyses, polyvinyl chloride (PVC) materials may be used. PVC should not be used for monitoring wells where organic constituents will be analyzed due to its potential for sorption and leaching of contaminants. Well screen and casing materials acceptable for the construction of RCRA monitoring wells include stainless steel (304 or 316), rigid PVC (meeting American National Standards Institute/National Sanitation Foundation Standard 14), and fluoropolymer materials (polytetrafluoroethylene, fluorinated ethylene propylene, and polyvinylidene). In addition, there are other materials available for the construction of monitoring wells including acrylonitrile butadiene styrene (ABS), fiberglass-reinforced plastic (FRP), black iron, carbon steel, and galvanized steel, but these materials are not recommended for use in long term monitoring wells due to their low resistance to chemical attack and potential contribution of contamination to the groundwater. However, these materials may be used in the construction of monitoring wells where they will not be in contact with the groundwater that will be sampled (e.g., carbon steel pipe used as surface casing).	Requirements for well construction materials	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.11.3.2.i	Single-cased Wells	166	The borehole shall be bored, drilled, or augered as close to vertical as possible, and checked with a plumb bob, level, or appropriate downhole logging tool. Slanted boreholes shall not be acceptable unless specified in the design. The borehole shall be of sufficient diameter so that well construction can proceed without major difficulties. To assure an adequate size, a minimum two-inch annular space is required between the casing and the borehole wall (or the hollow stem auger wall). The two-inch annular space around the casing will allow the filter pack, bentonite seal, and annular grout to be placed at an acceptable thickness. Also, the two-inch annular space will allow up to a 1.5-inch outer diameter tremie pipe to be used for placing the filter pack, bentonite seal, and grout at the specified intervals. It may be necessary to over-drill the borehole so that any soils that have not been removed (or that have fallen into the borehole during augering or drill stem retrieval) will fall to the bottom of the borehole below the depth where the filter pack and well screen are to be placed. Normally, three to five ft is sufficient for over-drilling shallow wells. Deep wells may require deeper over-drilling. The borehole can also be over-drilled to allow for an extra space for a well sump to be installed. If the borehole is over-drilled deeper than desired, it can be backfilled to the designated depth with bentonite pellets or the filter pack. The well casings (riser assembly) should be secured to the well screen by flush-jointed threads or other appropriate connections and placed into the borehole and plumbed by the use of centralizers, a plumb bob, or a level. No petroleum-based lubricating oils or grease shall be used on casing threads. Teflon tape can be used to wrap the threads to insure a tight fit and minimize leakage. No glue of any type shall be used to secure casing joints. Teflon "O" rings can also be used to ensure a tight fit and minimize leakage. "O" rings made of materials other than Teflon are not acceptable if the well will be sampled for organic compound analyses. Before the well screen and casings are placed at the bottom of the borehole, at least six inches of filter material shall be placed at the bottom to serve as a firm footing. The string of well screen and casing should then be placed into the borehole and plumbed. If centralizers are used, they shall be placed below the well screens and above the bentonite annular seals so that the placement of the filter pack, overlying bentonite seal, and annular grout will not be hindered. Centralizers placed in the wrong locations can cause bridging during material placement. If installing the well screen and casings through hollow-stem augers, the augers shall be slowly extracted as the filter pack, bentonite seal, and grout are tremied or poured into place. The gradual extraction of the augers will allow the materials being placed in the augers to flow out of the bottom of the augers into the borehole. If the augers are not gradually extracted, the materials will accumulate at the bottom of the augers causing potential bridging problems. After the string of well screen and casing is plumb, the filter material shall be placed around the well screen (preferably by the tremie pipe method) up to the designated depth. After the filter pack has been installed, the bentonite seal shall be placed directly on top of the filter pack up to the designated depth or a minimum of two ft above the filter pack, whichever is greater. After the bentonite seal has hydrated for the specified time, the annular grout shall be pumped by the tremie method into the annular space around the casings (riser assembly) up to within two feet of the ground surface or below the frost line, whichever is greater. The grout shall be allowed to cure for a minimum of 24 hours before the surface pad and protective casing are installed. After the surface pad and protective casing are installed, bumper guards (guideposts) shall be installed (if necessary).	Required well construction techniques for wells: single-cased wells.	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.11.3.2.ii	Double-cased Wells	167	Double-cased wells should be constructed when there is reason to believe that interconnection of two aquifers by well construction may cause cross contamination, or when flowing sands make it impossible to install a monitoring well using conventional methods. A pilot borehole should be advanced through the overburden and the contaminated zone into a clay, confining layer, or bedrock. An outer casing (surface or pilot casing) shall be placed into the borehole and sealed with grout. The borehole and outer casing should extend into tight clay a minimum of two ft or into competent bedrock a minimum of one foot. The total depth into the clay or bedrock will vary depending upon the plasticity of the clay and the extent of weathering and fracturing of the bedrock. The size of the outer casing shall be of sufficient inside diameter to contain the inner casing and the two-inch annular space. In addition, the borehole shall be of sufficient size to contain the outer casing and the two-inch minimum outer annular space, if applicable. The outer casing shall be grouted by the tremie method from the bottom of the borehole to within two ft of the ground surface. The grout shall be pumped into the annular space between the outer casing and the borehole wall. This can be accomplished by either placing the tremie pipe in the annular space and pumping the grout from the bottom of the borehole to the surface, or placing a grout shoe or plug inside the casing at the bottom of the borehole and pumping the grout through the bottom grout plug and up the annular space on the outside of the casing. The grout shall consist of a Type I Portland cement and bentonite or other approved grout to provide a rigid seal. A minimum of 24 hours shall be allowed for the grout plug (seal) to cure before attempting to drill through it. When drilling through the seal, care shall be taken to avoid cracking, shattering, and washing out of the seal. If caving conditions exist so that the outer casing cannot be sufficiently sealed by grouting, the outer casing shall be driven into place and a grout seal placed in the bottom of the casing.	Required well construction techniques for double-cased wells.	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.11.3.2.iii	Bedrock Wells	168	The installation of monitoring wells into bedrock can be accomplished in two ways. The first method is to drill or bore a pilot borehole through the soil overburden into the bedrock. An outer casing is installed into the borehole by setting it into the bedrock, and grouting it into place. After the grout has set, the borehole can be advanced through the grout seal into the bedrock. The preferred method of advancing the borehole into the bedrock is rock coring. Rock coring makes a smooth, round hole through the seal and into the bedrock without cracking or shattering the seal. Roller cone bits are used in soft bedrock, but extreme caution should be taken when using a roller cone bit to advance through the grout seal in the bottom of the borehole because excessive water and bit pressure can cause cracking, eroding (washing), and/or shattering of the seal. Low volume air hammers may be used to advance the borehole, but they have a tendency to shatter the seal because of the hammering action. If the structural integrity of the grout seal is in question, a pressure test can be utilized to check for leaks. If the seal leaks, the seal is not acceptable. When the drilling is complete, the finished well will consist of an open borehole from the ground surface to the bottom of the well. The major limitation of open borehole bedrock wells is that the entire bedrock interval serves as the monitoring zone. The second method is to install the outer surface casing and drill the borehole into bedrock, and then install an inner casing and well screen with the filter pack, bentonite seal, and annular grout. The well is completed with a surface protective casing and concrete pad. This well installation method gives the flexibility of isolating the monitoring zone(s) and minimizing inter-aquifer flow. In addition, it gives structural integrity to the well, especially in unstable areas (e.g., steeply dipping shales) where the bedrock has a tendency to shift or move when disturbed.	Required well construction techniques for bedrock wells.	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.11.3.3	Well Screen and Filter Pack Design	169	Well screens and filter packs shall be designed to accurately sample the aquifer zone that the well is intended to sample, minimize the passage of formation materials (turbidity) into the well, and ensure sufficient structural integrity to prevent the collapse of the intake structure. The selection of the well screen length depends upon the objective of the well. Piezometers and wells where only a discrete flow path is monitored are generally completed with short screens (two ft or less). While monitoring wells are usually constructed with longer screens (usually five to ten ft), they shall be kept to the minimum length appropriate for intercepting a contaminant plume. The screen slot size shall be selected to retain from 90 to 100 percent of the filter pack material in artificially filter packed wells, and from 50 to 100 percent of the formation material in naturally packed wells. All well screens shall be factory wire-wrapped or machine slotted. A filter pack shall be used when: 1) the natural formation is poorly sorted; 2) a long screen interval is required or the screen spans highly stratified geologic materials of widely varying grain sizes; 3) the natural formation is uniform fine sand, silt, or clay, 4) the natural formation is thin-bedded; 5) the natural formation is poorly cemented sandstone; 6) the natural formation is highly fractured or characterized by relatively large solution channels; 7) the natural formation is shale or coal that will act as a constant source of turbidity to groundwater samples; or 8) the diameter of the borehole is significantly greater than the diameter of the screen. The use of natural formation material as a filter pack is only recommended when the natural formation materials are relatively coarse-grained, permeable, and uniform in grain size. Filter pack materials shall consist of clean, rounded to well-rounded, hard, insoluble particles of siliceous composition (industrial grade quartz sand or glass beads). The required grain-size distribution or particle sizes of the filter pack materials shall be selected based upon a sieve analysis of the aquifer materials or the formation to be monitored, or the characteristics of the aquifer materials using information acquired during previous investigations. Where sieve analyses are used to select the appropriate filter pack particle size, the results of a sieve analysis of the formation materials are plotted on a grain-size distribution graph, and a grain-size distribution curve is generated. The 70 percent retained grain size value should be multiplied by a factor between four and six (four for fine, uniform formations and six for coarse, non-uniform formations). A second grain-size distribution curve is then drawn on the graph for this new value, ensuring that the uniformity coefficient does not exceed 2.5. The filter pack that shall be used will fall within the area defined by these two curves. Once the filter pack size is determined, the screen slot size shall be selected to retain at least 90 percent of the filter pack material. The Permittees may propose the use of a pre-determined well screen slot size and filter pack for monitoring wells in the site-specific work plans submitted to the Department	Requirements for well screen and filter pack design.	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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Appendix 1
Requirements Identified in the Permit[1]

Requirement Category: 1 - Permited units; 2 -Notifications; 3 Modifications; 4 Reapplication; 5 Permit Compliance; 6 Waste Characterization; 7 Noncompliance; 8 Reporting; 9 Information; 10 Community Relations Plan; 11 Propertty Transfer; 12 D&D; 13 Waste ; 14 FOR; 15 Inspections; 16 Training; 17 Contingency Plan; 18 Closure; 19 Post Closure; 20 Corrective Actions

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Responsibilities: G – Generator; CP – RCRA Compliance Team; PO – Public Outreach (RG); LT – Land Transfer POC (ADESHQ); EP – ADEP (CA or WM); PUO – Permitted Unit Ops; ES – Environmental Stewardship; EPD – Environmental Protection Division; EMO – Emergency Management Organization; WES – Waste and Environmental Services

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			monitoring wells in the site-specific work plans submitted to the Department. The filter pack shall be installed in a manner that prevents bridging and particle-size segregation. Filter packs placed below the water table shall be installed by the tremie pipe method. Filter pack materials shall not be poured into the annular space unless the well is shallow (e.g., less than 30 ft deep) and the filter pack material can be poured continuously into the well without stopping. At least two inches of filter pack material shall be installed between the well screen and the borehole wall, and two ft of material shall extend above the top of the well screen. A minimum of six-inches of filter pack material shall also be placed under the bottom of the well screen to provide a firm footing and an unrestricted flow under the screened area. In deep wells (e.g., greater than 200 ft deep), the filter pack may not compress when initially installed. As a result, filter packs may need to be installed as high as five ft above the screened interval in these situations. The precise volume of filter pack material required shall be calculated and recorded before placement, and the actual volume used shall be determined and recorded during well construction. Any significant discrepancy between the calculated and actual volume shall be explained. Prior to installing the filter pack annular seal, a one to two-ft layer of chemically inert fine sand shall be placed over the filter pack to prevent the intrusion of annular sealants into the filter pack.													
11.11.3.4	Annular Sealant	170	The annular space between the well casing and the borehole must be properly sealed to prevent cross-contamination of samples and the groundwater. The materials used for annular sealants shall be chemically inert with respect to the highest anticipated concentration of chemical constituents expected in the groundwater at the Facility. In general, the permeability of the sealing material shall be one to two orders of magnitude lower than the least permeable parts of the formation in contact with the well. The precise volume of annular sealants required shall be calculated and recorded before placement, and the actual volume shall be determined and recorded during well construction. Any significant discrepancy between the calculated volume and the actual volume shall be explained. During well construction, an annular seal shall be placed on top of the filter pack. This seal shall consist of a high solids (10-30 percent) bentonite material in the form of bentonite pellets, granular bentonite, or bentonite chips. The bentonite seal shall be placed in the annulus through a tremie pipe if the well is deep (greater than 30 ft), or by pouring directly down the annulus in shallow wells (less than 30 ft). If the bentonite materials are poured directly down the annulus (which is an acceptable method only in wells less than 30 feet deep), a tamping device shall be used to ensure that the seal is emplaced at the proper depth and the bentonite has not bridged higher in the well casing. The bentonite seal shall be placed above the filter pack a minimum of two ft vertical thickness. The bentonite seal shall be allowed to completely hydrate in conformance with the manufacturer's specifications prior to installing the overlying annular grout seal. The time required for the bentonite seal to completely hydrate will differ with the materials used and the specific conditions encountered, but is generally a minimum of four to 24 hours. A grout seal shall be installed on top of the filter pack annular seal. The grout seal may consist of a high solids (30 percent) bentonite grout, a neat cement grout, a cement/bentonite grout, or other suitable seal material that is approved by the Department. The grout shall be pumped under pressure (not gravity fed) into the annular space by the tremie pipe method, from the top of the filter pack annular seal to within a few feet of the ground surface. The tremie pipe shall be equipped with a side discharge port (or bottom discharge for grouting at depths greater than 100 feet) to minimize damage to the filter pack or filter pack annular bentonite seal during grout placement. The grout seal shall be allowed to cure for a minimum of 24 hours before the concrete surface pad is installed. All grouts shall be prepared in accordance with the manufacturer's specifications. High solids (30 percent) bentonite grouts shall have a minimum density of 10 pounds per gallon (as measured by a mud balance) to ensure proper setup. Cement grouts shall be mixed using six and one-half to seven gallons of water per 94-pound bag of Type I Portland cement. Bentonite (five to ten percent) may be added to delay the setting time and reduce the shrinkage of the grout.	Requirements for annular sealer	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.11.4	Well Development	171	All monitoring wells shall be developed to create an effective filter pack around the well screen, correct damage to the formation caused by drilling, remove fine particles from the formation near the borehole, and assist in restoring the natural water quality of the aquifer in the vicinity of the well. Development stresses the formation around the screen, as well as the filter pack, so that mobile fines, silts, and clays are pulled into the well and removed. Development is also used to remove any foreign materials (e.g., water, drilling mud) that may have been introduced into the borehole during the drilling and well installation activities, and to aid in the equilibration that will occur between the filter pack, well casing, and the formation water. The development of a well is extremely important to ensuring the collection of representative groundwater samples. Newly installed monitoring wells shall not be developed for at least 48 hours after the surface pad and outer protective casing are installed. This will allow sufficient time for the well materials to cure before the development procedures are initiated. A new monitoring well shall be developed until the column of water in the well is free of visible sediment, and the pH, temperature, turbidity, and specific conductivity have stabilized. In most cases, the above requirements can be satisfied. However, in some cases, the pH, temperature, and specific conductivity may stabilize but the water remains turbid. In this case, the well may still contain well construction materials, such as drilling mud in the form of a mud cake or formation soils that have not been washed out of the borehole. Thick drilling mud cannot be flushed out of a borehole with one or two well volumes of flushing. Instead, continuous flushing over a period of several days may be necessary to complete the well development. If the well is pumped dry, the water level shall be allowed to sufficiently recover before the next development period is initiated. The common methods used for developing wells include: (1) pumping and over-pumping; (2) backwashing; (3) surging (with a surge block); (4) bailing; (5) jetting; and (6) airlift pumping. These development procedures can be used, either individually or in combination, to achieve the most effective well development. However, the most favorable well development methods include pumping, over-pumping, bailing, surging, or a combination of these methods. Well development methods and equipment that alter the chemical composition of the groundwater shall not be used. Development methods that involve adding water or other fluids to the well or borehole, or that use air to accomplish well development should be avoided, if possible. Approval shall be obtained from the Department prior to introducing air, water, or other fluids into the well for the purpose of well development. If water is introduced to a borehole during well drilling and completion, then the same or greater volume of water shall be removed from the well during development. In addition, the volume of water withdrawn from a well during development shall be recorded, and the Permittees shall use their best efforts to avoid pumping wells dry during development activities.	Requirements for well development	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.11.5	Surface Completion	172	Monitoring wells may be completed either as flush-mounted wells, or as above-ground completions. A surface seal shall be installed over the grout seal and extended vertically up the well annulus to the land surface. The lower end of the surface seal shall extend a minimum of 1 foot below the frost line to prevent damage from frost heaving. The composition of the surface seal shall be neat cement or concrete. In above-ground completions, a three-foot wide, four-inch thick concrete surface pad shall be installed around the well at the same time the protective casing is installed. The surface pad shall be sloped so that drainage will flow away from the protective casing and off the pad. In addition, a minimum of one inch of the finished pad shall be below grade or ground elevation to prevent washing and undermining by soil erosion. A locking protective casing shall be installed around the well casing (riser) to prevent damage or unauthorized entry. The protective casing shall be anchored in the concrete surface pad below the frost line and extend several inches above the well riser stickup. A weep hole shall be drilled into the protective casing just above the top of the concrete surface pad to prevent water from accumulating and freezing inside the protective casing around the well riser. A cap shall be placed on the well riser to prevent tampering or the entry of foreign materials, and a lock shall be installed on the protective casing to provide security. If the wells are located in an area that receives traffic, a minimum of three bumper guards consisting of steel pipes three to four inches in diameter and a minimum of five-foot length should be installed. The bumper guards should be installed to a minimum depth of two feet below the ground surface in a concrete footing and extend a minimum of three feet above ground surface. The pipes should be filled with concrete to provide additional strength. The pipes should be painted a bright color to reduce the possibility of vehicular damage. If flush-mounted completions are required (e.g., in active roadway areas), a protective structure such as a utility vault or meter box should be installed around the well casing. In addition, measures should be taken to prevent the accumulation of surface water in the protective structure and around the well intake. These measures should include outfitting the protective structure with a steel lid or manhole cover that has a rubber seal or gasket, and ensuring that the bond between the cement surface seal and the protective structure is watertight.	Requirements for surface completion of wells	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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11.11.6	Well Abandonment	173	All well abandonment must be conducted in accordance with 19.27.4 NMAC. Wells are usually abandoned when they are no longer required in the monitoring network or when they are damaged beyond repair. The goal of well abandonment is to seal the borehole in such a manner that the well cannot act as a conduit for migration of contaminants from the ground surface to the aquifer or between aquifers. To properly abandon a well, the preferred method is to completely remove the well casing and screen from the borehole, clean out the borehole, and backfill with a cement or bentonite grout, neat cement, or concrete. The well abandonment procedure must also comply with current EPA well abandonment guidance. For wells with small diameter casing, abandonment shall be accomplished by overdrilling the well with a large diameter hollow-stem auger. After the well has been overdrilled, the well casing and grout can be lifted out of the ground with a drill rig, and the remaining filter pack can be drilled out. The open borehole can then be pressure grouted (via the tremie pipe method) from the bottom of the borehole to the ground surface. After the grout has cured, the top two ft of the borehole shall be filled with concrete to insure a secure surface seal. Several other well abandonment procedures are available for wells with larger diameter screens and casings. One method is to force a drill stem with a tapered wedge assembly or a solid-stem auger into the well casing and pull the casing out of the ground. However, if the casing breaks or the well cannot be pulled from the ground, the well will have to be grouted in place. To abandon a well in place, a tremie pipe shall be placed at the lowest point in the well (at the bottom of the screen or in the well sump). The entire well is then pressure grouted from the bottom of the wel upward. The pressurized grout will be forced out through the well screen into the filter pack and up the inside of the well casing sealing off all breaks and holes in the casing. Once the well is grouted, the casing is cut off even with the ground surface and covered with concrete. If a PVC well cannot be abandoned due to internal casing damage (e.g., the tremie pipe cannot be extended to the bottom of the screen), it may be necessary to drill out the casing with a roller cone or drag bit using the wet rotary drilling method, or grind out the casing using a solid-stem auger equipped with a carbide tooth bit. Once the casing is removed, the open borehole can be cleaned out and pressure grouted from the bottom of the borehole upward.	Requirements for well abandonment	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.11.7	Documentation	174	All information on the design, construction, and development of each monitoring well shall be recorded and presented on a boring log, a well construction log, and well construction diagram. The well construction log and well construction diagram shall include the following information: (1) well name/number; (2) date/time of well construction; (3) borehole diameter and well casing diameter; (4) well depth; (5) casing length; (6) casing materials; (7) casing and screen joint type; (8) screened interval(s); (9) screen materials; (10) screen slot size and design; (11) filter pack material and size; (12) filter pack volume (calculated and actual); (13) filter pack placement method; (14) filter pack interval(s); (15) annular sealant composition; (16) annular sealant placement method; (17) annular sealant volume (calculated and actual); (18) annular sealant interval(s); (19) surface sealant composition; (20) surface seal placement method; (21) surface sealant volume (calculated and actual); (22) surface sealant interval; (23) surface seal and well apron design and construction; (24) well development procedure and turbidity measurements; (25) well development purge volume(s) and stabilization parameter measurements; (26) type and design and construction of protective casing; (27) well cap and lock; (28) ground surface elevation; (29) survey reference point elevation on well casing; (30) top of monitoring well casing elevation; and	Requirements for documentation of well design, construction, and development.	Y	20	W	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	

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Section	Section Title	Page	Text/Condition/ Requirement	Summary	Specific Requirement	Requirement Category	Requirement Type	Permitted Unit	Responsibility	Notify/ Report/ Modification Required?	Facility Operating Record	Units Affected	Exceptions	Date Considerations	Comment
11.12.1	General	175	The purpose of this Permit Section is to provide the reporting requirements and report formats for corrective action activities at all SWMUs, AOCs, and permitted units required under this Permit. This Permit Section is not intended to provide reporting requirements for every potential corrective action conducted at the Facility; therefore, the formats for all types of reports are not presented below. The described formats include the general reporting requirements and formats for site-specific investigation work plans, investigation reports, periodic monitoring reports, risk assessment reports, and corrective measures evaluations. The Permittees shall generally consider the reports to be the equivalents of RCRA Facility Investigation (RFI) work plans, RFI reports, periodic monitoring reports, risk assessments, Corrective Measures Study (CMS) plans, and CMS reports, for the purposes of RCRA compliance. The Permittees shall include detailed, site-specific requirements in all SWMU, AOC, permitted unit and facility-wide investigation work plans, investigation reports, monitoring reports, and corrective measures evaluations. All plans and reports shall be prepared with technical and regulatory input from the Department. All work plans, reports and other documents shall be submitted to the Department in the form of two paper copies and one copy in electronic or other format acceptable to the Department. The Permittees shall submit maps and figures in a format specified by the Department (e.g., *shp, *dwg). The reporting requirements listed in this attachment do not include all sections that may be necessary to complete each type of report listed and may include sections that are not relevant for a specific site action. The Permittees or the Department may determine that additional sections may be needed to address additional site-specific issues or information collected during corrective action or monitoring activities not listed below. However, the Permittees must submit variations of the general report format and the formats for reports not listed in this Permit Section (11.12) in outline form to the Department for approval prior to submittal of the reports. The Department will approve or disapprove, in writing, the proposed report outline within 90 days of receipt of the outline. If the Department disapproves the report outline, the Department will notify the Permittees, in writing, of the outline's deficiencies and will specify a date for submittal of a revised report outline. All reports submitted by the Permittees shall follow the general approach and limitations for data presentation described in this attachment.	Introduction and general reporting requirements. Consider the reports to be the equivalents of RCRA Facility Investigation (RFI) work plans, RFI reports, periodic monitoring reports, risk assessments, Corrective Measures Study (CMS) plans, and CMS reports. Include detailed, site-specific requirements in all reports. All plans and reports shall have NMED input and approval. Two paper copies and one copy in electronic or other format will be submitted to NMED. The proposed report outline will be approved or disapproved within 90 days of receipt of the outline.	Y	8	IN	A	EP	N	N	All units requiring corrective action	Units with no corrective actions	N	
11.12.2	Investigation Work Plan	176	The Permittees shall prepare work plans for site investigations or corrective action activities at the Facility using the general outline below. The minimum requirements for describing proposed activities within each section are included. All research, locations, depths and methods of exploration, field procedures, analytical results, data collection methods, and schedules shall be included in each work plan. In general, interpretation of data acquired during previous investigations shall be presented only in the background sections of the work plans. The other text sections of the work plans shall be reserved for presentation of anticipated site-specific activities and procedures relevant to the project. The general work plan outline is described below.	Sections 11.12.2 through 11.12.2.13 present requirements and format for all Investigation Work Plans	Y	8	IN	A	EP	Investigation work Plan	Y	All units requiring corrective action	Units with no corrective actions	N	
11.12.3	Investigation Report	180	The Permittees shall prepare investigation reports at the Facility using the general outline below. The Investigation Report shall be the reporting mechanism for presenting the results of completed Investigation Work Plans. This Permit Section (11.12.3) describes the minimum requirements for reporting on site investigations. All data collected during each site investigation event in the reporting period shall be included in the reports. In general, interpretation of data shall be presented only in the background, conclusions and recommendations sections of the reports. The other text sections of the reports shall be reserved for presentation of facts and data without interpretation or qualifications. The general report outline is provided below.	Sections 11.12.3 through 11.12.3.24 present requirements and format for all Investigation Reports	Y	8	IN	A	EP	Investigation work Plan	Y	All units requiring corrective action	Units with no corrective actions	N	
11.12.4	Periodic Monitoring Report	191	The Permittees shall use the following guidance for preparing periodic monitoring reports. The reports shall present the reporting of periodic groundwater, surface water, vapor, and remediation system monitoring at the Facility. The following sections provide a general outline for monitoring reports, and also provide the minimum requirements for reporting for specific Facility sites, areas, and regional monitoring. All data collected during each monitoring and sampling event in the reporting period shall be included in the reports. In general, interpretation of data shall be presented only in the background, conclusions, and recommendations sections of the reports. The other text sections of the reports shall be reserved for presentation of facts and data without interpretation or qualifications.	Sections 11.12.4 through 11.12.4.13 present requirements and format for all Periodic Monitoring Reports	Y	8	IN	A	EP	Investigation work Plan	Y	All units requiring corrective action	Units with no corrective actions	N	
11.12.5	Risk Assessment Report	195	The Permittees shall prepare risk assessment reports for sites requiring corrective action at the Facility using the format listed below. This Permit Section (11.12.5) provides a general outline for risk assessments and also lists the minimum requirements for describing risk assessment elements. In general, interpretation of data shall be presented only in the Background, Conceptual Site Model, and Conclusions and Recommendations Sections of the reports. The other text sections of the Risk Assessment report shall be reserved for presentation of sampling results from all investigations, conceptual and mathematical elements of the risk assessment, and presentations of toxicity information and screening values used in the risk assessment. The general risk assessment outline, applicable to both human health and ecological risk assessments, is provided below.	Sections 11.12.5 through 11.12.5.14 present requirements and format for all Risk Assessment Reports	Y	8	RA	A	EP	Investigation work Plan	Y	All units requiring corrective action	Units with no corrective actions	N	
11.12.6	Corrective Measures Evaluation Report	200	The Permittees shall prepare corrective measures evaluations for sites requiring corrective measures using the format listed below. This Permit Section (11.12.6) provides a general outline for corrective measures evaluations and also lists the minimum requirements for describing corrective measures when preparing these documents. All investigation summaries, site condition descriptions, corrective action goals, corrective action options, remedial options selection criteria, and schedules shall be included in the corrective measures evaluations. In general, interpretation of historical investigation data and discussions of prior interim activities shall be presented only in the background sections of the corrective measures evaluations. At a minimum, detections of contaminants encountered during previous site investigations shall be presented in the corrective measures evaluations in table format with an accompanying site plan showing sample locations. The other text sections of the corrective measures evaluations shall be reserved for presentation of corrective action-related information regarding anticipated or potential site-specific corrective action options and methods relevant to the project. The general corrective measures evaluation outline is provided below.	Sections 11.12.6 through 11.12.6.16 present requirements and format for all Corrective Measures Evaluation Reports	Y	8	CM	A	EP	Investigation work Plan	Y	All units requiring corrective action	Units with no corrective actions	N	
A	Unit discriptions		This attachment contains TA-specific despriptions, including the dimentions, materials of construction, security procedures, and emergency equipment of each unit provided by the Permittees in their permit application.	Permitted unit descriptions must be current.	Y	1	U	A	PUO/CP	Modification necessary to change.	Y	All	N	N	

1. LANL Hazardous Waste Permit , December 30, 2010, as ammended through March 6, 2015.

Appendix 1
Requirements Identified in the Permit[1]

Requirement Category: 1 - Permited units; 2 -Notifications; 3 Modifications; 4 Reapplication; 5 Permit Compliance; 6 Waste Characterization; 7 Noncompliance; 8 Reporting; 9 Information; 10 Community Relations Plan; 11 Propertty Transfer; 12 D&D; 13 Waste ; 14 FOR; 15 Inspections; 16 Training; 17 Contingency Plan; 18 Closure; 19 Post Closure; 20 Corrective Actions

Requirement Types: AN – Analytical; C – Closure; CA – Corrective Actions; CL – Cleanup Levels or Standards; CM – Corrective Measures; CO – Consent Order; CP – Closure Plan; CR – Community Relations Plan; EC – Emission Controls; EM – Emergency Management; EQ – Equipment; HSP – Health and Safety Plan; IM – Interim Measures; IN – Investigations; IR – Information Repository; ISU – Interim Status Units; L – Labeling; M – Modifications; MAN – Waste Management; N – Notifications; NC – Noncompliance; NM – NMED; P –Permit; PC – Post Closure; PR – Presumptive Remedy; PT – Property Transfer; R – Releases (not emergencies); RA – Risk Assessment; S – Storage; SC – Secondary Containment ; SEC – Security; ST – Storage Tanks; T – Treatment; U – Permitted Units; W – Wells; WA – Waste Acceptance; WC – Waste Characterization; WM – Waste Minimization

Responsibilities: G – Generator; CP – RCRA Compliance Team; PO – Public Outreach (RG); LT – Land Transfer POC (ADESHQ); EP – ADEP (CA or WM); PUO – Permitted Unit Ops; ES – Environmental Stewardship; EPD – Environmental Protection Division; EMO – Emergency Management Organization; WES – Waste and Environmental Services

Permitted Unit: TA-3; TA-50; TA-54; TA-55; ISU - Interim Status Unit; A - Adminidtrative; CS - Container Storage units; IOU - Indoor and Outdoor Units; IU - Indoor Units; OU - Outdoor Units; P - Pads; ST - Storage Units at TA-3, TA-50, TA-54, and TA-55;

Section	Section Title	Page	Text/Condition/ Requirement	Summary	Specific Requirement	Requirement Category	Requirement Type	Permitted Unit	Responsibility	Notify/ Report/ Modification Required?	Facility Operating Record	Units Affected	Exceptions	Date Considerations	Comment
C	Waste Analysis Plan		This Waste Analysis Plan (WAP) presents the characterization procedures used to determine the chemical and physical nature of non-mixed hazardous waste, the hazardous component of mixed low-level waste (MLLW), and the hazardous component of mixed transuranic waste (MTRUW) stored and treated at the Facility in accordance with 40 CFR § 264.13. The waste characterization requirements contained in this WAP are used for characterization of wastes stored in containers and tanks, and to support treatment the stabilization processes. Waste analysis regulatory requirements are specified in 40 CFR §§ 264.13, 270.14(b) and 268.7. Waste analysis permit requirements are specified in Permit Section 2.4. This WAP discusses how the waste characterization data prepared by generators are reviewed, supplemented, and used by the Permittees to comply with 40 CFR Part 264 and Part 268 regulatory requirements. This WAP is organized as follows: Section C.1 Facility Description: Includes a general description of the Facility; general descriptions of the wastes stored and treated and the activities that generate waste. Section C.2 Waste Analysis Parameters: Includes a discussion of the proposed analytical parameters and methods used by the Permittees and the criteria/rationale for parameter selection. Section C.3 Characterization Procedures: Includes the characterization approach (e.g., acceptable knowledge, sampling and analysis) for each waste classification stored and treated at the Facility. Section C.4 Off-Site Waste: Includes a discussion of procedures in place for acceptance of waste from off-site facilities. Section C.5 Special Procedural Requirements: Includes a discussion of the procedures in place for ignitable, reactive, and incompatible wastes; procedures to ensure compliance with land disposal restrictions (LDR); and procedures to ensure compliance with Subpart CC requirements. Section C.6 References.	Summary of what is in WAP	Y	13	WC	A	G/PUO/EP/CP	N	N	All	N	Use of WAP is a requirement for waste analysis	Waste analysis permit requirements are specified in Permit Section 2.4.
D	General Contingency Plan		This Attachment presents contingency measures applicable to all permitted hazardous or mixed waste management units. The Permittees shall implement the provisions of this Plan and the applicable provisions of Permit Part 2 (General Facility Conditions) immediately to minimize hazards whenever there is a fire, explosion, or release of hazardous or mixed waste or hazardous or mixed waste constituents that could threaten human health or the environment.	Implement the provisions of this Plan and the applicable provisions of Permit Part 2 (General Facility Conditions) immediately.	Y	17	EM	A	PUO/CP	N	N	All	N	Distibute within 5 days of effective dat of permit	
E	Inspection Plan		This Attachment presents inspection requirements applicable to all hazardous or mixed waste management units (permitted units) at Los Alamos National Laboratory (LANL). Inspection schedules for the units have been developed to identify equipment malfunctions and deterioration, operator errors, and discharges that might cause or lead to a release of hazardous or mixed waste and pose a threat to human health and the environment. The Permittees shall conduct Inspections at the schedule specified herein to identify problems in time to correct them before they harm human health or the environment. Inspection schedules or methods may differ at certain waste management units based upon worker safety issues or the nature of the safety and emergency equipment.	Presents inspection requirements and schedules for equipment, occurrences that effect safety applicable to all hazardous or mixed waste permitted units at LANL.	Y	1	U	A	PUO/CP	N	Y	All	N	N	Permitted units are responsible for implementing and record keeping. No formal oversight by ENV-RCRA.
F	Personnel Training Plan		Attachment F describes the personnel training program for Los Alamos National Laboratory (LANL) permitted unit workers. The primary objective of the training program is to prepare personnel to operate and maintain safely those areas managing hazardous and/or mixed waste. This training program applies to all employees of the Permittees and any subcontractors who work regularly at LANL permitted units and manage hazardous and/or mixed waste. The degree of training varies with the job duties.	Permitted units shall implement the Training Program for permitted unit personnel in Attachment F.	Y	16	U	A	PUO/CP	N	N	All	N	N	Operating Group is responsible for meeting training plan requirements.
G	Closure Plans			Permitted unit closure plans	Y	3	C	A	PUO/EP/CP	Permit mod to change	Y	All	N	N	Current closure plans must have Mod if changed
I	Section 2.9		Annual Report regarding the waste minimization program	Deliver report to NMED	Y	8	WM	A	ES/CP	Y	Y	All	N	Every December 1	
I	Section 2.12.5		Biennial Report	Deliver report to NMED	Y	8	P	A	CP	Y	Y	All	N	March 1 of every even numbered year	
I	Section 2.11.3		Contingency Plan Distribution	Distribute to all units	Y	17	P	A	CP	N	Y	All	N	January 4, 2011	
I	Section 1.17		Notice of demolition activities	Notice of annual list of planned demolitions	Y	12	N	A	CP/EP	Y	Y	All	N	Annually on or before September 30	
I	Section 1.10		Establish the Information Repository	Establish the Information Repository	Y	9	IR	A	CP/PO	N	Y	All	N	June 28,2011	
I	Section 1.12		Interested parties quire and compilation of comments and responses	Post on web site annually	Y	9	IR	A	CP/PO	Y	Y	All	N	Every September 1	
I	Section 1.12		Post the Community Relations Plan on the Permittees' web site and implement the Plan	Post and implement Community Relations Plan	Y	10	CR	A	CP/PO	N	Y	All	N	June 28,2011	
I	Section 1.12		Community Relations Plan	Post CRP on web site	Y	10	CR	A	CP/PO	Y	Y	All	N	June 28,2011	
I	Section 1.41		Documentation to either close or permit the interim status units.	Documentation or modification to NMED	Y	3	M	A	CP/PUO	Y	Y	All	N	June 28,2011	
J	Hazarduos Waste Management Units		Includes units permitted to store and treat hazardous waste, interim status units, and the Material Disposal Areas.	Hazarduos Waste Management Units	Y	1	U	A	PUO/CP	N	N	All	N	N	

1. LANL Hazardous Waste Permit , December 30, 2010, as ammended through March 6, 2015.

Appendix 2

Compliance Technical Assistance Program (CTAP)

ENV-CP-QP-115

LA-UR-16-21413

Approved for public release; distribution is unlimited.

Title:	Compliance Technical Assistance Program (CTAP)
Author(s):	Martinez, Geraldine Emily
Intended for:	Environmental Programs
Issued:	2016-03-07 (Draft)

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ENV-CP-QP-115	Revision: 0	Los Alamos NATIONAL LABORATORY EST. 1943
Effective Date: 09/28/2015	Next Review Date: 09/28/2018	

Environment, Safety, Health Directorate

Environment Protection Division

Environmental Compliance Programs Procedure

Quality Procedure

Compliance Technical Assistance Program (CTAP)

Document Owner/Subject Matter Expert

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Derivative Classifier: ☒ **Unclassified** ☐ **DUSA** **ENVPRO**

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History of Revisions

Document Number *[Include revision number, beginning with Revision 0]*	**Effective Date** *[Document Control Coordinator inserts effective date]*	**Description of Changes** *[List specific changes made since the previous revision]*
0	04/02	New Document.
1	10/03	Revisions include new records information and reformatting, new and edited definitions, and references to new documentation required prior to any work performed under this procedure.
2	10/05	Revisions reflect new group name and updating the work authorization section.
3	03/06	Revised to reflect changes to scope regarding courtesy self-assessments, current links were added, changed the word observation to findings, and deleted the term Generator Support throughout document.
4	03/07	Annual revision.
5	06/07	Revised to reflect WES-WA processes.
6	07/08	Revised to incorporate Training Assessments, management reviews, expanded assessments, Environmental Management System, and minor editorial changes.
7	09/08	Revised to exclude radioactive waste management self assessments for which a WES-WA procedure will be created. Renumbered as a quality procedure (QP).
8	11/10	Removed references to "RCRA Training Assessments" as they are no longer performed.
9	10/12	Biennial revision, new template implemented, revised to incorporate new program scope.
ENV-CP-QP-115, R0	09/28/2015	Revisions reflects new group name, the addition of PFITS implementation for findings, and updates to increase scope of assessments to address WIPP Incident and associated investigation findings. This document supersedes former document ENV-CP-QP-108.

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1.0 INTRODUCTION

The Compliance Technical Assistance Program (CTAP) provides waste management oversight and compliance assurance for waste regulated by the Los Alamos National Laboratory's Hazardous Waste Facility Permit, and State and Federal regulations for hazardous/mixed, universal waste, used oil, NM Special and TSCA waste. The CTAP coordinates with waste generator facilities and conducts quarterly assessments of all hazardous and mixed waste, universal waste, used oil, NM Special waste and TSCA waste storage and treatment sites. The CTAP program identifies potential non-compliance with the above waste management requirements and works with generating facilities to address potential issues. Additionally, members of CTAP provide in-the-field guidance and education on waste management requirements for generator/treatment sites.

1.1 Purpose

This procedure describes the process for ensuring compliance with the terms and conditions of the Los Alamos National Laboratory's Hazardous Waste Facility Permit and with State and Federal regulations, and provides technical assistance regarding management of hazardous/mixed waste, universal waste, used oil, NM Special and TSCA waste.

1.2 Scope

This procedure applies to ENV-CP Compliance Technical Assistance Program (CTAP) personnel for hazardous/mixed waste, universal waste, used oil, NM special waste and PCB audits as well as providing technical assistance for waste management.

2.0 PRECAUTIONS AND LIMITATIONS

2.1 Hazard review

The work described in this procedure (visual assessments) is administrative work only and has a **LOW hazard**.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- ENV-CP CTAP personnel

The training method for this procedure is "self-study" (required read). For ENV-CP staff, this is documented in accordance with **ENV-DO-QP-115, *Personnel Training***. Other participating groups may require training documentation pursuant to local procedures.

Actions specified within this procedure, unless preceded with "should" or "may," are to be considered mandatory guidance (i.e., "shall", "will", "must").

3.1 Prerequisites

In addition to training to this procedure, the following training, at a minimum, is also required prior to performing work detailed in this procedure:

- Curricula 125 HAZWOPER (24-HR.) Limited Site Worker
- Curricula 256 RCRA Hazardous/Mixed Waste Worker Training
- Curricula 2810 Hazardous Waste Generator
- Curricula 9053 RCRA Program Compliance Monitoring
- Curricula 9055 RCRA Interpretation Guidance

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records are generated as a result of this procedure and are maintained in accordance with the ADESH-AP-006.1, Records Management Plan and P1020-1, Laboratory Records Management.

- Completed compliance checklists, including photos (if any).
- Documentation of contested findings
- Facility implementation plans and schedules
- General correspondence on the program
- Corrective Action Plans
- Records related to completion of corrective actions and closeout of a finding
- All other records generated

5.0 WORK PROCESSES

5.1 Initiating a Compliance Evaluation

An organization is selected for a compliance evaluation based on the ENV-CP schedule. Evaluations will be conducted four times per year. Laboratory organizations may also request compliance assistance.

ENV-CP personnel will:

Step	Action
1	Coordinate with the Waste Management Coordinator (WMC) and/or area representative to schedule the visit.
2	Ensure that all required training and integrated work documents (IWDs) (where required) are completed and approved.

5.2 Entry to the Site

WMCs, FODs, RLMs, and ENV-CP personnel are jointly responsible for ensuring ENV personnel are aware of potential threats to health and safety, all site entry and training requirements, and the activities and tasks involved in the compliance evaluations as defined by the FOD.

ENV-CP personnel will:

Step	Action
1	Ensure a site representative is present at all times while conducting compliance evaluations.
2	Observe institutional and site-specific safety and security protocols.
3	Conduct only a visual review and never have physical contact with waste or containers.
4	Request from WMCs and FOD personnel disclosure of the contents of each waste accumulation and storage area prior to entry; and, identify any other locations where waste may be present.
5	Read postings at the entrance to individual waste accumulation and storage areas before entering to conduct compliance evaluations.

NOTE 1: ENV-CP personnel will make up to two (2) attempts to enter an area to conduct a compliance evaluation.

NOTE 2: IF ENV-CP personnel are denied entry to an area, a written notice will be sent to the appropriate Division Leader, Responsible Line Manager, WMC, FOD, and appropriate group leader, stating the specific circumstances, the location, date, and time of refusal, and any other pertinent information, with copies to the ENV-CP management.

If ENV-CP staff observe, or find themselves engaged in, work activities which could result in imminent danger or other significant hazards to the health or safety of workers, the public, or the environment, ENV-CP personnel will pause/stop work, notify their supervisor and—after hazard mitigation—their line manager will reauthorize work as specified in **P101-18, *Procedure for Pause/Stop Work***. P101-18 will also direct the process of stopping work and restarting work when hazard mitigation cannot be accomplished "in a reasonable time and to the mutual satisfaction of the workers involved..."

5.3 Conducting the Compliance Evaluations

ENV-CP personnel will:

Step	Action
1	Question on-site personnel regarding waste management practices, including but not limited to observations of treatment such as evaporation, dilution, or thermal treatment practices.

2	Review relevant documentation, including but not limited to: A. Waste characterization B. Waste generating process C. Waste shipping D. Personnel training E. Permits F. Emergency or contingency plans G. Assessment records H. Operating records I. Inspection Record Forms J. Maintenance Records K. Emergency Preparedness L. Response to spills and releases M. Waste Treatment, processing, or packaging
3	For the compliance evaluation, complete RCRA Compliance Checklist generated for the specific facility by the Hazardous Waste Database. o For ENV-CP personnel: https://weblogin.lanl.gov/login.php?referer=https://hsr-as-p-1.lanl.gov/scripts/runform.pl?config=env-swrc&appconfig=HWSASA
4	Take photos to document observations, if necessary. **Note:** Photography at LANL must follow the provisions set forth in **P202-5** ***Prohibited Articles***.
5	ENV-CP personnel may ask to visit non-registered storage areas such as, but not limited to laboratories, vault type rooms, machine shops, transportainers, etc.

5.4 Findings

ENV-CP personnel will:

Step	Action
1	Verbally communicate all findings to the WMC or area representative at the time of discovery and, when possible, recommend appropriate corrective actions.
2	Leave copies of completed checklists with facility representatives if requested.

5.5 Conducting the Compliance Evaluation Close-out

If requested by the management of the assessed organization or the waste management coordinator, ENV-CP personnel will:

Step	Action
1	Conduct a close out briefing to discuss any findings and corrective actions.
2	Provide a copy of the completed checklists.
3	Evaluate any relevant information provided by the facility in response to findings or related to corrective actions, and notify the organization by email of the decision.

NOTE: Organizations may contest findings within five working days of the date of the compliance evaluation by providing supporting information to ENV-CP personnel.

5.6 Updating the Compliance Evaluation Database and PFITS Submittal

ENV-CP personnel will:

Step	Action
1	Enter the evaluation results using the database generated checklists into Compliance Evaluation Database within 24-48 hours of completion of evaluation.
2	Complete PFITS Issue Action form for any findings and email completed form to the ADESH Performance Assurance Team (PAT) so they may enter information into the Performance Feedback and Improvement Tracking System.

NOTE: If findings are documented during the compliance evaluations, the database generates email notices to the owning Division Leader, Group Leader, FOD, WMC, and the registered area owner with a summary of findings.

5.7 Corrective Actions

Within 30 days of the compliance evaluation, the organization submits a written notification to ENV-CP, stating:

- Which findings were corrected,
- The corrective action taken,
- The corrective action completion date; or,
- The organization submits an action plan and implementation schedule to ENV-CP personnel.

ENV-CP personnel will:

Step	Action
1	Track corrective actions to completion.
2	If after 30 days corrective actions have not been documented or corrected, ENV-CP personnel will notify the appropriate manager.

NOTE: Findings may also be reported in the annual non-compliance report to the New Mexico Environment Department.

5.8 Compliance Evaluation Follow-up

Step	Action
1	ENV-CP Team Leader will monitor findings for any organization that accumulates multiple or repeat findings at any time in the fiscal year. In these cases, the TL may notify the ENV Division Leader to request a management review of the data with the responsible line manager.
2	ENV-CP personnel will maintain data quality by checking each electronic record against the checklist hard copy.

6.0 REFERENCES

- 20 NMAC 4.1
- 40 CFR 260-279
- Los Alamos National Laboratory Hazardous Waste Permit, December 2014
- ADESH Tools

7.0 DEFINITIONS

Corrective action: The process of correcting compliance deficiencies.

Corrective action report: A document used to report deficiencies and the corrective actions(s) (e.g., required remediation, investigation, identification of cause, and actions to preclude recurrence), as applicable.

Environmental Management System (EMS): A systematic method for assessing mission activities, determining the environmental impacts of those activities, prioritizing improvements, and measuring results. DOE Order 450.1 defines an EMS as "a continuous cycle of planning,

implementing, evaluating, and improving processes and actions undertaken to achieve environmental goals."

Facility Operations Director (FOD): The individual responsible for day-to-day maintenance—including waste management and environmental services—for a specific facility.

Finding: A condition of non-compliance regarding the management of regulated waste.

Management Review: A joint review and analysis of assessment results conducted by the ENV Division Leader and the owning Division or Group Leader.

Corrective action: The process of correcting compliance deficiencies.

Corrective action report: A document used to report deficiencies and the corrective actions(s) (e.g., required remediation, investigation, identification of cause, and actions to preclude recurrence), as applicable.

Environmental Management System (EMS): A systematic method for assessing mission activities, determining the environmental impacts of those activities, prioritizing improvements, and measuring results. DOE Order 450.1 defines an EMS as "a continuous cycle of planning, implementing, evaluating, and improving processes and actions undertaken to achieve environmental goals."

Facility Operations Director (FOD): The individual responsible for day-to-day maintenance—including waste management and environmental services—for a specific facility.

Finding: A condition of non-compliance regarding the management of regulated waste.

Management Review: A joint review and analysis of assessment results conducted by the ENV Division Leader and the owning Division or Group Leader.

Compliance Evaluation: A compliance evaluation by ENV-CP personnel to verify hazardous/mixed waste is being managed or to a waste accumulation or storage areas designated with specific site IDs—or any other location where waste is accumulated—for the purpose of assessing the handling and management of waste for compliance with state and federal hazardous waste management regulations and LANL policies.

Repeat finding: A finding that has been documented at a specific location and was noted in the previous assessment.

Waste accumulation or storage area: A registered location with a site ID and/or an unregistered waste storage area where waste or suspected waste is found (e.g., chemical or mixed chemical with no identified owner).

8.0 ATTACHMENTS

Attachment A, ENV's RCRA Compliance Inspection Checklist for TSDs (ENV-CP-Form-1018)

Attachment B, ENV's RCRA Compliance Inspection Checklist for General Inspections (ENV-CP-Form-1019)

Attachment C, PFITS Issue Action Form

Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

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RCRA COMPLIANCE INSPECTION CHECKLIST

Site Id #	TA	Building	Room	FOD	Group	Inspection Date	Facility Type	Training Inspection
							PERMITTED	Yes ☐ No ☐

☐ No Concerns ☐ With Concerns ☐ Inactive/Removed ☐ Active but not storing ☐ Comments

ENV Inspector 1: **Inspector 2:**

WMC **Other Location:**

GENERAL REQUIREMENTS	Finding
1. The generator has not initiated a hazardous waste determination	☐
2. Containers are not in good condition.	☐
3. Waste is not compatible with containers.	☐
4. Containers are not closed.	☐
5. A. Waste containers are not marked with the words "HAZARDOUS WASTE, UNIVERSAL WASTE or USED OIL".	☐
5. B. Mixed waste is not labeled/marked "RADIOACTIVE".	☐
6. Constituents of waste are not on container.	☐
7. A. Waste spills or leaks have not been cleaned up.	☐
7. B. The resultant clean up materials have not been handled as hazardous waste or used oil.	☐
9. Incompatible wastes are not segregated properly.	☐
11. ENV-CP has not been notified of the location of the waste accumulation areas or any changes in the area.	☐
13. The waste/material does not have a known owner/generator.	☐
14. Hazardous waste/universal waste must be stored in a container.	☐
15. Hazardous waste was disposed of improperly.	☐
16. Generator treatment is occurring and are not complying with 40 CFR 262.34	☐

PERMIT - TSD REQUIREMENTS	Finding
21. The waste is not listed as authorized waste (Attachment B), identified with the applicable waste processing code (S01, S02, T04 or X01) and/or with the total capacity identified in Attachment J, Table J-1, stored/treated at the unit.	☐
22. The waste was not accepted from on-site generators and/or Permit-allowed off-site generators.	☐
23. Waste was diluted to avoid applicable treatment standards.	☐
24. The waste accepted at the unit was not fully characterized in accordance with the Permit.	☐
25. There has been a release to the environment from the unit.	☐
26. Evacuation routes for the unit are not posted at the unit.	☐
27. Entry to the unit is not monitored and/or controlled using a surveillance system or controlled with gates, stations, or other means.	☐
28. Security measures are not effective at the unit as inspected, maintained, and/or have been changed from the unit figures in Attachment N and, as applicable, Attachment G of the permit.	☐
29. A. Bilingual (trilingual at TA-54, Area G) warning signs are not posted at all gates/doors and perimeter fences.	☐
29. B. Warning signs are not posted in sufficient numbers and/or visible at all angles of approach as well as from distance of at least 25 feet.	☐

Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

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RCRA COMPLIANCE INSPECTION CHECKLIST

29. C. Warning signs are not inspected at least 2 times per year at large units or weekly at smaller units.	☐
30. All work surfaces (including loading and unloading areas), structures, base materials, containment systems, and equipment at the unit are not inspected at least weekly, and daily when hazardous waste management activities occur.	☐
31. All unit surfaces and equipment at the unit are not currently in good condition.	☐
32. All the communication devices, alarm systems, fire control equipment, spill control equipment, wind socks, and decontamination equipment listed in the emergency equipment tables within Attachment D are not at the unit and/or operable.	☐
33. Communication devices are not accessible without entering another building and/or personnel do not have the means to summon emergency assistance.	☐
34. Communication devices, fire control equipment, alarms, spill control equipment, and decontamination equipment are not inspected and tested in accordance with the Inspection Plan.	☐
35. Mitigation of deterioration or malfunctions of equipment or structures that may lead to an environmental or human health hazard has not occured within 24 hours of discoveryinspection.	☐
36. Non-functioning equipment is not marked and/or the locations of the substitute is not posted.	☐
37. A substitute has not been provided for missing or non-functioning equipment and/or, if necessary, training has not been conducted and/or documented with the substitute equipment.	☐
38. Controls to prevent run-on into the unit are not maintained and/or berming and sloping or other drainage design features within the unit are not maintained.	☐
39. Containers holding ignitable or reactive wastes are not located at least 15 meters (50ft) from the technical area boundary.	☐
40. The following precaution(s) is/are not taken during the treatmentstorage of ignitablereactive waste, the mixing of incompatible waste and other materials, or the storage of unvented transuranic waste to prevent reactions: No sources of open flames or ignition or reaction in, on, or around the container or tank;	☐
40. A. Adequate clearance around fire hydrants at permitted units;	☐
40. B. only non-sparking tools are used when managing hazardous waste containers that contain ignitable or reactive wastes;	☐
40. C. Appropriate lighting protection is provided for all storage and treatment units;	☐
40. D. Smoking and open flames are minimum of 50 feet from areas where ignitable or reactive wastes are handled;	☐
40. E. Container of ignitable or reactive waste are stacked no more than 2 containers high; and/or	☐
40. F. Unit's fire suppression system is compatible with the hazardous waste stored or treated at the permitted unit.	☐
41. Incompatible wastes or materials, wastes and materials that could generate hydrogen cyanide and wastes where their mixtures could cause a fire or a dangerous evolution of heat or gas are not stored separately and/or on separate secondary containment so that a release or spill will not commingle.	☐
42. All waste and materials are not segregated and/or stored in accordance with DOT compatibility groupings or classes.	☐
43. Containers, storage tanks, and/or stabilization units are not managed to ensure hazardous waste is not placed in an unwashed container, tank, or stabilization unit that previously held an incompatible waste or material.	☐
44. A Facility Operating Record has not been maintained and/or is not available for inspection.	☐
44. A. The location of each type of waste and the total quantity of all wastes is not documented for the unit.	☐
44. B. A record of all information about each waste contained on the waste container label is not kept for the unit.	☐
44. C. Records of inspections are not kept or are incomplete for the unit.	☐
44. D. Records of personnel training who are involved in hazardous waste management activities are not kept or not up-to-date for the unit.	☐

Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

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RCRA COMPLIANCE INSPECTION CHECKLIST

44. E. For stored and treated wastes; notices, exemptions, exclusions, certifications, and other documentation as required by 40 CFR 268.7 is not recorded.	☐
44. F. A record has not been maintained for all instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a waste storage pad.	☐
44. G. Recordkeeping and reporting requirements associated with manifest or dates of treatment or storage are not kept or are incomplete for the unit.	☐
44. H. A record of the hazardous waste received and the methods and dates of treatment or storage is not kept for the unit.	☐
44. I. Records of notices to off-site generators (allowed by the Permit) have not been kept for the unit as specified in 40 CFR 264.12.	☐
44. J. Waste characterization information (including acceptable knowledge, waste analysis, volatile organic compounds per container, & waste characterization review) does not meet permit conditions and/or is not kept for the unit.	☐
44. K. Records are not maintained documenting the monitoring of adequate secondary containment system capacity when accumulated liquids cannot be removed within 24 hours nor has an extension of time for removal been sought.	☐
44. L. The owners/operators/inspectors/waste handlers have not completed or no up-to-date on the required training.	☐
45. A copy of the most recent Contingency Plan (Attachment D) is not located at the unit.	☐
46. Secondary containment systems (including pallets) are not maintained with the unit to be used to store waste that contains free liquids or wastes without free liquids that are EPA Hazardous Waste Numbers F020, F021, F022, F023, F026 and F027.	☐
47. The base of the secondary containment system(s) is not impervious and/or strong enough to withstand daily operations.	☐
48. Secondary containment systems (including pallets) that have coatings, sealants, or liners are not installed in accordance with manufacturer's specifications and/or documents as such.	☐
49. Controls are not maintained to prevent run-on/run-off into or from a permitted unit that contains waste with free liquids.	☐
50. Spilled, leaked, or other accumulated material was not removed from secondary containment systems within 24 hours. This includes the HDPE liner at TA-54, Area G, dome 224 even though it is not used as secondary containment. Additionally:	☐
50. A. There were no other means of secondary containment;	☐
50. B. An extension has not been granted; and/or	☐
50. C. The unit is a storage tank or stabilization unit, it was not removed from service immediately and/or the requirements of 40 CFR 264.196 were not implemented.	☐
51. Damage to secondary containment has not been repaired within 15 days of detecting the problem.	☐
52. Waste containers are not stored within secondary containment systems (including pallets) to ensure to not exceed the capacity of the system including the secondary containment available to the storage tank system (TA-55-401), components, and ancillary equipment.	☐
53. Containers and/or tanks storing hazardous waste do not have a label containing: "Hazardous Waste";	☐
53. A. Containers and/or tanks storing hazardous waste do not have a label containing: The generator's name, address, and EPA identification number;	☐
53. B. Containers and/or tanks storing hazardous waste do not have a label containing: The date the container was place in storage at the unit;	☐
53. C. Containers and/or tank storing hazardous waste do not have a label containing: All applicable EPA Hazardous Waste Number(s); and/or	☐
53. D. Containers and/or tanks storing hazardous waste do not have a label containing: The words "Radioactive" and/or "free liquids", as applicable.	☐
54. Containers and/or tanks are not in good condition with leakage, corrosion, and/or damage that may impact integrity. Additionally:	☐
54. A. Waste was not transferred into a container that is in good condition within 24 hours of discovery.	☐

Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

RCRA COMPLIANCE INSPECTION CHECKLIST

55. Containers and/or tanks are not kept closed during storage.	☐
56. Stored containers (including those in movable buildings) are not elevated or otherwise protected from contact with accumulated liquids.	☐
57. Waste is stored at the unit for more than one year.	☐
57. A. Additionally, waste is not stored solely for the purpose of accumulating such quantities of hazardous waste restricted from land disposal as necessary to facilitate proper recovery, treatment or disposal; is not on the LANL Site Treatment Plan; and/or does not meet all applicable treatment standards.	☐
58. Containers are not stored in manner that allows them to be inspected for leaks, corrosion, deterioration, and for labels to be read without moving them.	☐
59. Adequate aisle space is not maintained at all times to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment within the unit.	☐
60. Emergency egress aisles, with a minimum aisle space of two feet, are not maintained at all personnel doors at the unit.	☐
61. Lines of demarcation have not been established to identify the boundaries of all container storage units.	☐
62. Hazardous waste gas cylinders are not stored in racks, baskets, or specially constructed pallets.	☐
63. Hazardous waste containers stored outdoors are stored within 5 feet of the perimeter (e.g., permitted unit boundary) fence, within 5 feet of any permanent structure, or within 5 feet of a paved or unpaved roadway.	☐
64. Waste containers stored outdoors are not protected from contact with precipitation.	☐
65. Containers, tanks, and/or treatment units holding mixed and/or hazardous waste are not handled in a manner to avoid rupture or cause the container, units, or ancillary equipment to leak.	☐
66. Liquid PCB-contaminated hazardous waste is not stored in accordance with 40 CFR 268.50.	☐
67. Containers and liners are not compatible with the waste.	☐
68. Containers used for storage of hazardous waste are not compliant with Department of Transportation (DOT) shipping container regulations.	☐
69. Air pollutant emissions are not controlled in accordance with 40 CFR Part 264 Subpart CC and Attachment E.	☐
70. OB/OD - Treatment operations are not conducted only during daylight hours.	☐
71. OB/OD - Transportation operations are not ceased in the event of lightning, icy roads, Red Flag conditions, or any other unsafe situtation.	☐
72. OB/OD - Inspections are not conducted within 24 hours of each treatment event to identify any untreated reactive waste that may be present.	☐
73. OB/OD - Procedures are not in place to conduct treatment operations remotely and clear persons from the area prior to treatment operations.	☐
74. OB/OD - For open burning and open detonation treatment units, new waste streams have not been newly characterized and/or properly documented.	☐
75. OB/OD - Abnormal treatment events have not been documented for open buring and open detonation units.	☐
76. OB/OD - Open burn unit is not covered when not in use.	☐
77. TA-50 - The fire access lane between indoor and outdoor units at TA-50-69 is not maintained.	☐
78. TA-50 - Loading and unloading operations have been conducted during severe weather conditions at TA-50-69.	☐
79. TA-50 - Ignitable wastes are stored within the glovebox at TA-50-69.	☐
80. TA-50 - Records are not kept that document the inspection and maintenance of the drainage swales located at TA-50-69.	☐
81. TA-54 - Shaft covers are not securely in place and/or have evidence of erosion.	☐

Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

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RCRA COMPLIANCE INSPECTION CHECKLIST

82. TA-54 - Disposal shafts and shafts used for retrievable storage do not have their covers securely in place.	☐
83. TA-54 - During waste handling operations, guard rails are not installed or are not in good condition.	☐
84. TA-54 - Landfill covers are not inspected weekly and/or after storms for evidence of erosion, subsidence, and water intrusion (Area G, Shafts 145 and 146 and Area L shafts 36 and 37).	☐
85. TA-54 - Discovered fluids in the holding tank at TA-54, Area L, were not removed within 3 days.	☐
86. TA-54 - Records are not kept for the monthly inspection and removal & analysis of fluids from the holding tank at TA-54, Area L.	☐
87. TA-55 - Container storage units listed as "non-liquid wastes only" are managing waste containers that contain free liquids.	☐
88. TA-55 - Storage of mixed waste in tanks and treatment of mixed waste occurs outside the permitted unit (TA-55-4-401 Mixed Waste Stabilization Unit, process code T04 in Attachment J, Table J-1).	☐
89. TA-55 - Storage tank or stabilization system repairs have not been performed in accordance with 40 CFR 264.196(e)(2) through (4), nor has the system been closed in accordance with 40 CFR 264.197.	☐
89. A. TA-55 - Repairs or replacement have not been certified as required.	☐
89. B. TA-55 - Testing on components and ancillary equipment has not been performed.	☐
90. TA-55 - During replacement of tank unit systems and ancillary equipment proper handling procedures were not adhered to in order to prevent damage.	☐
91. TA-55 - Written integrity assessments are not kept for inspections of the storage tank system.	☐
92. TA-55 - Documentation of testing and certifications of replacement or repair is not kept for the storage tank system (including components and ancillary equipment) and stabilization unit.	☐
93. TA-55 - Design and installation documentation is not kept for the storage tank system (40 CFR 264.192).	☐
94. TA-55 - Ignitable or reactive wastes are managed in the TA-55 storage tank system and/or the TA-55 stabilization unit.	☐
95. TA-55 - For the TA-55 storage tank system, the base of the secondary containment system(s) is not impervious and/or strong enough to withstand daily operations and/or does not conform to the requirements of 40 CFR 264.193.	☐
96. TA-55 - Appropriate controls and practices are not in place to prevent spills and overflows from the TA-55 storage tank system and the TA-55 stabilization unit.	☐
COMMENTS:	

Attachment B, ENV's RCRA Compliance Inspection Checklist for General Inspections

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RCRA COMPLIANCE INSPECTION CHECKLIST

Site Id #	TA	Building	Room	FOD	Group	Inspection Date	Facility Type	Training Inspection Yes ☐ No ☐

☐ No Concerns ☐ With Concerns ☐ Inactive/Removed ☐ Active but not storing ☐ Comments

ENV Inspector 1: **Inspector 2:**

WMC **Other Location:**

GENERAL REQUIREMENTS	Finding
1. The generator has not initiated a hazardous waste determination	
2. Containers are not in good condition.	
3. Waste is not compatible with containers.	
4. Containers are not closed.	
5. A. Waste containers are not marked with the words "HAZARDOUS WASTE, UNIVERSAL WASTE or USED OIL".	
5. B. Mixed waste is not labeled/marked "RADIOACTIVE".	
6. Constituents of waste are not on container.	
7. A. Waste spills or leaks have not been cleaned up.	
7. B. The resultant clean up materials have not been handled as hazardous waste or used oil.	
9. Incompatible wastes are not segregated properly.	
11. ENV-CP has not been notified of the location of the waste accumulation areas or any changes in the area.	
13. The waste/material does not have a known owner/generator.	
14. Hazardous waste/universal waste must be stored in a container.	
15. Hazardous waste was disposed of improperly.	
16. Generator treatment is occurring and are not complying with 40 CFR 262.34	

UWA - UNIVERSAL WASTE AREAS	Finding
3. The universal waste area sign is not promiently posted and visible.	
4. Batteries do not have an accumulation start date or wrong start date on containers.	
5. Batteries have exceed the one year time limit.	
6. Lamps/bulbs do not have an accumulation start date on containers.	
7. Lamps/bulbs have exceeded the one year time limit.	
8. Lamps/bulbs containers are not closed.	
9. Mercury containing equipment does not have an accumulation start date on containers.	
10. Mercury containing equipment exceeded the one year time limit.	
11. Pesticides do not have an accumulation start date on containers.	
12. Pesticides exceeded the one year time limit.	
13. Pesticides containers are not closed.	
14. Aerosol cans do not have an accumulation start date on containers.	

SAA - SATELLITE ACCUMULATION AREAS	Finding

Attachment B, ENV's RCRA Compliance Inspection Checklist for General Inspections

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RCRA COMPLIANCE INSPECTION CHECKLIST

1. The waste is not accumulated "at or near the point of generation".	
2. The waste is not "under the control of the operator of the on-going process generating the waste".	
3. The users of the SAA do not have an inventory system or their names and correct waste profile/waste stream ID numbers on containers.	
4. The SAA does not have administrative controls/authorized users.	
5. The SAA outside does not have physical controls.	
6. A. has exceeded the 55 gallons of hazardous waste or 1 quart of acutely hazardous waste.	
6. B. The waste volume has been exceeded, and the containers are not marked with the date the excess began.	
6. C. The excess amount has been held for more than 3 days.	
7. The satellite accumulation area sign is not prominently posted and visible.	
8. Hazardous waste was moved from one satellite accumulation area to another satellite accumulation area.	
9. Owner/Operator/Generator is not an active user of the SAA.	
10. Legacy/No-Owner waste is stored in SAA.	
11. SAA does not have an active process associated with it.	
< 90 DAY - LESS THAN 90 DAY AREAS	**Find-ing**
1. There is not an accumulation start date on every container.	
2. The waste has exceeded the 90 day time limit.	
3. The accumulation area is not inspected weekly or when adding or removing waste.	
4. Deficiencies that are noted are not being corrected in a timely manner.	
5. The <90 day accumulation area sign is not prominently posted and visible.	
7. A. There is no Spill control equipment.	
7. B. There is no Emergency equipment.	
7. C. There is no Communication equipment.	
7. D. There is no Decontamination equipment.	
8. There is no adequate aisle space between containers.	
9. The owners/operators/inspectors/waste handlers have not completed or not up-to-date on the required training.	
10. A. A copy of the Contingency Plan is not at the accumulation area and/or up-to-date.	
10. B. There is no Emergency Contact List/Site Specific Plan.	
11. Identified non-notation on inspection record.	
COMMENTS:	

Attachment C: PFITS Issue Action Form

	Record #	Facility	Description of Performance Feedback	ORPS or NTS?	Noncompliance and/or PAAA?	IRM	Comments/Other	Action(s), Actionee(s), and Due Date(s)
1	2015-XXXX	Location where occurred: Provide TA/Bldg/Room	Finding or OFI 1: Occurred Date: Identified Date: Identified By: Should there be an Effectiveness Evaluation? No Is a Causal Analysis Required? No	Is this record ORPS/Sub-ORPS— No Is this NonCompliance Tracking System (NTS) reportable? No Is this issue NFAR—(No further action required—need justif. statement—i.e., may have addressed deficiency with other means—MOV; six sigma, etc.) No	Non-compliance with 10CFR830? With 10CFR835? With 10CFR851? No	Provide name of Issue Responsible Manager—who owns the program or has the resources to correct. Also will be person who reviews the objective evidence and gives approval for closure of the action or issue Group Leader of registered owners group	If NFAR –need justification statement here	If a corrective action is required—provide the following for each action. Actionee: Who will correct? Registered site owner with assistance from WMC Action: How will it be corrected? Provide action statements. Should be 1 or 2 sentences that describe what action must be taken—including results expected. Due Date: Provide date when will be corrected? OE: Describe what Objective Evidence will be to allow for closure of action/PFITS issue. _____ If actions have already been completed. Provide: (1) Statement of what was accomplished (2) Date when completed (3) Copies of all applicable OE (4) E-mail from IRM that OE has been reviewed; is acceptable; and action and/or issue can be closed.

Appendix 10
Ordered Action 1.12

LA-UR-16-21426

LA-UR-16-21426

Approved for public release; distribution is unlimited.

Title:	EWMO RCRA Permit Operating Record and Compliance Programs, EP-AP-20284, R0
Author(s):	Moseley, Jessica L.
Intended for:	Environmental Programs
Issued:	2016-03-07 (Draft)

Disclaimer:
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Document Action Request

Section 1 – Originator Request

Document No.: EWMO-AP-20284	Revision No.:0
Title: EWMO RCRA Permit Operating Record and Compliance Programs	Page 1 of 1

Reviewed procedure in accordance with DOE/IG-0922 to ensure procedure is accurate, complete, and ready for use. Revised to update WM practices.

Originator Name (print): Jessica Moseley	Z#: 128795	Organization: OS-BSI	Date: 10/26/15

Section 2 – Responsible Manager Approval for Processing (see P315, Att. 16, Section 16.5.1.c)

☐ New Document ☐ Minor Revision ☐ Deactivation ☒ Major Revision ☐ Cancellation

☒ Perform Concurrent Periodic Review?

☒ Approved ☐ Disapproved (return to originator) Comments:

Signature /s/ Les Sonnenberg	Print Name, Title Les Sonnenberg, EWMO FOD	Z# 290408	Date 10/28/2015
RLM Concurrence Signature /s/ Paul Newberry	Print Name, Title Paul Newberry, WD-SRS Group Leader	Z# 112056	Date 10/27/2015

Section 3 – Hazard Grading (see P315, Att. 16, Section 16.5.1.f)

Hazard Determination: ☒ Low ☐ Moderate ☐ High/Complex ☐ N/A

Document is authorized to serve as IWD? ☐ Part I only ☒ Full IWD ☐ N/A

Section 4 – Required Reviews (see P315, Att. 16, Section 16.5.3)

Discipline	Name	Signature	Date
EWMO Operation Manager	Gail Helm	DRS	
WD-SRS Group Leader	Paul Newberry	DRS	
WD-SRS Operations SME	Dave Lalonde	DRS	
Shift Operation Manager	Bob Harder	DRS	
Engineering	Val Rhodes	/s/ Val Rhodes	1/31/16
Quality Assurance	Robert Trujillo	DRS	
Industrial Hygiene and Safety	Gary Whitney	DRS	
Environmental Compliance Programs	Clare Bena	DRS	
Maintenance	Glenn VanDerpoel	DRS	
Deployed Environmental Professional	Jim Stanton	DRS	
Radiation Protection	Christine Bullock	DRS	
Criticality Safety Officer	Art Crawford	DRS	
Criticality Safety Analyst	Sean Gough	DRS	

Validation Required? ☒ Yes ☐ No ☐ Waive Comment:

Scope of Validation: ☒ Entire Procedure ☐ Change Only Validation Method: ☐ Walkdown ☐ Simulation ☒ Tabletop

Training Determination Completed: ☒ Yes ☐ N/A Completed By: Mark Shepard

USQ/USI Number (if needed): EWMO-16-036-D	Signature /s/ Art Crawford	Z# 080070	Date 2/29/16

Section 5 – Final Approvals (see P315, Att. 16, Section 16.5.4)

☐ Release ☒ Hold Details: Release on effective date.

Responsible Manager Signature for Les Sonnenberg	Print Name, Title Stephanie Arego	Z# 140892	Date 3/3/16
Additional Approval Signature	Print Name, Title	Z#	Date

EWMO RCRA Permit Operating Record and Compliance Programs

Effective Date: March 8, 2016

Next Review Date: March 8, 2019

Classification Review: ☑ Unclassified ☐ UCNI ☐ Classified

Name (print)	Z#	Signature	Date
Teri Tingey	200975		3/2/16

Responsible Manager, EWMO Facility Operations Director

Name (print)	Z#	Signature	Date
Les Sonnenberg	290408	for Les Sonnenberg	3/3/16

Working Copy / Information Only (circle one)

Initials / Date: ____ / ____

REVISION HISTORY

Document Number	Issue Date	Action	Description
EP-DIV-AP-21, R.0	September 26, 2012	New Document	
EWMO-AP-20284, R.0	March 8, 2016	Major Revision	Reviewed procedure in accordance with DOE/IG-0922 and EP-AP-10007 to ensure procedure is accurate, complete, and ready for use. Extensive revision and reorganization. No revisions bars added. Included all Facility Operating Record requirements from Permit. Added Attachment 1, a matrix of requirements, generating organization, and storage location. Updated to reflect current waste management practices and use of WCATS. Updated formatting and organizational references.

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1. PURPOSE

This document identifies the Facility Operating Records and location of those records associated with the implementation of the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit) as they apply to the Associate Directorate of Nuclear and High Hazards Operations (ADNHHO) - Environmental and Waste Management Operations (EWMO) supported facilities. This document also provides a description of EWMO compliance activities and programs associated with the Permit requirements.

2. SCOPE

This document is specific to Resource Conservation and Recovery Act (RCRA) Facility Operating Record generation and record location for EWMO supported facilities including Waste Characterization, Reduction, and Repackaging Facility (WCRRF), Technical Area (TA) 54, Areas G and L, and TA-54 West/Radioassay and Nondestructive Testing (RANT) Facility.

3. HAZARDOUS WASTE PERMITTED UNITS AND ACTIVITIES DESCRIPTION

3.1 TA-50, WCRRF

TA-50 is located at the northeast corner of the intersection of Pajarito Drive and Pecos Road, on the finger mesa bounded by Mortandad Canyon to the north and Two-Mile Canyon to the south. The container storage units at TA-50 include the TA-50-69 Indoor unit (Rooms 102 and 103) and the TA-50-69 Outdoor unit including Transportainers TA-50-75 and TA-50-194 and portions of the asphalt pad.

3.1.1 TA-50-69 Indoor Permitted Unit

The TA-50-69 Indoor permitted unit consists of Rooms 102 and 103. Room 102, the main process room, measures approximately 45 feet (ft) wide and 52 ft long. Room 103, the unloading area, measures approximately 18 ft wide and 19 ft long and is located adjacent to and southeast of Room 102. This design allows for unobstructed transport of waste containers from outside the facility, through the vehicle airlock entrance, into the unloading area, and into the glove box processing areas.

3.1.2 TA-50-69 Outdoor Permitted Unit

The TA-50-69 Outdoor unit is comprised of an unlined and non-coated asphalt pad. Transportainers and other weather protective structures in the permitted unit provide weather protection for containers of various sizes.

3.2 TA-54

TA-54 consists of 130 acres atop Mesita del Buey and is used for storage of hazardous waste, mixed low level waste (MLLW), and mixed transuranic (MTRU) waste generated throughout LANL. TA-54 has three separate areas where hazardous and mixed waste is stored; Area L, Area G, and TA-54 West/RANT. There is one permitted unit at Area L, nine permitted units at Area G, and two permitted units at TA-54 West/RANT.

3.2.1 Area L

The Area L permitted unit is the area within the fence and is comprised of an asphalt pad within the fence line and several storage structures including Dome 215; concrete pad with canopy 32; concrete pads 35 and 36; storage sheds 68, 69, 70, and 31; and modular units 39 and 58. The permitted unit stores containers of hazardous waste in solid and liquid form. Liquid wastes are stored primarily in structures that are designed for secondary containment; however, secondary containment pallets may also be used. Secondary containment pallets are typically constructed of polyethylene or metal painted with a chemically-resistant urethane.

3.2.2 Area G

The permitted units at Area G are used to store containers of hazardous, MLLW, and MTRU wastes in solid and liquid form. Storage of waste occurs within nine units as described below:

- TA-54 Area G Pad 1
- TA-54 Area G Pad 3
- TA-54 Area G Pad 5
- TA-54 Area G Pad 6
- TA-54 Area G Pad 9
- TA-54 Area G Pad 10
- TA-54 Area G Pad 11
- TA-54 Area G Storage Shed 8
- TA-54 Area G TA-54-33

Containers with liquids are stored in structures designed for secondary containment or placed on secondary containment pallets. Secondary containment pallets are typically constructed of polyethylene or metal painted with a chemical-resistant coating.

3.2.3 TA-54 West/RANT

There are two permitted units at TA-54 West/RANT. The first unit includes the indoor low bay and the high bay in TA-54-38 and the second unit includes the outdoor storage pad which

surrounds the north, east, and south sides of TA-54-38 and the loading dock at TA-54-38. The permitted units at TA-54 West/RANT are used to store solid hazardous waste.

4. RECORDS MANAGEMENT

LANL implements a robust Laboratory-wide records management system as described in LANL Policy PD1020, Document Control and Records Management, and P1020-1, Laboratory Records Management. A majority of the Facility Operating Records described in this document are collected and maintain locally in accordance with the Associate Directorate of Environmental Management's (ADEM) procedure EP-AP-10003, Records Management. The Associate Directorate for Environment, Safety, and Health (ADESH) records are maintained in accordance with ADESH-AP-006, Records Management Plan. Records are submitted to LANL's Document Control Records Management (DCRM) team either in hard copy or electronically. The records are then stored in the Electronic Document Management System (EDMS).

5. FACILITY OPERATING RECORD

The Permittees must maintain a written Facility Operating Record for the operations of each permitted unit until closure of the unit is approved. For documents that address all of the LANL hazardous waste management units (e.g., certifications of a LANL program to reduce the volume and toxicity of hazardous waste), the Permittees must maintain these documents throughout the active life of the Facility including the post-closure care period. Unless specifically prohibited by the Permit, an electronic record capable of producing a paper copy shall be deemed to be a written record. Any substantive alterations made to the electronic record must be documented, dated, and made part of the Facility Operating Record.

The Permittees must incorporate into the Facility Operating Record information required by Permit Sections 2.12.1, 2.12.2, 3.7.1, and 3.12.1. The following table summarizes each applicable Permit section and the corresponding section of this document which addresses the requirement.

Permit Section	Document Section
Permit Section 2.12.1 – Manifest Systems	
Recordkeeping and reporting requirements associated with manifests in accordance with 40 CFR §§ 264.71, 264.72, and 264.76, whenever a shipment of hazardous waste is either received at, or initiated from, the Facility.	5.1
Permit Section 2.12.2 – Facility Operating Record	
(1) A description of the hazardous waste received and the methods and dates of treatment and storage at each permitted unit.	5.2
(2) The location of each type of hazardous waste within each permitted unit and the total quantity of all wastes and waste types at each unit and any associated structure (e.g., room, dome).	5.2
(3) Records and results of waste analyses and waste determinations.	5.3
(4) Instances of fire, explosion, spill, or release from, or at, a permitted unit regardless of whether the incident required implementation of the Contingency Plan or Permit Part 11 (see 40 CFR § 270.32(b)(2)).	5.4
(5) Records and results of inspections and documentation of corrective actions.	5.5
(6) Monitoring, testing, analytical data, and response actions related to tanks systems (40 CFR §§ 264.191, .193, .195), miscellaneous units (264.602), air emission standards for equipment leaks (264.1063, .1064), and air emission standards for tanks, surface impoundments, and containers (264.1082 - 264.1090).	5.6
(7) Notices to off-site generators as specified in 40 CFR § 264.12(b).	5.7
(8) Reserved in Permit.	
(9) Annual certification stating a Facility program is in place to reduce the volume and toxicity of hazardous waste generated.	5.8
(10, 11, 12) For treated wastes, hazardous wastes left in the ground after closure (i.e., disposal units) and for stored waste, the information contained in the notice and certification required under 40 CFR § 268.7.	5.9
(13) All monitoring reports and records required by this Permit, including but not limited to: a. Records of all monitoring data used to complete Permit Application(s); b. All data gathered or generated during the closure or post-closure process; and c. All laboratory reports, drilling logs, and bench-scale or pilot scale data.	5.10
(14) Documentation demonstrating distribution of the Contingency Plan in accordance with Permit Section 2.11.3.	5.11
(15) Documentation demonstrating the installation and maintenance of secondary containment system coatings or sealants as required in Permit Sections 3.7.1(4) and 4.4(4).	5.12
(16) Personnel training records including both introductory and continuing training programs used to prepare employees to safely operate and maintain a permitted unit in compliance with 40 CFR § 264.16(d) and the Permit.	5.13
(17) Documentation of notifications and trainings associated with alternate emergency equipment as required in Permit Section 2.10.2.	5.14
(18) Documentation of all instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a hazardous waste unit.	5.15

Permit Section	Document Section
Permit Section 3.7.1 – Containers with Free Liquids	
If a sump or secondary containment system cannot be evacuated within 24 hours, daily documentation to demonstrate that sump or secondary containment system retains sufficient capacity to contain 10% of the volume of containers or the volume of the largest container holding free liquids, whichever is greater.	5.16
Permit Section 3.12.1 – TA-54 Container Storage Requirements, General Operating Conditions	
Documentation that all fluids above the HDPE liner at Area G, Dome 224 are removed/evacuated within 24 hours of discovery including a complete chemical analysis of the fluid.	5.17

Attachment 1 provides a matrix that summarizes each Permit Facility Operating Record requirement, the generating organization, the record generating procedure/document, the records management procedure, and the record storage location.

5.1 Waste Manifests [Permit Section 2.12.1]

Permit Section 12.2.1 requires that shipping manifests be maintained for three years, in accordance with 40 CFR §§ 264.71, 264.72, and 264.76, whenever a shipment of hazardous waste is either received at, or initiated from, the Facility.

Hazardous waste and MLLW manifests are maintained in LANL's facility wide Waste Compliance and Tracking System (WCATS). WCATS use and manifest generation and retention is described in MAN-5004, WCATS User's Manual. The Waste Management Division – Waste Management Services (WM-SVS) organization ships hazardous waste and MLLW per WM-SVS-DOP-300, Preparing and Shipping Waste Off-Site, and hard copies of shipping papers and manifests are maintained in accordance with ADESH-AP-006.

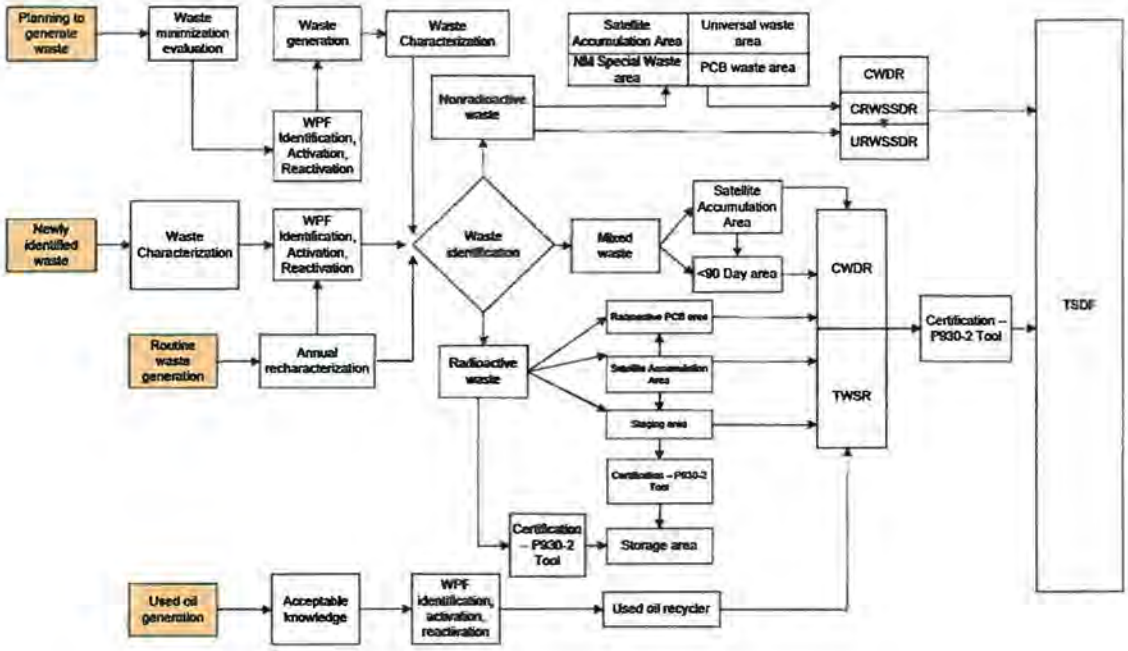
MTRU waste is shipped and manifested by the Operations Support – Packaging and Transportation (OS-PT) organization in accordance with P&T-WI-125, OS-PT Waste Operations Instructions. MTRU manifests are maintained in accordance with LANL Policy P1020-1.

5.2 Waste Management [Permit Section 2.12.2(1) and (2)]

A description of the waste managed at EWMO hazardous waste permitted units including type, quantity, location, and dates received, processed, and shipped is captured in WCATS. All LANL waste management and processing activities are documented and tracked in WCATS. WCATS use is described in MAN-5004. No on-site treatment is currently authorized at EWMO-supported facilities and; therefore, no treatment records are maintained.

WCATS is a software application that has been specifically designed to manage LANL's waste from cradle to grave. WCATS supports the generation, characterization, processing, and shipment of LANL radioactive, hazardous, mixed, and industrial waste. WCATS is compliant with the Environmental Protection Agency (EPA) and New Mexico Environment Department (NMED) regulations implementing RCRA, which includes hazardous waste regulations and solid waste regulations. Moreover, WCATS is compliant with EPA regulations pertaining to the Toxic Substances Control Act, which regulates polychlorinated biphenyls and asbestos; Department of Transportation (DOT) regulations applying to shipping, transport, and storage during transport; National Nuclear Security Agency nuclear material control and accountability; Department of Energy (DOE) nuclear safety; LANL permit; and TRU waste certification requirements. Technical information on WCATS can be gained from the WM Division WCATS Team.

The following flow diagram describes the waste management process at LANL, including TA-54 Areas G and L, TA-54 West/RANT facility, and WCCRF and is provided in P409, Waste Management Tools.



5.3 Waste Characterization Management [Permit Section 2.12.2(3)]

5.3.1 Records of Waste Analysis and Determinations

Waste management and characterization at LANL is driven by P409, 20.4.1 New Mexico Hazardous Waste Management Act, and the LANL Permit. Waste characterization includes, but is not limited to, chemical analysis and/or acceptable knowledge (AK). The waste generator and Waste Management Coordinator (WMC) utilize WCATS to document the physical and chemical characteristics of a waste stream on a waste stream profile. Waste analysis results or AK documentation are electronically attached to the waste stream profile in WCATS. In addition, any hardcopy data which is part of the waste characterization or classification is retained as a record in accordance with EP-AP-10003, ADESH-AP-006, and ADESH-TOOL-803, Facility TSF Operating Record. For unclassified controlled nuclear information or classified waste, generator information (AK or chemical analysis) is not attached to the WCATS waste stream profile and is maintained by the generator. Waste stream profiles are reviewed and approved per WM-SVS-AP-201, Reviewing and Approving Waste Stream Profiles.

The Central Characterization Project maintains the WIPPIVE databased which contains characterization information for MTRU waste. Applicable characterization information includes AK documentation.

5.3.2 Waste Characterization Reevaluation [Permit Section 2.4.7(1)]

The LANL Permit specifies that LANL must annually reevaluate all hazardous waste streams generated to verify the accuracy of initial and subsequent characterization results. The annual reevaluation is required no later than one year from the date of initial characterization of the hazardous waste stream or one year from the last annual reevaluation.

The annual reevaluation of waste characterization is accomplished through use of the WCATS system as described in ADESH-TOOL-111, Waste Characterization. WCATS generates notifications to generators and WMCs that requires reevaluation and certification of approved waste stream profiles. The generator is required to reevaluate and certify that the characterization has not changed for a specific waste stream profile. If the reevaluation and certification are not completed annually, the waste stream profile expires.

The LANL Permit also specifies that waste must be recharacterized whenever there is a change in the waste generating process, which includes a change in the status of the waste for purposes of Land Disposal Restrictions (LDR) or when analytical results indicate a change in the waste stream. These changes can include examples such as observing that a waste characterized as

solid has developed a liquid portion or that procedural screening tests do not agree with the waste characterization (e.g., a pH paper test indicates that a non-corrosive liquid waste has become corrosive by showing a pH less than 2). Waste management personnel who observe a situation where a waste management operation indicates the initial waste characterization is suspect or no longer correct will note this in operating logbooks and report to their management. The waste stream is recharacterized and new waste stream profile is created. The Environmental Protection and Compliance Division (EPC) – Environmental Compliance Group (CP) also maintains supporting records as necessary to support the annual non-compliance report per ADESH-AP-006 (see Section 5.4.2 of this document).

LANL's Waste Characterization and Processing Review process, described in WM-AP-0005, Waste Characterization and Processing Review, is comprised of multi-discipline subject matter experts from within and potentially external to LANL who perform comprehensive and thorough evaluations of complex waste issues to arrive at safe and compliant resolutions. The Waste Characterization and Processing Review process is applied to waste characterization.

5.3.3 Waste Verification [Permit Section 2.4.7(3)]

The LANL Permit specifies that LANL must verify 1% of its hazardous and MLLW streams whose characterization is based solely on AK. MTRU, hazardous debris, and hazardous wastes (that are solely hazardous because of listed waste codes) waste profiles are not included.

WM-PROG-QP-236, Waste Verification, specifies the responsibilities and describes the process for waste verification by the WM Division-Waste Certification Program (WCP). This procedure applies to the verification of accuracy of waste characterization data provided by various waste generators at LANL maintaining compliance with the Permit. WM-WCP maintains the records associated with compliance with the verification requirements in the Permit in accordance with ADESH-AP-006.

5.4 Incident Reports [Permit Section 2.12.2(4)]

The LANL Occurrence Reporting (ORPS) Program is an incident investigation and reporting system that provides the information required for Contingency Plan or non-Contingency Plan incidents. The ORPS Program is used at EWMO-supported facilities to provide timely notification to the DOE complex of events that could adversely affect the public or DOE worker health and safety; the environment; national security; DOE's safeguards and security interests; functioning of DOE facilities; or the Department's reputation. The ORPS Program also requires timely investigation, analysis, and corrective action of ORPS events, based off of pre-determined DOE levels of significance per DOE reporting criteria.

If an abnormal event or condition does not meet ORPS reporting criteria, the Facility Operations Director or designee enters a sub-ORPS issue into the Performance Feedback and Improvement Tracking System (PFITS).

5.4.1 Contingency Plan

Emergencies at EWMO-supported facilities are responded to in accordance with EP-DIV-BEP-20048, EWMO Division Building Emergency Plan (BEP), which captures the Site Emergency Management and Response program requirements from LANL P1201-4, Emergency Procedures and Protective Actions, and P315, Conduct of Operations Manual. In addition, the EWMO BEP identifies area-specific response requirements for (1) TA-50-69 WCRRF complex; (2) TA-54 Area G, H, J, L and TA-54 Administrative Areas; and (3) TA-54 West/RANT Building 54-38 complex. In the case of an incident requiring the implementation of the Contingency Plan at EWMO permitted units, the Operations Manager or Shift Operation Manager (SOM) will notify the LANL emergency operations center who will notify EPC-CP. EPC-CP is LANL's single point of contact with NMED and will ensure timely reporting associated with Contingency Plan implementation is executed. Records associated with an incident at a permitted unit are generated by the Emergency Management and Response organization. The EWMO SOM/Facility Leader will collect and maintain these records in accordance with EP-AP-10003.

EPC-CP coordinates any permit required responses with the NMED associated with the incident and maintains records of any information requests and information or reports submitted in accordance with ADESH-AP-006.

5.4.2 Non-Contingency Plan Incident/Noncompliance Reporting

Non-Contingency Plan incidents are responded to in accordance with EP-DIV-BEP-20048. All records generated as a result of site emergencies are maintained per EP-AP-10003.

EPC-CP will also collect information related to non-contingency plan incidents and non-compliance reporting from EWMO (SOM or Deployed Environmental Professional [DEP]) and execute the reporting and record keeping requirements for the following:

- Incidents that do not trigger implementation of the Contingency Plan or non-threatening release (Permit Section 1.9.13)
- Anticipated non-compliance with the LANL Permit (Permit Section 1.9.11)
- Other noncompliance (Permit Section 1.9.14)

EPC-CP coordinates any permit required responses with the NMED associated with the incident and maintains records of any information requests and information or reports submitted.

The Facility Operating Record documentation is retained as a record in accordance with EP-AP-10003 and ADESH-AP-006.

5.5 Inspections [Permit Section 2.12.2(5)]

Inspection requirements and records identified in Permit Section 2.6 and Permit Attachment E (Inspection Plan) require LANL to record inspection results, deficiencies, corrective actions, and preventive maintenance activities in the Facility Operating Record. Most inspections, deficiencies, and corrective maintenance activities are recorded using the Inspection Record Form (IRF) in accordance with its instructions (see Section 5.5.1).

Some items, such as fire alarms inspection or preventive maintenance activities for permitted equipment or structures, will be recorded in Maintenance and Site Services (MSS) records (work packages, etc.).

5.5.1 RCRA Inspection Record Form (IRF)

EWMO Nuclear Operators utilize EWMO-DOP-20215, EWMO RCRA Inspections and Notifications, to document the majority of permit required inspections, deficiencies, and corrective actions on the IRF. All permit deficiencies, and the associated correction actions, identified during RCRA inspections are maintained in the Action Required (AR) database. The permit deficiency remains in the AR database as an open item until corrected. Any other permit required inspections or records not covered in the IRF will be documented in an alternate location or by alternative methods as identified below. Completed IRFs are sent to records management in accordance with EP-AP-10003. EPC-CP maintains copies of IRFs requested during internal assessments or by NMED during annual inspections.

Inspection of warning signs present at permitted units (per IRF instructions) at EWMO facilities fence lines are conducted either week or quarterly. Signs include both the English/Spanish and Tewa signs. Deficiencies and corrective actions are documented on the IRF and maintained in the AR database.

5.5.2 Other

The Annual WCRRF Stormwater Drainage Inspection (Permit Section 3.11.3) is conducted typically at end of summer using the inspection form/attachment in EWMO-DOP-20215. Completed forms are retained as a record in accordance with EP-AP-10003.

Non-Technical Safety Requirement (TSR) transient combustible loading inspections are conducted monthly and quarterly at TA-54 Area G permitted domes TA-54-8, -49, -153, -334, -229, -231, -232, -282, and -375 per AREAG-FO-AP-1334, TA-54 Area G Non-TSR Transient Combustible Loading. Completed inspection forms are maintained as part of the Facility Operating Record in accordance with EP-AP-10003.

The Monthly Area L Tank Inspection (Permit Section 3.12.1) is conducted monthly using the inspection form/attachment in EWMO-DOP-20215. Completed forms are retained as a record in accordance with EP-AP-10003.

The following alarms are inspected at least monthly (Permit Attachment E.1.1):

- Evacuation Alarms - Evacuation alarms are tested at least weekly and the results documented on the IRF in accordance with EWMO-DOP-20215 and records are maintained in accordance with EP-AP-10003.
- Ventilation Alarms - At WCRRF, the ventilation control panel and alarm system are checked daily utilizing the operations round sheets (conducted prior to operations) to ensure operability and functionality of the system as directed in EP-WCRR-FO-DOP-0203, WCRRF Round Sheet. Round sheets are retained as a record in accordance with EP-AP-10003.
- Fire Alarms - Fire alarms are inspected at least weekly and the results are documented on the IRF in accordance with EWMO-DOP-20215. Records are maintained in accordance with EP-AP-10003. Additionally, EWMO fire alarms are connected to the Emergency Operations Center and the Los Alamos County Fire Department through the Los Alamos County Consolidated Dispatch Center which is monitored 24 hours a day and seven days a week. Fire alarms at all EWMO RCRA permitted facilities are connected to fire alarm control panels (FACP). FACPs send alarm information to the Los Alamos County Consolidated Dispatch Center any time they occur. Regardless of alarm status, the Los Alamos County Consolidated Dispatch Center checks communications with FACPs once every 24 hours to confirm communications are working and the alarms are functional. In this instance, the inspection requirement (monthly) to ensure that the system is functional is met through the system's inherent design and automated checks that occur every 24 hours.
- Fire Pumps - EWMO-supported facilities to do not utilize fire pumps.

Preventive Maintenance (Permit Section 2.6.3) activities on floors, secondary containment structures, unit drainage structures, and fire protection equipment at a permitted unit are conducted by MSS personnel through the issuance of a Work Order in accordance with AP-MNT-006, Preventive and Predictive Maintenance. All work orders and maintenance history are retained by MSS in the computerized maintenance management system (CMMS) where the scope of the work and execution dates can be obtained. MSS maintains all records for a nuclear facility for the life of the facility in accordance with AP-MSS-003, Records Management.

Permit Subpart CC Air Emission Inspections (Permit Attachment E.8) involve initial receipt inspections and annual inspections.

- Initial Receipt Inspections - Initial inspections of hazardous waste and MLLW are conducted by WM-SVS personnel using WM-SVS-SOP-303, On-Site Waste Management, upon receipt.
- Annual Inspections - All waste containers are inspected by Nuclear Operators using EWMO-DOP-20215 at a minimum weekly. These inspections satisfy the annual inspection requirement in Attachment E.8 and are documented on the IRF.

5.6 Monitoring, Testing, Analytical Data, and Response Actions [Permit Section 2.12.2(6)]

Permit Section 2.11.2(6) requires that the monitoring, testing, analytical data, and response actions be maintained in the Facility Operating Record for the following: Tanks Systems – Subpart I (40 CFR §§ 264.191, .193, .195), Miscellaneous Units – Subpart X (264.602), Air Emission Standards for Equipment Leaks – Subpart BB (264.1063, .1064), and Air Emission Standards for Tanks, Surface Impoundments, and Containers - Subpart CC (264.1082 - 264.1090).

At EWMO RCRA permitted units, the only potentially applicable equipment are non-radioactive waste containers or containers with a design capacity less than or equal to 0.1 cubic meters (26.4 gallons) regulated under Permit Subpart CC. However, the facility utilizes the container DOT construction specifications and operations requirements to meet the Permit Subpart CC requirements which eliminates any monitoring, testing, analytical data, or response actions. Therefore, this requirement is not applicable.

5.7 Notices to Off-site Generators as Specified in 40 CFR § 264.12(b) [Permit Section 2.12.2(7)]

The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The owner or operator must keep a copy of this written notice as part of the operating record.

The requirement is not applicable to LANL because LANL, as a DOE facility, is the owner/operation and also the generator. The MTRU radioactive sources that come into LANL are DOE owned. They are not from the private sector. LANL completes Authorization to Transfer/Relinquishment of Ownership. At that point, DOE is the owner of these sources and the owner/operator is the generator.

5.8 Annual Certification of Hazardous Waste Volume and Toxicity Reduction [Permit Section 2.12.2(9)]

EPC – Environmental Services Group (ES) annually submits the Hazardous Waste Minimization Report to NMED. Receipt of the Report and the Report are maintained by EPC-ES per ADESH-AP-006. The Report is also maintained in the LANL Public Reading Room.

5.9 Notices and Certifications [Permit Section 2.12.2(10), (11), and (12)]

5.9.1 Treated Wastes

On-site treatment of waste at EWMO supported facilities is not currently authorized by the Permit. For hazardous, MLLW, and MTRU waste dispositioned for treatment off-site, a copy of the LDR notification and certification (40 CFR 268.7) to the disposal facility will be maintained in WCATS and submitted to DCRM for posting to EDMS per ADESH-AP-006 and WM-SVS-DOP-300.

If on-site treatment is authorized by a Permit modification, this procedure will be revised to reflect the appropriate recordkeeping requirements.

5.9.2 Hazardous Waste Left in the Ground

If hazardous waste is left in the ground following closure activities of EWMO RCRA permitted units, the LDR notification and certifications will be maintained in accordance with Sections 10 and 11 of the Permit.

5.9.3 Stored Wastes

For stored hazardous wastes, the WCATS system collects the information from generators for any required notices or certifications required under the LDR regulations (40CFR 268.7). Waste records are maintained in WCATS per MAN-5004 and in EDMS per ADESH-AP-006.

5.10 Environmental Monitoring Reports [Permit Section 2.12.2(13)]

LANL maintains various environmental projects associated with EWMO facilities, including regional and perimeter environmental monitoring (Permit Section 2.10.1 and Attachment D.7.3). EWMO/ADEM funds the onsite environmental monitoring conducted by EPC – Air Quality Permitting/Compliance organization for EWMO facilities who perform monitoring in accordance with AIRNET Series 5100 standard operating procedures. The data from monitoring activities is presented in the annual Environmental Surveillance Report which is

available in LANL Public Reading Room and is managed in accordance with ADESH-AP-006. All other current monitoring data is maintained at the institutional level and is not the responsibility of EWMO.

Future needs for closure or post-closure sampling or monitoring records required at EWMO facilities will be developed through those projects as required and will be maintained by EPC-CP personnel.

5.11 Contingency Plan Distribution [Permit Section 2.12.2(14)]

EPC-CP makes distribution of the Contingency Plan per Permit Section 2.11.3. Records of distribution are maintained per ADESH-AP-006 in EDMS. Additionally, the DEP has responsibility for physically placing the most recent copy of the Contingency Plan at each permitted unit.

5.12 Secondary Containment Coating/Liner Maintenance/Installation [Permit Section 2.12.2(15)]

MSS maintains the documentation for maintenance or installation of chemical resistant coatings or flexible liner systems used for secondary containment at EWMO permitted facilities. The documentation includes manufacturer's specifications, installation instructions, and a certification of the installation in accordance with specifications and installation instructions.

TA-54, Area G, Dome 230 sump is equipped with a flexible liner install and was installed under a Work Order by MSS. The manufacturer's specifications, installation instructions, and installation certification is maintained by MSS in CMMS in accordance with AP-MSS-003. Any required maintenance or repair of the liner would be identified as an AR during the RCRA inspections, per EWMO-DOP-20215, and a Work Order would be initiated through MSS for repair.

5.13 Training (Attachment F) [Permit Section 2.12.2(16)]

LANL Permit, Attachment F describes the personnel training program for LANL permitted unit workers. LANL's training program is implemented in accordance with LANL Policy P781-1, Conduct of Training. Completed training is tracked in the LANL learning management system, UTrain. The ADNHHO organization Training Services Group supports training operations for EWMO and WM-SVS personnel.

The group provides a wide range of training services, including

- training and qualification programs for LANL nuclear and nonnuclear facilities consisting of qualification standards development, course design, and development, delivery, and evaluation
- workers with training required to work safely and securely in nuclear and nonnuclear facilities
- workers with training to ensure compliance with regulatory drivers including the operation and maintenance of permitted units.

5.14 Alternate Emergency Equipment Notification and Training [Permit Section 2.12.2(17)]

In accordance with the requirements of Permit Section 2.10.2, the inspection of emergency equipment including communication equipment, alarm system, fire protection component, spill control, or decontamination equipment is conducted by a Nuclear Operator who documents the condition and corrective actions on the IRF. If faulty equipment is identified, the equipment is promptly repaired or replacement equipment is utilized. Employees and contractors working in the area are notified of replacement equipment and are trained in its use. Documentation of the repair and/or replacement of faulty equipment is maintained in the AR per EWMO-AP-20215. The notification and training, if necessary, of area personnel is implemented by EWMO-AP-20252, EWMO General Site Hazards and Controls. The AR is maintained in accordance with EP-AP-10003.

The Operations Center (typically the Shift Operations Supervisor or SOM) also documents the condition and any replacement equipment/procedures in the Operations Center Logbook. Facility operating practices are described in LANL Policy P315, Attachment 2, Shift Routines and Operating Practices. Logbooks are retained as a record in accordance with EP-AP-10003.

5.15 Indoor Fire Suppression Activation [Permit Section 2.12.2(18)]

Activation of a fire suppression system would initiate a response in accordance with EP-DIV-BEP-20048. The Operations Center will manage the records for any instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a waste storage pad regardless of whether the activation of the fire suppression system is due to an emergency, emergency testing, or the result of an accident or break in a system per EP-AP-10003.

5.16 Secondary Containment Monitoring [Permit Section 3.7.1]

If a sump or secondary containment system cannot be evacuated within 24 hours, a daily inspection must be completed and documented to demonstrate that the sump or secondary containment system retains sufficient capacity to contain 10% of the volume of containers or the volume of the largest container holding free liquids, whichever is greater.

EWMO Nuclear Operators utilize EWMO-DOP-20215 to meet the daily inspection requirement. All inspection results are recorded on the IRF and maintained in the AR database. Completed IRFs are sent to records management in accordance with EP-AP-10003.

5.17 Area G, Dome 224 HDPE Management [Permit Section 3.12.1]

Documentation that all fluids above the high density polyethylene (HDPE) liner at Area G, Dome 224 are removed/evacuated within 24 hours of discovery including a complete chemical analysis of the fluid that is maintained as part of the Facility Operating Record.

EWMO Nuclear Operators utilize EWMO-DOP-20215 to identify the need for pumping and chemical analysis of the HDPE liner at Area G, Dome 224. Sump pumping and chemical analysis is documented in the Operations Center logbook. Facility operating practices are described in LANL Policy P315, Attachment 2, Shift Routines and Operating Practices. Logbooks are retained as a record in accordance with EP-AP-10003.

6. ASPHALT PAD MANAGEMENT (RCRA TREATMENT, STORAGE, AND DISPOSAL ASPHALT PADS) [PERMIT SECTION 2.6.3(4)]

6.1 Inspection

Inspections conducted under EWMO-DOP-20215 will identify and record the location of all cracks or gaps in floors or base materials (asphalt pads) utilized for hazardous waste management.

If the crack or gap is in the base of a unit utilized for secondary containment, the unit will be repaired in accordance with Permit Section 3.7.1. Alternative means of secondary containment will be utilized (e.g., secondary containment pallets) or the liquid waste container will be moved to a location with compliant secondary containment until repairs can be made.

If the crack or gap is in a permitted unit surface where solid wastes are stored (not secondary containment), then the IRFs will be used to track the corrective action to closure. Waste containers will <u>not</u> be stored on any cracks or gaps in the asphalt until repairs or corrective actions can be implemented (see Section 6.2, Repairs).

Any cracks/gaps in the surface (e.g., asphalt pad) less than one inch will be repaired on a semiannual basis. Cracks/gaps in permitted unit surface greater than one inch or creating a loading/unloading hazard or other safety issues will be repaired or have compensatory actions implemented as soon as practical.

6.2 Repairs

Due to material availability (asphalt plant shuts down in fall/winter) and weather/temperature restrictions, asphalt repairs will be scheduled twice a year to allow for proper corrective maintenance. Compensatory measures prior to asphalt repair may include actions such as backfilling the crack/gap with a base course or other material, sand bagging around the defective area, covering the area with plastic sheeting/tarps, or removing waste from the damaged area.

7. LIGHTNING PROTECTION [PERMIT SECTION 2.8.1(5)]

The Permittees must prevent accidental ignition or reaction of ignitable or reactive wastes by ensuring that appropriate lightning protection is provided for all storage and treatment units.

LANL Design Engineering, the subject matter experts, assessed the RCRA permitted structures/pads lightning protection systems for adequacy and determined all areas, except those listed below, to be adequate. Areas that currently do not have functioning lightning protection and will not store ignitable or reactive wastes include:

- Pad 5 (Outside asphalt pad near 54-224 and 54 tritium sheds pad)
- Pad 11 (Outside asphalt pad for 54-375)
- Pad 1 (Former location of 54-226)
- Pad 3 (Outside pad for 54-48, south end)
- Pad 10 (Asphalt pad for characterization trailers)
- Pad 9 (Outside Pad for TWISP domes 54-229 through 54-232)
- Area L Outside pad
- TA-54 West/RANT Outside pad
- WCRRF Outside pad

8. EMERGENCY EQUIPMENT BACKUP POWER [PERMIT SECTION 2.10.1]

At permitted units where equipment is necessary to mitigate the effects of a power outage, the Permittees must maintain batteries, generators, or some other form of backup power supply capable of operating equipment including evacuation alarms, emergency communication equipment, automatic fire suppression systems, and emergency lights.

LANL has determined, through communications with NMED, that this requirement allows the use of procedures/processes in lieu of backup power for the equipment stated above.

8.1 Evacuation Alarms

If power or functionality of evacuation alarms (where installed) is lost, then the applicable Abnormal Operating Procedure (AOP) is utilized to respond to mitigate the loss of functionality.

8.2 Emergency Communication Equipment

If the loss of power affects emergency communication systems, the facility utilizes the applicable AOP in these situations. EWMO also has redundant/backup communication systems (battery powered) consisting of cell phones, pagers, and two-way radios that are used to communicate an emergency situation and appropriate responses/actions.

Fire Panels (fire alarm systems) are equipped with National Fire Protection Association (NFPA) compliant battery backup.

8.3 Automatic Fire Suppression Systems

Function of the fire suppression systems at all EWMO RCRA permitted facilities are mechanical in nature and therefore no back up electrical power is required. All sprinkler systems in these areas are monitored by fire alarm systems compliant with NFPA 72.

8.4 Emergency Lights

As outlined in NFPA, emergency lighting is not be required for structures occupied only during daylight hours with skylights or windows arranged to provide the required level of illumination on all portions of the means of egress during such hours. Work is restricted to daylight hours only, except for fire watches or emergency trouble-shooting maintenance activities, in which case personnel entering these structures are equipped with flashlights.

EWMO performed an assessment "Area G Illumination Survey" of all structures within permitted units during daylight hours to ensure appropriate emergency/egress lighting requirements could be met. All structures, except TA-54-8 and TA-54-230, satisfy the required illumination when tested with operational doors closed, either through battery powered emergency lights or passive illumination (opaque sky light material in dome fabric). For TA-54-8 and TA-54-230, EP-AREAG-FO-DOP-1087, TA-54 Work Release Sheets, requires personnel to open the doors during entry during daylight hours.

9. RECORDS PROCESSING

No records are directly generated by the performance of this document; however, Attachment 1 provides a matrix of the following information related to the generation and retention of the Facility Operating Record as described in this document:

- Facility Operating Record Requirement
- Generating Organization
- Record Generation Implementing Procedure
- Record Maintenance Procedure
- Record Storage Location.

10. REFERENCES

ADESH-AP-006, Records Management Plan

ADESH-TOOL-111, Waste Characterization

ADESH-TOOL-803, Facility TSF Operating Record

AP-MNT-006, Preventive and Predictive Maintenance

AP-MSS-003, Records Management

AREAG-FO-AP-1334, TA-54 Area G Non-TSR Transient Combustible Loading

EP-AP-10003, Records Management

EP-AREAG-FO-DOP-1087, TA-54 Work Release Sheets

EP-DIV-BEP-20048, EWMO Division Building Emergency Plan

EP-WCRR-FO-DOP-0203, WCRRF Round Sheet

EWMO-AP-20252, EWMO General Site Hazards and Controls

EWMO-DOP-20215, EWMO RCRA Inspections and Notifications

LANL Policy P781-1, Conduct of Training

10. REFERENCES (CONTINUED)

LANL Policy P1020-1, Laboratory Records Management

LANL Policy P1201-4, Emergency Procedures and Protective Actions

LANL Policy P315, Conduct of Operations Manual

LANL Policy PD1020, Document Control and Records Management

Los Alamos National Laboratory Hazardous Waste Facility Permit, November 2010, attachments, and all revisions

MAN-5004, WCATS User's Manual

P409, Waste Management Tools

P&T-WI-125, OS-PT Waste Operations Instructions

WM-AP-0005, Waste Characterization and Processing Review

WM-PROG-QP-236, Waste Verification

WM-SVS-AP-201, Reviewing and Approving Waste Stream Profiles

WM-SVS-DOP-300, Preparing and Shipping Waste Off-Site

WM-SVS-SOP-303, On-Site Waste Management

ATTACHMENT 1

FACILITY OPERATING RECORD IMPLEMENTATION MATRIX

Permit Section	Generating Organization	Record Generation Implementing Procedure(s)	Record Management Procedure	Record Storage Location
Permit Section 2.12.1 Requirement				
Recordkeeping and reporting requirements associated with manifests in accordance with 40 CFR §§ 264.71, 264.72, and 264.76, whenever a shipment of hazardous waste is either received at, or initiated from, the Facility.	WM-SVS OS-PT	MAN-5004, WCATs User's Manual WM-SVS-DOP-300, Preparing and Shipping Waste Off-Site P&T-WI-125, OS-PT Waste Operations Instructions	ADESH-AP-006, Records Management Plan LANL Policy 1020-1, Laboratory Records Management	WCATS EDMS
Permit Section 2.12.2 Requirements				
(1) A description of the hazardous waste received and the methods and dates of treatment and storage at each permitted unit.	LANL-wide waste generators	P409, Waste Management Tools MAN-5004, WCATs User's Manual		WCATS
(2) The location of each type of hazardous waste within each permitted unit and the total quantity of all wastes and waste types at each unit and any associated structure (e.g., room, dome).	LANL-wide waste generators	P409, Waste Management Tools MAN-5004, WCATs User's Manual		WCATS
(3) Records and results of waste analyses and waste determinations.	LANL-wide waste generators	P409, Waste Management Tools WM-SVS-AP-201, Reviewing and Approving Waste Stream Profiles ADESH-TOOL-803, Facility TSF Operating Record ADESH-TOOL-111, Waste Characterization WM-AP-0005, Waste Characterization and Processing Review WGS-PROG-QP-236, Waste Verification MAN-5004, WCATs User's Manual	EP-AP-10003, Records Management ADESH-AP-006, Records Management Plan	WCATS EDMS WIPPIVE
(4) Instances of fire, explosion, spill, or release from, or at, a permitted unit regardless of whether the incident required implementation of the Contingency Plan or Permit Part 11 (see 40 CFR § 270.32(b)(2)). AND Instances of fire, explosion, spill, or release from, or at, a permitted unit regardless of whether the incident required implementation of the Contingency Plan or Permit Part 11 (see 40 CFR § 270.32(b)(2)).	EWMO EPC-CP	EP-DIV-BEP-20048, EWMO Division Building Emergency Plan	EP-AP-10003, Records Management ADESH-AP-006, Records Management Plan	EDMS ORPS PFITS

Permit Section	Generating Organization	Record Generation Implementing Procedure(s)	Record Management Procedure	Record Storage Location
(5) Records and results of inspections and documentation of corrective actions.	EWMO WM-SVS MSS Los Alamos County Dispatch Center	EWMO-DOP-20215, EWMO RCRA Inspections and Notifications AREAG-FO-AP-1334, TA-54 Area G Non-TSR Transient Combustible Loading EP-WCRR-FO-DOP-0203, WCRRF Round Sheet WM-SVS-DOP-303, On-Site Waste Management AP-MNT-006, Preventive and Predictive Maintenance	EP-AP-10003, Records Management AP-MSS-003, Records Management	EDMS CMMS
(6) Monitoring, testing, analytical data, and response actions related to tanks systems (40 CFR §§ 264.191, .193, .195), miscellaneous units (264.602), air emission standards for equipment leaks (264.1063, .1064), and air emission standards for tanks, surface impoundments, and containers (264.1082 - 264.1090).	No applicability	No applicability	No applicability	No applicability
(7) Notices to off-site generators as specified in 40 CFR § 264.12(b).	No applicability	No applicability	No applicability	No applicability
(8) Reserved in Permit.				
(9) Annual certification stating a Facility program is in place to reduce the volume and toxicity of hazardous waste generated.	EPC-ES		ADESH-AP-006, Records Management Plan	EDMS LANL Public Reading Room
(10, 11, 12) For treated wastes, hazardous wastes left in the ground after closure (i.e., disposal units), and stored waste, the information contained in the notice and certification required under 40 CFR § 268.7	WM-SVS (Waste treated off-site)	WM-SVS-DOP-300, Preparing and Shipping Waste Off-Site MAN-5004, WCATs User's Manual	ADESH-AP-006, Records Management Plan	WCATS EDMS
(13) All monitoring reports and records required by this Permit, including but not limited to: a. Records of all monitoring data used to complete Permit Application(s); b. All data gathered or generated during the closure or post-closure process; and c. All laboratory reports, drilling logs, bench-scale or pilot scale data;	EPC-CP	EPC AIRNET SOPs, 5100 series	ADESH-AP-006, Records Management Plan	LANL Public Reading Room

Permit Section	Generating Organization	Record Generation Implementing Procedure(s)	Record Management Procedure	Record Storage Location
(14) Documentation demonstrating distribution of the Contingency Plan in accordance with Permit Section 2.11.3	EPC-CP		ADESH-AP-006, Records Management Plan	EDMS
(15) Documentation demonstrating the installation and maintenance of secondary containment system coatings or sealants as required at Permit Sections 3.7.1(4) and 4.4(4).	MSS EWMO	AP-Work Order Process EWMO-AP-20215, RCRA Inspections and Notifications	AP-MSS-003, Records Management	CMMS
(16) Personnel training records including both introductory and continuing training programs used to prepare employees to safely operate and maintain a permitted unit in compliance with 40 CFR § 264.16(d) and the Permit.	EWMO WMS-SVS	LANL Policy P781-1, Conduct of Training		UTrain
(17) Documentation of notifications and trainings associated with alternate emergency equipment as required at Permit Section 2.10.2.	EWMO	EWMO-AP-20215, RCRA Inspections and Notifications EWMO-AP-20252, EWMO General Site Hazards and Controls LANL Policy P315, Conduct of Operations	EP-AP-10003, Records Management	EDMS
(18) Documentation of all instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a hazardous waste unit.	EWMO	EP-DIV-BEP-20049, EWMO Division Building Emergency Plan	EP-AP-10003, Records Management	EDMS
Permit Section 3.7.1 Requirement				
If a sump or secondary containment system cannot be evacuated within 24 hours, daily documentation to demonstrate that sump or secondary containment system retains sufficient capacity to contain 10% of the volume of containers or the volume of the largest container holding free liquids, whichever is greater.	EWMO	EWMO-DOP-20215, EWMO RCRA Inspections and Notifications	EP-AP-10003, Records Management	EDMS
Permit Section 3.12.1 Requirement				
Documentation that all fluids above the HDPE liner at Area G, Dome 224 are removed/evacuated within 24 hours of discovery including a complete chemical analysis of the fluid.	EWMO	EWMO-DOP-20215, EWMO RCRA Inspections and Notifications LANL Policy P315, Conduct of Operations	EP-AP-10003, Records Management	EDMS

Appendix 11
Ordered Action 1.13

LA-UR-16-21423

LA-UR-16-21423

Approved for public release; distribution is unlimited.

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Author(s):	Tozer, Justin Clyde
Intended for:	Environmental Programs
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ADESH-AP-TOOL-117	Revision: 0	Los Alamos NATIONAL LABORATORY EST. 1943
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Environment, Safety, Health Directorate

Administrative Procedure

Managing Operating Record Changes in WCATS

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REVISION HISTORY

Document Number and Revision *[Include revision number, beginning with Revision 0]*	**Effective Date** *[Document Control Coordinator inserts effective date]*	**Description of Changes** *[List specific changes made since the previous revision]*
ADESH-AP-TOOL-117, Rev. 0	XX/XX/2015	This is a new document that consolidates and supersedes ADESH-TOOL-719 and ADESH-SO-003.

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1.0 INTRODUCTION

Los Alamos National Laboratory (LANL) uses the Waste Compliance & Tracking System (WCATS) to document industrial, radioactive, and hazardous waste transactions. Waste characterization data, and treatment, storage, disposal transactions become a part of the Lab's operating record for compliant operation of waste management facilities and processes. Maintaining the integrity of these records, particularly data changes, is a management priority addressed by this document.

This document is managed and owned by the Associate Directorate for Environment, Safety and Health (ADESH). Further clarification or guidance is available via wastehelp@lanl.gov or by telephone at 505-665-2494.

1.1 Purpose

This document imposes administrative requirements for those proposing changes to waste information or waste transactions, and establishes a process for electronically submitting, reviewing, and approving changes. This process is meant to mitigate the risk that such transactions or changes to records could affect regulatory compliance at LANL.

1.2 Applicability

This document applies to any LANL employee, contractor, or sub-contractor who has been identified as a WCATS user with authorizations to edit data or record transactions.

1.3 Scope

The transactions subject to the requirements of this document are identified and described in Section 3, Transactions Requiring Management Review & Approval.

2.0 PRECAUTIONS AND LIMITATIONS

There are no precautions or limitations associated with this administrative procedure.

3.0 TRANSACTIONS REQUIRING MANAGEMENT REVIEW & APPROVAL

Section 3.1 identifies and describes the WCATS data change transactions that require management concurrence, and Section 3.2 identifies exceptions to the requirements.

3.1 Transactions that Require Management Concurrence

The following transactions require management concurrence, including the submittal of a change request for review and approval:

a) Changes to historical container transactions representing waste transfers/shipments, processing, consolidation, disposal, or characterization tasks performed at on-site or off-site treatment, storage, and disposal facilities. Historical transactions are those completed more than 35-days in the past.

b) Changes to container characterization data (e.g., waste stream assignment, weight, volume, container type, vent filters, EPA codes, accumulation start date) AFTER the container has been received at a permitted storage unit or dispositioned to an off-site or on-site treatment or disposal unit.
c) Changes to waste processing tasks (i.e., tasks with input and output containers or parent and daughter containers) when performed outside of an approved operating procedure, including waste remediation, waste consolidation, and over-pack activities performed at on-site or off-site treatment, storage, and disposal facilities (TSDF).

3.2 Exceptions

The following exceptions are applicable to this procedure, and do not require the submittal of a change request:

a) TRU waste items (new-gen) pending characterization and declaration as waste at Technical Area (TA) -55 and TA-03, and the packaging of those items.
b) The completion of new-gen TRU waste container reviews (e.g., SNM accountability, QA reviews) and characterization activities completed at the generator's facility and associated with established work flow.
c) Waste items and containers pending waste disposition request (WDR) submittal at the generator's facility.
d) Submittal and review of new waste stream profiles.
e) Submittal and review of new waste disposition requests (WDRs).
f) Revisions to cost code information associated with waste items and container profiles, the creation of DOT shipping descriptions, and changes to work path assignments.
g) Changes to active waste stream profiles that include cost code assignments, assigned generator, assigned coordinator, work path options, annual extensions, generation estimates, and the voiding of profiles.
h) Initiation and completion of intra-facility waste transfers.
i) Recording of routine surveillances.
j) Container transactions performed according to an approved procedure and recorded by the individual(s) performing the work, such as vent filter change out, simple over-pack of a drum, waste reclassification, or recording of radioassay or radiological survey results.
k) Pending historical operations that were never completed in the application (e.g., shipments/transfers, processing, disposal, WDRs, etc.).
l) The consolidation and lab-packing of chemical/hazardous waste items at TA-54 Area L and Area J, or field consolidation activities performed at the generator's site by the waste services team (i.e., WM-SVS).

4.0 STEPS FOR COMPLETING A CHANGE REQUEST

If the desired change requires management concurrence, and no exceptions apply, a change request is necessary to proceed. The key steps to submitting an electronic change request are as follows:

1. Create the change request in WCATS and submit it for review and approval.
2. Obtain review and approval by the Waste Management (WM) division leader, facility operations director, and the WCATS application administrator.
3. Make the approved operating record changes.
4. Obtain line manager concurrence for completion of changes.

This section describes how to accomplish these steps. WCATS[1] is used to automate the initial creation, submittal, and review of change requests. If you are submitting the request, follow instructions in Sections 4.1, and 4.3 to 4.5. If you're a reviewer, see Section 4.2.

4.1 Create the Change Request

This section describes how to create a change request task. The task is used to describe the needed change and automate the review and approval process.

a) Login to WCATS using your z-number and crypto card at https://wcats.lanl.gov.

b) From the main menu bar click "File/New/Task/Administrative" to open a new task profile.

Figure 1. Create new administrative task.

c) Complete the general information screen by identifying the correct company and facility (e.g., 54-G, 03-CMR, 55-PF4) and selecting the "CHANGE" administrative unit. When

[1] Instructions for using and accessing WCATS are available on the application home page at https:\\wcats.lanl.gov

selecting the facility, choose the current physical location of the containers. If the containers were shipped off-site or decommissioned as the result of consolidation or remediation, select the last on-site facility location.

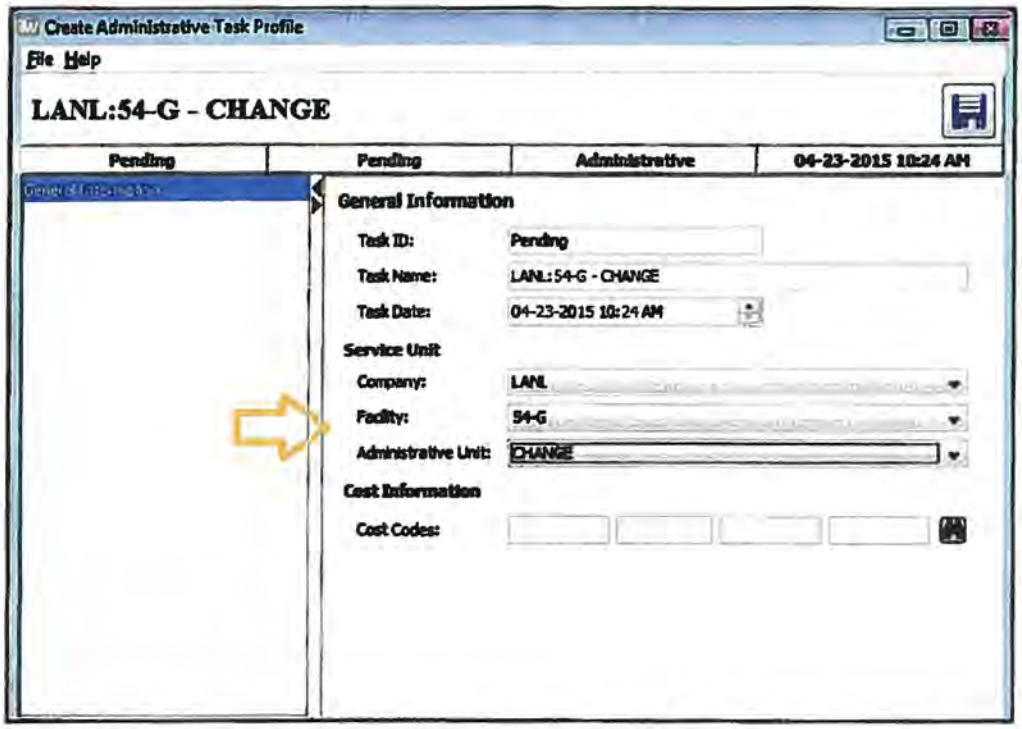


Figure 2. Complete the general information screen using the "CHANGE" administrative unit.

d) Click the save button to create the task profile.

e) Identify affected containers, if any, on the "Containers Affected" panel. If the containers were decommissioned by off-site shipment or processing activities, they must be specified in the "Change Description."

f) Provide a complete description of the proposed operating record change by clicking the "Add" button on the "Change Description" panel. The change description should fully describe the records that need to change, including references to container, task, and waste stream identifiers as appropriate. It should also describe any attached supporting documentation to be added (step h) such as documents or photographs and how those items support the change request.

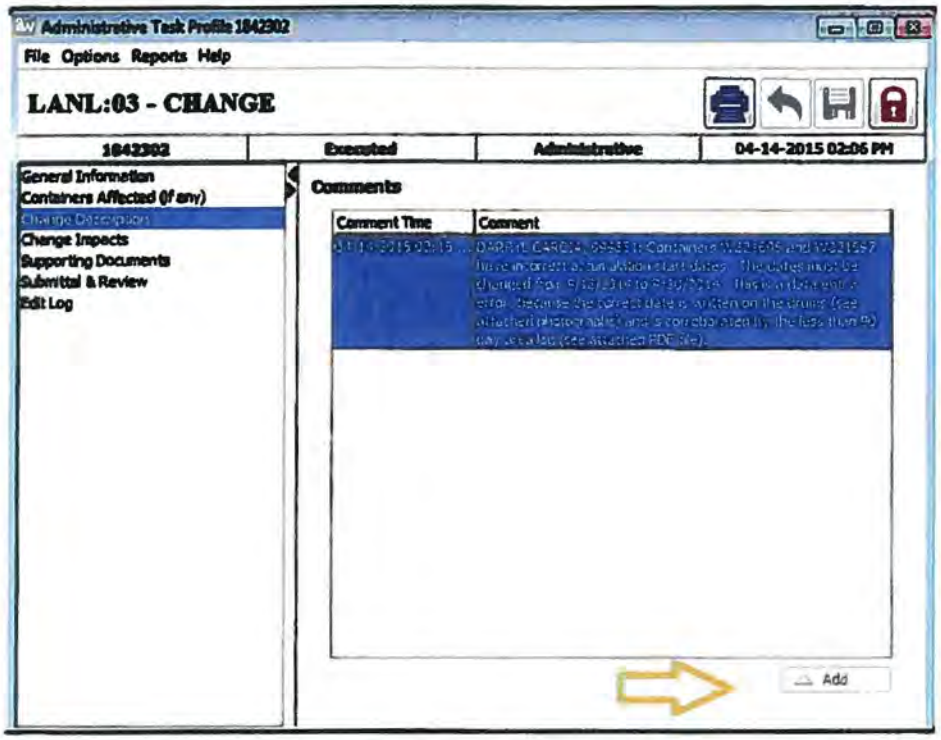


Figure 3. Change request task profile.

g) On the "Change Impacts" panel, identify those compliance programs that are or might be impacted by the change, such as facility Technical Safety Requirements (TSRs), the site treatment plan (STP), facility permit, or if the waste is already off-site, the off-site TSDF's compliance requirements. If the change impacts "... other compliance program(s)", a description of the other program(s) must be provided in the "Explanation" column (see the figure below).

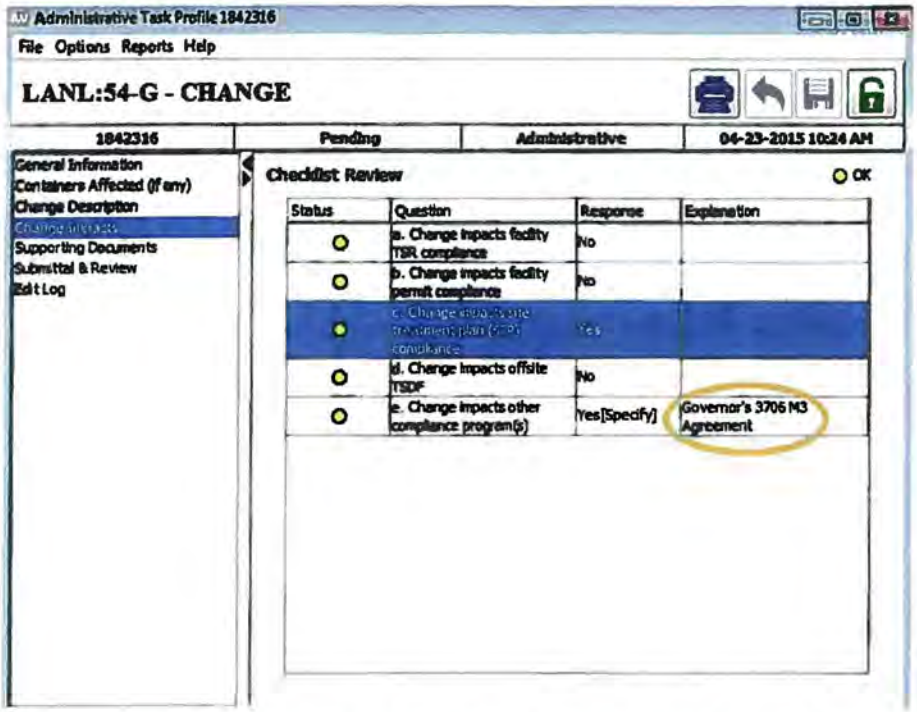


Figure 4. Questions to determine compliance impacts - question (e) requires an explanation.

h) On the "Supporting Documents" panel, upload documents that support the requested change. This could include scanned legacy documents, such as WDRs or Transuranic Waste Storage Record (TWSRs), photographic evidence, or log book entries that support the change. Failure to provide adequate supporting documentation could result in delay or disapproval of the request.

i) Finally, sign as the "Requestor" and submit the change request on the "Submittal & Review" panel. As soon as you sign the task, the reviewer(s) will be automatically notified via email.

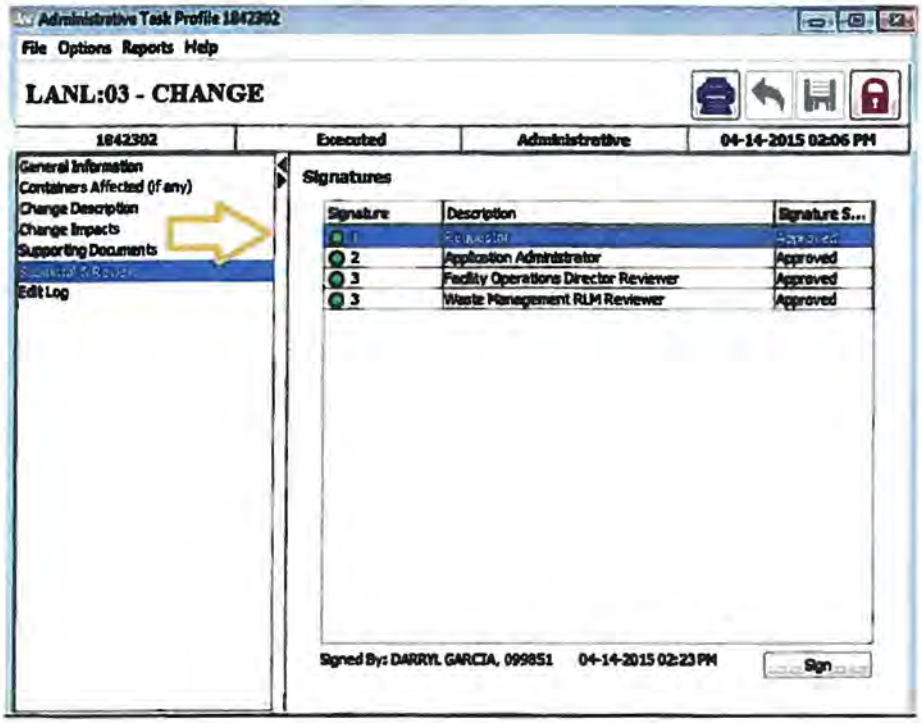


Figure 5. Submittal and review panel for requestor.

4.2 Review and Approval Process

The review process is triggered by the requestor providing the "Requestor" signature. Three signatories are required:

1. The WCATS application administrator confirms that the requested change is consistent with established work flow requirements, and may provide guidance to the end-user on how to proceed with implementing the change when the request is approved.
2. The facility operations director (FOD) review will be triggered concurrent with the waste management division leader review to ensure that the proposed operating record change is consistent with applicable facility compliance requirements.
3. The waste management division leader review confirms that the requested change is consistent with waste management policies and practices.

In order to review the proposed change, complete the following steps:

a) When a change request is ready for your review, approval, and signature, you will receive an email notification similar to the one shown in the following figure. Click on the link provided in the notification and the related task will open in WCATS.

   Note: For experienced users, you can get to the profile via several other methods, including the "Administrative Task Navigator", the "Find Task" search button, or your person "Profile" messages panel.

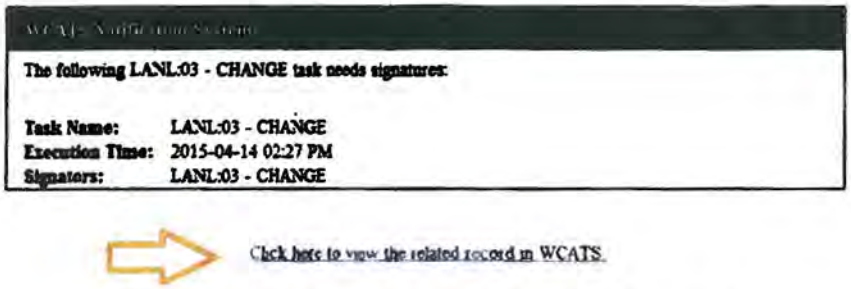


Figure 6. Notification email for change request needs signature.

b) After reviewing the information for the change request, go to the "Submittal & Review" panel, select the applicable signature line (e.g., "Facility Operations Director Reviewer"), and then click the "Sign" button, which will open the "Task Signature Authorization" dialog.

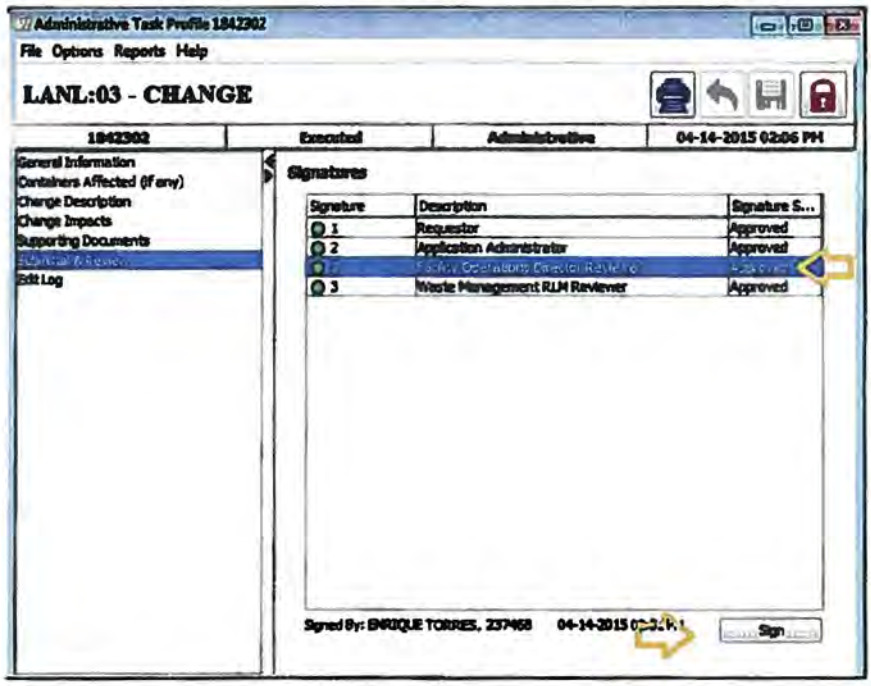


Figure 7. Submittal and review panel for reviewer.

c) On the task signature authorization dialog, in the comments section, provide any necessary guidance or direction to the requestor, and then click the "Approve" or "Revoke" (i.e., disapproval) button.

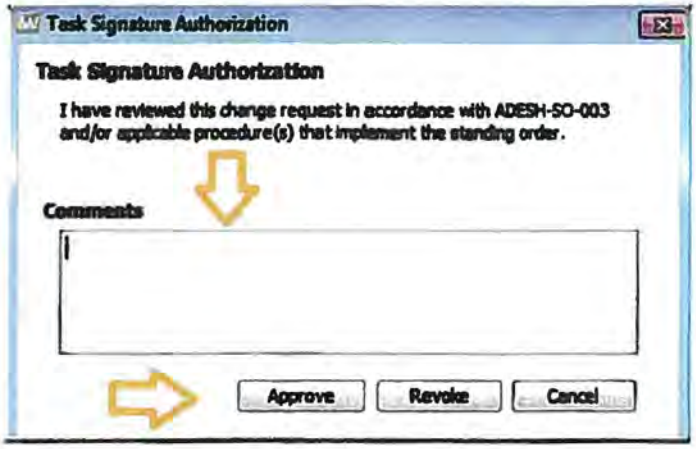


Figure 8. Reviewer comments and approval status dialog.

d) After signing the task, confirm that the task validation rules "Passed". If the task validation rules do not pass, contact the WCATS team at wastehelp@lanl.gov or via telephone at 5-2494 if assistance is needed in addressing the warnings and failures.

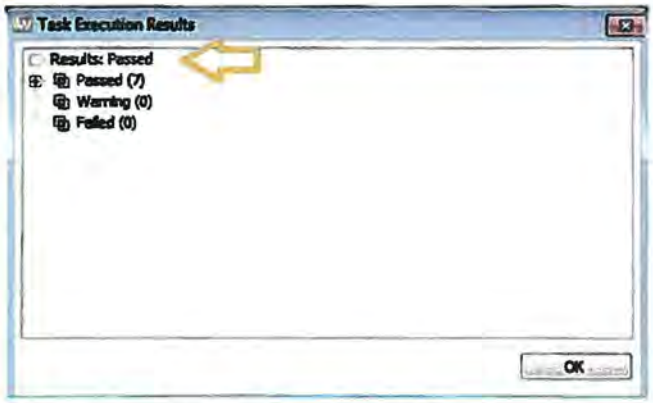
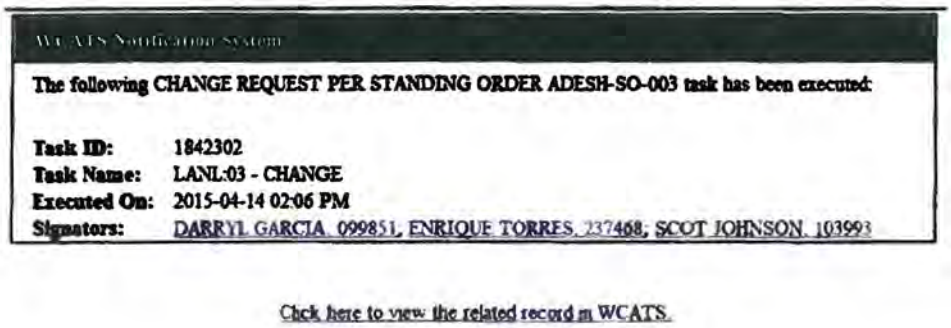


Figure 9. Confirm that the validation rules "Passed".

e) After all signatures are provided, assuming approval, the requestor will be notified, so he or she can proceed with making the changes.

4.3 Make the Changes

After the change request is approved, the requestor will receive an email notification indicating that "... task has been executed" similar to the notice shown below. With this approval, the requestor can proceed with making the change. According to the following steps:


WCATS Notification System

The following CHANGE REQUEST PER STANDING ORDER ADESH-SO-003 task has been executed:

Task ID: 1842302
Task Name: LANL:03 - CHANGE
Executed On: 2015-04-14 02:06 PM
Signators: DARRYL GARCIA, 099851, ENRIQUE TORRES, 237468, SCOT JOHNSON, 103993

Click here to view the related record in WCATS.

Figure 10. Email notification of approved (i.e., "executed") change request.

a) Open the approved change request task by clicking on the link provided in the email notification.

b) Print the custom report provided for change request profiles by clicking the "Reports" menu bar, option "Standing Order."

Figure 11. Print the request via the "Reports" menu bar item, option "Standing Order".

c) Review the report for any advice or counsel provided by the reviewers.

d) If the change will potentially impact facility operations, notify the appropriate personnel, which may include the appropriate operations center, off-site shipping coordinator, waste management coordinator, and so forth.

e) Proceed to make the approved operating record changes. When unlocking records for editing, ensure the explanation includes a reference to the change request task identifier number. For example in the figure above, the approval is "Task #1842302". If the requestor doesn't have the necessary authorities to make the changes, contact the WCATS team for assistance at wastehelp@lanl.gov or via telephone at 5-2494.

IMPORTANT: Failure to consider and communicate with affected parties can result in compliance issues. Ensure that container labels and placards are in agreement with the information recorded in WCATS.

4.4 Obtain Line Manager Concurrence

After the request is approved and the changes implemented, the requestor must obtain their line manager's certification that (1) the changes were made consistent with the approved change request description, (2) corresponding field changes were accomplished [e.g., container labels

printed and applied], and (3) appropriate parties were notified of the changes [e.g., operations center, engineering].

a) Obtain the "Requestor's RLM" signature on the printed change request report (see figure below).

WCATS CHANGE CONTROL REQUEST **1842302**
LANL:03 - CHANGE **EXECUTED**

WCATS CHANGE CONTROL REQUEST			
Request Title:	LANL 03 - CHANGE		
Requestor Z#:	099851	**Requestor Name:**	DARRYL GARCIA
Request Date:	4/14/15 2:06 pm		

Impact of Proposed Change

a Change impacts facility TSR compliance	No
b Change impacts facility permit compliance	Yes
c Change impacts site treatment plan (STP) compliance	Yes
d Change impacts offsite TSDF	No
e Change impacts other compliance program(s)	No

Description of Proposed Change

IMPORTANT NOTE Identify reference records (e.g., WCATS task #, container #) & attach supporting documentation

Containers W821696 and W821697 have incorrect accumulation start dates The dates must be changed from 9/18/2014 to 9/20/2014 This is a data entry error, because the correct date is written on the drums (see attached photographs) and is corroborated by the less than 90 day area log (see attached PDF file)

Attached Documentation

1	TA-03-030 < 90 Area Logbook Entries	e10842 pdf	116 kb
2	Drum Markings Picture	e10842 pdf	116 kb

Disposition Comments (Reviewer Only)

SCOT JOHNSON The requested change is consistent with established work flow If the end-user needs assistance changing the accumulation start date due to work flow/authorization restrictions please contact wastehelp@lanl gov

ENRIQUE TORRES Thank you for identifying this operating record issue

ANDREW MONTOYA Darryl, After this change is implemented, please verify that ALL container markings are consistent with the operating record, and reprint any labels/markings that are incorrect

Facility Operations Director Review	*Approved*	*ENRIQUE TORRES*	*4/14/15 2:31 pm*
Waste Management RLM Review	*Approved*	*ANDREW MONTOYA*	*4/14/15 2:36 pm*

	Requestor's RLM
Change Implemented	☐ Yes ☐ No
I certify that the data changes were made (a) consistent with the approved change request description, (b) any corresponding physical/field changes are complete (e.g., application of new container labels or placards), and (c) the appropriate parties were notified (e.g., operations center, engineering, offsite shipment coordinator).	Z-Number Printed Name Signature/Date

Figure 12. Obtain the requestor's RLM signature on the printed request.

b) Scan and email the signed document to wastehelp@lanl.gov for document control.

5.0 DEFINITIONS AND ACRONYMS

See LANL *Definition of Terms*.

See LANL Acronym Master List.

WCATS (Waste Compliance & Tracking System) provides a desktop and mobile computer application that supports the generation, characterization, processing, and shipment of LANL radioactive, hazardous, and industrial waste and serves as one element of LANL's operating record for the Hazardous Waste Facility Permit.

6.0 RECORDS

Records generated by this document will be submitted to the Operations Integration Office (OIO) Records Management designated Point of Contact for document management in accordance with P1020-1, *Laboratory Records Management* and with the ADESH-AP-006, *Records Management Plan*.

- Signed "WCATS Change Request Report".

7.0 TRAINING

Training consists of reading this document. To document a required read, Login to UTrain, go to "Advanced Catalog Search", enter course number "?" in the "Keywords – ID" field, click "Search" then "Go to Content" to read and request credit.

8.0 REFERENCES

WCATS users unfamiliar with the application and how to access it are referred to the application home page at https:\\wcats.lanl.gov where they can access the user's manual:

- Waste Compliance & Tracking System (WCATS) Version 2 User's Manual – MAN-5004.

9.0 ATTACHMENTS OR APPENDICES

There are no attachments or appendices to this document.

Appendix 12
Ordered Action 1.14

LA-UR-16-21790

LA-UR-16-21790

Approved for public release; distribution is unlimited.

Title:	EPC-CP Procedure Review List in Response to ACO HWB-214-20, Appendix12, Table 1
Author(s):	Goldberg, Shanon D.
Intended for:	Environmental Programs
Issued:	2016-03-17 (Draft)

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Appendix 12
Table 1 - Procedures reviewed by ECP-CP

Procedure Number	Rev	Title	Facility	Effective Date
DOE-WIPP-06-3345	6	DOP Waste Isolation Pilot Plant Flammable Gas Analysis	TA-54	11/13/2013
EP-AP-10001	0	ADEP Document Control	TA-54	8/13/2015
EP-AP-10007	0	ADEP Technical Procedure Development	TA-54	8/13/2015
EP-AREAG-WO-DOP-1015	4	Overpack Free Liquid Removal	TA-54	2/28/2014
EP-AREAG-FO-AP-1097	1	TA54 Area G Combustible/Flammable Liquid Control	TA-54	12/17/2015
EP-AREAG-FO-AP-1184	1	TA54 Area G Transient Combustible Control	TA-54	12/17/2015
EP-AREAG-FO-DOP-0203	1	TA-54 Area G Waste Storage Dome Inspections	TA-54	4/1/2010
EP-AREAG-FO-DOP-0204	2	TA-54 Area G TRU Waste Drum Banding Weekly Inspections	TA-54	11/4/2011
EP-AREAG-FO-DOP-0505	2	Establishing and Operating a Temporary Limited Area in TA-54 Area G	TA-54	5/25/2010
EP-AREAG-FO-DOP-0509	1	Deactivating a Temporary Limited Area in TA-54 Area G	TA-54	5/25/2010
EP-AREAG-FO-DOP-0510	1	Conducting Security Rounds in Temporary Limited Areas of TA-54 Area G	TA-54	5/25/2010
EP-AREAG-FO-DOP-1035	1	TA-54 Area G Clamshell Dome Door Operations	TA-54	9/30/2013
EP-AREAG-FO-DOP-1066	1	Area G Vehicle Barrier and Exclusion Zone Inspections	TA-54	7/12/2015
EP-AREAG-FO-DOP-1067	1	TA-54 Area G Defined Area Mode Change	TA-54	12/17/2015
EP-AREAG-FO-DOP-1074	0	TA-54 Area G Lightning Protection Systems (LPS) Triennial Ground Resistance Checks	TA-54	9/30/2013
EP-AREAG-FO-DOP-1075	0	TA-54 Area G Lightning Protection System (LPS) Annual Inspection	TA-54	9/30/2013
EP-AREAG-FO-DOP-1077	2	TA-54 Area G Inactive Pit and Shaft Quarterly Inspections	TA-54	4/23/2014
EP-AREAG-FO-DOP-1078	0	TA-54 Area G NFT Drum Venting System Inspection	TA-54	9/30/2013
EP-AREAG-FO-DOP-1080	1	TA-54 Area G LPS Sideflash Standoff Inspection	TA-54	3/17/2014
EP-AREAG-FO-DOP-1081	0	TA-54 Area G Vegetation Cutback Inspection	TA-54	9/30/2013
EP-AREAG-FO-DOP-1087	2	TA-54 Work Release Inspection Sheets	TA-54	3/17/2014
EP-AREAG-FO-DOP-1164	1	TA-54 Area L Dome 54-215 Access Requirements and Inspections for Out-of-Service Fire Suppression System	TA-54	7/11/2013

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Table 1 - Procedures reviewed by ECP-CP

EP-AREAG-FO-DOP-1178	0	TA-54 Area G Liquid Impediment Pour Test	TA-54	9/5/2013
EP-AREAG-FO-DOP-1179	2 IPC-1	TA-54 Area G Operational Acceptance of Defined Areas and Refueling Locations	TA-54	6/6/2014
EP-AREAG-FO-DOP-1183	1	TA-54 Area G Monthly Thermal Separation Distance and Liquid Impediment Inspection	TA-54	8/27/2014
EP-AREAG-FO-DOP-1185	0 IPC-3	DOP TA-54 Area G Facility Mode Change	TA-54	5/20/2014
EP-AREAG-FO-DOP-1201	0	TA-54 Operations Round Sheet	TA-54	3/31/2014
EP-AREAG-PLAN-1006	6	TA-54 Area G Fire Protection Program Plan	TA-54	2/28/2014
EP-AREAG-PLAN-1305	0	TA-54 Area G Implementation Plan for ABD-WFM-001 Rev. 3.0, ABD-WFM-002 Rev. 3.0, AREAG-ESS-14-001, Rev. 4.0	TA-54	6/5/2015
EP-AREAG-RM-AOP-1299	2	375 Permacon Nitrate-Salt Waste Container Abnormal Conditions	TA-54	11/10/2015
EP-AREAG-WO-AP-1285	0	TA-54 Area G Nitrate Salt Waste Cold Safing Time Tracking	TA-54	TBD
EP-AREAG-WO-DOP-0220	12	TA-54 Area G Bldg. 412 Containment Tent Operator Round Sheet	TA-54	5/11/2015
EP-AREAG-WO-DOP-1012	0	TA-54 Area G Banding Activities	TA-54	1/9/2012
			TA-54	
EP-AREAG-WO-DOP-1015	4	TA-54 Area G Pipe Overpack Container Operations	TA-54	12/17/2015
EP-AREAG-WO-DOP-1028	4	TA-54 Area G SWB Deficiency Repair	TA-54	12/17/2015
			TA-54	
EP-AREAG-WO-DOP-1030	16 IPC-1	TA-54 Area G TRU Drum Venting Operations	TA-54	5/21/2014
EP-AREAG-WO-DOP-1061	8	TA-54 Area G 375 Permacon Operator Round Sheet	TA-54	2/21/2014
EP-AREAG-WO-DOP-1063	2	TA-54 Area G Semi-Annual TRU Waste Metal Containers ISI	TA-54	3/21/2014
EP-AREAG-WO-DOP-1069	8	TA-54 Area G TRU SWB/Drum Operations	TA-54	12/17/2015
EP-AREAG-WO-DOP-1070	2	TA-54 Area G Unvented TRU Waste Drum Handling and Storage	TA-54	2/28/2014
EP-AREAG-WO-DOP-1084	4	TA-54 Area G TRU Waste Drum SSSR Activities	TA-54	6/6/2014
EP-AREAG-WO-DOP-1085	6	TA-54 Area G Sludge Remediation SSSR Activities	TA-54	3/4/2014
EP-AREAG-WO-DOP-1086	4	TA-54 Area G TRU Waste Receipt, Storage and Transfer	TA-54	12/17/2015
EP-AREAG-WO-DOP-1090	1	TA-54 Area G High-FGE TRU Waste Container Operations	TA-54	12/23/2013

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Table 1 - Procedures reviewed by ECP-CP

EP-AREAG-WO-DOP-1091	7	TA-54 Area G TRU Oversized Container SSSR Activities	TA-54	5/8/2014
EP-AREAG-WO-DOP-1155	4	TA-54 Area G TRU Corrugated Metal Box SSSR Activities	TA-54	11/21/2013
EP-AREAG-WO-DOP-1159	3	TA-54 Area G Ten-Drum Overpack Container Operations	TA-54	2/21/2014
	0	TA-54 Area G TRU Waste Glovebag Operations	TA-54	9/30/2013
EP-AREAG-WO-DOP-1162	2	TA-54 Area G Dome 231 Permacon Operator Round Sheet	TA-54	2/6/2014
EP-AREAG-WO-DOP-1238	0	TA-54 Area G TRU Nitrate Salt Drum Sampling	TA-54	5/7/2014
EP-AREAG-WO-DOP-1245	3	TA-54 Area G Empty Nitrate Salt Parent Drum Sampling	TA-54	8/6/2014
EP-AREAG-WO-DOP-1259	0	TA-54 Area G TRU Remediated Nitrate Salt Drum Sampling Supporting Activities	TA-54	TBD
EP-AREAG-WO-DOP-1260	0	TA-54 Area G Nitrate Salt Drum Wireless Thermocouple Installation	TA-54	TBD
EP-AREAG-WO-DOP-1284	0	TA-54 Area G Remediated Nitrate Salt Waste and Cold Safing	TA-54	3/27/2015
EP-AREAG-WO-DOP-1291	2 IPC-1	TRU Cemented Can Drum Sampling Support Activities	TA-54	8/6/2015
EP-AREAG-WO-DOP-1309	1	TA-54 Area G Unremediated Nitrate Salt Waste Sampling	TA-54	1/26/2016
EP-DIR-SOP-10021	1	Characterization & Mgmt of Environmental Programs Waste	TA-54	7/25/2014
EP-DIV-AP-20039	2	EWMO Timely Orders	TA-54	12/21/2015
EP-DIV-AP-20059	1	EWMOWatchbill Administration	TA-54	12/17/2015
EP-DIV-AP-20075	2	EWMO Nuclear Criticality Safety Administration	TA-54	6/23/2015
EP-DIV-AP-20099	1	LTP Solution Package Report Process	TA-54	10/2/2015
EP-DIV-BEP-20048	2	EWMO Division Bldg. Emergency Plan (BEP)	TA-54	9/22/2015
EP-DIV-DOP-0107 / EP-DOP-20252	0	LTP-SSS Waste Inventory	TA-54	3/9/2015
EP-DIV-PLAN-20076	0	EWMO TA-54 Area G Facility Waste Certification Plan	TA-54	8/23/2012
EP-DIV-RM-ERP-20200	1	EWMO Area Emergency Response	TA-54	10/8/2015
EP-DOP-20043	1	WD-SRS TRU and Low-level Waste Container Labeling	TA-54	9/30/2013
EP-DOP-20206	0	LTP New Type 7A Waste Container Receipt, Control, and Distribution	TA-54	12/22/2015
EP-DOP-2201	13	TA-54 Area G Receipt, Inspection, and Storage of LLW	TA-54	12/17/2015
EP-DOP-2203	4	Operation and Calibration of Spectroscopy Systems	TA-54	4/25/2013

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Table 1 - Procedures reviewed by ECP-CP

EP-DOP-2204	3	Green is Clean Waste Verification Systems	TA-54	12/9/2014
EP-DOP-2205	8	TA-54 Area G LAA Active Pits/Shafts Overburden Monthly Surveillance and Shaft Cover Inspection	TA-54	5/23/2014
EP-DOP-2206	0	Calibrating Phoswich Detectors	TA-54	3/22/2010
EP-DOP-2207	1	Canberra Q2 Operations	TA-54	2/26/2014
EP-DOP-2215	0 IPC-4	TA-54 Area G Waste Staging, Loading, and Off-Site Shipment	TA-54	7/22/2014
EP-DOP-2216	1	TA-54 Area G Low Level Waste Disposal and Pit/Shaft Deactivation	TA-54	7/17/2014
EP-DOP-2217	1	TA-54 Area G Non-Containerized LLW Pit Disposal	TA-54	7/22/2014
EP-PLAN-10074	0	Preliminary PBS VL-LANL-013 Resumption Operations Plan	TA-54	2/17/2015
EP-RANT-FO-DOP-0206	6	RANT Off-site Shipment of TRU Waste	TA-54	3/30/2012
EP-RANT-FO-DOP-1205	2	RANT TRU Waste Container Receipt	TA-54	9/24/2014
EP-RANT-FO-DOP-1214	1	RANT Payload Control Oversight and Support Activities	TA-54	9/29/2014
EP-RANT-FO-DOP-1262		RANT TRU Waste Offsite Shipment	TA-54	10/14/2014
EP-TA54-3201	3	TA-54 Adjustable Center of Gravity Lift Fixture (ACGLF) Calibration	TA-54	8/6/2012
EP-WCRR-FO-DOP-0205	2	Refueling Emergency Diesel Generator	TA-54	10/29/2010
EP-WCRR-FO-DOP-0207	3	WCRRF Facility Fire Patrol/Stationary Fire Watch	TA-54	1/31/2012
EP-WCRR-FP-DOP-0201	2	WCRRF Fire Suppression System Startup	TA-54	10/28/2010
EP-WCRR-FP-DOP-0202	2	Fire Suppression System Shutdown	TA-54	10/28/2010
EP-WCRR-VS-DOP-0312	5	WCRRF Uninterruptible Power Supply Load Test	TA-54	6/3/2011
EP-WCRR-WO-DOP-1103	2	WCRRF LLW Handling, Processing Storage & Shipment	TA-54	4/28/2014
EP-WCRR-WO-DOP-1196	0	WCG Horizontal Port Waste Removal	TA-54	3/19/2014
EP-WCRR-WO-DOP-1197	1 IPC-1	WCRRF Loading/Unloading SWB or Overpack Drum	TA-54	3/31/2014
EP-WCRR-WO-DOP-1198	1 IPC-1	WCRRF Waste Characterization Glovebox Operations	TA-54	3/3/2014
EP-WCRR-WO-DOP-1199	2	WCRRF and Bldg. TA-50-69 Waste Container Receipt, Movement and Transfer	TA-54	4/16/2014
EP-WCRR-WO-DOP-1200	0 IPC-1	WCRRF SWB Preparation and Closure	TA-54	1/29/2014
EP-WCRR-WO-DOP-1204	0	WCRRF 55-gallon Daughter Drum Assembly Preparation and Closure	TA-54	4/4/2014
EWMO-AREAG-FO-DOP-1246 (part of AREAG-ESS-14-002)	8	Nitrate Salt Bearing TRU Waste Container Monitoring	TA-54	11/30/2015
EWMO-AREAG-WO-DOP-1249	1 IPC-1	TA-54 Area G Dome 375 Permacon Nitrate Salt Storage Round Sheet	TA-54	7/21/2014

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Table 1 - Procedures reviewed by ECP-CP

EWMO-AREAG-WO-DOP-1251	1 IPC-1	TA-54 Area G Dome 231 Permacon Nitrate Salt Round Sheet	TA-54	7/21/2014
EWMO-AP-20059 (was EP-DIV-AP-20059)	1	EWMO Watchbill Administration	TA-54	12/17/2015
EWMO-AP-20253	0	EWMO General Site Hazards & Controls	TA-54	4/29/2015
EWMO-AP-20284 (was EP-DIV-AP-21)	1	EWMO RCRA Permit Operating Records and Compliance Activities	TA-54	9/26/2012
EWMO-AREAG-FO-DOP-1246 (part of AREAG-ESS-14-002)	8	Nitrate Salt Bearing TRU Waste Container Monitoring	TA-54	11/30/2015
EWMO-AREAG-PLAN-1248	1	TA-54 Nitrate Salt Waste Container Response Instructions	TA-54	1/30/2015
EWMO-DOP-20033	0	HIS Compromised Drum Evaluation	TA-54	TBD
(was EP-DIV-DOP-20033)			TA-54	
EWMO-DOP-20085 (previously EP-DIV-DOP-20085)	2	EWMO Industrial Truck and Equipment Refueling and Recharging	TA-54	9/30/2013
EWMO-DOP-20215 (was EP-DIV-DOP-0102)	0	EWMO RCRA Inspections and Notifications	TA-54	10/10/2014
EWMO-PLAN-20250	0	EWMO Chemical Management Plan	TA-54	8/6/2015
EWMO-RANT-FO-DOP-1264	0	RANT Operations Round Sheet	TA-54	?
NES-DOP-1001	10	NES In-Service Inspections	TA-54	9/12/2014
NFT-DVS-001	2.2	Compressed Gases	TA-54	11/14/2013
QA-LANS-DVS2-000	19.2	DVS-2 Drum Venting & Gas Determination Operating Instructions	TA-54	10/31/2013
QA-LANS-DVS2-008	10.6	DVS2 Drum Venting System Glovebox Glove Maintenance	TA-54	9/11/2013
QA-LANS-DVS2-021	4.8	DVS-2 Round Sheet	TA-54	11/21/2013
QA-LANS-DVS2-025	2.1	DVS-2 Preventative Maintenance Reference Procedure SSP	TA-54	12/12/2012
TR-OP-046	13	Handling Procedure for Transport Cask Model 10-160B Certificate of Compliance	TA-54	2/20/2014
TR-TP-004	7	10-160B Cask Pressure Drop Test	TA-54	2/20/2014
WCRRF-FO-AP-1093	0	WCRRF Access Controls	TA-54	TBD
WCRR-FO-AP-1316 (was EP-WCRR-PDM-0301)	0	WCRRF Vehicle Access Program	TA-54	TBD
WCRR-FO-DOP-1318	0	WCRRF and Bldg. TA-50-69 TSR Mode Change	TA-54	TBD
WCRRF-FP-DOP-1322 (was EP-WCRRF-FP-DOP-0303)	0	WCRRF Monthly Fire Suppression Supply Valve Alignment Check	TA-54	TBD
WETF-AP-10	I	Document Development	TA-16	7/15/2015
FFS-DOP-002	9 IPC 1	Low Level Waste Operations at TA55	55	9/23/2014

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Table 1 - Procedures reviewed by ECP-CP

FFS-DOP-014	5 IPC 1	Low Level Radioactive, Mixed Low Level Radioactive, Nonradioactive Chemical, Hazardous and Non Hazardous Waste Management at TA-55	55	10/23/2014
PA-AP-01000	12	Document Control Processes	55	10/30/2015
PA-AP-01016	5	Technical Procedure Use and Development Pro	55	5/29/2014
PA-DOP-01193	0	Fuel Lot Formation for Power Supply	55	8/28/2014
PA-DOP-01263	0	HS-PuO2 Aqueous Processing for Power Supplie	55	TBD
PA-DOP-01401	0	Visual Inspection of TRU Waste	55	10/15/2013
PA-DOP-01413	3.1	Chemical Addition to Reaction Tanks	50	11/7/2014
PA-DOP-01415	7	General Prototype CNC machining	55	11/10/2015
PA-DOP-01421	2	Hydroxide Precipitation	55	6/13/2015
PA-DOP-01450	3	Packing TRU Waste into Approved Containers	55	9/30/2015
PA-DOP-01456	2	Packing Oversized TRU Waste into Approved Containers	55	9/30/2015
PA-DOP-01462	5 IPC1	Packing TRU Waste into Pipe Overpack Containers	55	9/30/2015
PA-DOP-01585	1	Environmental Compliance Procedure	55	12/15/2015
PA-DOP-01589	1 IPC 1	Sampling at RLW	50	5/18/2015
PA-DOP-01607	0	Nitrate Chloride Determination	55	TBD
PA-DOP-01611	0	Nitric Acid Evaporator	55	TBD
PA-DOP-01613	0	Drum-in/Drum-out Operations for Cement Fixa	55	TBD
PA-DOP-01615	0	Non-evaporator Solution Operations for Cement Fixation	55	TBD
PA-DOP-01649	0	Maintenance and/or D&D of PF-4 Liquid Storage of Piping System	55	TBD
PA-DOP-01665	0	Solidification of Liquid Waste	55	TBD
PA-DOP-01669	0	Solution Transfer	55	10/30/2015
PA-RPT-01023	0	Generator Knowledge Report for Plutonium Isentropic Compression Experiment Containment Systems	55	12/10/2015
PMT2-DOP-CF-001	2	Preparing Drum Assemblies for Cement Fixation	55	3/6/2014
PMT2-DOP-CF-002	4	Drum-in/Drum-out Operations for Cement	55	7/14/2014
PMT2-DOP-CF-003	2	Certifying, Transferring and Storing Evaporator Bottoms for Cement Fixation	55	7/15/2014
PMT2-DOP-CF-005	3 IPC 1	Non-evaporator Solution Operations for Cement Fixation	55	7/30/2014
PMT2-DOP-CF-006	2	pH Adjustment of Evaporator Bottoms for Cement Fixation	55	7/15/2014
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PMT2-DOP-CF-009	3	Inspection of Treatment, Storage, and Disposal Units for Cement Fixation and Tank Storage	55	3/6/2014
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RPS-TA55-401	3	Neutron Rate Measurements	55	8/28/2014
TA55-PMFD-01037	1	Liquid Residue Treatment (R8) MBA 723	55	11/5/2014
TA55-PMFD-01017	1	Aqueous Scrap Process (ASP) 723	55	9/19/2014
TA55-RD-539	5Ext. 2	TA-55 Waste Management Requirements	55	5/25/2015
TA55-RPS-100	0	Aqueous Scrap Recovery - Equipment Maintenance	55	9/23/2014
TWF-PLAN-1001	0	TWF Snow Removal Plan	TWF	TBD
TWF-RM-AOP-5003	0	TWF Discovery of an Airborne, Liquid, and/or Solid Material Release or Spill	TWF	8/12/2015
TWF-RM-AOP-5004	0	TWF Waste Container Integrity	TWF	8/12/2015
TWF-FO-AP-2002	0	TWF Pre-job Brief	TWF	8/12/2015
TWF-FO-AP-2004	0	TWF Timely Orders	TWF	8/26/2015
TWF-FO-DOP-2000	0	TWF RCRA Inspections	TWF	8/31/2015
TWF-FO-DOP-2003	0	TWF Forklift and Drum Handler Equipment Operation	TWF	TBD
TWF-FO-AP-2011	0	TWF Operating Record	TWF	8/12/2015
TWF-BEP-1000	0	TWF Building Emergency Plan	TWF	9/10/2015
TWF-RM-AOP-5001	0	TWF Nuclear Criticality Safety Non Compliance	TWF	8/12/2015
TWF-FO-AP-2005	0	TWF Conduct of Operations Compliance & Administration	TWF	8/26/2015

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Ordered Action 1.15

Multiple LA-URs

LA-UR-16-21733

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Author(s):	Christensen, Davis V.
Intended for:	Environmental Programs
Issued:	2016-03-15 (Draft)

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ADEP-LTP Waste Remediation Extent of Condition Evaluation Plan

Effective Date: June 4, 2015

Hazard Class:	☒ Low	☐ Moderate	☐ High/Complex
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Planning and Technical Solutions Manager
LTP Waste Remediation Project Manager
Deployed ESH Manager
ENV-CP
QA

Responsible Manager, Waste Disposition Division Leader

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Approval Manager, ENV-CP Group Leader

Name (print)	Z#	Signature	Date
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Name (print)	Z#	Signature	Date
Teri Tingey	200975	/s/ Teri Tingey	06/02/15

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REVISION HISTORY

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EP-PLAN-10075, R.0	June 4, 2015	New Document	Plan describing actions to evaluate Extent of Condition of ADEP waste remediation that may have involved RCRA non-permitted activities.

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1. BACKGROUND

On February 14, 2014, a radiological release occurred at the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico. The contents of a mixed transuranic (MTRU) waste container (identified as Drum 68660) shipped to WIPP from Los Alamos National Laboratory (LANL) underwent a violent thermal reaction due to the composition of the waste. On March 17, 2015, the WIPP Technical Assessment Team (TAT) issued its report that concluded, among other things, that the chemically incompatible contents of LANL Drum 68660 in combination with physical conditions supported exothermic chemical reactions leading to a thermal runaway; the consequent build-up of gases within the drum led to a breach of the drum lid. The prime causes contributing to this incident have been determined, to date, as the mixing of organic absorbent (Swheat Scoop©) with containerized nitrate salts and the neutralization of liquids with KolorSafe® during processing at LANL's Waste Characterization, Reduction, and Repackaging Facility (WCRRF). In 2014, LANL filed two addendums with the New Mexico Environment Department (NMED) and self-reported that the nitrate salt-bearing waste stream processed at WCRRF involved procedures (EP-WCRR-WO-DOP-0233) that authorized the use of organic absorbents and neutralizers which were determined to be incompatible and constituted unpermitted treatment in noncompliance under the New Mexico Hazardous Waste Management Regulations (HWMR) and the LANL Hazardous Waste Facility Permit ("LANL Permit").

On December 6, 2014, the NMED issued Administrative Compliance Order (ACO) HWB-14-20 to the U.S. Department of Energy (DOE) and Los Alamos National Security, LLC (LANS) (LANL Permittees) alleging violations of the New Mexico Hazardous Waste Act, the HWMR, and the LANL Permit regarding, among other items, unpermitted treatment of hazardous waste through the use of incompatible absorbents and neutralizers associated with the processing of the nitrate salt waste stream. NMED's ACO also includes a "Schedule of Compliance" requiring among other items, that the LANL Permittees "*submit to NMED in a written report describing any and all actions Respondents have taken to prevent any recurrence of violations described herein. Reports should include changes to procedures that Respondents have implemented already*" (ACO No.1, line 129).

1. BACKGROUND (continued)

In compliance with the ACO, LANL is reviewing several areas in the waste management program to prevent recurrence of the violations described in the ACO including: (1) operating procedures that involve waste management, (2) the Waste Profile process, (3) training practices for waste processing and RCRA treatment (all being completed by the Associate Directorate of Environment, Safety, and Health (ADESH), (4) the RCRA Self -Assessment program, and (5) Extent of Condition (EOC), accomplished in part by completing a specific EOC review to identify remediation procedures with regulatory compliance issues and remediated containers tied to the remediation procedures with issues. Actions (1) thru (4) are being conducted by the Associate Directorate of Environment, Safety, and Health (ADESH). Action (5), which is not required by the ACO, is being conducted by the Associate Directorate of Environmental Programs (ADEP), with support from ADESH Environmental Compliance Programs (ENV-CP).

2. PURPOSE

This document addresses Action (5) above (which is not required by the ACO) and provides a plan for assessing aspects of Extent of Condition regarding the evaluation of past remediation activities performed on transuranic (TRU) waste and MTRU waste at LANL. The specific focus of this review is to identify whether LANL's prior TRU/MTRU remediation activities associated with waste streams other than the nitrate salts processed at WCRRF involve similarly deficient procedures and/or the potential issues found with the processing of the nitrate salt-bearing waste stream; namely, the use of potentially incompatible absorbents or neutralizers mixed with the waste and/or unpermitted treatment through the use of absorbents and/or neutralization activities under the HWMR regulations and LANL Permit.

3. SCOPE

The EOC involves review of TRU/MTRU wastes that have been remediated by the ADEP LANL Transuranic Waste Program (LTP) from 2006 until May 2014 to assess whether any absorption and/or neutralization processes employed to remediate TRU or MTRU wastes may have been incompatible and/or constitute potential instances of impermissible treatment of hazardous waste. The EOC does not address potential waste characterization issues associated with the ACO because that issue is addressed under a separate document to be delivered to the NMED associated with ACO No. 4. The U.S. Department of Energy (DOE) and LANS intend to provide NMED the results of the EOC following a regulatory compliance quality assurance review by ENV-CP.

3. SCOPE (continued)

This assessment does not address containers that were managed using other processes that did not include absorption and/or neutralization, such as sorting and segregation only or reclassification as non-TRU waste. Drums reclassified LLW/MLLW which have prohibited items, such as liquids, are sent off site for remediation. Therefore they have been excluded from this evaluation. Likewise, this assessment does not address potential compliance issues with empty containers. These refer to empty parent containers after the waste was removed and the parent was over-packed into an 85 gallon drum. Should new information and/or determinations be received which may require ADEP/LTP to revisit these assumptions, it will be evaluated in a separate assessment, if so directed by management.

Although this review focuses on TRU/MTRU waste streams other than nitrate salts, as the ADEP/LTP team evaluates generator records, they may identify additional containers as unconsolidated nitrate salts that have not been previously identified as such. Any findings that would increase the official nitrate salts inventory will be promptly reported to NMED, and appropriate actions will be taken to ensure compliant storage and management of these containers.

In order to provide a comprehensive review, the EOC involved review of documents and processes that spanned the time period from 2006, which was the approximate onset of large-scale waste remediation, through approximately May 2014, which marked the cessation of ADEP-LTP TRU/MTRU waste remediation operations. In the Waste Compliance and Tracking System (WCATS) database there are over 40,000 records tied to TRU waste (both parent (~26,000) and daughter (~13,000) containers). Some of these containers (~6,000) are still at LANL, in above and below grade storage locations. A large portion of the initial population of parent containers (~10,000 of the 26,000 containers mentioned above) has been remediated to fix prohibited items in the waste matrix. This generated approximately 13,000 daughter containers which were certified and shipped off site for disposition.

These 10,000 parent containers (13,000 daughter drums) were selected because they represent the containers with the highest probability of impermissible treatment of hazardous waste. Waste remediated prior to 2006 entailed sort and segregation activities, (i.e., repackaging of the waste with no material added during the process). Table 1 identifies, by waste stream, the containers that were remediated from 2006 to 2014.

3. SCOPE (continued)

Row Labels	Sum of Unique Parent Count
MHD-Debris	**6501**
LA-MHD01.001	5532
LA-MHD02-PTX.001	1
LA-MHD03.001	851
LA-MHD04.001	27
LA-MHD05-ITRI.001	41
LA-MHD08.001	17
LA-MHD09.001	29
No Waste Stream	2
TA-35 Heterogeneous	1
MIN-Sludges	**2486**
LA-MIN02-V.001	6
LA-MIN03-NC.001	2478
LA-MIN04-S.001	1
LA-MIN05-V.001	1
CIN-Cemented	**425**
LA-CIN01.001-Cans	410
LA-CIN01.001-Monoliths	5
LA-CIN02.001	10
MHD - Boxes	**366**
LA-MHD01.001	162
LA-MHD03.001	37
LA-MHD04.001	133
LA-MHD09.001	15
LA-MHD10.001	19
Grand Total	**9778**

Table 1. Population of Parent Containers Examined for Potential RCRA Concerns

3.1 Issues Reviewed

The EOC review focused upon reviewing the documentation discussed above for the following potential LANL Permit issues:

1. Absorbents were added to hazardous wastes (procedurally-driven) as necessary to sorb liquids during repackaging operations. Was the addition of the absorbents performed in a manner that complied with HWMR permit exemptions insofar as the absorbent was:
    a. added "at the time the waste was first placed" in the container;
    b. compatible with the waste material and container; and
    c. not deliberately mixed with hazardous wastes for the purpose of treatment of the waste?

2. Neutralization was performed (procedurally-driven) for certain waste streams during certain time periods. The LANL Permit does not authorize treatment by neutralization. Was neutralization performed in a manner that complied with RCRA regulations exempting it from permitting (i.e. Elementary Neutralization)?

3.2 Absorption Issues

3.2.1 Timing of Absorbent Addition

As discussed below, the EOC review will focus in part on LTP procedures that authorized the addition of absorbent material directly into a parent or daughter container that held waste as part of the remediation of TRU waste drums and oversized boxes. This practice appears not to have always complied with the requirement that waste be added "at the time the waste was first placed in the container." The absorption issues associated with timing occurred from September 2006 through approximately June 2007, the period during which the procedures authorized the addition of absorbent material to parent containers that may have held waste. In June 2007, the procedures were corrected to remove this provision. For this reason, MIN03 containers remediated from calendar year 2006 through June 2007 will be reviewed as part of this EOC (see Table 2).

The absorbent issues associated with the Box Line operations were the result of procedure-driven requirements that allowed the addition of absorbent directly to a standard waste box (SWB) container where the SWB was sent back for rework after failing a certified RTR for liquids. This practice was never corrected in the procedures; therefore all of the Box Line daughter containers will be evaluated for absorption issues as part of this EOC (see Table 2).

3.2.1 Timing of Absorbent Addition (continued)

For the other waste streams in which absorption was performed from 2007 through 2012, liquids were absorbed as part of the remediation/repackaging process into daughter containers. Therefore the practices directed in the operating procedures complied with the requirements of the RCRA absorption exemption. Records will be spot checked for completeness of the evaluation.

3.2.2 Deliberate Mixing

The deliberate mixing of absorbents with hazardous waste can be considered treatment when mixed for the purpose of treating the waste (e.g., rendering the mixture less hazardous or non-hazardous). In the case of the nitrate salt-waste stream, this occurred when the Difficult Waste Team recommended that an absorbent be added (in defined ratios) for the purpose of removing any potential oxidizing properties of the waste. As part of the EOC review the Team will identify instances (if any) where absorbents were deliberately added for the purpose of treatment.

3.2.3 Absorbent compatibility (e.g., Swheat©)

The HWMR contain a regulatory process to assess the potential for mixing incompatible materials (e.g., absorbents) with hazardous wastes. Appendix V to 40 CFR Part 264, and accompanying EPA guidance, specifies types of potentially incompatible wastes, waste components, and materials that, if mixed, can result in harmful consequences. By example, strong oxidizers (such as nitrates) and organic materials (e.g., Swheat©) are identified as materials and wastes that are potentially incompatible and should not be mixed.

The EOC identified a number of procedures that authorized the use of an "organic" absorbent for several waste streams remediated in FY13 and FY14. Although organic absorbent may or may not have in fact been used, the EOC review addressed the potential for an incompatibility based on the *assumption* that an "organic" absorbent was mixed with non-nitrate TRU/MTRU waste streams. The population of containers remediated during FY13 and FY14 includes 1,047 containers that may have been remediated using absorbents with and without potential compatibility issues. They will be evaluated as part of this EOC review (see Table 2).

3.3 Neutralization Issues

It is known that a number of procedures authorized the addition of neutralizers into liquids that were used in remediation activities during the time period FY13 - FY14, which also coincided with the time period for encountering potential issues with incompatible absorbent use (e.g., Swheat©), as identified above. The primary issue to be evaluated as part of the EOC and the use of neutralizers is the potential for unpermitted treatment.

It should be noted that during specific time periods between 2006 and 2014, some operating procedures directed workers to measure pH, although in most cases no direction was given regarding the purpose for recording the pH measurement. The procedures did not provide any direct correlation between measuring pH and using neutralizer on liquids or wastes. Therefore, while pH is being used as a search term when reviewing procedures and waste documentation (see Appendix 2), encountering a pH reference may or may not correlate with management of liquids or use of neutralizer in the procedure (or in the waste containers remediated while that procedure was in effect). For purposes of this assessment, it will be assumed that if records show that only pH was taken, neutralization did not occur.

Focusing on these primary areas of concern will reduce the population of interest from approximately 10,000 parent containers to approximately 1,750 containers.

3.3 Neutralization Issues (continued)

FY2006+ Absorption Potential	
Row Labels	**Sum of Parent Value**
MHD	**0**
LA-MHD01.001	0
LA-MHD03.001	0
MIN	**442**
LA-MIN03-NC.001	442
Boxes	**366**
Various Waste streams	366
Grand Total	**808**

FY2013 &14 Swheat[c] and Neutralization Potential	
Row Labels	**Sum of Parent Value**
MHD	**353**
LA-MHD01.001	298
LA-MHD03.001	32
LA-MHD04.001	4
LA-MHD05-ITRI.001	3
LA-MHD08.001	4
LA-MHD09.001	11
TA-35 Heterogeneous	1
MIN	**81**
LA-MIN02-V.001	6
LA-MIN03-NC.001	74
LA-MIN04-S.001	1
CIN	**392**
LA-CIN01.001-Cans	387
LA-CIN01.001-Monoliths	4
LA-CIN02.001	1
Boxes	**231**
Mixed	231
Grand Total	**1057**

Table 2. Number of containers and their associated waste streams potentially involving absorption and/or neutralization

The remaining 8,250 containers that went through remediation will be randomly selected and checked for RCRA compliance issues. Any issues identified will require an expanded evaluation.

4. RESPONSIBILITIES

4.1 Waste Disposition Division Leader

- Provides oversight for the overall implementation of the EOC Plan.
- Reviews and approves the EOC Plan and any changes.

4.2 LTP Waste Remediation Project Manager

- Provides support to the Planning and Technical Solutions Manager for identifying and evaluating EOC for remediated waste.

4.3 Planning and Technical Solutions Manager

- Develops the EOC Plan.
- Coordinates resources across LANL to implement the EOC Plan.
- Identifies procedure, procedure revisions, and controlling documents for regulatory review, to determine whether they directed/allowed workers to perform impermissible treatment.
- Identifies waste streams that underwent remediation using procedures/documents undergoing regulatory review.

4.4 Environmental Compliance Programs (ENV-CP) Subject Matter Expert (SME)

- Verifies completeness of list of procedures, procedure revisions, and controlling documents identified by ADEP/LTP that may have directed/allowed workers to perform impermissible treatment of hazardous waste.
- Reviews remediation documentation selected by ADEP/LTP to verify ADEP-LTP's identification of waste streams or containers that were remediated under procedures or revisions undergoing regulatory review.

4.5 Oversight

The results of this EOC will be provided for a regulatory compliance quality assurance review by ENV-CP because it is assumed that the results of the evaluation will be provided in a report to the New Mexico Environment Department (NMED). ENV-CP reviews and evaluates the remediation records selected by ADEP/LTP to verify their findings as to whether remediation was performed using compliant processes or impermissible processes.

5. SCHEDULE

Activity	Start	Finish
Prepare Extent Of Condition (EOC) Plan	29-Jan-15	31-Mar-15
Review and Approve EOC Plan	29-Jan-15	30-May-15
Execute EOC Review	9-Feb-15	10-Apr-15
CIN (Cemented)	9-Feb-15	30-Apr-15
Box Waste/OC Containers	9-Feb-15	30-Apr-15
MIN (Sludge/ABS Liquids)	9-Feb-15	30-Apr-15
MHD (Debris)	9-Feb-15	30-Apr-15
ENV-CP QA review	9-Feb-15	30-Apr-15
Brief AD EOC Results	6-May-15	6-May-15
Legal Counsel Review	TBD	TBD
Prepare Formal Summary Report	TBD	TBD
Review/Approve Formal Summary Report by LTP, ENV, Lab Legal and DOE	TBD	TBD
Transmit to NMED	TBD	TBD

6. REFERENCES

EP-DIR-AP-10003, Record Management Procedure for ADEP Employees

Los Alamos National Laboratory Hazardous Waste Permit, December 2010

APPENDIX 1

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Definitions and Abbreviations

ADEP	Associate Directorate of Environmental Programs
ENV-CP	Environmental Compliance Programs
EOC	Extent of Condition
ESH	Environmental, Safety, and Health
LANL	Los Alamos National Laboratory
LTP	LANL Transuranic Program
NMED	New Mexico Environment Department
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act
RTR	Real-Time Radiography
SME	Subject Matter Expert
SSSR	Sort, Segregate, and Size Reduction
TA-54	Technical Area 54
TRU	Transuranic
WCRRF	Waste Characterization, Reduction, and Repackaging Facility
WIPP	Waste Isolation Pilot Plant

APPENDIX 2

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Method of Approach

[1] ADEP/LTP identifies procedures, procedure revisions, and other controlling documents used in remediating TRU/MTRU waste at WCRRF and TA-54 SSSR locations since 2006, and records of those procedures/documents, with specified revision numbers, are provided in a procedure evaluation spreadsheet.

[2] ADEP/LTP identifies process steps within each procedure or revision where absorption or neutralization may have occurred by performing a word search of the procedure looking for keywords, such as:

- absorbent material,
- absorption,
- inorganic,
- organic,
- kitty litter,
- neutralization,
- neutralize,
- pH, and
- solidification.

[3] ADEP/LTP identifies waste streams that were remediated using procedures directing/allowing non-permitted activities. Waste streams of interest for this assessment are those identified (to date) that are believed responsible for the majority of potential non-compliance concerns.

[4] ENV-CP SMEs review the procedures/revisions/documents for remediating the identified waste streams identified by ADEP/LTP in order to verify LTP's findings as to which procedures directed/allowed workers to perform impermissible treatment (e.g., absorption/neutralization not in compliance with RCRA regulations or the LANL Permit). The problematic documents are recorded on the procedure evaluation spreadsheet. The criteria for identifying which procedures/revisions/controlling documents directed/allowed workers to perform impermissible treatment activities are based on a series of agreed-upon assumptions, for example:

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- Actions that constituted permissible vs impermissible absorption, as discussed and reviewed with LANL Counsel (e.g., addition of absorbent to a parent container rather than an intermediate or final daughter container).
- Time periods when the procedure required pH measurement, as these would indicate times of neutralizer use.
- Actions that constituted permissible vs impermissible neutralization, as discussed and reviewed with LANL Counsel (e.g., addition of neutralizer to waste liquids from containers bearing EPA Hazardous Waste Numbers other than D002).
- Time periods of neutralizer use (e.g., neutralizer use was procedurally driven after September 23, 2013).

[5] ADEP/LTP identifies container batches that were remediated using the procedures directing/allowing impermissible treatment per the following:

- Grouping containers by facility, and procedure number(s), and revision number to conservatively identify containers with potential RCRA non-compliances.
- Reviewing the ADEP Pre-Screen Database to determine the presence of liquids and other suspected Prohibited Items by container, where possible.

[6] ADEP/LTP obtains remediation documentation for each affected container from Records; reviews the remediation documentation to identify if impermissible treatment, such as absorption and/or neutralization, was performed; and provides records to ENV-CP. The number of documents reviewed will be recorded on the procedure evaluation spreadsheet.

[7] ADEP/LTP organizes and maintains remediation records electronically in a Remediation Master List or in binders for further reference.

[8] ENV-CP reviews and evaluates the remediation records selected by ADEP/LTP to verify their findings as to whether remediation was performed using compliant processes or impermissible processes and tracks each. The number of potential non-compliance instances for each waste stream or remediation activity is recorded in an EOC summary table.

[9] The number of potential non-compliances will be further tracked in the EOC summary table and broken into subgroups, such as "Liquid Absorption Issues" and "Liquid Neutralization Issues."

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[10] The number of parent containers with no liquids or issues is recorded in the EOC summary table.

[11] The records of remediated containers determined to be the product of non-permitted processes will be organized and maintained electronically or in binders for further reference.

[12] When operation records from remediation activities are not available, existing Real-Time Radiography (RTR) prescreen data will be evaluated to determine if there was potential for liquids in the waste matrix. If RTR identifies liquid quantities, then the container will be evaluated against the approved procedure at the time of remediation and it will be assumed that absorption and neutralization occurred as described in that procedure or revision. When available, RTR tapes will be used to perform the verification. Results of the RTR evaluation will be recorded in the EOC summary table for identified issues. The numbers may fluctuate both up and down as the individual containers are evaluated against the RTR data.

[13] When no remediation record or RTR prescreen data is available for a given container, it will be conservatively assumed that absorption and neutralization was conducted as directed/allowed by the procedure or revision in effect at the time of remediation.

[14] Information and data will be collected into spreadsheets. ADEP/LTP will review the spreadsheets and data with ENV-CP to verify final status for each container, to the extent possible. This will be presented in a Final Report to management that will be used as supporting information for formal non-compliance reporting to NMED, if required.

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Approved for public release; distribution is unlimited.

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Author(s):	Baumgartner, Bruce Edward
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LA-CIN01 Management Plan

Effective Date: SEP 2 3 2015

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Classification Review: ☐ N/A ☒ Unclassified ☐ UCNI ☐ Classified _____

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Appendix 2	LA-CIN01 Single Sample Chemical Analysis Results
Appendix 3	LA-CIN01 Surrogate DOT O.2 Oxidizer Analytical Results
Appendix 4	LA-CIN01 Surrogate Corrosivity Method 1110A Analytical Results
Appendix 5	LA-CIN01 Inspection Standing Order
Appendix 6	Characterization of the Potential Hazards Associated with Potential RCRA Treatment Noncompliances

1. BACKGROUND

On December 6, 2014, the New Mexico Environment Department (NMED) issued Administrative Compliance Order (ACO) HWB-14-20 to the U.S. Department of Energy (DOE) and Los Alamos National Security, LLC (LANS) (LANL Permittees) alleging violations of the New Mexico Hazardous Waste Act, the Hazardous Waste Management Regulations (HWMR), and the Los Alamos National Laboratory (LANL) Permit. In compliance with the ACO, LANL is reviewing several areas in the waste management program to prevent recurrence of the violations described in the ACO. In addition to the ACO actions, LANL initiated a review of the Extent of Condition (EOC) to identify remediation procedures with regulatory compliance issues and remediated containers tied to the remediation procedures with issues. One waste stream identified during the EOC with potential issues is the LA-CIN01 waste stream. LA-CIN01 waste stream consists of homogeneous cemented legacy waste resulting from the cementation of evaporator liquids from TA-55 nitric acid plutonium recovery operations. Some of the LA-CIN01 drums contain (or are suspected to contain) free liquids which are believed to have dewatered from the cemented nitrate waste. The EOC review identified only a few LA-CIN01 containers with free liquids that were remediated by absorption and, in some cases, neutralization.

A sample of liquid from one drum was collected and analyzed to obtain data on the characterization of the free liquids found in some LA-CIN01 drums. The results are presented in Appendix 2. Results indicated higher than expected nitrate levels in the liquids. Because of the nitrate levels, and concerns that the waste stream may be an oxidizer and carry an Environmental Protection Agency (EPA) hazardous waste number (HWN) of D001, the LANL Permitees have determined that additional characterization and conservative management of LA-CIN01 containers with liquids is warranted.

2. PURPOSE

This document addresses actions to conservatively manage the subset of the LA-CIN01 waste containers known to contain free liquids as characteristic oxidizers (D001) and corrosives (D002) until applicability of each characteristic can be verified through sampling and analysis. The process for LA-CIN01 oxidizer management is depicted in Figure 1, LA-CIN01 Oxidizer Management Process. The process for LA-CIN01 corrosive management is depicted in Figure 2, LA-CIN01 Corrosive Management Process.

Based on the information in the report; *Characterization of the Potential Hazards Associated with Potential RCRA Treatment Noncompliances,* provided in Appendix 6, the degree of hazard presented by this waste form to worker (and public) is very different from, and does not approach, the hazard presented by the remediated nitrate salt waste form. As indicated in the report, the quantities, pH, salt concentration, lack of nitration, lack of organic neutralizer, and environment (large mass of inert cement), create an environment very different from the remediated nitrate salt drums with a much lower hazard potential.

3. SCOPE

This LA-CIN01 Management Plan includes:

- Real-Time Radiography (RTR) review and verification of the presence of free liquids in containers
- Continued sampling and analysis of select LA-CIN01 containers confirmed as containing liquids from cemented waste dewatering
- Performance of testing to confirm/deny applicability of the D001 ignitability characteristic as it pertains to oxidizers (40 CFR 261.21(a)(4))
- Performance of testing to confirm/deny applicability of the D001 ignitability characteristic as it pertains to solids (40 CFR 261.21(a)(2))
- Performance of corrosivity testing to confirm/deny applicability of the D002 characteristic to free liquids in containers
- Re-classifying and moving at-risk liquid-containing waste containers into compliant storage configuration or providing compensatory measures for safe storage.

The process for LA-CIN01 management is depicted in Figures 1 and 2, LA-CIN01 Oxidizer Management Process and LA-CIN01 Corrosive Management Process respectively. This plan applies to a subset of the LA-CIN01 waste stream consisting of homogeneous cemented legacy waste generated prior to 1991 resulting from the cementation of evaporator liquids from TA-55 nitric acid plutonium recovery operations. The subset is primarily containers with liquids that have dewatered from the cemented waste, but it also includes several containers in which the liquid has been absorbed with organic absorbent. This Plan does not address other waste streams described in the EOC, nor does it further address or change any of the planning or execution of nitrate salt management actions. The actions specified in this plan are in addition to the scope of the EOC Plan and activities.

4. LA-CIN01 MANAGEMENT

The following sections summarize the actions required to obtain additional characterization data and steps to conservatively manage the LA-CIN01 containers until additional confirmation characterization can be completed. The actions include obtaining and reviewing RTR media, further sampling and analysis, conservatively assigning the EPA HWN D001 and/or D002 to containers until its applicability can be confirmed or denied via testing, placing the containers in compliant storage or implementing compensatory measures in the interim, and providing any applicable manifest discrepancy or DOT notifications as necessary following confirmation of waste characterization. To ensure full characterization, additional analysis will be conducted to determine if the waste meets one or more of the criteria of the D001 (ignitability) or D002 (corrosivity) characteristics.

4.1 Re-characterization

During the EOC review the acceptable knowledge (AK) documentation for the LA-CIN01 waste stream was reviewed. Under this Plan, additional characterization will be performed to confirm the physical and chemical characteristics of the liquids that dewatered from the cemented waste. The additional characterization will include RTR to determine if liquids are present in any given container and additional sampling and analysis of liquid-containing waste to bound the nitrate levels and determine if the liquid-bearing containers in the waste stream are Resource Conservation and Recovery Act (RCRA) oxidizers pursuant to 40 CFR 261.21(a)(4) with the characteristic of ignitability and/or RCRA corrosives pursuant to 40 CFR 261.22 with the characteristic of corrosivity. Absorbed liquids will also be analyzed to determine if they are ignitable pursuant to 40 CFR 261.21(a)(2).

4.1.1 Real-Time Radiography (RTR)

The LA-CIN01 liquids requiring compliant storage are those containers with free liquids that could potentially contain nitrates at a level which would result in the waste being classified as oxidizers, pursuant to 40 CFR 261.21(a)(4), bearing the RCRA ignitability characteristic (D001) or that potentially meet one or more of the criteria of the corrosivity characteristic (D002), pursuant to 40 CFR 261.22. RTR is the method used to determine if liquids are present in the LA-CIN01 containers. The majority of the LA-CIN01 containers have RTR files available in the ADEP-WDD records. However, there is also a population of LA-CIN01 containers at LANL that do not have RTR records or for which the existing RTR data is inadequate. The existing RTR data will be reviewed by ADEP-

WDD and ENV-CP personnel to identify containers with free liquids or the potential for free liquids based on commentary by the RTR operator or anything observed by the reviewers under this review. As a note, this review will identify containers with free liquid in any observable quantity, including quantities less than the one-percent liquids usually identified by RTR to certify compliance with the Waste Isolation Pilot Plant (WIPP) acceptance criteria. Reviewers will note any containers that contain free liquids. Containers verified to have free liquids will be prioritized for conservative management under this plan.

LA-CIN01 containers with missing, nonexistent, or inconclusive RTR will be placed into storage as soon as reasonably achievable, as per Section 4.2, until RTR can be performed by a certified RTR operator to determine if liquids are present in the container. Until the container is placed in appropriate storage, the compensatory measures described below will be in force.

If no liquids are identified during either of the RTR reviews, the LA-CIN01 drum will be removed from management as potentially ignitable or corrosive waste under this Plan and normal management will be resumed under the LANL Permit for mixed transuranic (MTRU) waste that is not ignitable, corrosive, or reactive.

4.1.2 Sampling and Analysis

To evaluate the potential oxidizer characterization of the LA-CIN01 waste with liquids, a campaign to sample free liquids from eight LA-CIN01 drums was initiated. Chemical analysis of the free liquid sample from the first container was recently completed (Appendix 2), indicating nitrate salt concentrations (approximately 34% by wt.) that may be an oxidizer, thereby raising the potential applicability of the RCRA ignitability characteristic (as a comparison, a 45% sodium nitrate solution is documented as a DOT Packing Group III oxidizer, thereby meeting the criteria of the D001 ignitability characteristic).

LANL then conducted UN DOT O.2 testing of a non-radioactive surrogate to evaluate whether the liquid exhibited the D001 characteristic. The test results indicated that this sample is not an oxidizer under RCRA (Appendix 3). The additional seven containers will be sampled and analyzed to attempt to bound the nitrate concentrations and confirm the classification of the waste stream. If any of the additional samples test positive as a DOT oxidizer, the liquid-bearing containers in the waste stream will be classified as oxidizers and assigned a D001 EPA characteristic HWN. For completeness, the nitrate solution was analyzed to determine if the liquid meets one or more of the criteria of the

D002 corrosivity characteristic. Corrosivity towards steel was analyzed in accordance with SW-846 Method 1110A. The sample was determined not to exhibit the characteristic of corrosivity (D002) either by pH or corrosivity towards steel (Appendix 4).

As specified above, additional sampling and analysis is required because the initial-sample surrogate results indicate that the sample is not an oxidizer and is not corrosive. Samples from seven other select LA-CIN01 containers will be collected and analyzed for anions, RCRA metals, major elements, and general chemistry. Analytical results will be compared to the original sample result to determine if the nitrate concentrations are above those in the original sample. Such a finding would necessitate preparation of additional surrogate sample(s) for UN DOT O.2 analysis and additional Method 1110A analysis.

4.1.3 Surrogate Analysis

Preparation and analysis of a surrogate of the single LA-CIN01 sample was completed and the analytical results used to guide additional chemical sampling as specified in Section 4.1.2 above. Again, since the test results indicated that this sample is not an oxidizer under RCRA, sampling and analysis of the additional seven selected LA-CIN01 containers will be conducted in order to confirm applicability of the result to the broader LA-CIN01 liquids population. Preparation of additional surrogate samples for UN DOT O.2 and Method 1110A analysis will be conducted if the results from the chemical analysis of the single sample are proven not to be bounding when compared to the results from chemical analysis of the other seven samples (i.e. if nitrate concentrations in any of the seven containers is higher than 34%). If the analytical results indicate that none of the additional LA-CIN01 liquids exhibit the ignitability (D001) or corrosivity (D002) characteristic, the LA-CIN01 containers will be removed from management under this Plan.

A surrogate sample of LA-CIN01 liquids absorbed with organic absorbent was prepared and analyzed to determine if it exhibited the ignitibility characteristic for solids pursuant to 40 CFR 261.21(a)(2). If the analyses indicate any of the LA-CIN01 materials are ignitable or corrosive, the LA-CIN01 containers will be managed under this plan until another management plan is developed or the waste is remediated in accordance with Section 4.4.

4.2 Storage

While awaiting further characterization data, the LA-CIN01 containers with liquids will be preliminarily assigned D001 and D002 EPA HWNs, marked as containing free liquids, and placed into storage compliant with Permit Section 2.8 requirements for ignitable, reactive, and incompatible waste. LA-CIN01 containers with absorbed liquids subject to this plan will be assigned a D001 EPA HWN and placed into storage compliant with Permit Section 2.8. LA-CIN01 containers that cannot be relocated immediately for technical or safety reasons will be subject to compensatory measures until they can be placed into storage compliant with Permit Section 2.8 requirements. LA-CIN01 containers awaiting RTR for liquids determination will be subject to compensatory measures until they are verified to contain liquids, assigned D001 and D002 classification, marked as containing free liquids, and placed into storage that is compliant with Permit Section 2.8 requirements for ignitable, reactive, or incompatible waste; or are verified not to contain liquids and removed from management under this Plan.

4.2.1 Compensatory Measures

If containers that are known to contain liquids, are lacking RTR information, or contain liquids absorbed with organic absorbent and need to be conservatively managed as ignitable, are unable to be placed into compliant storage immediately because of safety basis or other management constraints, compensatory measures, designed to provide an alternative compliance approach for Permit requirements under Section 2.8 that cannot be immediately achieved, will be implemented until all containers can be placed into compliant storage. Compensatory measures for Permit requirements applicable to ignitable, reactive, and incompatible waste that would need to be employed include:

Permit Section:	Requirement	Compensatory Measure
2.8.1(2) and 2.8.1(4)	Protect from sources of ignition or reaction	Administrative controls (e.g. additional signage, work instructions, and inspections per Standing Order in Appendix 5) to ensure heat or spark producing items and sources are not introduced into the storage area.

Permit Section:	Requirement	Compensatory Measure
2.8.1(8)	No stacking higher than two drums	Un-stack drums for movement and perform daily inspections to ensure less-than-two-high configuration is maintained.
2.8.1(9)	Fire suppression system compatibility	Enhanced fire suppression/protection measures where needed.
3.6	Labeling	Interim D001, D002, and free-liquids labeling for containers verified with liquids and awaiting RTR for liquids, followed by a Non-Conformance Report process (LANL Policy P-330-6) to track the discrepancy between the labeling and the operating record until the final label is applied.
3.7.1(1)	Secondary containment for containers verified with liquids and containers awaiting RTR for liquids	Daily leak and container integrity inspections per Standing Order in Appendix 5.

4.2.2 Compliant Storage

Changes to the final classification and marking of the containers will require updating information in the WCATS waste information and tracking database followed by applying WCATS-generated labels. To update the WCATS information new profiles for the LA-CIN01 materials and the profiles will need to be prepared and go through the approval process to change the classification.

Compliant storage requirements include secondary containment for liquids as well as control of ignition sources and segregation of incompatibles in addition to the other requirements of Section 2.8 (and specifically 2.8.1 and 2.8.2) of the LANL Hazardous Waste Permit.

Movement of drums and storage in a particular Dome at TA-54 will be dependent upon managing Materials at Risk (MAR) limits in the storage facilities and assignment of resources. To manage the MAR limits, containers requiring RTR review or containers with actual RTR data with the highest MAR values will be given priority.

4.3 Manifest Discrepancies

If the LA-CIN01 waste containers previously shipped off-site are assigned an EPA D001 and/or D002 characteristic HWN, manifest discrepancies will have to be reconciled with all storage and disposal facilities that have accepted LA-CIN01 waste from LANL including WIPP and Waste Control Specialists, LLC. Manifest discrepancy notifications will be issued pursuant to 40 CFR 264.72 as referenced in Section 2.1.12 of the LANL Hazardous Waste Permit. The Permit Section 2.4.7(4) process will be followed to notify the NMED of the discrepancies, as applicable.

4.4 Waste Remediation

LA-CIN01 waste determined to bear an EPA D001 and/or D002 HWN, will be remediated under the permitted treatment process being developed for the nitrate salt waste in response to ACO HWB-14-20 unless characterization data indicates a separate process and permit modification is appropriate. The wastes will be remediated to remove the ignitability and/or corrosivity characteristic and meet the WIPP waste acceptance criteria.

4.5 Reporting

Reporting related to the management of LA-CIN01 wastes will be included in the periodic (currently monthly) progress calls with the NMED. Reporting will include:

- Notification of sampling activities and transmittal of results;
- Notification of container movements and cumulative progress;
- Drum inventory and changes (additions or deletions);
- Results of inspections including deficiencies and corrective measures and
- Manifest discrepancies received/reconciled.

Additional reports will be provided at other times upon request or, if warranted, by events or findings during the implementation of this Plan.

5. RESPONSIBILITIES

5.1 Waste Disposition Division Leader

- Provides oversight for the overall implementation of the LA-CIN Management Plan.
- Reviews and approves the LA-CIN Management Plan and any changes.

5.2 ADEP-WDD

- Approves new profiles in WCATS
- Collects samples of liquid LA-CIN01 as needed
- Moves Containers into compliant storage
- Provides compensatory measures for interim storage
- Reviews RTR records to identify liquids in individual containers
- Provides RTR services for containers requiring RTR
- Conducts compensatory measures inspections

5.3 C-Division

- Provides chemical analysis of LA-CIN01 samples

5.4 M7-Group

- Prepares surrogate samples for characterization analysis

5.5 Environmental Compliance Programs (ENV-CP)

- Develops the LA-CIN Management Plan
- Assists with reviews of RTR records to identify liquids in individual containers
- Assists with resolution of compliance issues as they arise.

5.6 Waste Generator

- Generates new profile in WCATS per re-characterization data if necessary.

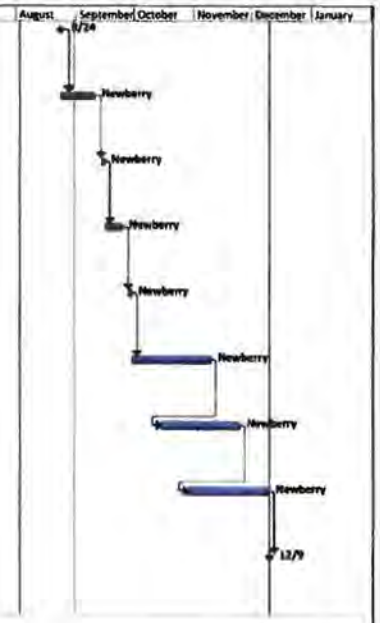
5.7 Contract Specialty Laboratory

- Provides UN DOT O.2 analysis
- Provides EPA Method 1030, 1050, and 1110A analysis

6. SCHEDULE

The schedule provided below is accurate as of the date of publication of this Plan and is subject to change.

ID	Task Name	Assumptions	Duration	Start	Finish	Predecessors	Resource Names
1	FOD release container movements	DOE directed actions and Standing Order allow for all required actions	0 days	Mon 8/24/15	Mon 8/24/15		Conway
2	Transfer non-CIN01 containers out of Dome 230	110 SWBs; transfer 10 containers/day	11 days	Mon 8/24/15	Thu 9/10/15	1	Newberry
3	Stage High MAR CIN01 containers for RTR	14 containers at 50% rejection rate free up enough MAR; transfer 10 containers/day	2 days	Mon 9/14/15	Tue 9/15/15	2	Newberry
4	RTR High MAR CIN01 containers	RTR 10 containers/week	6 days	Wed 9/16/15	Thu 9/24/15	3	Newberry
5	Transfer high MAR CIN01 containers to Dome 230/return to general storage	14 containers; transfer 10 containers/day	2 days	Mon 9/28/15	Tue 9/29/15	4	Newberry
6	Transfer remaining CIN01 containers to Dome 230	112+336-14 = 434 need transferred; transfer 20 containers per day	22 days	Wed 9/30/15	Mon 11/9/15	5	Newberry
7	Develop WCATS change request for D001 code		22 days	Thu 10/15/15	Tue 11/24/15	6FS-14 days	Newberry
8	Apply new container labels reflecting D001		22 days	Thu 10/29/15	Wed 12/9/15	7FS-14 days	Newberry
9	CIN01 D001 containers compliantly stored in Dome 230		0 days	Wed 12/9/15	Wed 12/9/15	8	Newberry



Project: CIN01 Container Moves

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Progress

7. REFERENCES

Los Alamos National Laboratory, Hazardous Waste Facility Permit, EPA No. NM0890010515 November 2010

New Mexico Environment Department, HWB-14-20, Administrative Compliance Order, December 6, 2014

Environmental Protection Agency, SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*

United Nations, 2009. *Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria,* Chapter 34, Procedure 0.2

FIGURE 1

LA-CIN01 Oxidizer Management Process

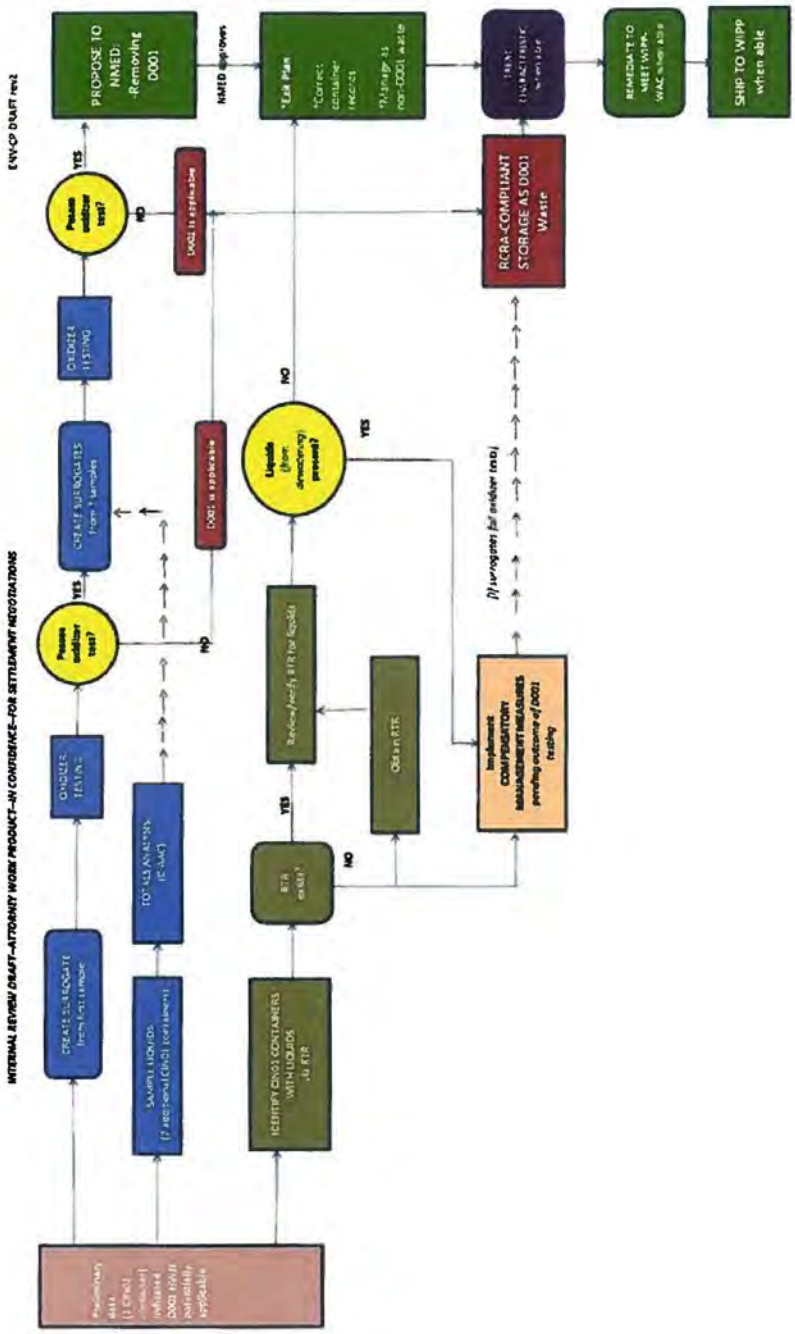
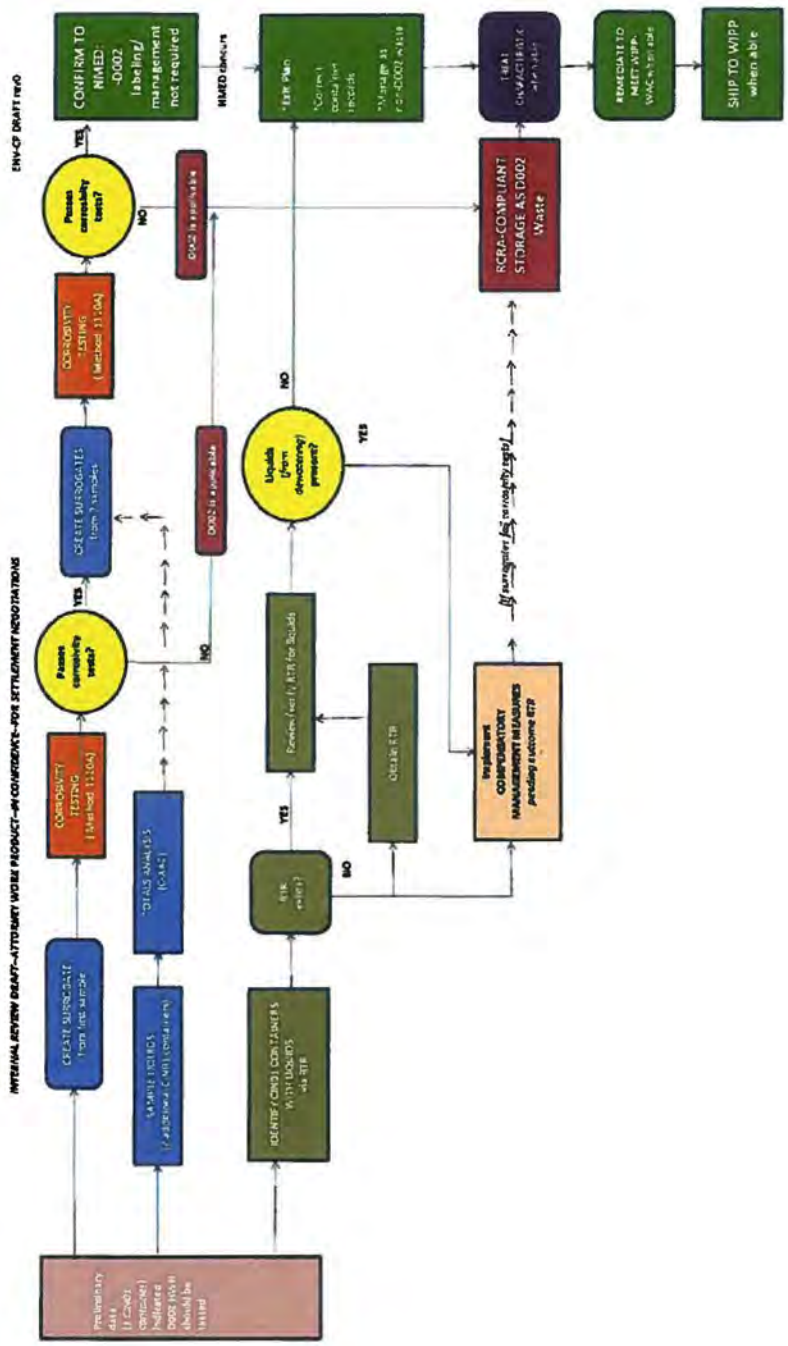


FIGURE 2

LA-CIN01 Corrosive Management Process



APPENDIX 1

Definitions and Abbreviations

ACO	Administrative Compliance Order
ADEP	Associate Directorate of Environmental Programs
AK	Acceptable Knowledge
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
ENV-CP	Environmental Compliance Programs
EOC	Extent of Condition
HWMR	Hazardous Waste Management Regulations
HWN	Hazardous Waste Number
LA-CIN01	Los Alamos Cemented Inorganic Waste Stream
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
MAR	Materials at Risk
MTRU	Mixed Transuranic
NMED	New Mexico Environment Department
RCRA	Resource Conservation and Recovery Act
RTR	Real-Time Radiography
UN	United Nations
WCATS	Waste Characterization and Tracking System
WDD	Waste Disposition Division
WIPP	Waste Isolation Pilot Plant

APPENDIX 2

LA-CIN01 Single Sample Chemical Analysis Results

Los Alamos
NATIONAL LABORATORY
EST. 1943

memorandum

Actinide Analytical Chemistry

To/MS: Bruce Robinson, ADEP, MS K491
David Funk, ADEP, MS J910
From/MS: Rebecca Chamberlin, C-AAC
Phone/Fax: 7-1841/Fax 5-4737
Symbol: C-AAC-15-0024
Date: June 24, 2015

SUBJECT: Analytical Results for Drum S8111785 Free Liquid Sample

Sample Summary	
Drum #	S8111785
Sample collection date	05/13/2015
Analysis start date	05/28/2015
Sample description	Heterogeneous: Brown liquid with lighter-colored sludge that was difficult to keep in suspension. After settling 10 min, the solids were ~25% of volume of the sample.
Sample mass	55.2 g
Sample volume	41 mL
Density (calculated)	1.35 g/mL
pH (potentiometric)	10.9
Radionuclides (NDA, SNAP)	**Ci/mL (+/- 30% modeling uncertainty)**
Pu-239	Not detected
Am-241	1.91E-10
Cs-137	7.71E-12
Anions (Ion Chromatography)	**g/100 mL (+/- 10%)**
Nitrate (NO_3^-)	32.2
Nitrite (NO_2^-)	2.7
Chloride (Cl^-)	0.4
Fluoride (F^-)	Not detected
Sulfate ($SO_4^=$)	1.1
Oxalate ($C_2O_4^=$)	Trace
RCRA Metals (ICP-MS/AES)	**µg/mL (+/- 20%)**
Silver (Ag)	0.035
Arsenic (As)	<0.9
Barium (Ba)	1.7
Cadmium (Cd)	0.14
Chromium (Cr)	34
Mercury (Hg)	0.30
Lead (Pb)	590
Selenium (Se)	<1.4

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Major Elements (ICP-MS/AES)	µg/mL, except as noted (+/- 20%)
Sodium (Na, %)	12.4 g/100 mL
Potassium (K, %)	1.2 g/100 mL
Aluminum (Al)	200
Calcium (Ca)	72
Iron (Fe)	50
Magnesium (Mg)	21
Silica (SiO_2, crystobalite)	Detected in undigested residue

Sample photos

As-received sample, after mixing

As-received sample, after standing 10 min

Analytical procedures and work instructions used:

1) ANC 212, Ion Chromatography
2) ANC 102, Inductively Coupled Plasma—Mass Spectrometry Using the VG Elemental Plasma Quad
3) ANC 221, Operating the Jobin-Yvon (JY) Inductively Coupled Plasma – Atomic Emission Spectrometer
4) WI-5, Analytical Sample Receipt, Subsampling, and Distribution within Analytical Chemistry
5) WI-30, Chemical Analysis, Characterization and Research
6) WI-42, Radiochemical Research and Development at CMR
7) WI-57, X-ray Diffraction
8) ANC 214, Spectrophotometric Determination of Silicon in Plutonium Materials (potentiometric pH method)

Cy: C-AAC File

APPENDIX 3

LA-CIN01 Surrogate DOT O.2 Oxidizer Analytical Results

Los Alamos National Lab
SCE P-1356
Abdollah Kashani
August 20, 2015

Table 1

Summary of Test Results for Oxidizing Liquid

Material Tested: Chamberlain Surrogate #1 (8/11/15)
Chamberlain Surrogate #2 (8/11/15)

Material Tested	Trial No.	Did Sample/Cellulose Mixture Ignite Spontaneously?	Maximum Pressure (kPa)	Time for Pressure to Rise from 690 kPa to 2070 kPa (sec)
Chamberlain Surrogate #1 (8/11/15) and Dried Cellulose in 1:1 (by mass) mixture	1	No	1401	--
	2	No	1877	--
	3	No	2249	33.1
	4	No	2394	18.7
	5	No	1898	--
				Mean: 25.9
Chamberlain Surrogate #2 (8/11/15) and Dried Cellulose in 1:1 (by mass) mixture	1	No	1656	--
	2	No	1359	--
	3	No	1001	--
	4	No	1649	--
	5	No	1842	--
				Mean: NA
50% perchloric acid and cellulose in 1:1 Mixture (by mass) (Reference I)	5 Trials	No	>2400	0.29 Mean time
40% aqueous sodium chlorate solution and cellulose in 1:1 Mixture (by mass) (Reference II)	5 Trials	No	>2400	2.99 Mean time
65% Aqueous Nitric Acid and Dried Cellulose in 1:1 (by mass) mixture (Reference III)	5 Trials	No	>2400	4.7 Mean time

N/A = Not applicable

Table 2
Overall Test Result/Classification

Material Tested	Liquid Oxidizer Classification	Results/Remarks
Chamberlain Surrogate #1 (8/11/15)	**Not Division 5.1**	Since the mean pressure rise time (from 690-2070 kPa) for the 1:1 mixture, by mass, of a liquid sample and cellulose tested, was greater than the mean pressure rise time of a 1:1 mixture, by mass, 65% aqueous nitric acid and cellulose.
Chamberlain Surrogate #2 (8/11/15)	**Not Division 5.1**	Since the 1:1 mixture, by mass, of a liquid sample and cellulose tested, did not exhibited a pressure rise of 2070 kPa gauge.

DOT/UN Test O.2 (Division 5.1) :Test Criteria and Method for Assessing Results

The classification test results are assessed on the basis of:

- Whether the mixture of the substance and cellulose spontaneously ignites: and
- The comparison of the mean time taken for the pressure to rise from 690 kPa gauge to 2070 kPa gauge with those of the reference substances.

Assignment of Packing Groups

Liquid oxidizing substances are assigned to a packing group in accordance with the following criteria:

Packing Group I: any substance which, in the 1:1 mixture, by mass, of a substance and cellulose tested, spontaneously ignites; or the mean pressure rise time of a 1:1 mixture, by mass, of substance and cellulose is less than that of a 1:1 mixture, by mass, of 50% perchloric acid and cellulose.

Packing Group II: any substance which, in the 1:1 mixture, by mass, of a substance and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, of 40% aqueous sodium chlorate solution and cellulose; and the criteria for Packing Group I are not met.

Packing Group III: any substance which, in the 1:1 mixture, by mass, of a substance and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, 65% aqueous nitric acid and cellulose and cellulose test criteria for Packing Groups I and II are not met.

Not Division 5.1: any substance which, in the 1:1 mixture, by mass, of a substance and cellulose tested, exhibits a pressure rise of less than 2070 kPa gauge; or exhibits a mean pressure rise time greater than the mean pressure rise time of a 1:1 mixture, by mass, of 65% aqueous nitric acid and cellulose.

For substances having additional risks, *e.g.* toxicity or corrosivity, the primary and secondary risks should also be determined.

APPENDIX 4

LA-CIN01 Surrogate Corrosivity Method 1110A Analytical Results

SOUTHWEST RESEARCH INSTITUTE

SAMPLE ANALYSIS DATA SHEET

Sample ID
6-32

Lab Name: Southwest Research Institute

Client: Los Alamos National Laboratory

Lab Code: SwRI

Project No.: 19869.01.00X

Matrix: Liquid

Date Received: 08/29/15

SRR #: 56067

SDG: 581055

Task Order #: 150829-1

Lab Request: ADEP

Lab System ID: 581055

Analysis	Sample Result	Q	Reporting Limit	Units	Date Analyzed	Method
Corrosivity						
Above	0.635	U	0.635	mm/yr	08/31/15	SW846 1110
Interface	0.635	U	0.635	mm/yr	08/31/15	SW846 1110
Submerged	0.635	U	0.635	mm/yr	08/31/15	SW846 1110

"U" in the Q (qualifier) column indicates undetected.

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SOUTHWEST RESEARCH INSTITUTE
DUPLICATE SUMMARY

Sample ID
6-32

Lab Name: Southwest Research Institute

Client: Los Alamos National Laboratory

Lab Code: SwRI

Project No.: 19869.01.00X

Matrix: Liquid

Date Received: 08/29/15

SRR #: 56067

SDG: 581055

Task Order #: 150829-1

Lab Request: ADEP

Lab System ID: 581055D

Analysis	Duplicate Result	Q	RPD	Units	Date Analyzed	Method
Corrosivity						
Above	0.635	U	0.00%	mm/yr	08/31/15	SW846 1110
Interface	0.635	U	0.00%	mm/yr	08/31/15	SW846 1110
Submerged	0.635	U	0.00%	mm/yr	08/31/15	SW846 1110

"U" in the Q (qualifier) column indicates undetected.

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SOUTHWEST RESEARCH INSTITUTE
BLANK SUMMARY

Sample ID
PB

Lab Name: Southwest Research Institute

Client: Los Alamos National Laboratory

Lab Code: SwRI

Project No.: 19869.01.00X

Matrix: DI Water

Date Received: NA

SRR #: NA

SDG: 581055

Task Order #: 150829-1

Lab Request: ADEP

Lab System ID: ICB

Analysis	Sample Result	Q	Reporting Limit	Units	Date Analyzed	Method
Corrosivity						
Above	0.635	U	0.635	mm/yr	08/31/15	SW846 1110
Interface	0.635	U	0.635	mm/yr	08/31/15	SW846 1110
Submerged	0.635	U	0.635	mm/yr	08/31/15	SW846 1110

"U" in the Q (qualifier) column indicates undetected. NA - Not Applicable.

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SOUTHWEST RESEARCH INSTITUTE
LABORATORY CONTROL SUMMARY

Sample ID
Lab Control

Lab Name: Southwest Research Institute

Client: Los Alamos National Laboratory

Lab Code: SwRI

Project No.: 19869.01.00X

Matrix: Liquid

Date Received: NA

SRR #: NA

SDG: 581055

Task Order #: 150829-1

Lab Request: ADEP

Lab System ID: 2% HNO3

Analysis	Sample Result	Q	True Value	Recovery	Units	Date Analyzed
Corrosivity						
Above	0.635	U	NA	Positive Control	mm/yr	08/31/15
Interface	17.0		NA	Positive Control	mm/yr	08/31/15
Submerged	47.4		NA	Positive Control	mm/yr	08/31/15

"U" in the Q (qualifier) column indicates undetected. NA - Not Applicable.

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APPENDIX 5

LA-CIN01 Inspection Standing Order

STANDING ORDER

1.	**Standing Order Number:** EP-AREAG-SO-1311
2.	**Standing Order Type: (check one)** ☐ **Division** ☒ **Facility**
3.	**Applicable Facilities:** **TA-54 Area G**
4.	**Standing Order Title:** **TA-54 Area G Inspection of Locations with CIN-01 Waste Containers**
5.	**Distribution List:** (By Functional Title): WD-SRS Group Leader, WD-WPE Group Leader, WD-SRS personnel, Environmental and Waste Management Operations (EWMO) Operations Manager, TA-54 Shift Operations Managers, TA-54 Shift Operations Supervisors, TA-54 Operations Center Operators, TA-54 Timely Order Book, Environmental Program (EP) Document Control.
6.	**Approval:** Gail M Helm — /s/ Gail M Helm — 8-24-2015 Print name — Signature — Date (Approval Authority for division-level standing orders is the FOD, for facility-level, the OM or designee.) **Standing Order Effective Date:** 8-25-2015 **Convert this Standing Order to a procedure?** ☐ Yes, by _____ Date ☒ No
7.	**Purpose:** The purpose of this standing order is to establish daily RCRA related inspections at the following Technical Area (TA)-54 Area G locations: 33, 49, 153, 229, 230, 231, 232, 283, 412, and 546 which contain CIN-01 waste containers with known or indeterminate liquid content. The following personnel are affected by this standing order: WD-SRS Group Leader, WD-WPE Group Leader, WD-SRS personnel, Environmental and Waste Management Operations (EWMO) Operations Manager, TA-54 Shift Operations Managers, TA-54 Shift Operations Supervisors, and TA-54 Operations Center Operators. **Background** Initial sample analysis of liquid from a CIN-01 (cemented inorganics from TA-55) waste container indicated an elevated level of nitrates. If the nitrate concentration is high enough, the waste is considered a strong oxidizer and hazardous waste code D001 (ignitable) applies. A population of CIN-01 waste containers with known or indeterminate liquid content are stored in Area G. Not all of these containers are stored in a RCRA compliant manner in D001 compliant permitted unit. These containers need to be moved to compliant storage; however, due to the Technical Safety Requirement related restrictions on operating Modes, waste container movements are limited. As a result, interim actions will be implemented to perform inspections on waste containers in affected locations until CIN-01 containers can be moved to compliant storage.
8.	**Actions and Duration:**
8.1	***Requirements*** This inspection will be performed once a day, seven days a week at each of the locations containing CIN-01 waste containers with known or indeterminate liquid content until the containers are placed in compliant storage. As directed by the FOD, when the affected CIN-01 waste containers in a location are placed in compliant storage, inspections required by this Standing Order can be discontinued.

Standing Order Number: EP-AREAG-SO-1311, R.0

8.2 Action(s) to be taken

NOTE *The attachment is considered a quality record.*

Nuclear Operator/Designee

[1] **RECORD** the following information in Attachment 1, TA-54 Area G CIN-01 Waste Container Daily Inspection.
- Date and Time
- Name and Z number.

NOTE *Specific locations listed in the attachment may be marked N/A with FOD approval if the affected CIN-01 waste containers have been placed in compliant storage.*

[2] For each location listed on Attachment 1, **PERFORM** a walkdown inside the structure and **PERFORM** a general visual inspection of the waste containers to confirm the following:
- No visible leaks
- No visible bulging or distortion
- No sources of ignition (e.g. cutting and welding, frictional heat, open flames, sparks)
- No signs of a spill
- No evidence of heating or fire AND

CHECK (✓) SAT, UNSAT, or N/A on Attachment 1.

[3] **IF** evidence of heating or fire are discovered,
THEN PERFORM an Emergency Response in accordance with EWMO-DIV-BEP-20048, EWMO Division Building Emergency Response Plan:
The emergency response activities are as follows:
1. **SUSPEND** work.
2. **WARN** others.
3. **ISOLATE** immediate area.
4. **EVACUATE** to an upwind Assembly/Muster area from the incident.
5. **MAKE** Notifications (e.g., SOS, OC, EOSC, 911).

Standing Order Number: EP-AREAG-SO-1311, R.0

8.2 Action(s) to be taken (continued)

[4] **IF** deficiencies are discovered as listed in Step 8.2[2] resulting in an UNSAT condition,
THEN:

[A] **PERFORM** an Off-Normal Response in accordance with EWMO-DIV-BEP-20048, EWMO Division Building Emergency Response Plan:
The off-normal response steps are:

1. **SUSPEND** work.
2. **WARN** others.
3. **ISOLATE** the immediate area.
4. **MOVE-AWAY** upwind from the area of concern.
5. **MAKE** Notifications (e.g., Operations Center and Shift Operations Manager).

[B] **DOCUMENT** deficiencies and direction from the Shift Operations Manager in the comments section of the Attachment 1.

Nuclear Operator/Designee

[5] **RECORD** name, signature, and date on Attachment 1.

SOM or designee

[6] **RECORD** name, signature, and date on Attachment 1.

8.3 Duration

Until superseded or cancelled.

9. Unreviewed Safety Question (USQ) Review:

USQ process complete? ☒ Yes ☐ N/A

USQ No. (if applicable): Area G-15-140-S

If "N/A" is checked, then justify below:

USQ Qualified Evaluator (QEV)

Lawrence Garcia	//s/ Lawrence Garcia	8/19/2015
Print name	Signature	Date

Standing Order Number: EP-AREAG-SO-1311, R.0

10. Derivative Classifier Review:

This document was reviewed to ensure proper classification and is classified as:

☒ Unclassified ☐ Unclassified Controlled Nuclear Information (UCNI)
☐ Official Use Only (OUO) ☐ Classified

NOTE: If this document is OUO, UCNI, and/or classified, add the appropriate markings, distribution limitation statement, and guidance data block(s).

Derivative Classifier (DC)

Karen McHugh	//s/ Karen McHugh	8/19/2015
Print name	Signature	Date

11. Standing Order Cancellation:

Choose one of the following: ☐ USQ complete ☐ N/A

USQ No. (if applicable): _____

Responsible Manager (FOD for division-level standing orders, OM or designee for facility-level)

Print name	Signature	Date

Standing Order Number: EP-AREAG-SO-1311, R.0

ATTACHMENT 1

Page 1 of 1

TA-54 AREA G CIN-01 WASTE CONTAINER DAILY INSPECTION

8.2[1] Date _____ Time _____

Employee Name _____ Z Number_____

8.2[2] Containers inspected to confirm the following:

- No visible leaks
- No visible bulging or distortion
- No sources of ignition (e.g. cutting and welding, frictional heat, open flames, sparks)
- No signs of a spill
- No evidence of heating or fire

Dome 33	□ SAT □ UNSAT □ N/A
Dome 49	□ SAT □ UNSAT □ N/A
Dome 153	□ SAT □ UNSAT □ N/A
Dome 229	□ SAT □ UNSAT □ N/A
Dome 230	□ SAT □ UNSAT □ N/A
Dome 231	□ SAT □ UNSAT □ N/A
Dome 232	□ SAT □ UNSAT □ N/A
Dome 283	□ SAT □ UNSAT □ N/A
Building 412	□ SAT □ UNSAT □ N/A
Building 546	□ SAT □ UNSAT □ N/A

Comments: _____

8.2[5] Performed By: _____ / _____ / _____ / _____
Print Signature Z # Date

8.2[6] Approved By: _____ / _____ / _____ / _____
SOM/designee (Print) Signature Z # Date

APPENDIX 6

Characterization of the Potential Hazards Associated with Potential RCRA Treatment Noncompliances

David J. Funk and David L. Clark

Subject: Characterization of the Potential Hazards Associated with Potential RCRA Treatment Noncompliances

David J. Funk and David L. Clark

In response to the WIPP incident, Los Alamos National Laboratory conducted an Extent of Condition (EOC) review of waste processes to identify whether additional potential noncompliances (beyond those previously identified with remediated nitrate salts) under the LANL Resource Conservation and Recovery Act (RCRA) Permit were made. This comprehensive review determines the extent of treatment noncompliances and serves as a lesson for future remediation work and workers going forward, so as to meet our commitments with the State of New Mexico in a safe and compliant fashion.

The purpose of this document is to provide a hazard evaluation of the noncompliances and whether any new actions are required to mitigate potential risk to the worker or the public. ***In short, we have reviewed the noncompliances and have concluded that the possibility of exothermic reactions leading to radioactive release is not credible, and in one case, inconceivable, stemming from the fact that the majority fraction of the waste is compatible with organic absorbents and neutralizers.*** Regarding nuclear safety basis, where consequence should also be considered, we expect there to be a low consequence to the worker or the public: a container breach is not expected due to the small quantities of potentially incompatible materials identified.

We provide a brief summary of the EOC review below, and then discuss the waste streams and the potential for hazards that each waste stream could present.

Overview of the Extent Of Condition (EOC) Review

The instances of noncompliance involve the processing of four mixed transuranic (mixed TRU or MTRU) waste streams (other than nitrate salt-bearing waste) at LANL: oversized box debris waste (LA-MHDxx), drummed debris waste (LA-MHDxx), wastewater treatment sludges (LA-MINxx), and cemented waste (LA-CINxx)[1]. The purpose of the EOC review was to determine whether LANL's prior remediation activities associated with TRU/MTRU waste streams other than nitrate salts had compliance issues similar to the nitrate salts remediation activities. LANL wanted to determine whether:

> (1) the same flaws identified in the nitrate salts remediation procedures may have affected TRU/MTRU waste streams other than the unconsolidated nitrate salts; and
>
> (2) said flaws may have affected LANL locations that processed waste in addition to the Waste Characterization, Reduction, and Repackaging Facility (WCRRF) facility (i.e., locations at Technical Area (TA)-54, Area G).

[1] The "xx" indicates that each of these CCP-AK waste streams includes containers in several sub-waste-streams.

"Remediated" MTRU waste is defined as LANL MTRU waste (from "parent" containers) that was processed to remove liquids through the addition of absorbent material (e.g., kitty litter and/or polymer sorbents) – in some cases, with the addition of neutralizers - and repackaged into new drums or waste boxes (called "daughter" containers). The remediation process was necessary to remove free liquids from parent containers, in order to meet the WIPP Permit requirement that TRU waste containers received at WIPP may not contain free liquids greater than 1% volume of the waste (WIPP Permit, §2.3.3.1).

However, as with the nitrate salts, some remediation activities may have constituted impermissible treatment. EPA defines "treatment" to include "any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of the waste ... to render the waste non-hazardous, or less hazardous; safer to transport, store, or dispose..." Specifically, the EOC review focused on identifying whether:

> (a) any absorption processes employed to remediate TRU or MTRU wastes may have constituted instances of impermissible treatment of hazardous waste;
>
> (b) any neutralization processes employed to remediate TRU or MTRU wastes may have constituted instances of impermissible treatment of hazardous waste; and
>
> (c) any instances occurred where potentially incompatible absorbents or neutralizers may have been mixed with the waste (potentially resulting in creation of a problematic secondary waste stream).

In review of these records, we identified three categories of noncompliances:

1. **Unpermitted treatment by absorption.** Principally, adding absorbent to the parent container, not to a daughter at the time of generation. In some cases absorbent was added after Real Time Radiography RTR showed liquids were still present, a violation of RCRA, which requires addition of absorbent at the time of generation.
2. **Unpermitted treatment by neutralization.** RCRA allows neutralization if, and only if, the D002 characterstic is applicable. If any other hazardous waste codes apply, then a permit is required to neutralize.
3. **Mixing of Potentially Incompatible Absorbers and/or Neutralizers with the Waste.** RCRA forbids the mixing of incompatible materials to prevent potentially hazardous reactions.

In support of this review, LANL reviewed records for a targeted subset of a population of 9778 MTRU waste containers remediated at LANL between 2006[2] and 2014. This effort resulted in identifying 566 potential noncompliances (in a total of 508 containers, some with multiple noncompliances) as follows:

- 154 containers were remediated using absorption methods that potentially did not meet the RCRA permit exemption
- 58 containers were remediated using potentially impermissible neutralization methods
- 354 containers were considered potential noncompliances based on mixing potentially incompatible absorbents or neutralizers with the waste.

This document summarizes the potential incompatibilities and the possible hazards resulting from the mixing of potentially incompatible materials. We note that the EOC took a very conservative approach as to whether the addition was incompatible. As an example, we have included the analysis as to whether the addition of Swheat® would be considered incompatible, in Appendix A. Essentially, the absorbent/neutralizer used was compared with the known source of oxidizers identified in the Central Characterization Project (CCP) Acceptable Knowledge (AK) documents (CCP-AK-006, rev. 13 and CCP-AK-004, rev. 7). We note that WIPP has a no migration variance, and as a result, it can accept a very broad spectrum of waste, i.e. heavy metals, absorbed solvents, etc. An evaluation of such a broad waste stream (from organics to metals to oxidizers) will almost inevitably result in incompatibilities[3].

Evaluation of the Potential Hazards for Each Waste Stream

Inorganic Sludges (LA-MIN03-NC.001): 172 noncompliant containers

Waste stream LA-MIN03-NC.001 consists of homogeneous dewatered sludge generated during the treatment of caustic and acid waste streams through the addition of base. The main treatment process removed particulate and heavy metals as a sludge that settled out and/or was cleaned out of the clariflocculation tanks. The first step of the main treatment process was the addition of flocculants to produce a precipitate and involved addition of (primarily) calcium carbonate and ferric hydroxide. The precipitate or sludge was then dewatered and contained approximately 25 to 40 percent inorganic solids with a "wet clay" consistency. Perlite or diatomaceous earth was used after dewatering to further filter and absorb liquids present in the sludge. Finally, Portland cement was added to the bottom and top of the

---

[2] That year was chosen as the demarcation point at which LANS began absorption and neutralization activities on TRU waste.

[3] The AK describes a waste stream that is inherently incompatible with itself. Cf., the LA-MINHD01.001 debris waste stream table summarized on pages 96-105 in CCP-AK-LANL-006, Rev. 13.

sludge during packaging. Prior to remediation, this waste may also contain debris, including but not limited to containers (e.g., unpunctured aerosol cans, vials), metal, personal protective equipment (PPE), plastic, and secondary waste from repackaging.

Because the nitrate ion is stable and highly soluble it is not amenable to removal by conventional water treatment processes such as coagulation and precipitation. As a result, the sludge would not contain any significant concentration of nitrates (oxidizers). ***While the sludge is technically incompatible with organic neutralizers/sorbents, the potential for thermal runaway from these mixtures is not credible due to the fact that these low concentrations cannot lead to significant chemical reaction.***

TA-35 Heterogenous Waste: 1 noncompliant container (one drum)

This waste was generated from a TA-35-2-Wing C glove box in which the plastic glove box extension was bagged out into a 55 gallon drum and it has not been assigned to a CCP-LANL AK at this time, though it appears to fit in the MHDXX waste stream. Operators at WCRRF noted that the drum contained the following: gloves, kitty litter, plastic, fiberglass, wipe balls, cardboard. None of these components exhibit incompatibilities with organic neutralizers/sorbents. ***The possibility of any reaction from this drum would be inconceivable due to the compatibility of organic absorbents and neutralizers with this waste.***

Waste Stream LA-MIN02-V.001: 6 noncompliant containers

Waste stream LA-MIN02-V.001 consists primarily of inorganic particulate waste generated in TA-55. The waste is largely comprised of TRU waste such as liquids and solids absorbed or mixed with absorbent (e.g., Ascarite II, [sodium hydroxide coated silicate], diatomaceous earth [silica and quartz], kitty litter [clay], vermiculite [hydrated magnesium-aluminum-iron silicate], and/or zeolite [aluminosilicate mineral]), though a wide range of chemicals and other materials are included in the complete AK. For example, this is the waste stream that included the nitrate salts, i.e. those responsible for the WIPP incident. Since there were only six records associated with these noncompliances, we reviewed each record against the generator and operator comments listed below, and we find no incompatibilities:

Generator Record	Operator Comments
Solidified Organic	Metal cans, vermiculite, plastic, liquid
PD-241; kerosene (30% DBEP) vermiculite (70%) - Organics: Benzene, toluene, styrene, polystyrene fragments (decomposition from heating Polystyrene, contents is inhomogeneous)	Plastic, vermiculite, 5 gallon container
Organic liquids absorbed in vermiculite	Plastic, (2) 5 gallon buckets, solidified inorganic and organic solids

Pyrochemical salts in 5 gal pails; paint chips/stripper, cheesecloth in 5 gal buckets	Plastic, liquids, (2) 5 gallon buckets, solidified inorganic and organic solids.
Room trash assigned Code A60 (other combustible)	Poly liner lid, banding, but most of drum is like brown sand clay gravel mixed together. Kitty litter Hex armor gloves on last daughter.
Room trash assigned Code A60 (other combustible)	Poly liner lid, banding, but most of drum is like brown sand clay gravel mixed together. Kitty litter Hex armor gloves on last daughter.

LANL believes that MIN02 was assigned to this waste stream on the basis of the vermiculite or inorganic material (sand, clay, gravel) that was identified in the waste. We note that pyrochemical salts consist of sodium and potassium chloride and are compatible with organic sorbents/neutralizers. ***We find that the possibility of thermal runaway for these drums is not credible, since organic absorbents and neutralizers are compatible with the majority components of the waste.***

Boxline and Drum Debris Waste Stream MHD0X.0xx: 148 noncompliant containers

The typical AK for debris waste stream included a statement such as: the waste "consists primarily of mixed heterogeneous combustible and non combustible debris. Example of combustible materials include: paper, rags, plastic, rubber, wood-based high-efficiency particulate air (HEPA) filters...". In addition, the AK identified all of the potential chemicals that might be expected to be associated with this stream, and as noted previously, if taken literally, would be incompatible with itself.[3] The majority of these chemicals are minor or trace constituents and while technically incompatible, provide little or no means to support chemical reactions that could lead to any kind of runaway within a debris drum. Thus, the addition of other organics (e.g. Swheat) to absorb any liquid would not lead to an incompatibility of any significance.

A question arises as to where the liquids that were absorbed came from. Oversized TRU legacy waste was from cold war operations and was brought to Area G up to 30-40 years ago. This waste, which consisted of piping, filters, gloveboxes, tanks, equipment and pencil tanks, were packaged at the generator sites primarily in Fiber-Re-enforced Plywood (FRP) crates that were buried underground for many years, and then unearthed and placed into storage domes. Both the underground storage and placement in above ground sites that sometimes experienced leaks, allowing water to be captured within the debris waste form. In addition, residual liquid in bottles that were used to decontaminate during initial packaging were a second source of liquid. Third, many of the drums were power-washed when brought above grade and their condition would have potentially allowed water into the waste. In any event, given the nature of the waste stream

(mixed combustible and noncombustible material) the Swheat or other organic absorbers/neutralizers would be technically incompatible but not present a source of chemical reactions. ***We conclude that the possibility of thermal runaway for these drums is not credible, since organic absorbents and neutralizers are compatible with the majority components of the waste.***

Cemented Inorganic Waste, LA-CIN01.001, Treated with Swheat Kitty Litter (Absorption of Liquids with Organic Absorbers): 180 noncompliant containers

Waste stream LA-CIN01.001 consists primarily of inorganic homogeneous solid waste (cemented TRU waste) generated within TA-55. Many waste products were encased within cement in this fashion. For the purposes of this discussion, we are referring to the subset of LA-CIN01.001 that was generated with evaporator liquids from TA-55 nitric acid plutonium recovery operations. These liquids were expected to be near saturation with nitrate salts (the salts were precipitated and the remaining liquid was used in the cementation process). This aqueous waste was immobilized in Portland or gypsum cement using processes that were not as robust as those of today. This waste stream was generated prior to 1991, and radiographic analysis of the waste stream often indicated liquids (dewatering) failing the WIPP WAC, and as a result, this waste stream required remediation prior to acceptance by WIPP.

Remediation was conducted within the Glove Box at WCRRF, and during the timeframe of interest, Swheat Kitty Litter was the absorbent used, both to remediate liquids, and based on operator interviews, often as a precaution against dewatering (even when liquid was ***not*** reported to be present).

The use of Swheat in this manner, when combined with nitrate salt solution, triggers a measure of concern: nitrates are incompatible with organics, and solutions of concentrated nitrates can be characterized as oxidizers (see below). However, the risks associated with the use of the organic absorbent in this manner are expected to be very different than the risks associated with the remediated nitrate salts (RNS):

- Quantities of absorbent used were only that required to absorb the small quantity of liquid present.
- The chemical environment of the liquid is expected to be alkaline (use of grout) versus strongly acidic for the nitrate salts, which would not support solution phase nitration of the Swheat.
- The concentration of nitrates in the free liquids is much lower than those of the neat nitrate salts, though they could be at oxidizer levels (see below).
- NO_2/N_2O_4 will not be generated (salts are in solution), and the Swheat

will not become nitrated through gas-phase reactions, in contrast to the Remediated Nitrate Salt (RNS) waste stream.

- The large volume of cement comprising the vast majority of the contents of the drum is inherently inert.
- No organic neutralizers were used with the free liquids.

Ultimately, the degree of hazard will depend on the concentration of the nitrate salts in solution, as well as their chemical makeup, resulting in their classification as Div. 5.1 Oxidizer in some instances (e.g., 45 wt.% sodium nitrate solution, Packing Group III) and ***not*** Div. 5.1 in other cases (e.g., saturated solution of calcium nitrate).[4] Liquid nitrates are tested using UN DOT O.2 testing, to determine their oxidizing potential and appropriate Packing Group for transportation.

To evaluate the potential hazard created by absorbing with Swheat, an understanding of the chemical environment of the liquid is required. To achieve that understanding, a campaign to sample free liquids from eight CIN01 drums was initiated. Chemical analysis from the first free liquid sample was recently completed, indicating nitrate salt concentrations that may be at "oxidizer levels" (approximately 34% by wt., cf. Appendix B). As a result, we will conduct UN DOT O.2 testing of non-radioactive surrogated to evaluate whether the liquid exhibits the D001 characteristic (45% sodium nitrate is a Packing Group III oxidizer, the least "oxidizing" of liquid oxidizers).

We do expect that the degree of hazard presented by this waste form to worker (and public) is very different from, and does not approach, the hazard presented by the RNS waste form. As indicated previously, the quantities, pH, salt concentration, lack of nitration, lack of organic neutralizer, and environment (large mass of inert cement), create an environment very different from the remediated nitrate salt drums. ***As a result of these differences, the possibility for thermal runaway of the Swheat used in the absorption process is not credible.***

To support this analysis, we developed the following strategy to understand the nature of the hazard as well as the degree of reactivity taking place within the CIN01 drums remediated with Swheat:

1. Differential Scanning Calorimetry (DSC) is a useful screen to evaluate thermal stability/sensitivity. We conducted tests on surrogates that included a known oxidizer, 45 wt.% sodium nitrate;

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[4] Recommendations on the Transport of Dangerous Goods Manual of Tests and Critera, United Nations Publishing (New York and Geneva), Fifth Edition (2009).

and a solution prepared from our most thermally active salt surrogate WB8 as follows:

a. 45 wt.% solution of $NaNO_3$ mixed with Swheat in 1:1 and 3:1 ratios (by volume)

b. A saturated solution of WB8 also mixed with Swheat in 1:1 and 3:1 ratios (by volume)

c. Tests were conducted with both wet and dry surrogates. In all cases, reactions did not initiate until the mixture was over 100 °C, with an estimate of the most reactive occurring at 125 °C (cf. Appendix C).

2. We will conduct headspace gas analysis on the CIN01 drums. As noted in Clark and Funk (2015),[5] CO_2:H_2 ratios greater than 6.5 are indicative of processes other than radiolysis such as oxidation. Thus, ratios of less than 6.5 would likely be indicative of only radiolytic processes, leading to the conclusion that little chemistry is taking place within the CIN01 drum.

Furthermore, in our testing of nitrate salt/Swheat surrogates, we note that the material (pure salt mixed with Swheat), failed the UN DOT O.1 testing (solid oxidizer), but was on the edge of "passing" (would not have been considered an oxidizer). Our expectation is, that given the low concentration of salt relative to Swheat, that the material will likely test out as a D001 characteristic waste, and we will propose conducting these tests as part of our strategy to characterize these materials. *This testing will be conducted to support a regulatory determination of the characteristic of the waste and should not be construed as additional evaluation of the hazards of this waste form.* Thus, we will:

1. Conduct UN DOT O.1, Method 1030, and Method 1050 for the Swheat/absorbed liquid and O.2 testing for the neat liquid using surrogates, to properly evaluate this waste form for RCRA characteristic D001 (using external laboratories such as Southwest Research Institute; SWRI).

The tests and sampling are expected to take several weeks to complete. In addition, we expect to continue to sample the other seven CIN01 drums to ensure we have "representative" samples. Based on testing to date, we do not anticipate the need to include the CIN01 drums remediated with Swheat (though we have examined this as an option) in the container isolation plan. ***Based on the discussion above and the testing completed***

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[5] Clark, D. L. and D. J. Funk, 2015. Chemical Reactivity and Recommended Remediation Strategy for Los Alamos Remediated Nitrate Salt (RNS) Wastes. LANL Report LA-UR-15-22393

to date, thermal runaway is not credible for the LA-CIN01.001 waste stream.

Spontaneous combustion from Swheat self-heating

As noted in the Clark and Funk[5] report, the possibility of self-heating of Swheat has been considered as the potential initiator for the spontaneous combustion of Drum 68660, the drum responsible for the radiation release within Room 7 of Panel 7 at WIPP. In the cases identified above, the Swheat has been determined to be compatible with the majority fraction of the waste, and were any self-heating to occur, the reaction could not be sustained due to the lack of oxidizer that would be available. This is in contrast with the nitrate salt waste, where self-heating would be fed by the oxygen that would be released from the incompatible oxidizer, the nitrate salts themselves. ***The risk of spontaneous combustion leading to drum breach is not credible, a result of the fact that organic absorbents and neutralizers are compatible with the majority faction of the waste form.***

Conclusions

Utilizing a conservative approach to the noncompliances by comparing the use of organics (neutralizers/sorbents) with the CCP AK data for the waste streams, chemicals identified within the AK could potentially be present in the waste that, in pure form and/or sufficient concentrations, could be incompatible with organic neutralizers/sorbents (such as Swheat® or Kolorsafe®). ***However, a careful review of the waste stream, and understanding the majority components, we find that the possibility of thermal runaway for containers associated with these noncompliances is not credible, and in once case, inconceivable, stemming from the fact that the majority fraction of the waste is compatible with organic absorbents and neutralizers.*** Regarding nuclear safety basis, where consequence should also be considered, we expect there to be a low consequence to worker or public: a container breach is not expected due to the small quantities of potentially incompatible materials identified. As a an added measure of conservatism, LANL will conduct surrogate testing and Headspace Gas Sampling of the CIN01 waste stream, to support our conclusion that the levels of oxidizers contained within the CIN01 liquids to not support assigning the RCRA D001 characterstic to this waste stream.

APPENDIX A.

ANALYSIS OF CCP-AK-004 AND CCP-AK 006 WASTE STREAMS FOR POTENTIAL INCOMPATIBILITY WITH Swheat™ SORBENT

Four mixed transuranic (MTRU) waste streams were remediated by ADEP/LTP using organic sorbents and/or neutralizers between 2006 and 20014. The purposes of this analysis were as follows:

> (1) to identify any chemicals that may have been present in four remediated waste streams that were potentially incompatible with organic sorbents (*the organic sorbent Swheat™ is the specific focus of this analysis*); and
>
> (2) if so, to address the following question: were the chemicals likely to be present in forms or quantities sufficient to constitute an incompatibility of wastes and sorbents in the same container?

Permit Requirements

Permit Section 2.8 requires the Los Alamos National Laboratory (LANL) Permittees to "*...take precautions during the treatment or storage of ignitable or reactive waste, the mixing of incompatible waste, or the mixing of incompatible wastes and other materials to prevent reactions...*"

Permit Sections 2.4.1(3) and 2.4.1(4) require the LANL Permittees to "*...obtain and document all of the information that must be known to treat, store, or otherwise manage a hazardous waste stream in accordance with 40 CFR Parts 264 and 268 including... waste characterization necessary to prevent the mixing or placing of incompatible wastes in the same container*" and "*...waste characterization necessary to prevent accidental or spontaneous ignition or reaction of ignitable or reactive wastes, including, but not limited to, ignition or reaction in containers.*"

Review Approach

Identification of Oxidizing Chemicals

Compliance with these permit conditions requires knowledge of the chemicals present in a container and a determination of their compatibility with other materials in the container such as sorbents (i.e. Swheat™). Because Swheat™ is a natural, organic material, its incompatibility would be with oxidizing chemicals. Because the waste streams involve legacy waste, chemical analytical data from the waste generators for the four waste streams in the LTP Extent of Condition (EOC) review is minimal to nonexistent. Therefore, ENV-CP's review approach was as follows. The four waste streams in the LTP Extent of Condition review are addressed in two CCP Acceptable Knowledge (AK) documents (CCP-AK-006, rev. 13 and CCP-AK-004, rev. 7). These two CCP AK documents were selected because, upon review, ENV-CP determined that they effectively summarize all

the LANL AK documentation that is currently available regarding the historical chemical composition of the four waste streams. Therefore, the chemical summaries in the two CCP AK reports were reviewed to identify oxidizers in the four waste streams that might be potentially incompatible with Swheat™ or other organic sorbents.

Each CCP AK document contains a Chemical Identification and Use Summary Table that lists chemicals found in the MTRU waste streams addressed. Each Summary Table was checked to identify whether any chemicals listed would be classified as oxidizers.

These oxidizing materials were then checked, using EPA and DOT methodologies and data, to determine if a potential incompatibility exists.

EPA 40 CFR 264 Appendix V Compatibility Analysis

The first compatibility determination was completed using the EPA method and data in 40 CFR 264 Appendix V. LANL is conservatively considering Swheat™ to be a Reactivity Group 101 "Miscellaneous Combustible or Flammable Material" (i.e., a 40 CFR 264 Appendix V material in Group 6B) for purposes of this analysis. If a Group 6A (oxidizing) chemical is present in the CCP Chemical Identification and Use Summary Table, it would theoretically be incompatible with Swheat™ for purposes of this analysis. Oxidizing materials from the CCP AK documentation were compared to the chemical groups and classes listed in Compatibility Group 6A.

DOT 49 CFR 177 Compatibility Analysis

Two segregation requirements under DOT were used to assess potential incompatibility based on references to DOT requirements in the LANL Permit. DOT segregation requirements codified at 49 CFR 177.848 apply to the segregation of containers with differing hazard classes and divisions on trucks and transport tanks and not to the mixing of incompatible materials in a container. If used as a guide for incompatibility determination for mixing within a container, the oxidizing materials from the AK documents could not be mixed with materials in incompatible classes as shown on the Segregation Table For Hazardous Materials in 48CFR 177.848.

DOT 49 CFR 173 Compatibility Analysis

Actual compatibility requirements for mixtures in containers under DOT are provided in 49 CFR 173.24(e)(4), and do not provide a method for determining incompatibility. However, they do prohibit mixing of materials that would cause fires, create heat or toxic gases, etc. To determine potential incompatibility under 49 CFR 173.24(e)(4), the MSDSs for oxidizing materials were used to determine if mixing the chemical with Swheat™ could result in the hazardous conditions listed.

WIPP Appendix C-1 Compatibility Analysis

Finally the method outlined in Appendix C1 to the WIPP Part B Permit Application entitled "Chemical Compatibility Analysis of Waste Forms and Container Materials" was applied to the waste materials when mixed with Swheat™ for potential incompatibility. This method involves entering the materials into an unspecified database that checks for incompatibility based on the method outlined in the U.S. EPA document, *A Method for Determining the Compatibility of Hazardous Waste* (Hatayama et al.,1980). Although the database was unavailable for LANL use the materials were checked using the compatibility chart provided in the reference document.

Results

Identification of Oxidizing Chemicals

1. LA-MHD01, LA-CIN01.001[6] (debris waste stream, cemented cans waste stream)

Table 9 (Chemical Identification and Use Summary) in CCP-AK-006, rev. 13 lists chemicals found in the LA-MHD01 and LA-CIN01.001 waste streams. The following Group 6A chemicals (theoretically incompatible with Swheat™ per 40 CFR 264 Appendix V) were listed in CCP-AK-006 Table 9,

Table 1 Potentially Incompatible Chemicals - CCP-AK-006

Aluminum Nitrate	Magnesium Perchlorate
Antimony Pentafluoride	Mercuric Nitrate
Bromine	Perchloric acid (*probably present as perchlorate; 'perchlorate' is listed in Appendix V*)
Cerium Nitrate	Potassium Chromate
Cobalt Nitrate	Potassium Dichromate
Ferric Nitrate	Potassium Permanganate
Hydrogen Peroxide	Silver Nitrate
Magnesium Perchlorate	Sodium Chlorite
Lanthanum Nitrate	Sodium Chromate
Lead Nitrate	Sodium Nitrate

[6] *NOTE: CCP-AK-006 also covers LA-MIN02-V.001 (mixed absorbent waste stream). However, LA-MIN02-V.001 containers were not a subject of this analysis. Some LA-MIN02-V.001 containers are believed to have been remediated using WasteLock 770™; however, WasteLock™ remediation was not included in this analysis.*

The text of CCP-AK-006 also describes RCRA chemicals in the LA-MHD01 and LA-CIN01.001 waste streams. No Group 6A chemicals were listed in the text in addition to those in Table 9 mentioned above.

2. LA-MIN03-NC.001(cemented sludges from TA-50 RLWTF)

Table 8 (Chemical Identification and Use Summary) describes RCRA chemicals in the LA-MIN03-NC.001 waste stream. The following chemicals or chemical categories (potentially incompatible with Swheat™) were confirmed to occur in CCP-AK-004 Table 8:

Table 2 Potentially Incompatible Chemicals - CCP-AK-004

Aluminum Nitrate	Lanthanum Nitrate
Bromine	Mercuric Nitrate
Calcium Nitrate	Perchloric Acid (*probably present as perchlorate)*
Cerium Nitrate	Silver Nitrate
Chromic Acid	Sodium Chromate
Chromium Trioxide	Sodium Hypochlorite
Cobalt Nitrate	Sodium Nitrate
Ferric Nitrate	Sodium Perchlorate
Hydrogen Peroxide	Lanthanum Nitrate

Twenty (20) EPA Compatibility Group 6A chemicals were confirmed to occur in the LA-MHD01 and LA-CIN01.001 waste stream documentation. Eighteen (18) EPA Compatibility Group 6A chemicals were confirmed to occur in the LA-MIN03-NC.001 waste stream documentation.

40 CFR 264 Appendix V Compatibility Analysis

Because LANL is conservatively considering Swheat™ to be a Reactivity Group 101 "Miscellaneous Combustible or Flammable Material" (i.e., a 40 CFR 264 Appendix V material in Group 6B) for purposes of this analysis, all of the oxidizing materials listed in the Tables 1 and 2 above have a potential incompatibility with Swheat™ used as a sorbent.

DOT 49 CFR 177 Compatibility Analysis

All of the materials in the Tables 1 and 2 above would be considered Class 5.1 Oxidizers and as such would require segregation, under this section, from explosives, flammable liquids, poisonous liquids and corrosive liquids. Because Swheat™ is not a DOT hazardous material and has no assigned hazard class, a direct segregation determination cannot be made. This method would not be appropriate to make determinations for mixing substances within a drum or container.

DOT 49 CFR 173 Compatibility Analysis

Since the materials listed in Tables 1 and 2 are all classified as oxidizers, their MSDSs list a potential incompatibility with organic and/or flammable or combustible materials with the result being fire, heat generation, and toxic or asphyxiant gasses, all of which are prohibited for mixtures under 49 CFR 173.24(e)(4).

WIPP Appendix C-1 Compatibility Analysis

With the exception of hydrogen peroxide with a number 30, all of the chemicals listed in Tables 1 and 2 are strong oxidizers and are assigned a number 104 on the compatibility chart used for the Appendix C-1 analysis. Swheat™, as a combustible material, would be assigned number 101. In accordance with the compatibility chart, mixing Swheat™ (101) with strong oxidizers (104) could generate H (heat), F (fire), and/or G (gasses). Mixing Swheat™ with hydrogen peroxide (30) could generate H, F, and GT (toxic gasses). Therefore, Swheat™ as a sorbent would potentially be incompatible with any of the chemicals listed in the tables above.

Chemical Forms and Quantities

All chemicals listed in the Chemical Identification and Use Summary Tables in both CCP AK documents were assigned based on their reference as feed or process chemicals in procedures, material ordering documentation, and/or interviews with personnel performing operations. The chemicals would not be expected in the waste streams in pure form since they would have been involved in chemical reactions, decontamination activities, TRU recovery operations, and/or waste treatment processes prior to placement in their current waste containers. The quantities of chemical wastes will vary widely depending upon the type of waste and from one container to the next depending upon how much and what kind of cementation or sorption was applied and how many remediation activities were performed on each container.

The debris (LA-MDH01) waste stream, by volume, contains mostly materials and equipment that was contaminated through contact or use that has residual contamination such as gloves or other PPE, process containers or hoses, etc. Additionally the debris stream would include other combustible materials such as rags, plastic, and cellulose that would be in the same combustible class as Swheat™ but have not caused incompatibility issues during the 30+ years they have been in storage.

The cemented TRU waste stream (LA-CIN01) consists of waste materials that have been encased in Portland or gypsum cement. Again, these waste materials would have been subjected to reaction, decontamination, TRU recovery, and/or waste treatment or volume reduction prior to the cementation processes. The cementation process would reduce the oxidizing potential of the waste materials decreasing the likelihood of reactions with combustibles such as Swheat™.

The sludge waste stream (LA-MIN03) consists of dewatered waste materials from the treatment of wastewaters. These waste materials would also have been subjected to reaction, decontamination, TRU recovery, as well as the liquid waste treatment processes and dewatering prior to placement in the container with cement added to further solidify them. The addition of cement would reduce the oxidizing potential of the waste materials decreasing the likelihood of reactions with combustibles such as Swheat™.

Conclusions

Based on the conservative approach of using the CCP AK data for the waste streams, there are chemicals that could potentially be present in the waste that, in pure form and/or sufficient concentrations, could be incompatible with Swheat™ sorbent. Because determining precisely the incompatibility of wastes in specific containers with the sorbent added would be technically impossible at this point, LANL must report, conservatively at this time, that certain chemicals known to be incompatible with the sorbents used may be present in some of the waste streams analyzed. However, based on the fact that the incompatible chemicals would not be in their pure form and have been subject to process reactions and various dewatering, solidification, and other remediation processes which would reduce their oxidizing potential, and the lack of historical incompatibility reactions in containers of the subject wastes, the wastes should not be considered to be in danger of imminent reaction.

References

Hatayama et al. 1980. *A Method for Determining the Compatibility of Hazardous Waste*. EPA-600/2-80-076, USEPA, Washington D.C.

Appendix B.

Los Alamos
NATIONAL LABORATORY
EST. 1943

memorandum

Actinide Analytical Chemistry

To/MS: Bruce Robinson, ADEP, MS K491
David Funk, ADEP, MS J910
From/MS: Rebecca Chamberlin, C-AAC
Phone/Fax: 7-1841/Fax 5-4737

Symbol: C-AAC-15-0024
Date: June 24, 2015

SUBJECT: Analytical Results for Drum S8111785 Free Liquid Sample

Sample Summary	
Drum #	**S8111785**
Sample collection date	05/13/2015
Analysis start date	05/28/2015
Sample description	Heterogeneous: Brown liquid with lighter-colored sludge that was difficult to keep in suspension. After settling 10 min, the solids were ~25% of volume of the sample.
Sample mass	55.2 g
Sample volume	41 mL
Density (calculated)	1.35 g/mL
pH (potentiometric)	10.9
Radionuclides (NDA, SNAP)	**Ci/mL** (+/- 30% modeling uncertainty)
Pu-239	Not detected
Am-241	1.91E-10
Cs-137	7.71E-12
Anions (Ion Chromatography)	**g/100 mL** (+/- 10%)
Nitrate (NO_3^-)	32.2
Nitrite (NO_2^-)	2.7
Chloride (Cl^-)	0.4
Fluoride (F^-)	Not detected
Sulfate (SO_4^-)	1.1
Oxalate ($C_2O_4^-$)	Trace
RCRA Metals (ICP-MS/AES)	**µg/mL** (+/- 20%)
Silver (Ag)	0.035
Arsenic (As)	<0.9
Barium (Ba)	1.7
Cadmium (Cd)	0.14
Chromium (Cr)	34
Mercury (Hg)	0.30
Lead (Pb)	590
Selenium (Se)	<1.4

Major Elements (ICP-MS/AES)	µg/mL, except as noted (+/- 20%)
Sodium (Na, %)	12.4 g/100 mL
Potassium (K, %)	1.2 g/100 mL
Aluminum (Al)	200
Calcium (Ca)	72
Iron (Fe)	50
Magnesium (Mg)	21
Silica (SiO_2, crystobalite)	Detected in undigested residue

Sample photos

As-received sample, after mixing

As-received sample, after standing 10 min

Analytical procedures and work instructions used:

1) ANC 212, Ion Chromatography
2) ANC 102, Inductively Coupled Plasma—Mass Spectrometry Using the VG Elemental Plasma Quad
3) ANC 221, Operating the Jobin-Yvon (JY) Inductively Coupled Plasma – Atomic Emission Spectrometer
4) WI-5, Analytical Sample Receipt, Subsampling, and Distribution within Analytical Chemistry
5) WI-30, Chemical Analysis, Characterization and Research
6) WI-42, Radiochemical Research and Development at CMR
7) WI-57, X-ray Diffraction
8) ANC 214, Spectrophotometric Determination of Silicon in Plutonium Materials (potentiometric pH method)

Cy: C-AAC File

Appendix C

Los Alamos
NATIONAL LABORATORY

memorandum

M-DO: Explosive Science & Shock Physics
M-7: High Explosives Science & Technology

To/MS: David J. Funk, ADEP, djf@lanl.gov
From/MS: Geoffrey Brown, M-7, geoffb@lanl.gov
Phone/Fax: 7-6718 / 7-0500
Symbol: M7-15-6008
Date: July 10, 2015

GWB 7/10/15

SUBJECT: (U) Decomposition Onsets for Dried Swheat Mixtures in Analytical Lab 52143

M-7 recently carried out differential scanning calorimetry (DSC) testing of samples related to Waste Isolation Pilot Plant (WIPP) waste forms. The samples were

1. 1:1 ratio of saturated solution of WB8 mixed with Swheat kitty litter
2. 3:1 ratio of saturated solution of WB8 mixed with Swheat kitty litter
3. 1:1 ratio of 45 wt.% $NaNO_3$ mixed with Swheat kitty litter
4. 3:1 ratio of 45 wt. % $NaNO_3$ mixed with Swheat kitty litter

After the initial DSC runs, the samples were then dried for one week at room temperature in a hood. The DSC testing was then repeated.

Drying samples 1 and 2 changed them only minimally. Their exothermic activity before and after drying occurred at high temperatures with onsets of decomposition between 250 °C and 325 °C.

Samples 3 and 4 also changed minimally upon drying. Both showed a residual broad endotherm centered near 100 °C and a broad exotherm ranging from 150 °C to 400 °C. The 1:1 mixture showed some sharper features within the endotherm and exotherm regions but no feature on either dried sample exceeded 2 W/g heat flow. Given that the nominal baseline of the instrument can be +/- 1 W/g heat flow, the signals from the dried samples indicate minimal exothermic activity.

The onset of the exothermic activity of samples 3 and 4 cannot be explicitly determined because of the residual endotherm. Based on our experience with energetic materials however, it is very unlikely that both features became stronger after drying and are masking each other. As a result we expect that the exothermic onsets of samples 3 and 4 are in the 125 °C range.

GB:mq

Cy: M-DO DCM File, P942, wxdct@lanl.gov

Reviewed and determined to be UNCLASSIFIED.
This review does not constitute clearance for public release.
Derivative Classifier: Geoffrey Brown
Date: July 09, 2015

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M-7 High Explosives Science and Technology

52143

Analytical Laboratory Report

Analytical Lab # 52143

Requester: BROWN **Group: M-7**

Sample ID: 45wt% NaNO3 Swheat (1:1), 45wt% NaNO3 Swheat (1:3), Saturated WB8 Swheat (1:1), Saturated WB8 Swheat (1:3) wet and dry

Tests Completed	Date Completed	Analyst
150611001		
DSC (wet)	06/11/15	SANDSTROM
DSC (dry)	06/24/15	SANDSTROM
150611002		
DSC (wet)	06/11/15	SANDSTROM
DSC (dry)	06/24/15	SANDSTROM
150611003		
DSC (wet)	06/11/15	SANDSTROM
DSC (dry)	06/24/15	SANDSTROM
150611004		
DSC (wet)	06/11/15	SANDSTROM
DSC (dry)	06/24/15	SANDSTROM

This document deemed Unclassified by
Mary M Sandstrom 7/9/15
(DC)

Validated: Geoffrey N. Brown 7/9/15

Approved: Mary M. Sandstrom 7/9/15

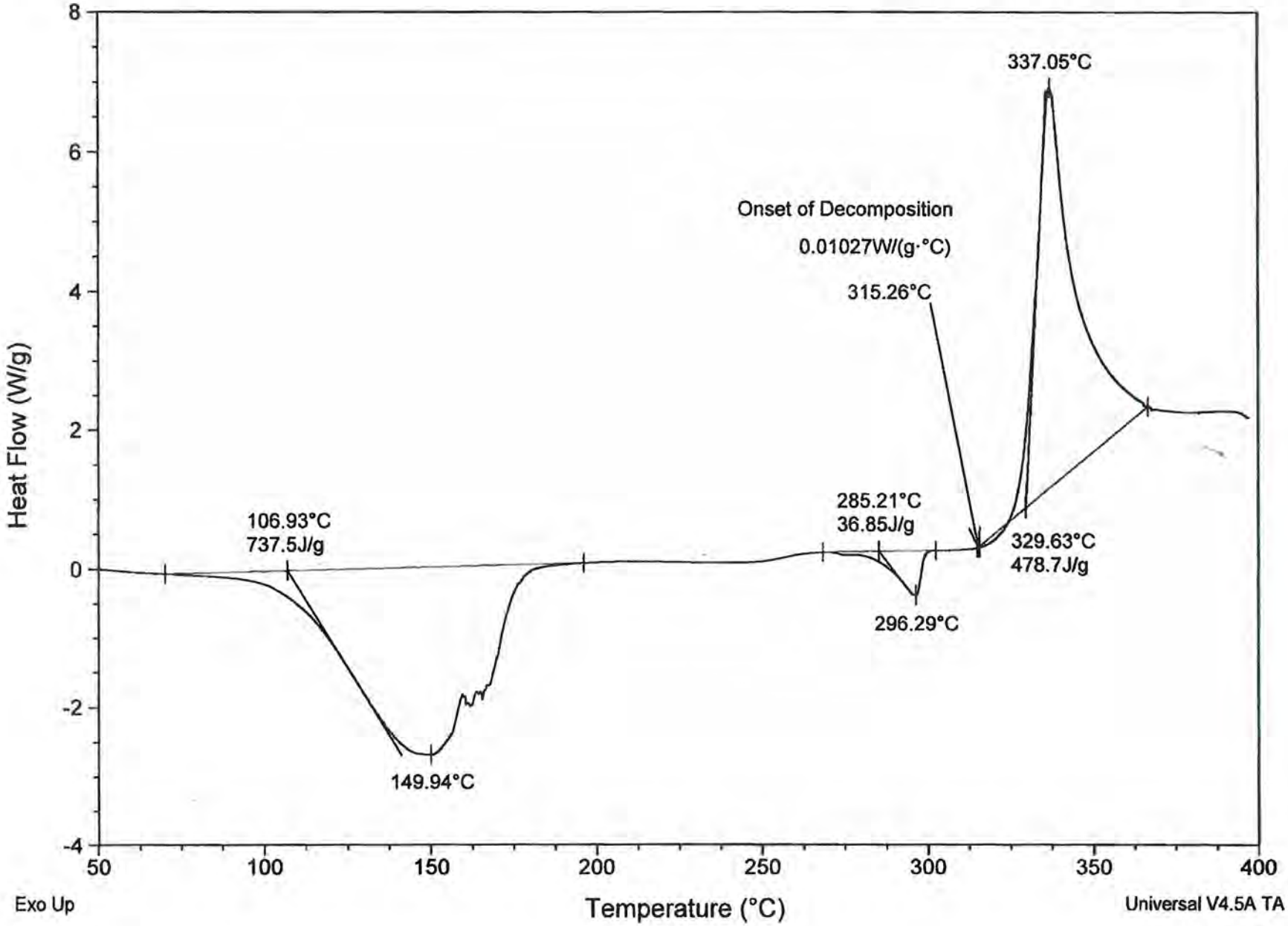
Date Submitted: 06/11/2015
Date Competed: 06/24/2015

Los Alamos NATIONAL LABORATORY

Sample: 45wt% NaNO3 Swheat (1-1)
Size: 2.7720 mg
Method: 10C Ramp

DSC

File: C:...\52143\45wt% NaNO3 Swheat (1-1).001
Operator: MMS
Run Date: 11-Jun-2015 21:55
Instrument: DSC Q2000 V24.11 Build 124

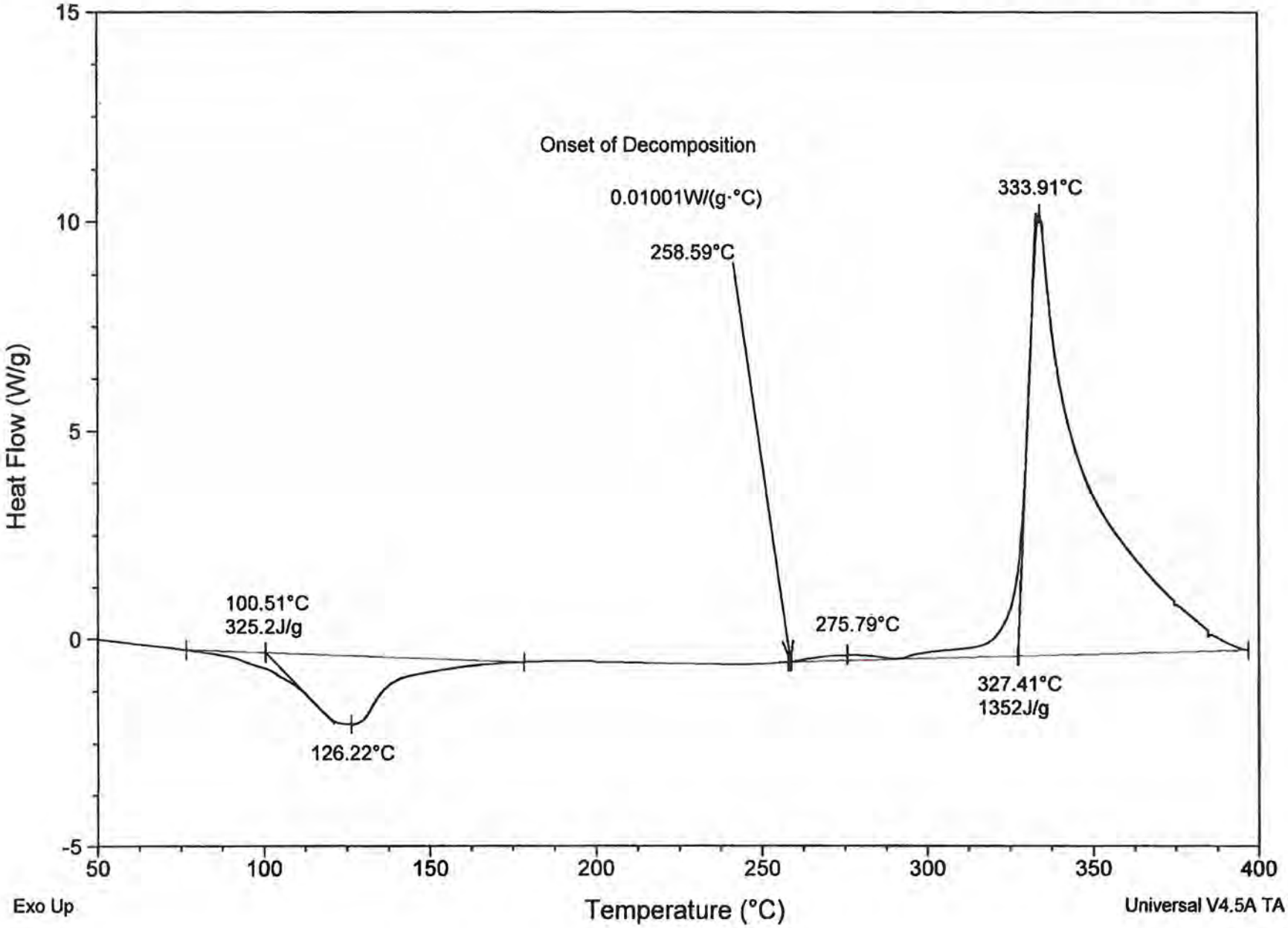


Universal V4.5A TA Instruments

Sample: 45wt% NaNO3 Swheat (3-1)
Size: 1.0430 mg
Method: 10C Ramp

DSC

File: C:...\52143\45wt% NaNO3 Swheat (3-1).001
Operator: MMS
Run Date: 11-Jun-2015 22:45
Instrument: DSC Q2000 V24.11 Build 124



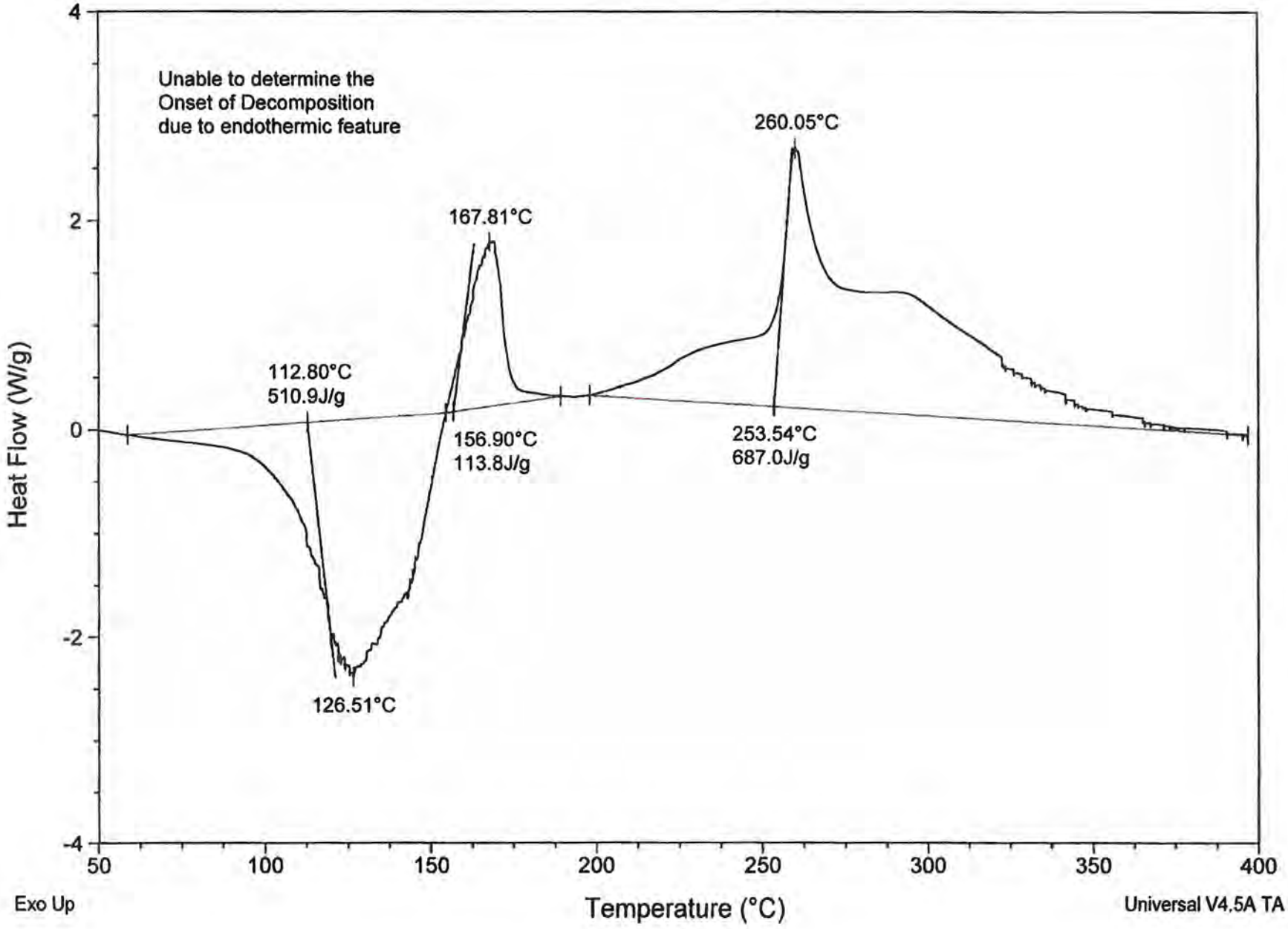
Exo Up

Universal V4.5A TA Instruments

Sample: Saturated NaNO3 Swheat (1-1)
Size: 1.9080 mg
Method: 10C Ramp

DSC

File: C:...\Saturated NaNO3 Swheat (1-1).001
Operator: MMS
Run Date: 11-Jun-2015 23:35
Instrument: DSC Q2000 V24.11 Build 124



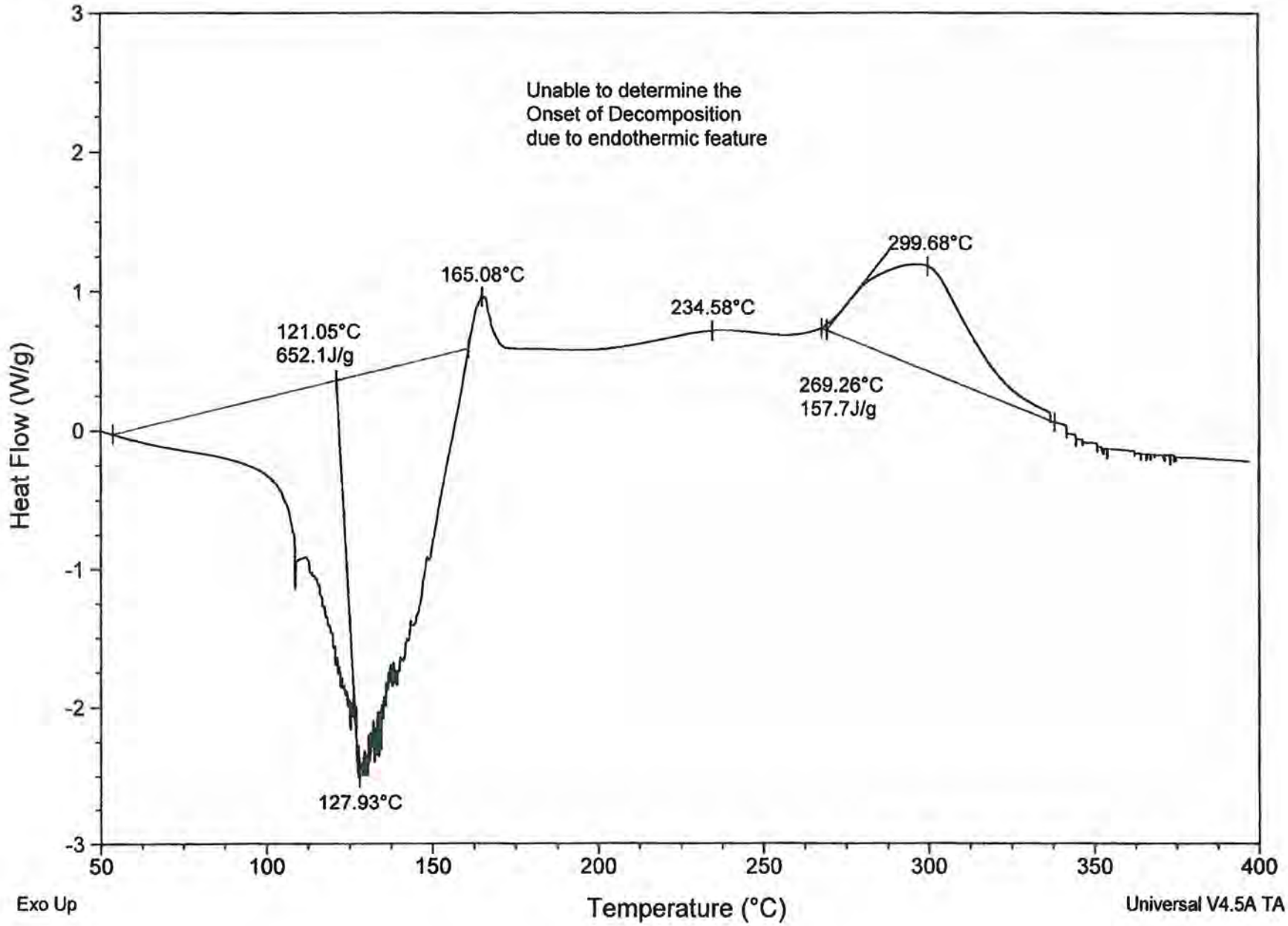
Exo Up

Universal V4.5A TA Instruments

Sample: Saturated NaNO3 Swheat (3-1)
Size: 1.5030 mg
Method: 10C Ramp

DSC

File: C:...\Saturated NaNO3 Swheat (3-1).001
Operator: MMS
Run Date: 12-Jun-2015 00:25
Instrument: DSC Q2000 V24.11 Build 124



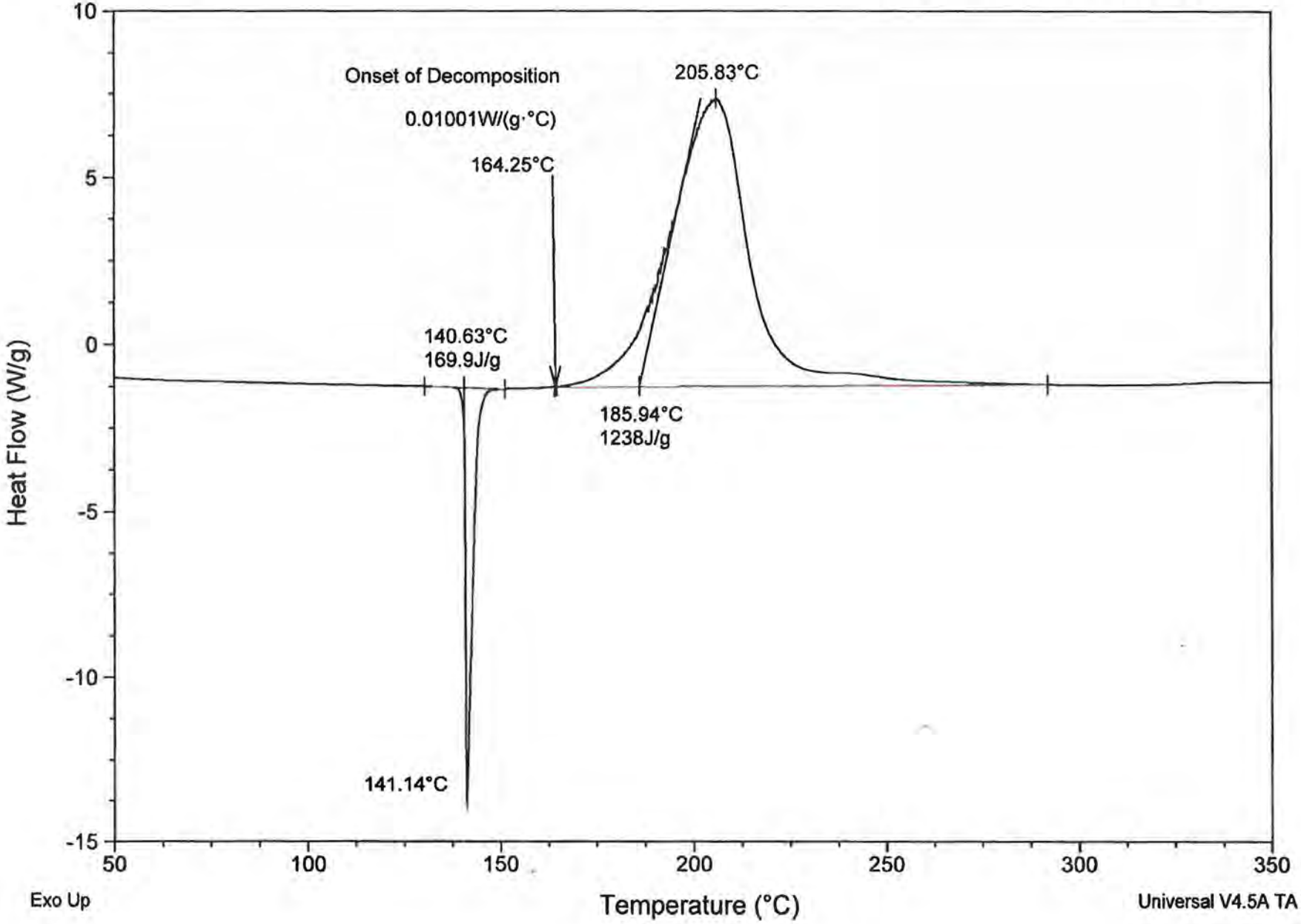
Exo Up

Universal V4.5A TA Instruments

Sample: PETN 9401
Size: 0.8960 mg
Method: 10C Ramp

DSC

File: C:...\061115 Instrument Control.001
Operator: MMS
Run Date: 11-Jun-2015 16:42
Instrument: DSC Q2000 V24.11 Build 124

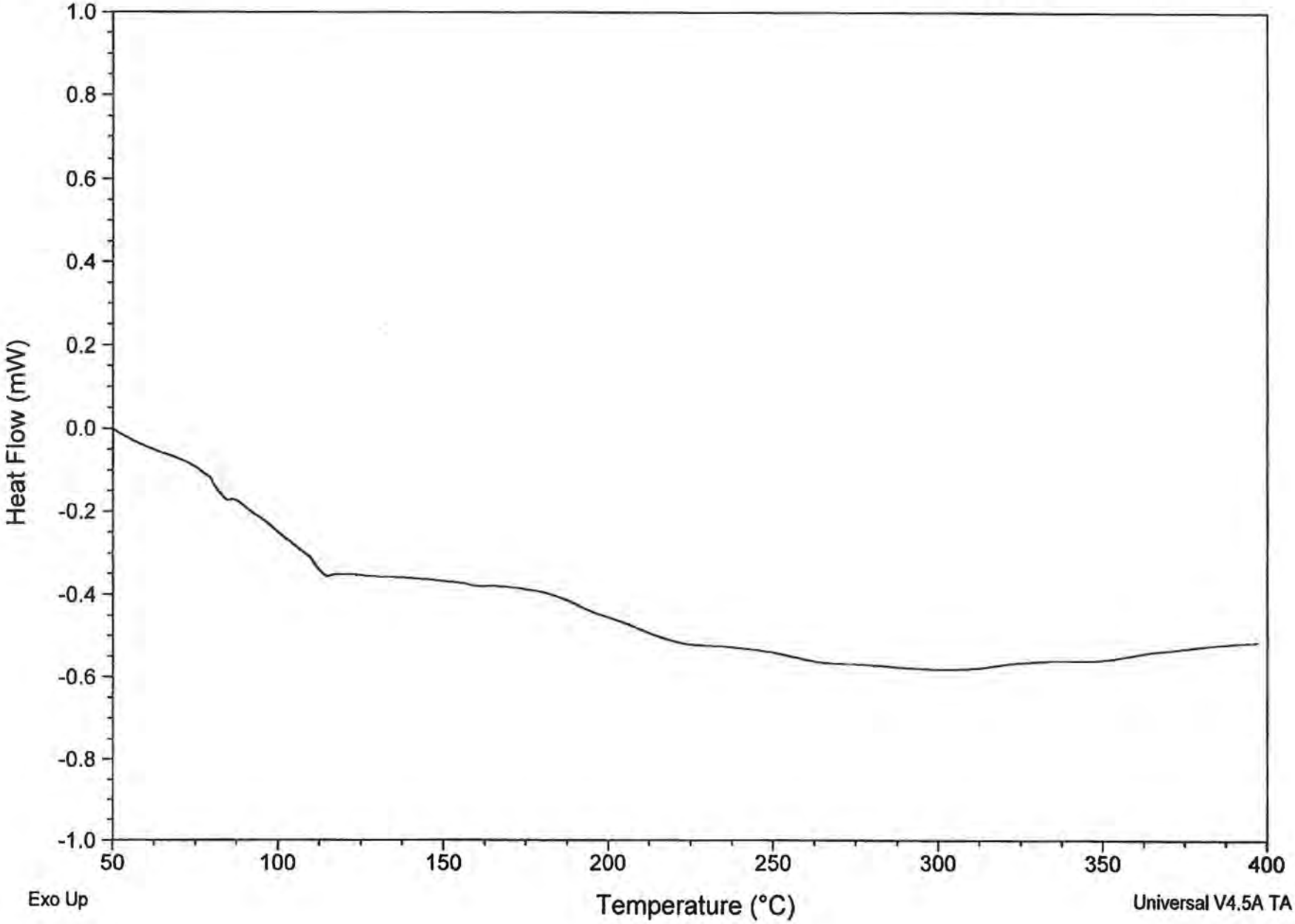


Universal V4.5A TA Instruments

Sample: Pan Blank
Size: 0.0000 mg
Method: 10C Ramp

DSC

File: C:...\2015\061115 Pan Blank.002
Operator: MMS
Run Date: 11-Jun-2015 15:52
Instrument: DSC Q2000 V24.11 Build 124



Exo Up

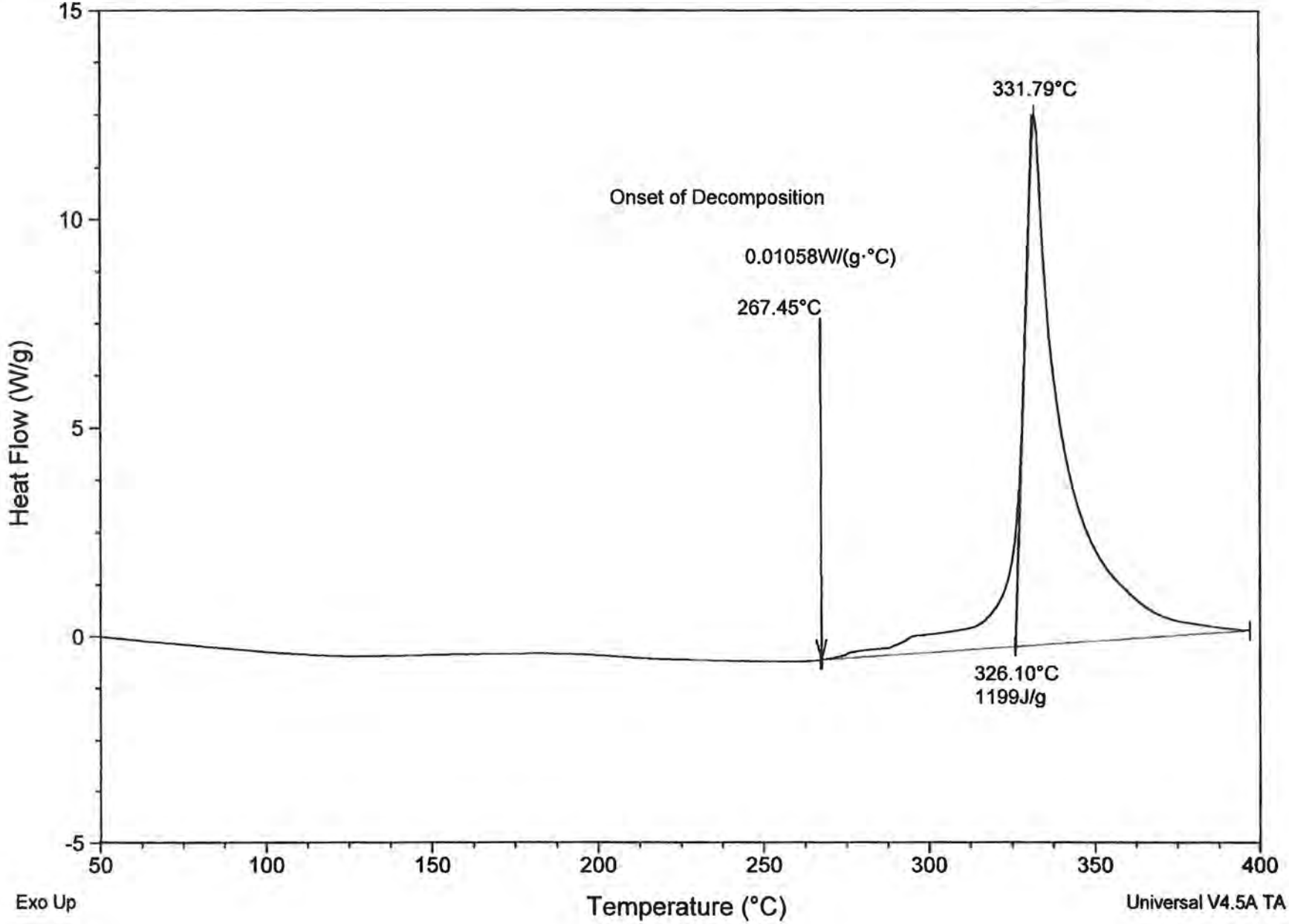
Universal V4.5A TA Instruments

Sample: 45wt% NaNO3 Swheat (3-1)- Dry
Size: 1.2460 mg
Method: 10C Ramp

DSC

File: C:...\45wt% NaNO3 Swheat (3-1)- Dry.001

Run Date: 24-Jun-2015 04:32
Instrument: DSC Q2000 V24.11 Build 124



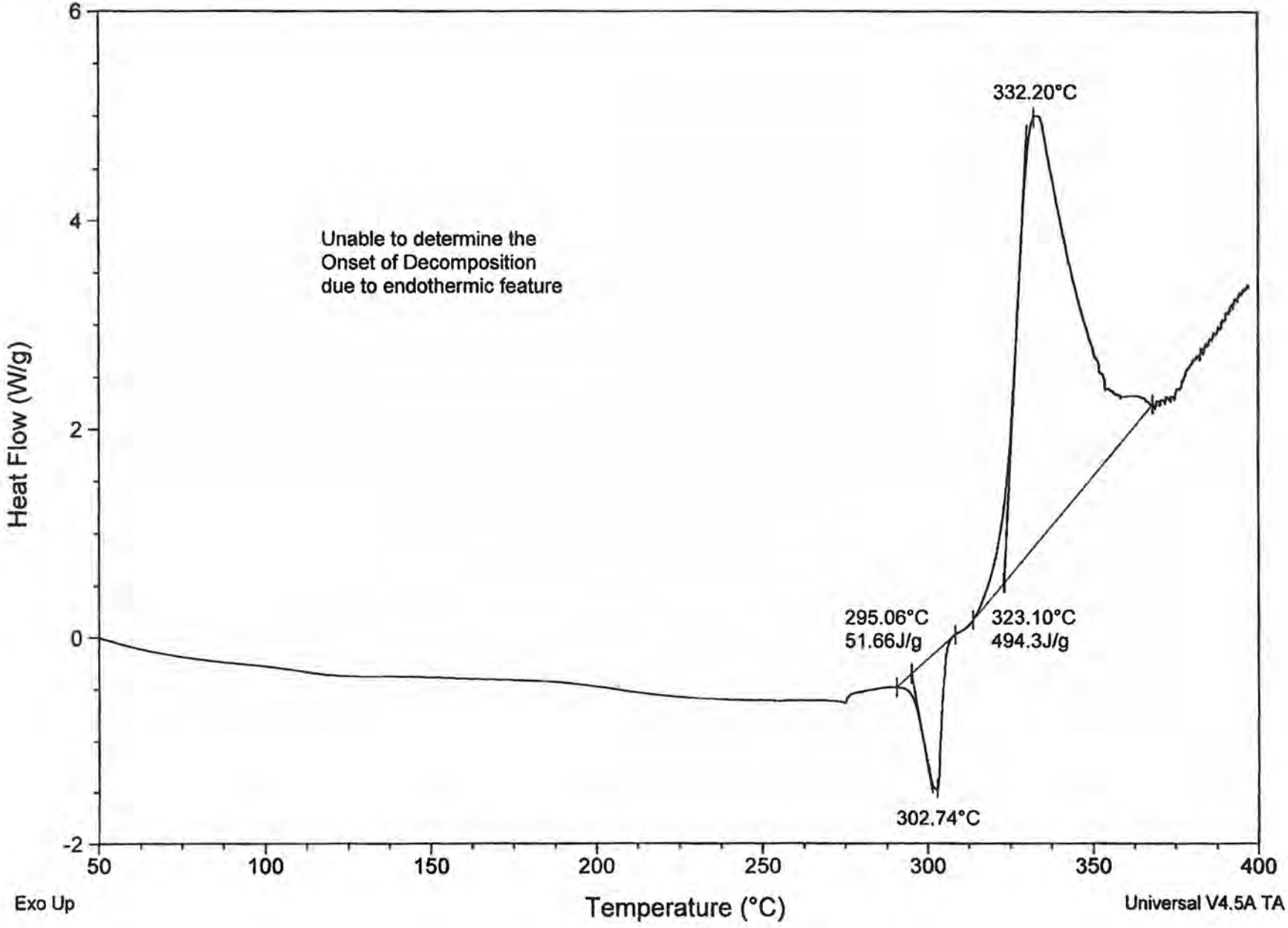
Universal V4.5A TA Instruments

Sample: 45wt% NaNO3 Swheat (1-1)- Dry
Size: 0.9840 mg
Method: 10C Ramp

DSC

File: C:...\45wt% NaNO3 Swheat (1-1)- Dry.001

Run Date: 24-Jun-2015 05:22
Instrument: DSC Q2000 V24.11 Build 124



Exo Up

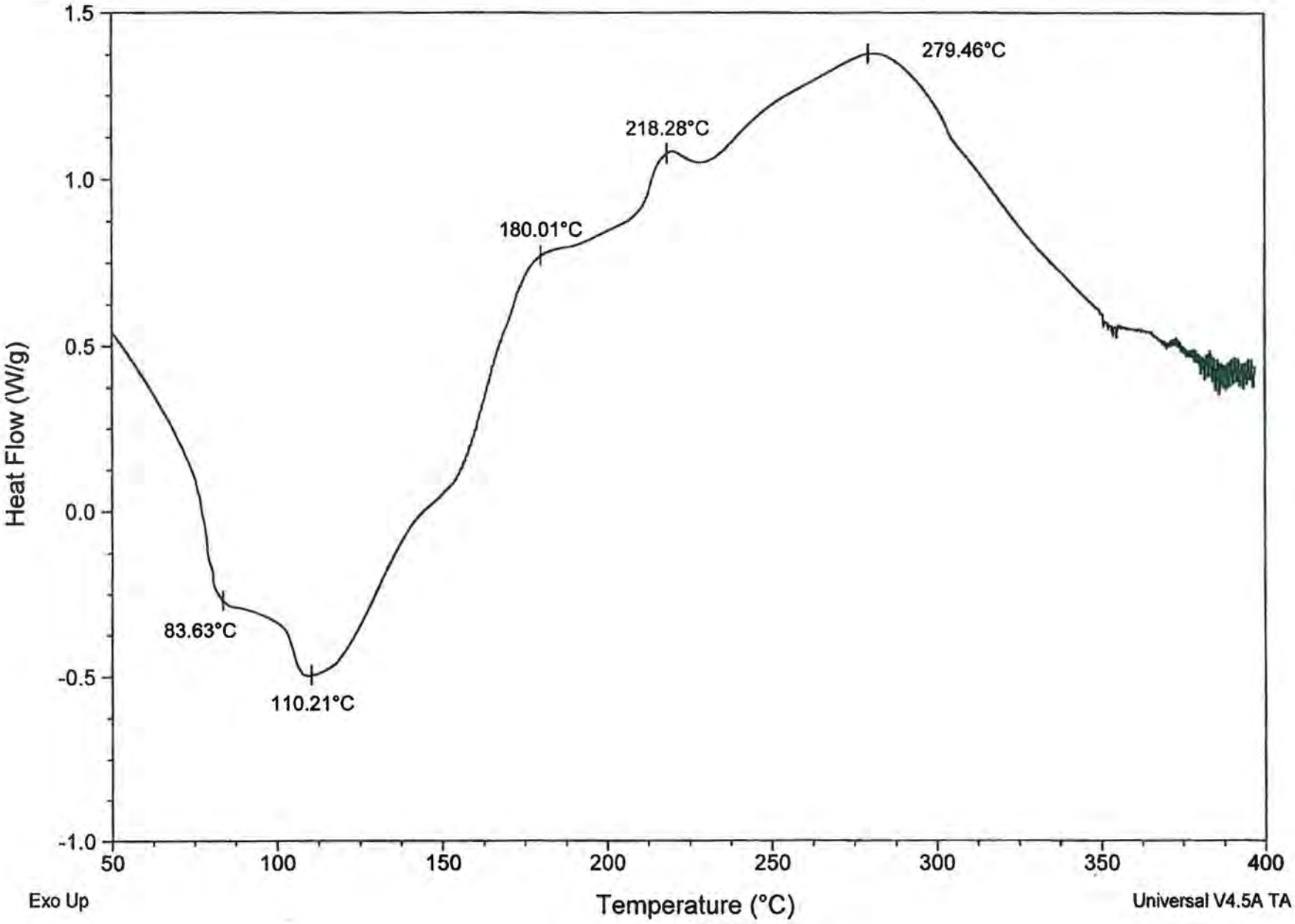
Universal V4.5A TA Instruments

Sample: Saturated NaNO3 Swheat (3-1) Dry
Size: 0.8650 mg
Method: 10C Ramp

DSC

File: ...\Saturated NaNO3 Swheat (3-1) Dry.001

Run Date: 24-Jun-2015 07:02
Instrument: DSC Q2000 V24.11 Build 124



Exo Up

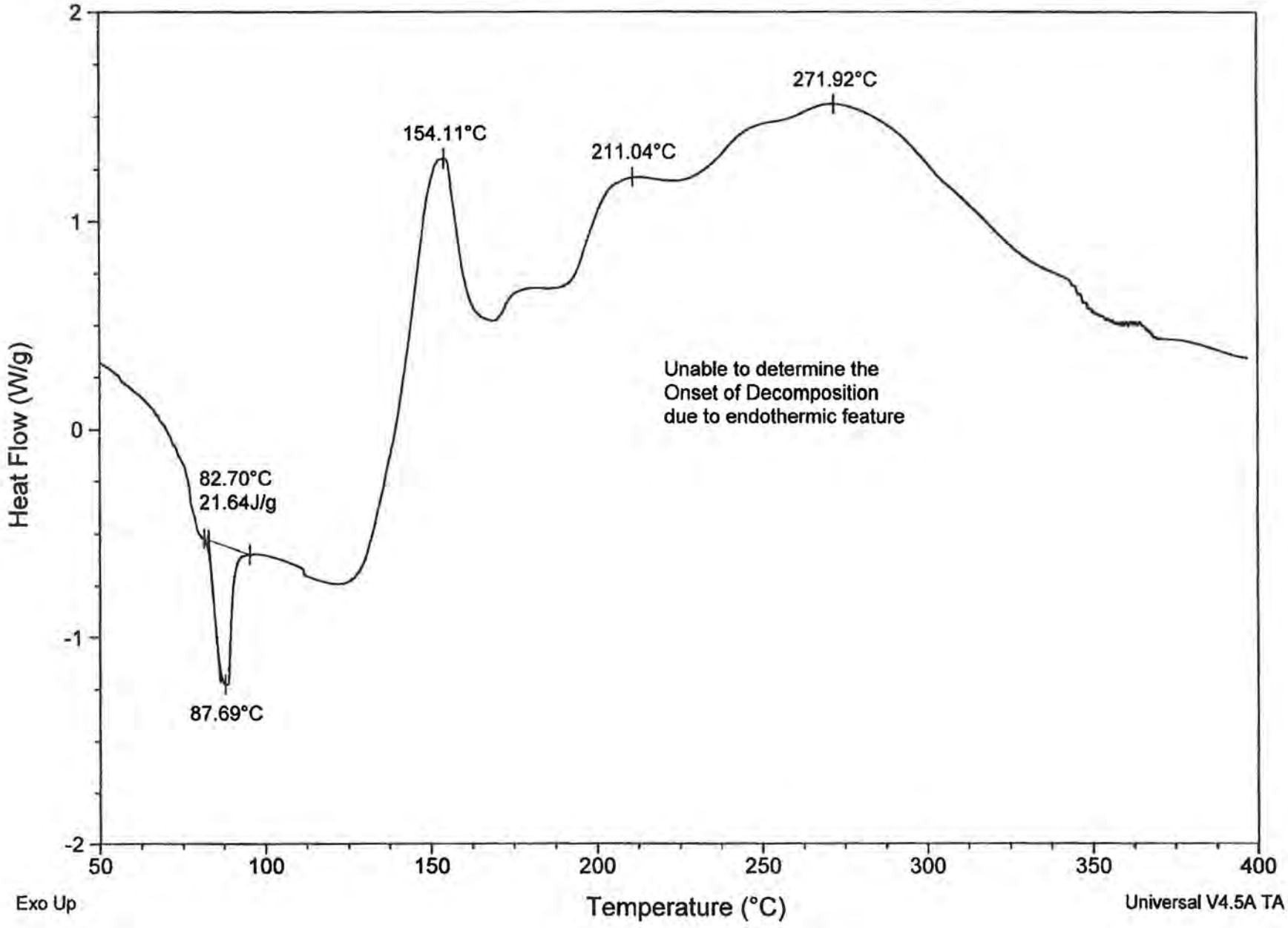
Universal V4.5A TA Instruments

Sample: Saturated NaNO3 Swheat (1-1) Dry
Size: 1.2040 mg
Method: 10C Ramp

DSC

File: ...\Saturated NaNO3 Swheat (1-1) Dry.001

Run Date: 24-Jun-2015 06:12
Instrument: DSC Q2000 V24.11 Build 124



Exo Up

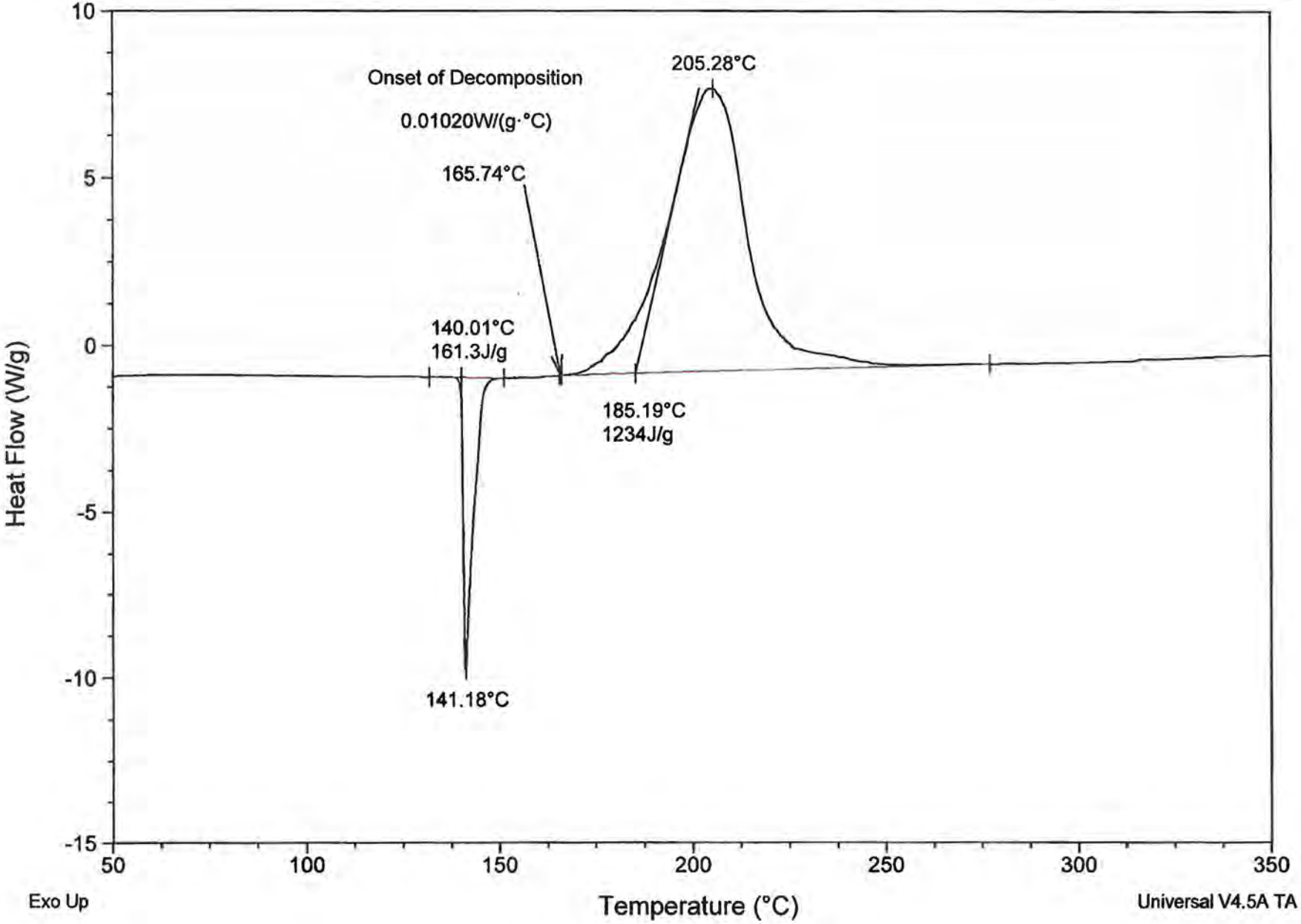
Universal V4.5A TA Instruments

Sample: PETN 9401B
Size: 0.9320 mg
Method: 10C Ramp

DSC

File: C:...\062315 Instrument Control.001

Run Date: 23-Jun-2015 18:10
Instrument: DSC Q2000 V24.11 Build 124



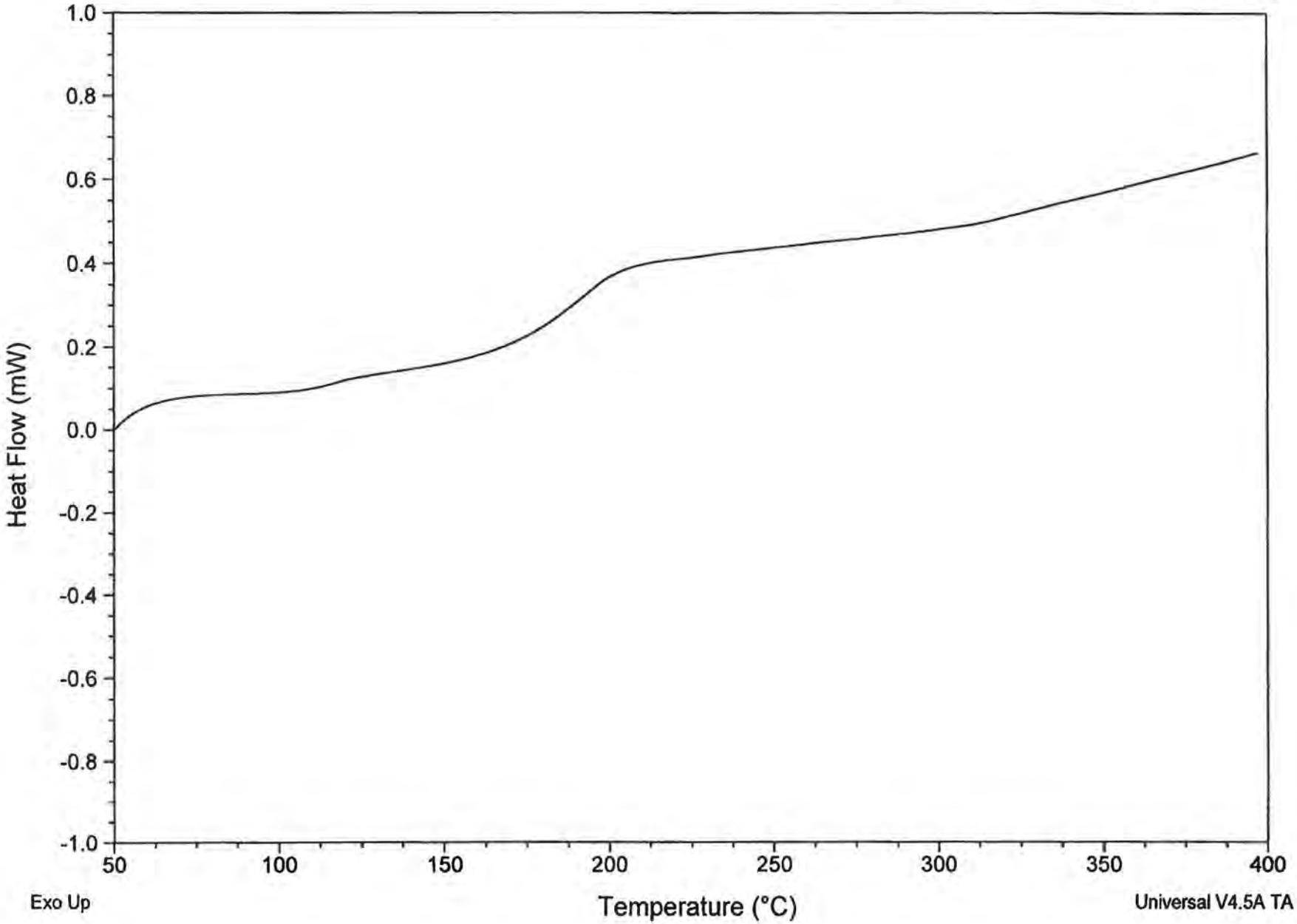
Universal V4.5A TA Instruments

Sample: Pan Blank
Size: 0.0000 mg
Method: 10C Ramp

DSC

File: C:...\2015\062315 Pan Blank.001

Run Date: 23-Jun-2015 17:20
Instrument: DSC Q2000 V24.11 Build 124



Exo Up

Universal V4.5A TA Instruments

Appendix 14
Document Electronic Access (Compact Disk)

Multiple LA-URs

LA-UR-16-21743
Approved for public release; distribution is unlimited.

Title: Compliance Technical Assistance Program (CTAP), ENV-CP-QP-115

Author(s): Martinez, Geraldine Emily

Intended for: Environmental Programs

Issued: 2016-03-16 (Draft)

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ENV-CP-QP-115	Revision: 0	
Effective Date: 09/28/2015	Next Review Date: 09/28/2018	

Environment, Safety, Health Directorate

Environment Protection Division

Environmental Compliance Programs Procedure

Quality Procedure

Compliance Technical Assistance Program (CTAP)

Document Owner/Subject Matter Expert

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Geri Martinez	ENV-CP	Signature on File	09-28-15

Derivative Classifier: ☒ **Unclassified** ☐ **DUSA** **ENVPRO**

Name:	Organization:	Signature:	Date:
Gian Bacigalupa	ENV-CP	Signature on File	09-28-15

Approval Signatures:

Subject Matter Expert:	Organization:	Signature:	Date:
Geri Martinez	ENV-CP	Signature on File	09-28-15
Responsible Line Manager:	Organization:	Signature:	Date:
Mark Haagenstad	ENV-CP Team Lead	Signature on File	09-28-15
Responsible Line Manager:	Organization:	Signature:	Date:
Anthony Grieggs	ENV-CP Group Leader	Signature on File	09-28-15

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History of Revisions

Document Number *[Include revision number, beginning with Revision 0]*	**Effective Date** *[Document Control Coordinator inserts effective date]*	**Description of Changes** *[List specific changes made since the previous revision]*
0	04/02	New Document.
1	10/03	Revisions include new records information and reformatting, new and edited definitions, and references to new documentation required prior to any work performed under this procedure.
2	10/05	Revisions reflect new group name and updating the work authorization section.
3	03/06	Revised to reflect changes to scope regarding courtesy self-assessments, current links were added, changed the word observation to findings, and deleted the term Generator Support throughout document.
4	03/07	Annual revision.
5	06/07	Revised to reflect WES-WA processes.
6	07/08	Revised to incorporate Training Assessments, management reviews, expanded assessments, Environmental Management System, and minor editorial changes.
7	09/08	Revised to exclude radioactive waste management self assessments for which a WES-WA procedure will be created. Renumbered as a quality procedure (QP).
8	11/10	Removed references to “RCRA Training Assessments” as they are no longer performed.
9	10/12	Biennial revision, new template implemented, revised to incorporate new program scope.
ENV-CP-QP-115, R0	09/28/2015	Revisions reflects new group name, the addition of PFITS implementation for findings, and updates to increase scope of assessments to address WIPP Incident and associated investigation findings. This document supersedes former document ENV-CP-QP-108.

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1.0 INTRODUCTION

The Compliance Technical Assistance Program (CTAP) provides waste management oversight and compliance assurance for waste regulated by the Los Alamos National Laboratory's Hazardous Waste Facility Permit, and State and Federal regulations for hazardous/mixed, universal waste, used oil, NM Special and TSCA waste. The CTAP coordinates with waste generator facilities and conducts quarterly assessments of all hazardous and mixed waste, universal waste, used oil, NM Special waste and TSCA waste storage and treatment sites. The CTAP program identifies potential non-compliance with the above waste management requirements and works with generating facilities to address potential issues. Additionally, members of CTAP provide in-the-field guidance and education on waste management requirements for generator/treatment sites.

1.1 Purpose

This procedure describes the process for ensuring compliance with the terms and conditions of the Los Alamos National Laboratory's Hazardous Waste Facility Permit and with State and Federal regulations, and provides technical assistance regarding management of hazardous/mixed waste, universal waste, used oil, NM Special and TSCA waste.

1.2 Scope

This procedure applies to ENV-CP Compliance Technical Assistance Program (CTAP) personnel for hazardous/mixed waste, universal waste, used oil, NM special waste and PCB audits as well as providing technical assistance for waste management.

2.0 PRECAUTIONS AND LIMITATIONS

2.1 Hazard review

The work described in this procedure (visual assessments) is administrative work only and has a **LOW hazard**.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- ENV-CP CTAP personnel

The training method for this procedure is "self-study" (required read). For ENV-CP staff, this is documented in accordance with ENV-DO-QP-115, *Personnel Training*. Other participating groups may require training documentation pursuant to local procedures.

Actions specified within this procedure, unless preceded with "should" or "may," are to be considered mandatory guidance (i.e., "shall", "will", "must").

3.1 Prerequisites

In addition to training to this procedure, the following training, at a minimum, is also required prior to performing work detailed in this procedure:

- Curricula 125 HAZWOPER (24-HR.) Limited Site Worker
- Curricula 256 RCRA Hazardous/Mixed Waste Worker Training
- Curricula 2810 Hazardous Waste Generator
- Curricula 9053 RCRA Program Compliance Monitoring
- Curricula 9055 RCRA Interpretation Guidance

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records are generated as a result of this procedure and are maintained in accordance with the ADESH-AP-006.1, Records Management Plan and P1020-1, Laboratory Records Management.

- Completed compliance checklists, including photos (if any).
- Documentation of contested findings
- Facility implementation plans and schedules
- General correspondence on the program
- Corrective Action Plans
- Records related to completion of corrective actions and closeout of a finding
- All other records generated

5.0 WORK PROCESSES

5.1 Initiating a Compliance Evaluation

An organization is selected for a compliance evaluation based on the ENV-CP schedule. Evaluations will be conducted four times per year. Laboratory organizations may also request compliance assistance.

ENV-CP personnel will:

Step	Action
1	Coordinate with the Waste Management Coordinator (WMC) and/or area representative to schedule the visit.
2	Ensure that all required training and integrated work documents (IWDs) (where required) are completed and approved.

5.2 Entry to the Site

WMCs, FODs, RLMs, and ENV-CP personnel are jointly responsible for ensuring ENV personnel are aware of potential threats to health and safety, all site entry and training requirements, and the activities and tasks involved in the compliance evaluations as defined by the FOD.

ENV-CP personnel will:

Step	Action
1	Ensure a site representative is present at all times while conducting compliance evaluations.
2	Observe institutional and site-specific safety and security protocols.
3	Conduct only a visual review and never have physical contact with waste or containers.
4	Request from WMCs and FOD personnel disclosure of the contents of each waste accumulation and storage area prior to entry; and, identify any other locations where waste may be present.
5	Read postings at the entrance to individual waste accumulation and storage areas before entering to conduct compliance evaluations.

NOTE 1: ENV-CP personnel will make up to two (2) attempts to enter an area to conduct a compliance evaluation.

NOTE 2: IF ENV-CP personnel are denied entry to an area, a written notice will be sent to the appropriate Division Leader, Responsible Line Manager, WMC, FOD, and appropriate group leader, stating the specific circumstances, the location, date, and time of refusal, and any other pertinent information, with copies to the ENV-CP management.

If ENV-CP staff observe, or find themselves engaged in, work activities which could result in imminent danger or other significant hazards to the health or safety of workers, the public, or the environment, ENV-CP personnel will pause/stop work, notify their supervisor and—after hazard mitigation—their line manager will reauthorize work as specified in P101-18, *Procedure for Pause/Stop Work*. P101-18 will also direct the process of stopping work and restarting work when hazard mitigation cannot be accomplished "in a reasonable time and to the mutual satisfaction of the workers involved…"

5.3 Conducting the Compliance Evaluations

ENV-CP personnel will:

Step	Action
1	Question on-site personnel regarding waste management practices, including but not limited to observations of treatment such as evaporation, dilution, or thermal treatment practices.

2	Review relevant documentation, including but not limited to: A. Waste characterization B. Waste generating process C. Waste shipping D. Personnel training E. Permits F. Emergency or contingency plans G. Assessment records H. Operating records I. Inspection Record Forms J. Maintenance Records K. Emergency Preparedness L. Response to spills and releases M. Waste Treatment, processing, or packaging
3	For the compliance evaluation, complete RCRA Compliance Checklist generated for the specific facility by the Hazardous Waste Database. o For ENV-CP personnel: https://weblogin.lanl.gov/login.php?referer=https://hsr-as-p-1.lanl.gov/scripts/runform.pl?config=env-swrc&appconfig=HWSASA
4	Take photos to document observations, if necessary. **Note:** Photography at LANL must follow the provisions set forth in P202-5 *Prohibited Articles*.
5	ENV-CP personnel may ask to visit non-registered storage areas such as, but not limited to laboratories, vault type rooms, machine shops, transportainers, etc.

5.4 Findings

ENV-CP personnel will:

Step	Action
1	Verbally communicate all findings to the WMC or area representative at the time of discovery and, when possible, recommend appropriate corrective actions.
2	Leave copies of completed checklists with facility representatives if requested.

5.5 Conducting the Compliance Evaluation Close-out

If requested by the management of the assessed organization or the waste management coordinator, ENV-CP personnel will:

Step	Action
1	Conduct a close out briefing to discuss any findings and corrective actions.
2	Provide a copy of the completed checklists.
3	Evaluate any relevant information provided by the facility in response to findings or related to corrective actions, and notify the organization by email of the decision.

NOTE: Organizations may contest findings within five working days of the date of the compliance evaluation by providing supporting information to ENV-CP personnel.

5.6 Updating the Compliance Evaluation Database and PFITS Submittal

ENV-CP personnel will:

Step	Action
1	Enter the evaluation results using the database generated checklists into Compliance Evaluation Database within 24-48 hours of completion of evaluation.
2	Complete PFITS Issue Action form for any findings and email completed form to the ADESH Performance Assurance Team (PAT) so they may enter information into the Performance Feedback and Improvement Tracking System.

NOTE: If findings are documented during the compliance evaluations, the database generates email notices to the owning Division Leader, Group Leader, FOD, WMC, and the registered area owner with a summary of findings.

5.7 Corrective Actions

Within 30 days of the compliance evaluation, the organization submits a written notification to ENV-CP, stating:

- Which findings were corrected,
- The corrective action taken,
- The corrective action completion date; or,
- The organization submits an action plan and implementation schedule to ENV-CP personnel.

ENV-CP personnel will:

Step	Action
1	Track corrective actions to completion.
2	If after 30 days corrective actions have not been documented or corrected, ENV-CP personnel will notify the appropriate manager.

NOTE: Findings may also be reported in the annual non-compliance report to the New Mexico Environment Department.

5.8 Compliance Evaluation Follow-up

Step	Action
1	ENV-CP Team Leader will monitor findings for any organization that accumulates multiple or repeat findings at any time in the fiscal year. In these cases, the TL may notify the ENV Division Leader to request a management review of the data with the responsible line manager.
2	ENV-CP personnel will maintain data quality by checking each electronic record against the checklist hard copy.

6.0 REFERENCES

- 20 NMAC 4.1
- 40 CFR 260-279
- Los Alamos National Laboratory Hazardous Waste Permit, December 2014
- ADESH Tools

7.0 DEFINITIONS

Corrective action: The process of correcting compliance deficiencies.

Corrective action report: A document used to report deficiencies and the corrective actions(s) (e.g., required remediation, investigation, identification of cause, and actions to preclude recurrence), as applicable.

Environmental Management System (EMS): A systematic method for assessing mission activities, determining the environmental impacts of those activities, prioritizing improvements, and measuring results. DOE Order 450.1 defines an EMS as "a continuous cycle of planning,

implementing, evaluating, and improving processes and actions undertaken to achieve environmental goals."

Facility Operations Director (FOD): The individual responsible for day-to-day maintenance—including waste management and environmental services—for a specific facility.

Finding: A condition of non-compliance regarding the management of regulated waste.

Management Review: A joint review and analysis of assessment results conducted by the ENV Division Leader and the owning Division or Group Leader.

Corrective action: The process of correcting compliance deficiencies.

Corrective action report: A document used to report deficiencies and the corrective actions(s) (e.g., required remediation, investigation, identification of cause, and actions to preclude recurrence), as applicable.

Environmental Management System (EMS): A systematic method for assessing mission activities, determining the environmental impacts of those activities, prioritizing improvements, and measuring results. DOE Order 450.1 defines an EMS as "a continuous cycle of planning, implementing, evaluating, and improving processes and actions undertaken to achieve environmental goals."

Facility Operations Director (FOD): The individual responsible for day-to-day maintenance—including waste management and environmental services—for a specific facility.

Finding: A condition of non-compliance regarding the management of regulated waste.

Management Review: A joint review and analysis of assessment results conducted by the ENV Division Leader and the owning Division or Group Leader.

Compliance Evaluation: A compliance evaluation by ENV-CP personnel to verify hazardous/mixed waste is being managed or to a waste accumulation or storage areas designated with specific site IDs—or any other location where waste is accumulated—for the purpose of assessing the handling and management of waste for compliance with state and federal hazardous waste management regulations and LANL policies.

Repeat finding: A finding that has been documented at a specific location and was noted in the previous assessment.

Waste accumulation or storage area: A registered location with a site ID and/or an unregistered waste storage area where waste or suspected waste is found (e.g., chemical or mixed chemical with no identified owner).

8.0 ATTACHMENTS

Attachment A, ENV's RCRA Compliance Inspection Checklist for TSDs (ENV-CP-Form-1018)

Attachment B, ENV's RCRA Compliance Inspection Checklist for General Inspections (ENV-CP-Form-1019)

Attachment C, PFITS Issue Action Form

Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

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RCRA COMPLIANCE INSPECTION CHECKLIST

Site Id #	TA	Building	Room	FOD	Group	Inspection Date	Facility Type	Training Inspection
							PERMITTED	Yes ☐ No ☐

☐ No Concerns ☐ With Concerns ☐ Inactive/Removed ☐ Active but not storing ☐ Comments

ENV Inspector 1: **Inspector 2:**

WMC **Other Location:**

GENERAL REQUIREMENTS	Find-ing
1. The generator has not initiated a hazardous waste determination	
2. Containers are not in good condition.	
3. Waste is not compatible with containers.	
4. Containers are not closed.	
5. A. Waste containers are not marked with the words "HAZARDOUS WASTE, UNIVERSAL WASTE or USED OIL".	
5. B. Mixed waste is not labeled/marked "RADIOACTIVE".	
6. Constituents of waste are not on container.	
7. A. Waste spills or leaks have not been cleaned up.	
7. B. The resultant clean up materials have not been handled as hazardous waste or used oil.	
9. Incompatible wastes are not segregated properly.	
11. ENV-CP has not been notified of the location of the waste accumulation areas or any changes in the area.	
13. The waste/material does not have a known owner/generator.	
14. Hazardous waste/universal waste must be stored in a container.	
15. Hazardous waste was disposed of improperly.	
16. Generator treatment is occurring and are not complying with 40 CFR 262.34	

PERMIT - TSD REQUIREMENTS	Find-ing
21. The waste is not listed as authorized waste (Attachment B), identified with the applicable waste processing code (S01, S02, T04 or X01) and/or with the total capacity identified in Attachment J, Table J-1, stored/treated at the unit.	
22. The waste was not accepted from on-site generators and/or Permit-allowed off-site generators.	
23. Waste was diluted to avoid applicable treatment standards.	
24. The waste accepted at the unit was not fully characterized in accordance with the Permit.	
25. There has been a release to the environment from the unit.	
26. Evacuation routes for the unit are not posted at the unit.	
27. Entry to the unit is not monitored and/or controlled using a surveillance system or controlled with gates, stations, or other means.	
28. Security measures are not effective at the unit as inspected, maintained, and/or have been changed from the unit figures in Attachment N and, as applicable, Attachment G of the permit.	
29. A. Bilingual (trilingual at TA-54, Area G) warning signs are not posted at all gates/doors and perimeter fences.	
29. B. Warning signs are not posted in sufficient numbers and/or visible at all angles of approach as well as from distance of at least 25 feet.	

Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

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RCRA COMPLIANCE INSPECTION CHECKLIST

29. C. Warning signs are not inspected at least 2 times per year at large units or weekly at smaller units.	
30. All work surfaces (including loading and unloading areas), structures, base materials, containment systems, and equipment at the unit are not inspected at least weekly, and daily when hazardous waste management activities occur.	
31. All unit surfaces and equipment at the unit are not currently in good condition.	
32. All the communication devices, alarm systems, fire control equipment, spill control equipment, wind socks, and decontamination equipment listed in the emergency equipment tables within Attachment D are not at the unit and/or operable.	
33. Communication devices are not accessible without entering another building and/or personnel do not have the means to summon emergency assistance.	
34. Communication devices, fire control equipment, alarms, spill control equipment, and decontamination equipment are not inspected and tested in accordance with the Inspection Plan.	
35. Mitigation of deterioration or malfunctions of equipment or structures that may lead to an environmental or human health hazard has not occured within 24 hours of discovery/inspection.	
36. Non-functioning equipment is not marked and/or the locations of the substitute is not posted.	
37. A substitute has not been provided for missing or non-functioning equipment and/or, if necessary, training has not been conducted and/or documented with the substitute equipment.	
38. Controls to prevent run-on into the unit are not maintained and/or berming and sloping or other drainage design features within the unit are not maintained.	
39. Containers holding ignitable or reactive wastes are not located at least 15 meters (50ft) from the technical area boundary.	
40. The following precaution(s) is/are not taken during the treatment/storage of ignitable/reactive waste, the mixing of incompatible waste and other materials, or the storage of unvented transuranic waste to prevent reactions: No sources of open flames or ignition or reaction in, on, or around the container or tank;	
40. A. Adequate clearance around fire hydrants at permitted units;	
40. B. only non-sparking tools are used when managing hazardous waste containers that contain ignitable or reactive wastes;	
40. C. Appropriate lighting protection is provided for all storage and treatment units;	
40. D. Smoking and open flames are minimum of 50 feet from areas where ignitable or reactive wastes are handled;	
40. E. Container of ignitable or reactive waste are stacked no more than 2 containers high; and/or	
40. F. Unit's fire suppression system is compatible with the hazardous waste stored or treated at the permitted unit.	
41. Incompatible wastes or materials, wastes and materials that could generate hydrogen cyanide and wastes where their mixtures could cause a fire or a dangerous evolution of heat or gas are not stored separately and/or on separate secondary containment so that a release or spill will not commingle.	
42. All waste and materials are not segregated and/or stored in accordance with DOT compatiblity groupings or classes.	
43. Containers, storage tanks, and/or stabilization units are not managed to ensure hazardous waste is not placed in an unwashed container, tank, or stablization unit that previously held an incompatible waste or material.	
44. A Facility Operating Record has not been maintained and/or is not available for inspection.	
44. A. The location of each type of waste and the total quantity of all wastes is not documented for the unit.	
44. B. A record of all information about each waste contained on the waste container label is not kept for the unit.	
44. C. Records of inspections are not kept or are incomplete for the unit.	
44. D. Records of personnel training who are involved in hazardous waste management activities are not kept or not up-to-date for the unit.	

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Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

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RCRA COMPLIANCE INSPECTION CHECKLIST

44. E. For stored and treated wastes; notices, exemptions, exclusions, certifications, and other documentation as required by 40 CFR 268.7 is not recorded.	
44. F. A record has not been maintained for all instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a waste storage pad.	
44. G. Recordkeeping and reporting requirements associated with manifest or dates of treatment or storage are not kept or are incomplete for the unit.	
44. H. A record of the hazardous waste received and the methods and dates of treatment or storage is not kept for the unit.	
44. I. Records of notices to off-site generators (allowed by the Permit) have not been kept for the unit as specified in 40 CFR 264.12.	
44. J. Waste characterization information (including acceptable knowledge, waste analysis, volatile organic compounds per container, & waste characterization review) does not meet permit conditions and/or is not kept for the unit.	
44. K. Records are not maintained documenting the monitoring of adequate secondary containment system capacity when accumulated liquids cannot be removed within 24 hours nor has an extension of time for removal been sought.	
44. L. The owners/operators/inspectors/waste handlers have not completed or no up-to-date on the required training.	
45. A copy of the most recent Contingency Plan (Attachment D) is not located at the unit.	
46. Secondary containment systems (including pallets) are not maintained with the unit to be used to store waste that contains free liquids or wastes without free liquids that are EPA Hazardous Waste Numbers F020, F021, F022, F023, F026 and F027.	
47. The base of the secondary containment system(s) is not impervious and/or strong enough to withstand daily operations.	
48. Secondary containment systems (including pallets) that have coatings, sealants, or liners are not installed in accordance with manufacturer's specifications and/or documents as such.	
49. Controls are not maintained to prevent run-on/run-off into or from a permitted unit that contains waste with free liquids.	
50. Spilled, leaked, or other accumulated material was not removed from secondary containment systems within 24 hours. This includes the HDPE liner at TA-54, Area G, dome 224 even though it is not used as secondary containment. Additionally:	
50. A. There were no other means of secondary containment;	
50. B. An extension has not been granted; and/or	
50. C. The unit is a storage tank or stabilization unit, it was not removed from service immediately and/or the requirements of 40 CFR 264.196 were not implemented.	
51. Damage to secondary containment has not been repaired within 15 days of detecting the problem.	
52. Waste containers are not stored within secondary containment systems (including pallets) to ensure to not exceed the capacity of the system including the secondary containment available to the storage tank system (TA-55-401), components, and ancillary equipment.	
53. Containers and/or tanks storing hazardous waste do not have a label containing: "Hazardous Waste";	
53. A. Containers and/or tanks storing hazardous waste do not have a label containing: The generator's name, address, and EPA Identification number;	
53. B. Containers and/or tanks storing hazardous waste do not have a label containing: The date the container was place in storage at the unit;	
53. C. Containers and/or tank storing hazardous waste do not have a label containing: All applicable EPA Hazardous Waste Number(s); and/or	
53. D. Containers and/or tanks storing hazardous waste do not have a label containing: The words "Radioactive" and/or "free liquids", as applicable.	
54. Containers and/or tanks are not in good condition with leakage, corrosion, and/or damage that may impact integrity. Additionally:	
54. A. Waste was not transferred into a container that is in good condition within 24 hours of discovery.	

Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

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RCRA COMPLIANCE INSPECTION CHECKLIST

55. Containers and/or tanks are not kept closed during storage.	
56. Stored containers (including those in movable buildings) are not elevated or otherwise protected from contact with accumulated liquids.	
57. Waste is stored at the unit for more than one year.	
57. A. Additionally, waste is not stored solely for the purpose of accumulating such quantities of hazardous waste restricted from land disposal as necessary to facilitate proper recovery, treatment or disposal; is not on the LANL Site Treatment Plan; and/or does not meet all applicable treatment standards.	
58. Containers are not stored in manner that allows them to be inspected for leaks, corrosion, deterioration, and for labels to be read without moving them.	
59. Adequate aisle space is not maintained at all times to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment within the unit.	
60. Emergency egress aisles, with a minimum aisle space of two feet, are not maintained at all personnel doors at the unit.	
61. Lines of demarcation have not been established to identify the boundaries of all container storage units.	
62. Hazardous waste gas cylinders are not stored in racks, baskets, or specially constructed pallets.	
63. Hazardous waste containers stored outdoors are stored within 5 feet of the perimeter (e.g., permitted unit boundary) fence, within 5 feet of any permanent structure, or within 5 feet of a paved or unpaved roadway.	
64. Waste containers stored outdoors are not protected from contact with precipitation.	
65. Containers, tanks, and/or treatment units holding mixed and/or hazardous waste are not handled in a manner to avoid rupture or cause the container, units, or ancillary equipment to leak.	
66. Liquid PCB-contaminated hazardous waste is not stored in accordance with 40 CFR 268.50.	
67. Containers and liners are not compatible with the waste.	
68. Containers used for storage of hazardous waste are not compliant with Department of Transportation (DOT) shipping container requlations.	
69. Air pollutant emissions are not controlled in accordance with 40 CFR Part 264 Subpart CC and Attachment E.	
70. OB/OD - Treatment operations are not conducted only during daylight hours.	
71. OB/OD - Transportation operations are not ceased in the event of lightning, icy roads, Red Flag conditions, or any other unsafe situtation.	
72. OB/OD - Inspections are not conducted within 24 hours of each treatment event to identify any untreated reactive waste that may be present.	
73. OB/OD - Procedures are not in place to conduct treatment operations remotely and clear persons from the area prior to treatment operations.	
74. OB/OD - For open burning and open detonation treatment units, new waste streams have not been newly characterized and/or properly documented.	
75. OB/OD - Abnormal treatment events have not been documented for open buring and open detonation units.	
76. OB/OD - Open burn unit is not covered when not in use.	
77. TA-50 - The fire access lane between indoor and outdoor units at TA-50-69 is not maintained.	
78. TA-50 - Loading and unloading operations have been conducted during severe weather conditions at TA-50-69.	
79. TA-50 - Ignitable wastes are stored within the glovebox at TA-50-69.	
80. TA-50 - Records are not kept that document the inspection and maintenance of the drainage swales located at TA-50-69.	
81. TA-54 - Shaft covers are not securely in place and/or have evidence of erosion.	

Attachment A: ENV's RCRA Compliance Inspection Checklist for TSDs

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RCRA COMPLIANCE INSPECTION CHECKLIST

82. TA-54 - Disposal shafts and shafts used for retrievable storage do not have their covers securely in place.	
83. TA-54 - During waste handling operations, guard rails are not installed or are not in good condition.	
84. TA-54 - Landfill covers are not inspected weekly and/or after storms for evidence of erosion, subsidence, and water intrusion (Area G, Shafts 145 and 146 and Area L shafts 36 and 37).	
85. TA-54 - Discovered fluids in the holding tank at TA-54, Area L, were not removed within 3 days.	
86. TA-54 - Records are not kept for the monthly inspection and removal & analysis of fluids from the holding tank at TA-54, Area L.	
87. TA-55 - Container storage units listed as "non-liquid wastes only" are managing waste containers that contain free liquids.	
88. TA-55 - Storage of mixed waste in tanks and treatment of mixed waste occurs outside the permitted unit (TA-55-4-401 Mixed Waste Stabilization Unit, prcoess code T04 in Attachment J, Table J-1).	
89. TA-55 - Storage tank or stablization system repairs have not been performed in accordance with 40 CFR 264.196(e)(2) through (4), nor has the system been closed in accordance with 40 CFR 264.197.	
89. A. TA-55 - Repairs or replacement have not been certified as required.	
89. B. TA-55 - Testing on components and ancillary equipment has not been performed.	
90. TA-55 - During replacement of tank unit systems and ancillary equipment proper handling procedures were not adhered to in order to prevent damage.	
91. TA-55 - Written integrity assessments are not kept for inspections of the storage tank system.	
92. TA-55 - Documentation of testing and certifications of replacement or repair is not kept for the storage tank system (including components and ancillary equipment) and stabilization unit.	
93. TA-55 - Design and installation documentation is not kept for the storage tank system (40 CFR 264.192).	
94. TA-55 - Ignitable or reactive wastes are managed in the TA-55 storage tank system and/or the TA-55 stabilization unit.	
95. TA-55 - For the TA-55 storage tank system, the base of the secondary containment system(s) is not impervious and/or strong enough to withstand daily operations and/or does not conform to the requirements of 40 CFR 264.193.	
96. TA-55 - Appropriate controls and practices are not in place to prevent spills and overflows from the TA-55 storage tank system and the TA-55 stabilization unit.	
COMMENTS:	

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Attachment B, ENV's RCRA Compliance Inspection Checklist for General Inspections

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RCRA COMPLIANCE INSPECTION CHECKLIST

Site Id #	TA	Building	Room	FOD	Group	Inspection Date	Facility Type	Training Inspection Yes ☐ No ☐

☐ No Concerns ☐ With Concerns ☐ Inactive/Removed ☐ Active but not storing ☐ Comments

ENV Inspector 1: **Inspector 2:**

WMC **Other Location:**

GENERAL REQUIREMENTS	Find-ing
1. The generator has not initiated a hazardous waste determination	
2. Containers are not in good condition.	
3. Waste is not compatible with containers.	
4. Containers are not closed.	
5. A. Waste containers are not marked with the words "HAZARDOUS WASTE, UNIVERSAL WASTE or USED OIL".	
5. B. Mixed waste is not labeled/marked "RADIOACTIVE".	
6. Constituents of waste are not on container.	
7. A. Waste spills or leaks have not been cleaned up.	
7. B. The resultant clean up materials have not been handled as hazardous waste or used oil.	
9. Incompatible wastes are not segregated properly.	
11. ENV-CP has not been notified of the location of the waste accumulation areas or any changes in the area.	
13. The waste/material does not have a known owner/generator.	
14. Hazardous waste/universal waste must be stored in a container.	
15. Hazardous waste was disposed of improperly.	
16. Generator treatment is occurring and are not complying with 40 CFR 262.34	

UWA - UNIVERSAL WASTE AREAS	Find-ing
3. The universal waste area sign is not promiently posted and visible.	
4. Batteries do not have an accumulation start date or wrong start date on containers.	
5. Batteries have exceed the one year time limit.	
6. Lamps/bulbs do not have an accumulation start date on containers.	
7. Lamps/bulbs have exceeded the one year time limit.	
8. Lamps/bulbs containers are not closed.	
9. Mercury containing equipment does not have an accumulation start date on containers.	
10. Mercury containing equipment exceeded the one year time limit.	
11. Pesticides do not have an accumulation start date on containers.	
12. Pesticides exceeded the one year time limit.	
13. Pesticides containers are not closed.	
14. Aerosol cans do not have an accumulation start date on containers.	

SAA - SATELLITE ACCUMULATION AREAS	Find-ing

Attachment B, ENV's RCRA Compliance Inspection Checklist for General Inspections

sasha_InspSheets.rdf

RCRA COMPLIANCE INSPECTION CHECKLIST

1. The waste is not accumulated "at or near the point of generation".	
2. The waste is not "under the control of the operator of the on-going process generating the waste".	
3. The users of the SAA do not have an inventory system or their names and correct waste profile/waste stream ID numbers on containers.	
4. The SAA does not have administrative controls/authorized users.	
5. The SAA outside does not have physical controls.	
6. A. has exceeded the 55 gallons of hazardous waste or 1 quart of acutely hazardous waste.	
6. B. The waste volume has been exceeded, and the containers are not marked with the date the excess began.	
6. C. The excess amount has been held for more than 3 days.	
7. The satellite accumulation area sign is not prominently posted and visible.	
8. Hazardous waste was moved from one satellite accumulation area to another satellite accumulation area.	
9. Owner/Operator/Generator is not an active user of the SAA.	
10. Legacy/No-Owner waste is stored in SAA.	
11. SAA does not have an active process associated with it.	
< 90 DAY - LESS THAN 90 DAY AREAS	**Find-ing**
1. There is not an accumulation start date on every container.	
2. The waste has exceeded the 90 day time limit.	
3. The accumulation area is not inspected weekly or when adding or removing waste.	
4. Deficiencies that are noted are not being corrected in a timely manner.	
5. The <90 day accumulation area sign is not prominently posted and visible.	
7. A. There is no Spill control equipment.	
7. B. There is no Emergency equipment.	
7. C. There is no Communication equipment.	
7. D. There is no Decontamination equipment.	
8. There is no adequate aisle space between containers.	
9. The owners/operators/inspectors/waste handlers have not completed or not up-to-date on the required training.	
10. A. A copy of the Contingency Plan is not at the accumulation area and/or up-to-date.	
10. B. There is no Emergency Contact List/Site Specific Plan.	
11. Identified non-notation on inspection record.	

COMMENTS:

Attachment C: PFITS Issue Action Form

	Record #	Facility	Description of Performance Feedback	ORPS or NTS?	Noncompliance and/or PAAA?	IRM	Comments/Other	Action(s), Actionee(s), and Due Date(s)
1	2015-XXXX	Location where occurred: Provide TA/Bldg/ Room	Finding or OFI 1: Occurred Date: Identified Date: Identified By: Should there be an Effectiveness Evaluation? No Is a Causal Analysis Required? No	Is this record ORPS/Sub-ORPS— No Is this NonCompliance Tracking System (NTS) reportable? No Is this Issue NFAR—(No further action required—need justif. statement—i.e., may have addressed deficiency with other means—MOV; six sigma; etc.) No	Non-compliance with 10CFR830? With 10CFR835? With 10CFR851? No	Provide name of Issue Responsible Manager—who owns the program or has the resources to correct. Also will be person who reviews the objective evidence and gives approval for closure of the action or issue Group Leader of registered owners group	If NFAR –need justification statement here	If a corrective action is required—provide the following for each action: Actionee: Who will correct? Registered site owner with assistance from WMC Action: How will it be corrected? Provide action statements. Should be 1 or 2 sentences that describe what action must be taken—including results expected. Due Date: Provide date when will be corrected? OE: Describe what Objective Evidence will be to allow for closure of action/PFITS issue. ---------- If actions have already been completed: Provide: (1) Statement of what was accomplished (2) Date when completed (3) Copies of all applicable OE (4) E-mail from IRM that OE has been reviewed; is acceptable; and action and/or issue can be closed.

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Approved for public release; distribution is unlimited.

Title: Using WCATS to Submit Change Requests, ADESH-AP-TOOL-117, R0

Author(s): Tozer, Justin Clyde

Intended for: Environmental Programs

Issued: 2016-03-07 (Draft)

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ADESH-AP-TOOL-117	Revision: 0	Los Alamos NATIONAL LABORATORY EST. 1943
Effective Date: XX/XX/15	Next Review Date: XX/XX/18	

Environment, Safety, Health Directorate

Administrative Procedure

Managing Operating Record Changes in WCATS

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Derivative Classifier: ☒ **Unclassified or** ☐ **DUSA ENVPRO**

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Responsible Line Manager:	Organization:	Signature:	Date:
for Raeanna Sharp-Geiger	ADESH	Andrew Montoya	2-8-16

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REVISION HISTORY

Document Number and Revision *[Include revision number, beginning with Revision 0]*	**Effective Date** *[Document Control Coordinator inserts effective date]*	**Description of Changes** *[List specific changes made since the previous revision]*
ADESH-AP-TOOL-117, Rev. 0	XX/XX/2015	This is a new document that consolidates and supersedes ADESH-TOOL-719 and ADESH-SO-003.

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1.0 INTRODUCTION

Los Alamos National Laboratory (LANL) uses the Waste Compliance & Tracking System (WCATS) to document industrial, radioactive, and hazardous waste transactions. Waste characterization data, and treatment, storage, disposal transactions become a part of the Lab's operating record for compliant operation of waste management facilities and processes. Maintaining the integrity of these records, particularly data changes, is a management priority addressed by this document.

This document is managed and owned by the Associate Directorate for Environment, Safety and Health (ADESH). Further clarification or guidance is available via wastehelp@lanl.gov or by telephone at 505-665-2494.

1.1 Purpose

This document imposes administrative requirements for those proposing changes to waste information or waste transactions, and establishes a process for electronically submitting, reviewing, and approving changes. This process is meant to mitigate the risk that such transactions or changes to records could affect regulatory compliance at LANL.

1.2 Applicability

This document applies to any LANL employee, contractor, or sub-contractor who has been identified as a WCATS user with authorizations to edit data or record transactions.

1.3 Scope

The transactions subject to the requirements of this document are identified and described in Section 3, Transactions Requiring Management Review & Approval.

2.0 PRECAUTIONS AND LIMITATIONS

There are no precautions or limitations associated with this administrative procedure.

3.0 TRANSACTIONS REQUIRING MANAGEMENT REVIEW & APPROVAL

Section 3.1 identifies and describes the WCATS data change transactions that require management concurrence, and Section 3.2 identifies exceptions to the requirements.

3.1 Transactions that Require Management Concurrence

The following transactions require management concurrence, including the submittal of a change request for review and approval:

a) Changes to historical container transactions representing waste transfers/shipments, processing, consolidation, disposal, or characterization tasks performed at on-site or off-site treatment, storage, and disposal facilities. Historical transactions are those completed more than 35-days in the past.

b) Changes to container characterization data (e.g., waste stream assignment, weight, volume, container type, vent filters, EPA codes, accumulation start date) AFTER the container has been received at a permitted storage unit or dispositioned to an off-site or on-site treatment or disposal unit.
c) Changes to waste processing tasks (i.e., tasks with input and output containers or parent and daughter containers) when performed outside of an approved operating procedure, including waste remediation, waste consolidation, and over-pack activities performed at on-site or off-site treatment, storage, and disposal facilities (TSDF).

3.2 Exceptions

The following exceptions are applicable to this procedure, and do not require the submittal of a change request:

a) TRU waste items (new-gen) pending characterization and declaration as waste at Technical Area (TA) -55 and TA-03, and the packaging of those items.
b) The completion of new-gen TRU waste container reviews (e.g., SNM accountability, QA reviews) and characterization activities completed at the generator's facility and associated with established work flow.
c) Waste items and containers pending waste disposition request (WDR) submittal at the generator's facility.
d) Submittal and review of new waste stream profiles.
e) Submittal and review of new waste disposition requests (WDRs).
f) Revisions to cost code information associated with waste items and container profiles, the creation of DOT shipping descriptions, and changes to work path assignments.
g) Changes to active waste stream profiles that include cost code assignments, assigned generator, assigned coordinator, work path options, annual extensions, generation estimates, and the voiding of profiles.
h) Initiation and completion of intra-facility waste transfers.
i) Recording of routine surveillances.
j) Container transactions performed according to an approved procedure and recorded by the individual(s) performing the work, such as vent filter change out, simple over-pack of a drum, waste reclassification, or recording of radioassay or radiological survey results.
k) Pending historical operations that were never completed in the application (e.g., shipments/transfers, processing, disposal, WDRs, etc.).
l) The consolidation and lab-packing of chemical/hazardous waste items at TA-54 Area L and Area J, or field consolidation activities performed at the generator's site by the waste services team (i.e., WM-SVS).

4.0 STEPS FOR COMPLETING A CHANGE REQUEST

If the desired change requires management concurrence, and no exceptions apply, a change request is necessary to proceed. The key steps to submitting an electronic change request are as follows:

1. Create the change request in WCATS and submit it for review and approval.
2. Obtain review and approval by the Waste Management (WM) division leader, facility operations director, and the WCATS application administrator.
3. Make the approved operating record changes.
4. Obtain line manager concurrence for completion of changes.

This section describes how to accomplish these steps. WCATS[1] is used to automate the initial creation, submittal, and review of change requests. If you are submitting the request, follow instructions in Sections 4.1, and 4.3 to 4.5. If you're a reviewer, see Section 4.2.

4.1 Create the Change Request

This section describes how to create a change request task. The task is used to describe the needed change and automate the review and approval process.

a) Login to WCATS using your z-number and crypto card at https://wcats.lanl.gov.

b) From the main menu bar click "File/New/Task/Administrative" to open a new task profile.

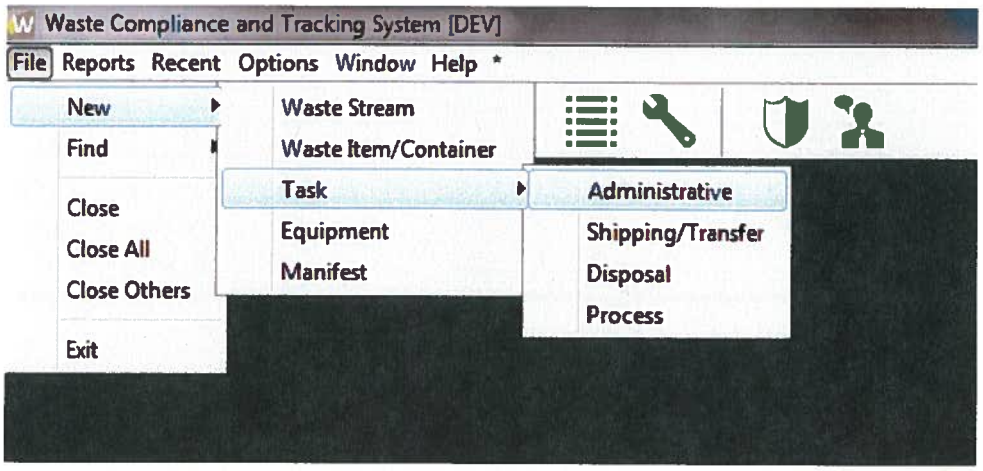


Figure 1. Create new administrative task.

c) Complete the general information screen by identifying the correct company and facility (e.g., 54-G, 03-CMR, 55-PF4) and selecting the "CHANGE" administrative unit. When

[1] Instructions for using and accessing WCATS are available on the application home page at https:\\wcats.lanl.gov

selecting the facility, choose the current physical location of the containers. If the containers were shipped off-site or decommissioned as the result of consolidation or remediation, select the last on-site facility location.

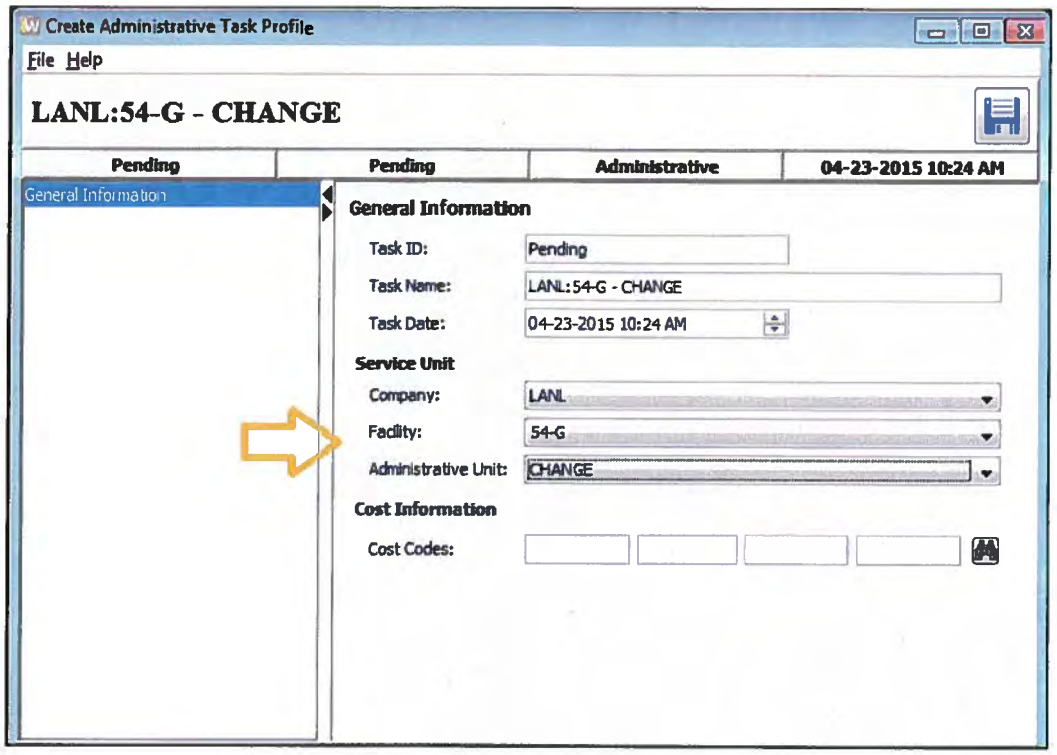


Figure 2. Complete the general information screen using the "CHANGE" administrative unit.

d) Click the save button to create the task profile.

e) Identify affected containers, if any, on the "Containers Affected" panel. If the containers were decommissioned by off-site shipment or processing activities, they must be specified in the "Change Description."

f) Provide a complete description of the proposed operating record change by clicking the "Add" button on the "Change Description" panel. The change description should fully describe the records that need to change, including references to container, task, and waste stream identifiers as appropriate. It should also describe any attached supporting documentation to be added (step h) such as documents or photographs and how those items support the change request.

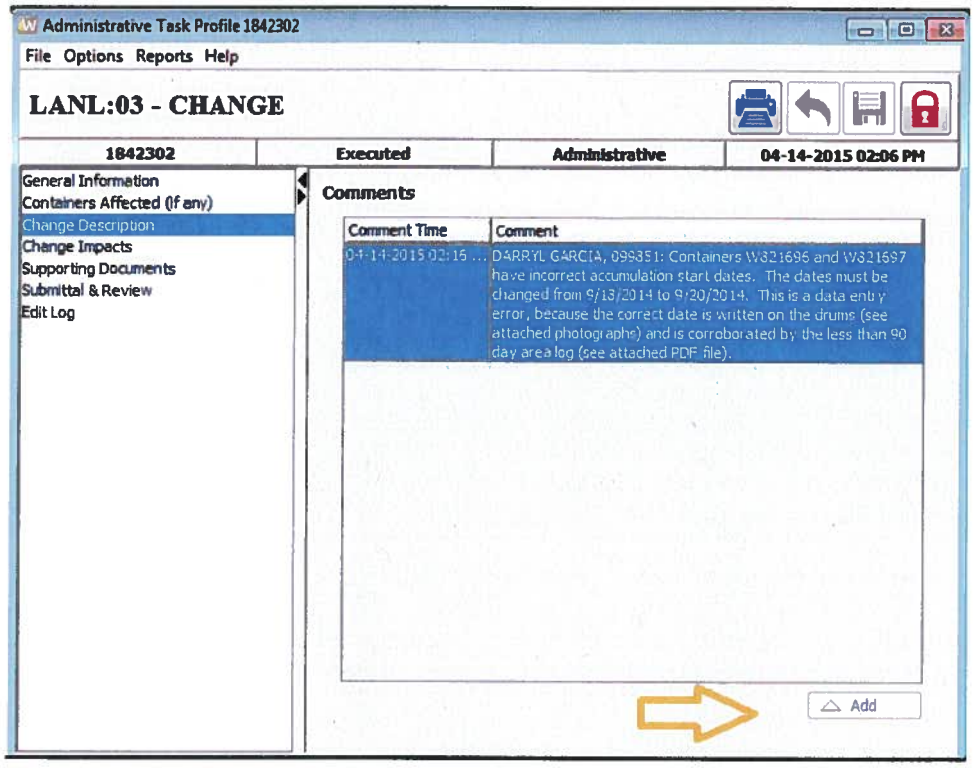


Figure 3. Change request task profile.

g) On the "Change Impacts" panel, identify those compliance programs that are or might be impacted by the change, such as facility Technical Safety Requirements (TSRs), the site treatment plan (STP), facility permit, or if the waste is already off-site, the off-site TSDF's compliance requirements. If the change impacts "... other compliance program(s)", a description of the other program(s) must be provided in the "Explanation" column (see the figure below).

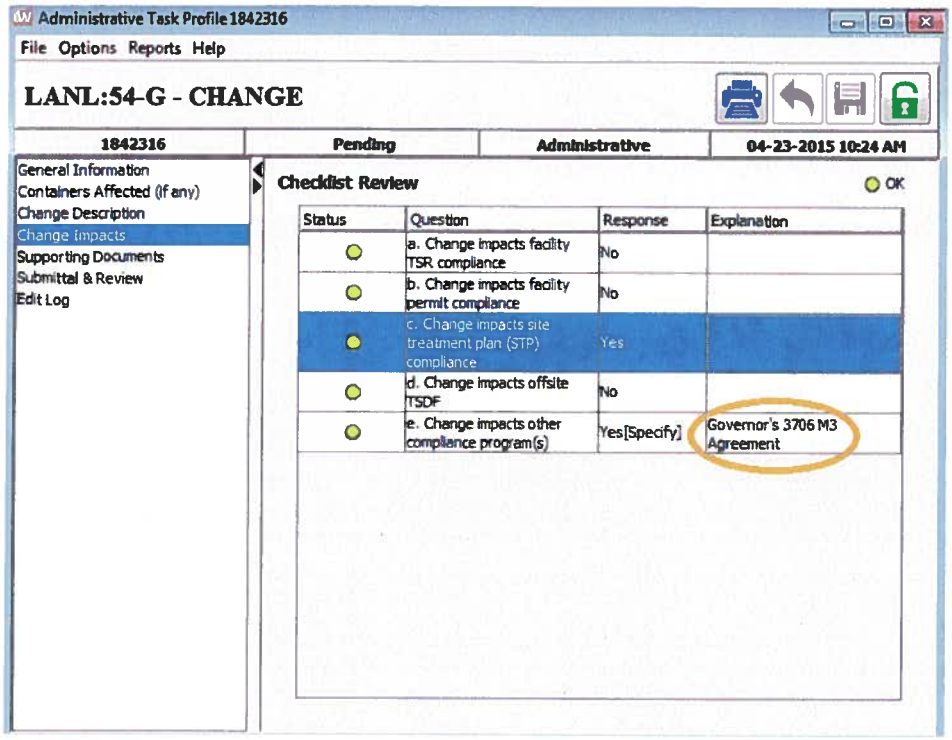


Figure 4. Questions to determine compliance impacts - question (e) requires an explanation.

h) On the "Supporting Documents" panel, upload documents that support the requested change. This could include scanned legacy documents, such as WDRs or Transuranic Waste Storage Record (TWSRs), photographic evidence, or log book entries that support the change. Failure to provide adequate supporting documentation could result in delay or disapproval of the request.

i) Finally, sign as the "Requestor" and submit the change request on the "Submittal & Review" panel. As soon as you sign the task, the reviewer(s) will be automatically notified via email.

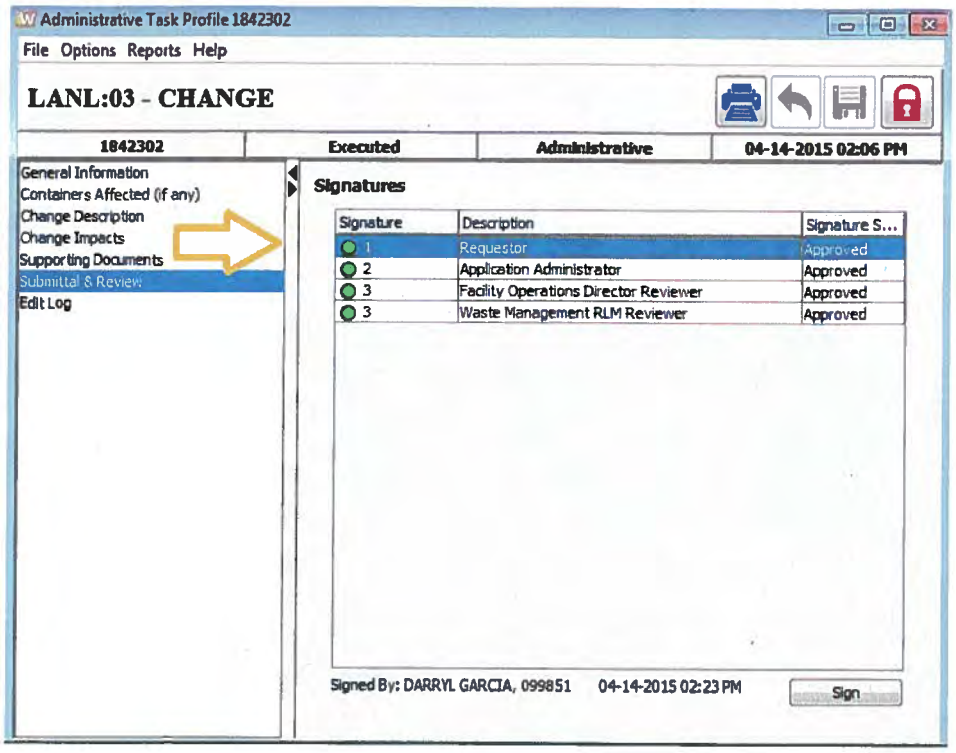


Figure 5. Submittal and review panel for requestor.

4.2 Review and Approval Process

The review process is triggered by the requestor providing the "Requestor" signature. Three signatories are required:

1. The WCATS application administrator confirms that the requested change is consistent with established work flow requirements, and may provide guidance to the end-user on how to proceed with implementing the change when the request is approved.
2. The facility operations director (FOD) review will be triggered concurrent with the waste management division leader review to ensure that the proposed operating record change is consistent with applicable facility compliance requirements.
3. The waste management division leader review confirms that the requested change is consistent with waste management policies and practices.

In order to review the proposed change, complete the following steps:

a) When a change request is ready for your review, approval, and signature, you will receive an email notification similar to the one shown in the following figure. Click on the link provided in the notification and the related task will open in WCATS.

   Note: For experienced users, you can get to the profile via several other methods, including the "Administrative Task Navigator", the "Find Task" search button, or your person "Profile" messages panel.

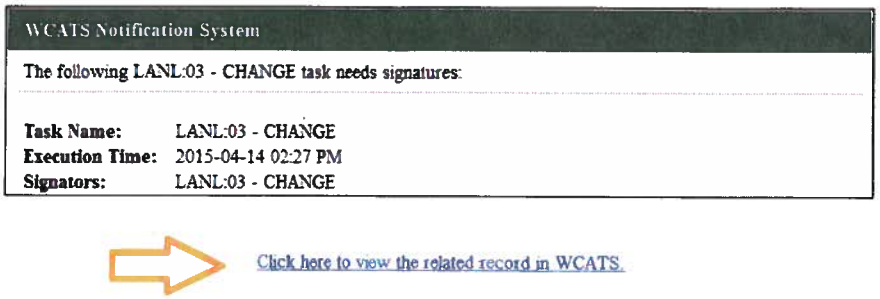


Figure 6. Notification email for change request needs signature.

b) After reviewing the information for the change request, go to the "Submittal & Review" panel, select the applicable signature line (e.g., "Facility Operations Director Reviewer"), and then click the "Sign" button, which will open the "Task Signature Authorization" dialog.

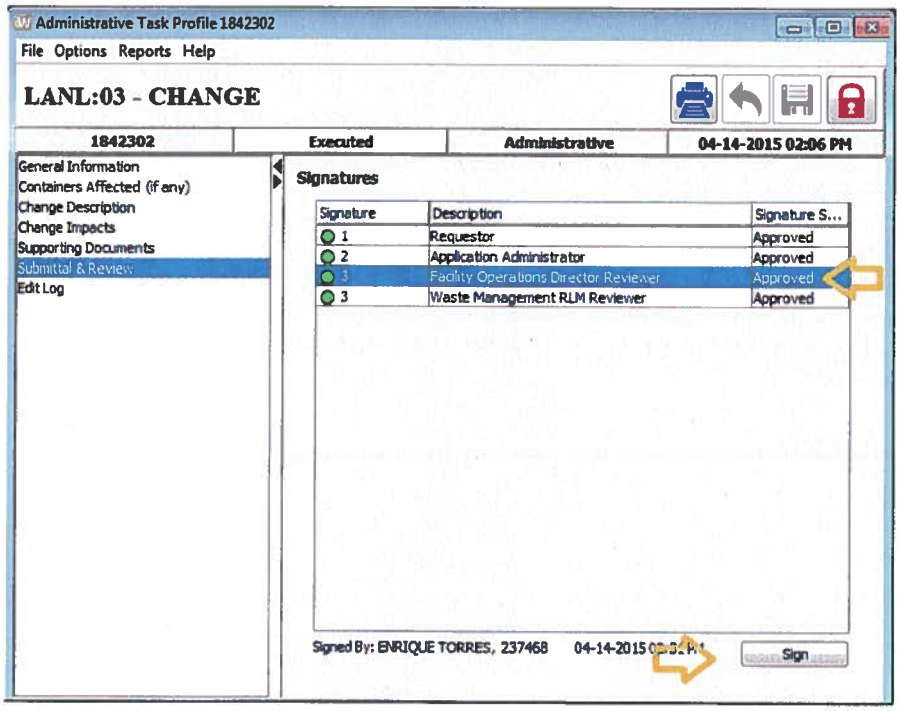


Figure 7. Submittal and review panel for reviewer.

c) On the task signature authorization dialog, in the comments section, provide any necessary guidance or direction to the requestor, and then click the "Approve" or "Revoke" (i.e., disapproval) button.

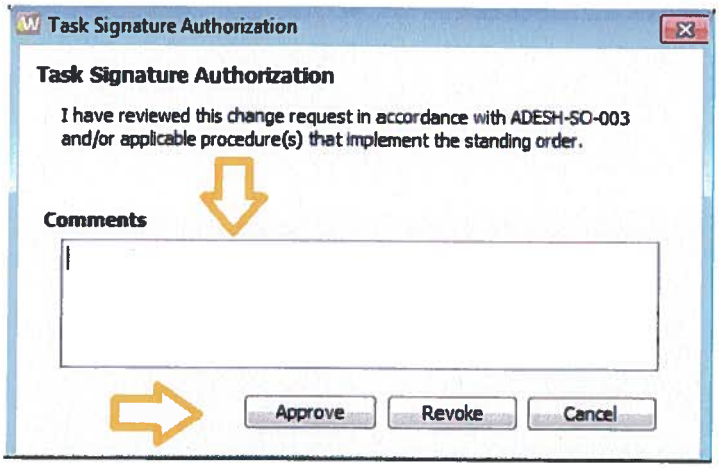


Figure 8. Reviewer comments and approval status dialog.

d) After signing the task, confirm that the task validation rules "Passed". If the task validation rules do not pass, contact the WCATS team at wastehelp@lanl.gov or via telephone at 5-2494 if assistance is needed in addressing the warnings and failures.

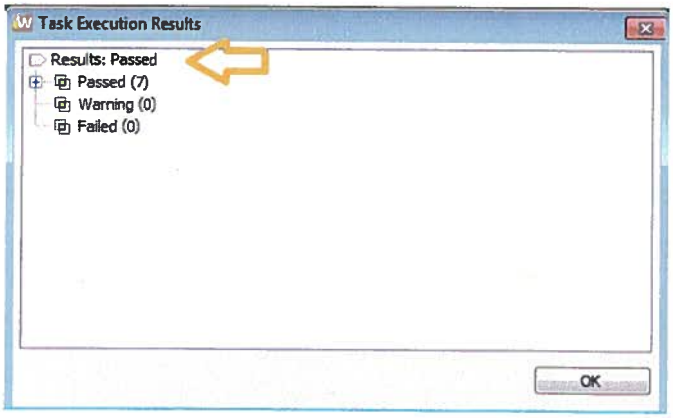
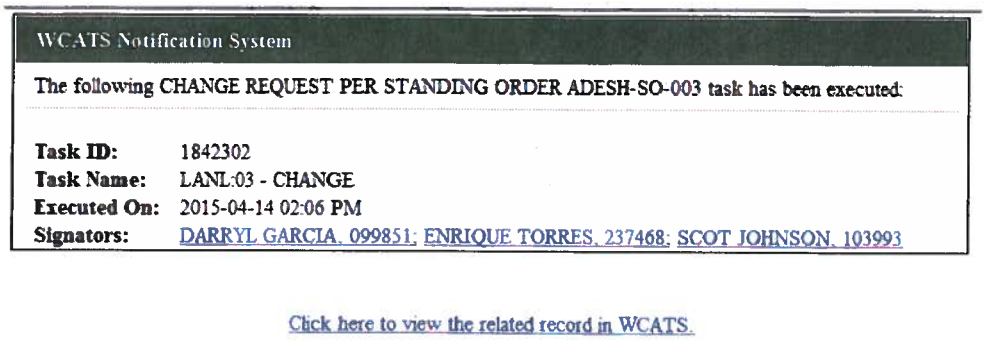


Figure 9. Confirm that the validation rules "Passed".

e) After all signatures are provided, assuming approval, the requestor will be notified, so he or she can proceed with making the changes.

4.3 Make the Changes

After the change request is approved, the requestor will receive an email notification indicating that "... task has been executed" similar to the notice shown below. With this approval, the requestor can proceed with making the change. According to the following steps:


WCATS Notification System

The following CHANGE REQUEST PER STANDING ORDER ADESH-SO-003 task has been executed:

Task ID: 1842302
Task Name: LANL:03 - CHANGE
Executed On: 2015-04-14 02:06 PM
Signators: DARRYL GARCIA, 099851; ENRIQUE TORRES, 237468; SCOT JOHNSON, 103993

Click here to view the related record in WCATS.

Figure 10. Email notification of approved (i.e., "executed") change request.

a) Open the approved change request task by clicking on the link provided in the email notification.

b) Print the custom report provided for change request profiles by clicking the "Reports" menu bar, option "Standing Order."

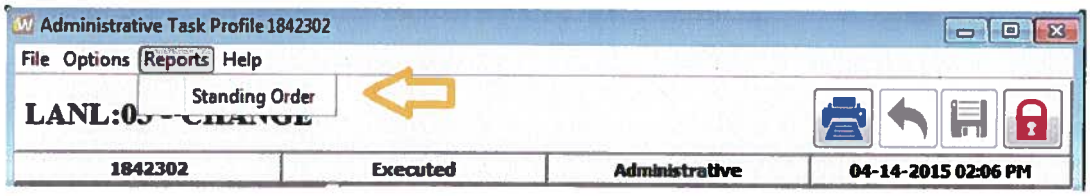


Figure 11. Print the request via the "Reports" menu bar item, option "Standing Order".

c) Review the report for any advice or counsel provided by the reviewers.

d) If the change will potentially impact facility operations, notify the appropriate personnel, which may include the appropriate operations center, off-site shipping coordinator, waste management coordinator, and so forth.

e) Proceed to make the approved operating record changes. When unlocking records for editing, ensure the explanation includes a reference to the change request task identifier number. For example in the figure above, the approval is "Task #1842302". If the requestor doesn't have the necessary authorities to make the changes, contact the WCATS team for assistance at wastehelp@lanl.gov or via telephone at 5-2494.

IMPORTANT: Failure to consider and communicate with affected parties can result in compliance issues. Ensure that container labels and placards are in agreement with the information recorded in WCATS.

4.4 Obtain Line Manager Concurrence

After the request is approved and the changes implemented, the requestor must obtain their line manager's certification that (1) the changes were made consistent with the approved change request description, (2) corresponding field changes were accomplished [e.g., container labels

printed and applied], and (3) appropriate parties were notified of the changes [e.g., operations center, engineering].

a) Obtain the "Requestor's RLM" signature on the printed change request report (see figure below).

WCATS CHANGE CONTROL REQUEST **1842302**
LANL:03 - CHANGE **EXECUTED**

WCATS CHANGE CONTROL REQUEST			
Request Title:	LANL:03 - CHANGE		
Requestor Z#:	099851	**Requestor Name:**	DARRYL GARCIA
Request Date:	4/14/15 2:06 pm		

Impact of Proposed Change

a Change impacts facility TSR compliance	No
b Change impacts facility permit compliance	Yes
c Change impacts site treatment plan (STP) compliance	Yes
d Change impacts offsite TSDF	No
e Change impacts other compliance program(s)	No

Description of Proposed Change

IMPORTANT NOTE: Identify reference records (e.g., WCATS task #, container #) & attach supporting documentation

Containers W821696 and W821697 have incorrect accumulation start dates. The dates must be changed from 9/18/2014 to 9/20/2014. This is a data entry error, because the correct date is written on the drums (see attached photographs) and is corroborated by the less than 90 day area log (see attached PDF file).

Attached Documentation

1	TA-03-030 < 90 Area Logbook Entries	e10842.pdf	116 kb
2	Drum Markings Picture	e10842.pdf	116 kb

Disposition Comments (Reviewer Only)

SCOT JOHNSON: The requested change is consistent with established work flow. If the end-user needs assistance changing the accumulation start date due to work flow/authorization restrictions please contact wastehelp@lanl.gov

ENRIQUE TORRES: Thank you for identifying this operating record issue.

ANDREW MONTOYA: Darryl, After this change is implemented, please verify that ALL container markings are consistent with the operating record, and reprint any labels/markings that are incorrect.

Facility Operations Director Review	*Approved*	*ENRIQUE TORRES*	*4/14/15 2:31 pm*
Waste Management RLM Review	*Approved*	*ANDREW MONTOYA*	*4/14/15 2:36 pm*

Requestor's RLM

Change Implemented	☐ Yes ☐ No
I certify that the data changes were made (a) consistent with the approved change request description, (b) any corresponding physical/field changes are complete [e.g., application of new container labels or placards], and (c) the appropriate parties were notified (e.g., operations center, engineering, offsite shipment coordinator).	Z-Number:
	Printed Name:
	Signature/Date:

Figure 12. Obtain the requestor's RLM signature on the printed request.

b) Scan and email the signed document to wastehelp@lanl.gov for document control.

5.0 DEFINITIONS AND ACRONYMS

See LANL *Definition of Terms*.

See LANL Acronym Master List.

WCATS (Waste Compliance & Tracking System) provides a desktop and mobile computer application that supports the generation, characterization, processing, and shipment of LANL radioactive, hazardous, and industrial waste and serves as one element of LANL's operating record for the Hazardous Waste Facility Permit.

6.0 RECORDS

Records generated by this document will be submitted to the Operations Integration Office (OIO) Records Management designated Point of Contact for document management in accordance with P1020-1, *Laboratory Records Management* and with the ADESH-AP-006, *Records Management Plan*.

- Signed "WCATS Change Request Report".

7.0 TRAINING

Training consists of reading this document. To document a required read, Login to UTrain, go to "Advanced Catalog Search", enter course number "?" in the "Keywords – ID" field, click "Search" then "Go to Content" to read and request credit.

8.0 REFERENCES

WCATS users unfamiliar with the application and how to access it are referred to the application home page at https:\\wcats.lanl.gov where they can access the user's manual:

- Waste Compliance & Tracking System (WCATS) Version 2 User's Manual – MAN-5004.

9.0 ATTACHMENTS OR APPENDICES

There are no attachments or appendices to this document.

LA-UR-16-21426
Approved for public release; distribution is unlimited.

Title: EWMO RCRA Permit Operating Record and Compliance Programs, EP-AP-20284, R0

Author(s): Moseley, Jessica L.

Intended for: Environmental Programs

Issued: 2016-03-07 (Draft)

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Document Action Request

Section 1 – Originator Request

Document No.: EWMO-AP-20284	Revision No.: 0
Title: EWMO RCRA Permit Operating Record and Compliance Programs	Page 1 of 1

Reviewed procedure in accordance with DOE/IG-0922 to ensure procedure is accurate, complete, and ready for use. Revised to update WM practices.

Originator Name (print): Jessica Moseley	Z#: 128795	Organization: OS-BSI	Date: 10/26/15

Section 2 – Responsible Manager Approval for Processing (see P315, Att. 16, Section 16.5.1.c)

☐ New Document ☐ Minor Revision ☐ Deactivation ☒ Major Revision ☐ Cancellation

☒ Perform Concurrent Periodic Review?

☒ Approved ☐ Disapproved (return to originator) Comments:

Signature /s/ Les Sonnenberg	Print Name, Title Les Sonnenberg, EWMO FOD	Z# 290408	Date 10/28/2015
RLM Concurrence Signature /s/ Paul Newberry	Print Name, Title Paul Newberry, WD-SRS Group Leader	Z# 112056	Date 10/27/2015

Section 3 – Hazard Grading (see P315, Att. 16, Section 16.5.1.f)

Hazard Determination: ☒ Low ☐ Moderate ☐ High/Complex ☐ N/A

Document is authorized to serve as IWD? ☐ Part I only ☒ Full IWD ☐ N/A

Section 4 – Required Reviews (see P315, Att. 16, Section 16.5.3)

Discipline	Name	Signature	Date
EWMO Operation Manager	Gail Helm	DRS	
WD-SRS Group Leader	Paul Newberry	DRS	
WD-SRS Operations SME	Dave Lalonde	DRS	
Shift Operation Manager	Bob Harder	DRS	
Engineering	Val Rhodes	/s/ Val Rhodes	1/31/16
Quality Assurance	Robert Trujillo	DRS	
Industrial Hygiene and Safety	Gary Whitney	DRS	
Environmental Compliance Programs	Clare Bena	DRS	
Maintenance	Glenn VanDerpoel	DRS	
Deployed Environmental Professional	Jim Stanton	DRS	
Radiation Protection	Christine Bullock	DRS	
Criticality Safety Officer	Art Crawford	DRS	
Criticality Safety Analyst	Sean Gough	DRS	

Validation Required? ☒ Yes ☐ No ☐ Waive Comment:

Scope of Validation: ☒ Entire Procedure ☐ Change Only Validation Method: ☐ Walkdown ☐ Simulation ☒ Tabletop

Training Determination Completed: ☒ Yes ☐ N/A Completed By: Mark Shepard

USQ/USI Number (if needed): EWMO-16-036-D	Signature /s/ Art Crawford	Z# 080070	Date 2/29/16

Section 5 – Final Approvals (see P315, Att. 16, Section 16.5.4)

☐ Release ☒ Hold Details: Release on effective date.

Responsible Manager Signature [signature] for Les Sonnenberg	Print Name, Title Stephanie Arego	Z# 140892	Date 3/3/16
Additional Approval Signature	Print Name, Title	Z#	Date

EWMO RCRA Permit Operating Record and Compliance Programs

Effective Date: March 8, 2016

Next Review Date: March 8, 2019

Classification Review: ☑ Unclassified ☐ UCNI ☐ Classified

Name (print)	Z#	Signature	Date
Teri Tingey	200975		3/2/16

Responsible Manager, EWMO Facility Operations Director

Name (print)	Z#	Signature	Date
Les Sonnenberg	290408	for Les Sonnenberg	3/3/16

Working Copy / Information Only (circle one)

Initials / Date: ____ / ____

REVISION HISTORY

Document Number	Issue Date	Action	Description
EP-DIV-AP-21, R.0	September 26, 2012	New Document	
EWMO-AP-20284, R.0	March 8, 2016	Major Revision	Reviewed procedure in accordance with DOE/IG-0922 and EP-AP-10007 to ensure procedure is accurate, complete, and ready for use. Extensive revision and reorganization. No revisions bars added. Included all Facility Operating Record requirements from Permit. Added Attachment 1, a matrix of requirements, generating organization, and storage location. Updated to reflect current waste management practices and use of WCATS. Updated formatting and organizational references.

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1. PURPOSE

This document identifies the Facility Operating Records and location of those records associated with the implementation of the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit (Permit) as they apply to the Associate Directorate of Nuclear and High Hazards Operations (ADNHHO) - Environmental and Waste Management Operations (EWMO) supported facilities. This document also provides a description of EWMO compliance activities and programs associated with the Permit requirements.

2. SCOPE

This document is specific to Resource Conservation and Recovery Act (RCRA) Facility Operating Record generation and record location for EWMO supported facilities including Waste Characterization, Reduction, and Repackaging Facility (WCRRF), Technical Area (TA) 54, Areas G and L, and TA-54 West/Radioassay and Nondestructive Testing (RANT) Facility.

3. HAZARDOUS WASTE PERMITTED UNITS AND ACTIVITIES DESCRIPTION

3.1 TA-50, WCRRF

TA-50 is located at the northeast corner of the intersection of Pajarito Drive and Pecos Road, on the finger mesa bounded by Mortandad Canyon to the north and Two-Mile Canyon to the south. The container storage units at TA-50 include the TA-50-69 Indoor unit (Rooms 102 and 103) and the TA-50-69 Outdoor unit including Transportainers TA-50-75 and TA-50-194 and portions of the asphalt pad.

3.1.1 TA-50-69 Indoor Permitted Unit

The TA-50-69 Indoor permitted unit consists of Rooms 102 and 103. Room 102, the main process room, measures approximately 45 feet (ft) wide and 52 ft long. Room 103, the unloading area, measures approximately 18 ft wide and 19 ft long and is located adjacent to and southeast of Room 102. This design allows for unobstructed transport of waste containers from outside the facility, through the vehicle airlock entrance, into the unloading area, and into the glove box processing areas.

3.1.2 TA-50-69 Outdoor Permitted Unit

The TA-50-69 Outdoor unit is comprised of an unlined and non-coated asphalt pad. Transportainers and other weather protective structures in the permitted unit provide weather protection for containers of various sizes.

3.2 TA-54

TA-54 consists of 130 acres atop Mesita del Buey and is used for storage of hazardous waste, mixed low level waste (MLLW), and mixed transuranic (MTRU) waste generated throughout LANL. TA-54 has three separate areas where hazardous and mixed waste is stored; Area L, Area G, and TA-54 West/RANT. There is one permitted unit at Area L, nine permitted units at Area G, and two permitted units at TA-54 West/RANT.

3.2.1 Area L

The Area L permitted unit is the area within the fence and is comprised of an asphalt pad within the fence line and several storage structures including Dome 215; concrete pad with canopy 32; concrete pads 35 and 36; storage sheds 68, 69, 70, and 31; and modular units 39 and 58. The permitted unit stores containers of hazardous waste in solid and liquid form. Liquid wastes are stored primarily in structures that are designed for secondary containment; however, secondary containment pallets may also be used. Secondary containment pallets are typically constructed of polyethylene or metal painted with a chemically-resistant urethane.

3.2.2 Area G

The permitted units at Area G are used to store containers of hazardous, MLLW, and MTRU wastes in solid and liquid form. Storage of waste occurs within nine units as described below:

- TA-54 Area G Pad 1
- TA-54 Area G Pad 3
- TA-54 Area G Pad 5
- TA-54 Area G Pad 6
- TA-54 Area G Pad 9
- TA-54 Area G Pad 10
- TA-54 Area G Pad 11
- TA-54 Area G Storage Shed 8
- TA-54 Area G TA-54-33

Containers with liquids are stored in structures designed for secondary containment or placed on secondary containment pallets. Secondary containment pallets are typically constructed of polyethylene or metal painted with a chemical-resistant coating.

3.2.3 TA-54 West/RANT

There are two permitted units at TA-54 West/RANT. The first unit includes the indoor low bay and the high bay in TA-54-38 and the second unit includes the outdoor storage pad which

surrounds the north, east, and south sides of TA-54-38 and the loading dock at TA-54-38. The permitted units at TA-54 West/RANT are used to store solid hazardous waste.

4. RECORDS MANAGEMENT

LANL implements a robust Laboratory-wide records management system as described in LANL Policy PD1020, Document Control and Records Management, and P1020-1, Laboratory Records Management. A majority of the Facility Operating Records described in this document are collected and maintain locally in accordance with the Associate Directorate of Environmental Management's (ADEM) procedure EP-AP-10003, Records Management. The Associate Directorate for Environment, Safety, and Health (ADESH) records are maintained in accordance with ADESH-AP-006, Records Management Plan. Records are submitted to LANL's Document Control Records Management (DCRM) team either in hard copy or electronically. The records are then stored in the Electronic Document Management System (EDMS).

5. FACILITY OPERATING RECORD

The Permittees must maintain a written Facility Operating Record for the operations of each permitted unit until closure of the unit is approved. For documents that address all of the LANL hazardous waste management units (e.g., certifications of a LANL program to reduce the volume and toxicity of hazardous waste), the Permittees must maintain these documents throughout the active life of the Facility including the post-closure care period. Unless specifically prohibited by the Permit, an electronic record capable of producing a paper copy shall be deemed to be a written record. Any substantive alterations made to the electronic record must be documented, dated, and made part of the Facility Operating Record.

The Permittees must incorporate into the Facility Operating Record information required by Permit Sections 2.12.1, 2.12.2, 3.7.1, and 3.12.1. The following table summarizes each applicable Permit section and the corresponding section of this document which addresses the requirement.

Permit Section	**Document Section**
Permit Section 2.12.1 – Manifest Systems	
Recordkeeping and reporting requirements associated with manifests in accordance with 40 CFR §§ 264.71, 264.72, and 264.76, whenever a shipment of hazardous waste is either received at, or initiated from, the Facility.	5.1
Permit Section 2.12.2 – Facility Operating Record	
(1) A description of the hazardous waste received and the methods and dates of treatment and storage at each permitted unit.	5.2
(2) The location of each type of hazardous waste within each permitted unit and the total quantity of all wastes and waste types at each unit and any associated structure (e.g., room, dome).	5.2
(3) Records and results of waste analyses and waste determinations.	5.3
(4) Instances of fire, explosion, spill, or release from, or at, a permitted unit regardless of whether the incident required implementation of the Contingency Plan or Permit Part 11 (see 40 CFR § 270.32(b)(2)).	5.4
(5) Records and results of inspections and documentation of corrective actions.	5.5
(6) Monitoring, testing, analytical data, and response actions related to tanks systems (40 CFR §§ 264.191, .193, .195), miscellaneous units (264.602), air emission standards for equipment leaks (264.1063, .1064), and air emission standards for tanks, surface impoundments, and containers (264.1082 - 264.1090).	5.6
(7) Notices to off-site generators as specified in 40 CFR § 264.12(b).	5.7
(8) Reserved in Permit.	
(9) Annual certification stating a Facility program is in place to reduce the volume and toxicity of hazardous waste generated.	5.8
(10, 11, 12) For treated wastes, hazardous wastes left in the ground after closure (i.e., disposal units) and for stored waste, the information contained in the notice and certification required under 40 CFR § 268.7.	5.9
(13) All monitoring reports and records required by this Permit, including but not limited to: a. Records of all monitoring data used to complete Permit Application(s); b. All data gathered or generated during the closure or post-closure process; and c. All laboratory reports, drilling logs, and bench-scale or pilot scale data.	5.10
(14) Documentation demonstrating distribution of the Contingency Plan in accordance with Permit Section 2.11.3.	5.11
(15) Documentation demonstrating the installation and maintenance of secondary containment system coatings or sealants as required in Permit Sections 3.7.1(4) and 4.4(4).	5.12
(16) Personnel training records including both introductory and continuing training programs used to prepare employees to safely operate and maintain a permitted unit in compliance with 40 CFR § 264.16(d) and the Permit.	5.13
(17) Documentation of notifications and trainings associated with alternate emergency equipment as required in Permit Section 2.10.2.	5.14
(18) Documentation of all instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a hazardous waste unit.	5.15

Permit Section	Document Section
Permit Section 3.7.1 – Containers with Free Liquids	
If a sump or secondary containment system cannot be evacuated within 24 hours, daily documentation to demonstrate that sump or secondary containment system retains sufficient capacity to contain 10% of the volume of containers or the volume of the largest container holding free liquids, whichever is greater.	5.16
Permit Section 3.12.1 – TA-54 Container Storage Requirements, General Operating Conditions	
Documentation that all fluids above the HDPE liner at Area G, Dome 224 are removed/evacuated within 24 hours of discovery including a complete chemical analysis of the fluid.	5.17

Attachment 1 provides a matrix that summarizes each Permit Facility Operating Record requirement, the generating organization, the record generating procedure/document, the records management procedure, and the record storage location.

5.1 Waste Manifests [Permit Section 2.12.1]

Permit Section 12.2.1 requires that shipping manifests be maintained for three years, in accordance with 40 CFR §§ 264.71, 264.72, and 264.76, whenever a shipment of hazardous waste is either received at, or initiated from, the Facility.

Hazardous waste and MLLW manifests are maintained in LANL's facility wide Waste Compliance and Tracking System (WCATS). WCATS use and manifest generation and retention is described in MAN-5004, WCATS User's Manual. The Waste Management Division – Waste Management Services (WM-SVS) organization ships hazardous waste and MLLW per WM-SVS-DOP-300, Preparing and Shipping Waste Off-Site, and hard copies of shipping papers and manifests are maintained in accordance with ADESH-AP-006.

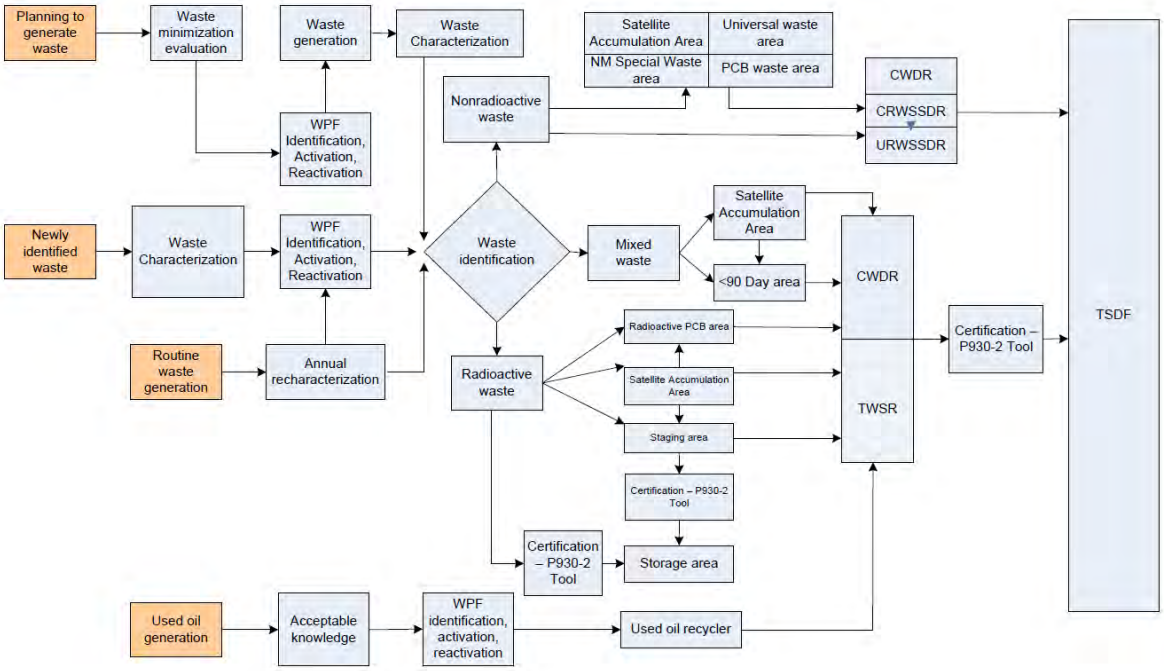
MTRU waste is shipped and manifested by the Operations Support – Packaging and Transportation (OS-PT) organization in accordance with P&T-WI-125, OS-PT Waste Operations Instructions. MTRU manifests are maintained in accordance with LANL Policy P1020-1.

5.2 Waste Management [Permit Section 2.12.2(1) and (2)]

A description of the waste managed at EWMO hazardous waste permitted units including type, quantity, location, and dates received, processed, and shipped is captured in WCATS. All LANL waste management and processing activities are documented and tracked in WCATS. WCATS use is described in MAN-5004. No on-site treatment is currently authorized at EWMO-supported facilities and; therefore, no treatment records are maintained.

WCATS is a software application that has been specifically designed to manage LANL's waste from cradle to grave. WCATS supports the generation, characterization, processing, and shipment of LANL radioactive, hazardous, mixed, and industrial waste. WCATS is compliant with the Environmental Protection Agency (EPA) and New Mexico Environment Department (NMED) regulations implementing RCRA, which includes hazardous waste regulations and solid waste regulations. Moreover, WCATS is compliant with EPA regulations pertaining to the Toxic Substances Control Act, which regulates polychlorinated biphenyls and asbestos; Department of Transportation (DOT) regulations applying to shipping, transport, and storage during transport; National Nuclear Security Agency nuclear material control and accountability; Department of Energy (DOE) nuclear safety; LANL permit; and TRU waste certification requirements. Technical information on WCATS can be gained from the WM Division WCATS Team.

The following flow diagram describes the waste management process at LANL, including TA-54 Areas G and L, TA-54 West/RANT facility, and WCCRF and is provided in P409, Waste Management Tools.



5.3 Waste Characterization Management [Permit Section 2.12.2(3)]

5.3.1 Records of Waste Analysis and Determinations

Waste management and characterization at LANL is driven by P409, 20.4.1 New Mexico Hazardous Waste Management Act, and the LANL Permit. Waste characterization includes, but is not limited to, chemical analysis and/or acceptable knowledge (AK). The waste generator and Waste Management Coordinator (WMC) utilize WCATS to document the physical and chemical characteristics of a waste stream on a waste stream profile. Waste analysis results or AK documentation are electronically attached to the waste stream profile in WCATS. In addition, any hardcopy data which is part of the waste characterization or classification is retained as a record in accordance with EP-AP-10003, ADESH-AP-006, and ADESH-TOOL-803, Facility TSF Operating Record. For unclassified controlled nuclear information or classified waste, generator information (AK or chemical analysis) is not attached to the WCATS waste stream profile and is maintained by the generator. Waste stream profiles are reviewed and approved per WM-SVS-AP-201, Reviewing and Approving Waste Stream Profiles.

The Central Characterization Project maintains the WIPPIVE databased which contains characterization information for MTRU waste. Applicable characterization information includes AK documentation.

5.3.2 Waste Characterization Reevaluation [Permit Section 2.4.7(1)]

The LANL Permit specifies that LANL must annually reevaluate all hazardous waste streams generated to verify the accuracy of initial and subsequent characterization results. The annual reevaluation is required no later than one year from the date of initial characterization of the hazardous waste stream or one year from the last annual reevaluation.

The annual reevaluation of waste characterization is accomplished through use of the WCATS system as described in ADESH-TOOL-111, Waste Characterization. WCATS generates notifications to generators and WMCs that requires reevaluation and certification of approved waste stream profiles. The generator is required to reevaluate and certify that the characterization has not changed for a specific waste stream profile. If the reevaluation and certification are not completed annually, the waste stream profile expires.

The LANL Permit also specifies that waste must be recharacterized whenever there is a change in the waste generating process, which includes a change in the status of the waste for purposes of Land Disposal Restrictions (LDR) or when analytical results indicate a change in the waste stream. These changes can include examples such as observing that a waste characterized as

solid has developed a liquid portion or that procedural screening tests do not agree with the waste characterization (e.g., a pH paper test indicates that a non-corrosive liquid waste has become corrosive by showing a pH less than 2). Waste management personnel who observe a situation where a waste management operation indicates the initial waste characterization is suspect or no longer correct will note this in operating logbooks and report to their management. The waste stream is recharacterized and new waste stream profile is created. The Environmental Protection and Compliance Division (EPC) – Environmental Compliance Group (CP) also maintains supporting records as necessary to support the annual non-compliance report per ADESH-AP-006 (see Section 5.4.2 of this document).

LANL's Waste Characterization and Processing Review process, described in WM-AP-0005, Waste Characterization and Processing Review, is comprised of multi-discipline subject matter experts from within and potentially external to LANL who perform comprehensive and thorough evaluations of complex waste issues to arrive at safe and compliant resolutions. The Waste Characterization and Processing Review process is applied to waste characterization.

5.3.3 Waste Verification [Permit Section 2.4.7(3)]

The LANL Permit specifies that LANL must verify 1% of its hazardous and MLLW streams whose characterization is based solely on AK. MTRU, hazardous debris, and hazardous wastes (that are solely hazardous because of listed waste codes) waste profiles are not included.

WM-PROG-QP-236, Waste Verification, specifies the responsibilities and describes the process for waste verification by the WM Division-Waste Certification Program (WCP). This procedure applies to the verification of accuracy of waste characterization data provided by various waste generators at LANL maintaining compliance with the Permit. WM-WCP maintains the records associated with compliance with the verification requirements in the Permit in accordance with ADESH-AP-006.

5.4 Incident Reports [Permit Section 2.12.2(4)]

The LANL Occurrence Reporting (ORPS) Program is an incident investigation and reporting system that provides the information required for Contingency Plan or non-Contingency Plan incidents. The ORPS Program is used at EWMO-supported facilities to provide timely notification to the DOE complex of events that could adversely affect the public or DOE worker health and safety; the environment; national security; DOE's safeguards and security interests; functioning of DOE facilities; or the Department's reputation. The ORPS Program also requires timely investigation, analysis, and corrective action of ORPS events, based off of pre-determined DOE levels of significance per DOE reporting criteria**.**

If an abnormal event or condition does not meet ORPS reporting criteria, the Facility Operations Director or designee enters a sub-ORPS issue into the Performance Feedback and Improvement Tracking System (PFITS).

5.4.1 Contingency Plan

Emergencies at EWMO-supported facilities are responded to in accordance with EP-DIV-BEP-20048, EWMO Division Building Emergency Plan (BEP), which captures the Site Emergency Management and Response program requirements from LANL P1201-4, Emergency Procedures and Protective Actions, and P315, Conduct of Operations Manual. In addition, the EWMO BEP identifies area-specific response requirements for (1) TA-50-69 WCRRF complex; (2) TA-54 Area G, H, J, L and TA-54 Administrative Areas; and (3) TA-54 West/RANT Building 54-38 complex. In the case of an incident requiring the implementation of the Contingency Plan at EWMO permitted units, the Operations Manager or Shift Operation Manager (SOM) will notify the LANL emergency operations center who will notify EPC-CP. EPC-CP is LANL's single point of contact with NMED and will ensure timely reporting associated with Contingency Plan implementation is executed. Records associated with an incident at a permitted unit are generated by the Emergency Management and Response organization. The EWMO SOM/Facility Leader will collect and maintain these records in accordance with EP-AP-10003.

EPC-CP coordinates any permit required responses with the NMED associated with the incident and maintains records of any information requests and information or reports submitted in accordance with ADESH-AP-006.

5.4.2 Non-Contingency Plan Incident/Noncompliance Reporting

Non-Contingency Plan incidents are responded to in accordance with EP-DIV-BEP-20048. All records generated as a result of site emergencies are maintained per EP-AP-10003.

EPC-CP will also collect information related to non-contingency plan incidents and non-compliance reporting from EWMO (SOM or Deployed Environmental Professional [DEP]) and execute the reporting and record keeping requirements for the following:

- Incidents that do not trigger implementation of the Contingency Plan or non-threatening release (Permit Section 1.9.13)
- Anticipated non-compliance with the LANL Permit (Permit Section 1.9.11)
- Other noncompliance (Permit Section 1.9.14)

EPC-CP coordinates any permit required responses with the NMED associated with the incident and maintains records of any information requests and information or reports submitted.

The Facility Operating Record documentation is retained as a record in accordance with EP-AP-10003 and ADESH-AP-006.

5.5 Inspections [Permit Section 2.12.2(5)]

Inspection requirements and records identified in Permit Section 2.6 and Permit Attachment E (Inspection Plan) require LANL to record inspection results, deficiencies, corrective actions, and preventive maintenance activities in the Facility Operating Record. Most inspections, deficiencies, and corrective maintenance activities are recorded using the Inspection Record Form (IRF) in accordance with its instructions (see Section 5.5.1).

Some items, such as fire alarms inspection or preventive maintenance activities for permitted equipment or structures, will be recorded in Maintenance and Site Services (MSS) records (work packages, etc.).

5.5.1 RCRA Inspection Record Form (IRF)

EWMO Nuclear Operators utilize EWMO-DOP-20215, EWMO RCRA Inspections and Notifications, to document the majority of permit required inspections, deficiencies, and corrective actions on the IRF. All permit deficiencies, and the associated correction actions, identified during RCRA inspections are maintained in the Action Required (AR) database. The permit deficiency remains in the AR database as an open item until corrected. Any other permit required inspections or records not covered in the IRF will be documented in an alternate location or by alternative methods as identified below. Completed IRFs are sent to records management in accordance with EP-AP-10003. EPC-CP maintains copies of IRFs requested during internal assessments or by NMED during annual inspections.

Inspection of warning signs present at permitted units (per IRF instructions) at EWMO facilities fence lines are conducted either week or quarterly. Signs include both the English/Spanish and Tewa signs. Deficiencies and corrective actions are documented on the IRF and maintained in the AR database.

5.5.2 Other

The Annual WCRRF Stormwater Drainage Inspection (Permit Section 3.11.3) is conducted typically at end of summer using the inspection form/attachment in EWMO-DOP-20215. Completed forms are retained as a record in accordance with EP-AP-10003.

Non-Technical Safety Requirement (TSR) transient combustible loading inspections are conducted monthly and quarterly at TA-54 Area G permitted domes TA-54-8, -49, -153, -334, -229, -231, -232, -282, and -375 per AREAG-FO-AP-1334, TA-54 Area G Non-TSR Transient Combustible Loading. Completed inspection forms are maintained as part of the Facility Operating Record in accordance with EP-AP-10003.

The Monthly Area L Tank Inspection (Permit Section 3.12.1) is conducted monthly using the inspection form/attachment in EWMO-DOP-20215. Completed forms are retained as a record in accordance with EP-AP-10003.

The following alarms are inspected at least monthly (Permit Attachment E.1.1):

- Evacuation Alarms - Evacuation alarms are tested at least weekly and the results documented on the IRF in accordance with EWMO-DOP-20215 and records are maintained in accordance with EP-AP-10003.
- Ventilation Alarms - At WCRRF, the ventilation control panel and alarm system are checked daily utilizing the operations round sheets (conducted prior to operations) to ensure operability and functionality of the system as directed in EP-WCRR-FO-DOP-0203, WCRRF Round Sheet. Round sheets are retained as a record in accordance with EP-AP-10003.
- Fire Alarms - Fire alarms are inspected at least weekly and the results are documented on the IRF in accordance with EWMO-DOP-20215. Records are maintained in accordance with EP-AP-10003. Additionally, EWMO fire alarms are connected to the Emergency Operations Center and the Los Alamos County Fire Department through the Los Alamos County Consolidated Dispatch Center which is monitored 24 hours a day and seven days a week. Fire alarms at all EWMO RCRA permitted facilities are connected to fire alarm control panels (FACP). FACPs send alarm information to the Los Alamos County Consolidated Dispatch Center any time they occur. Regardless of alarm status, the Los Alamos County Consolidated Dispatch Center checks communications with FACPs once every 24 hours to confirm communications are working and the alarms are functional. In this instance, the inspection requirement (monthly) to ensure that the system is functional is met through the system's inherent design and automated checks that occur every 24 hours.
- Fire Pumps - EWMO-supported facilities to do not utilize fire pumps.

Preventive Maintenance (Permit Section 2.6.3) activities on floors, secondary containment structures, unit drainage structures, and fire protection equipment at a permitted unit are conducted by MSS personnel through the issuance of a Work Order in accordance with AP-MNT-006, Preventive and Predictive Maintenance. All work orders and maintenance history are retained by MSS in the computerized maintenance management system (CMMS) where the scope of the work and execution dates can be obtained. MSS maintains all records for a nuclear facility for the life of the facility in accordance with AP-MSS-003, Records Management.

Permit Subpart CC Air Emission Inspections (Permit Attachment E.8) involve initial receipt inspections and annual inspections.

- Initial Receipt Inspections - Initial inspections of hazardous waste and MLLW are conducted by WM-SVS personnel using WM-SVS-SOP-303, On-Site Waste Management, upon receipt.
- Annual Inspections - All waste containers are inspected by Nuclear Operators using EWMO-DOP-20215 at a minimum weekly. These inspections satisfy the annual inspection requirement in Attachment E.8 and are documented on the IRF.

5.6 Monitoring, Testing, Analytical Data, and Response Actions [Permit Section 2.12.2(6)]

Permit Section 2.11.2(6) requires that the monitoring, testing, analytical data, and response actions be maintained in the Facility Operating Record for the following: Tanks Systems – Subpart I (40 CFR §§ 264.191, .193, .195), Miscellaneous Units – Subpart X (264.602), Air Emission Standards for Equipment Leaks – Subpart BB (264.1063, .1064), and Air Emission Standards for Tanks, Surface Impoundments, and Containers - Subpart CC (264.1082 - 264.1090).

At EWMO RCRA permitted units, the only potentially applicable equipment are non-radioactive waste containers or containers with a design capacity less than or equal to 0.1 cubic meters (26.4 gallons) regulated under Permit Subpart CC. However, the facility utilizes the container DOT construction specifications and operations requirements to meet the Permit Subpart CC requirements which eliminates any monitoring, testing, analytical data, or response actions. Therefore, this requirement is not applicable.

5.7 Notices to Off-site Generators as Specified in 40 CFR § 264.12(b) [Permit Section 2.12.2(7)]

The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The owner or operator must keep a copy of this written notice as part of the operating record.

The requirement is not applicable to LANL because LANL, as a DOE facility, is the owner/operation and also the generator. The MTRU radioactive sources that come into LANL are DOE owned. They are not from the private sector. LANL completes Authorization to Transfer/Relinquishment of Ownership. At that point, DOE is the owner of these sources and the owner/operator is the generator.

5.8 Annual Certification of Hazardous Waste Volume and Toxicity Reduction [Permit Section 2.12.2(9)]

EPC – Environmental Services Group (ES) annually submits the Hazardous Waste Minimization Report to NMED. Receipt of the Report and the Report are maintained by EPC-ES per ADESH-AP-006. The Report is also maintained in the LANL Public Reading Room.

5.9 Notices and Certifications [Permit Section 2.12.2(10), (11), and (12)]

5.9.1 Treated Wastes

On-site treatment of waste at EWMO supported facilities is not currently authorized by the Permit. For hazardous, MLLW, and MTRU waste dispositioned for treatment off-site, a copy of the LDR notification and certification (40 CFR 268.7) to the disposal facility will be maintained in WCATS and submitted to DCRM for posting to EDMS per ADESH-AP-006 and WM-SVS-DOP-300.

If on-site treatment is authorized by a Permit modification, this procedure will be revised to reflect the appropriate recordkeeping requirements.

5.9.2 Hazardous Waste Left in the Ground

If hazardous waste is left in the ground following closure activities of EWMO RCRA permitted units, the LDR notification and certifications will be maintained in accordance with Sections 10 and 11 of the Permit.

5.9.3 Stored Wastes

For stored hazardous wastes, the WCATS system collects the information from generators for any required notices or certifications required under the LDR regulations (40CFR 268.7). Waste records are maintained in WCATS per MAN-5004 and in EDMS per ADESH-AP-006.

5.10 Environmental Monitoring Reports [Permit Section 2.12.2(13)]

LANL maintains various environmental projects associated with EWMO facilities, including regional and perimeter environmental monitoring (Permit Section 2.10.1 and Attachment D.7.3). EWMO/ADEM funds the onsite environmental monitoring conducted by EPC – Air Quality Permitting/Compliance organization for EWMO facilities who perform monitoring in accordance with AIRNET Series 5100 standard operating procedures. The data from monitoring activities is presented in the annual Environmental Surveillance Report which is

available in LANL Public Reading Room and is managed in accordance with ADESH-AP-006. All other current monitoring data is maintained at the institutional level and is not the responsibility of EWMO.

Future needs for closure or post-closure sampling or monitoring records required at EWMO facilities will be developed through those projects as required and will be maintained by EPC-CP personnel.

5.11 Contingency Plan Distribution [Permit Section 2.12.2(14)]

EPC-CP makes distribution of the Contingency Plan per Permit Section 2.11.3. Records of distribution are maintained per ADESH-AP-006 in EDMS. Additionally, the DEP has responsibility for physically placing the most recent copy of the Contingency Plan at each permitted unit.

5.12 Secondary Containment Coating/Liner Maintenance/Installation [Permit Section 2.12.2(15)]

MSS maintains the documentation for maintenance or installation of chemical resistant coatings or flexible liner systems used for secondary containment at EWMO permitted facilities. The documentation includes manufacturer's specifications, installation instructions, and a certification of the installation in accordance with specifications and installation instructions.

TA-54, Area G, Dome 230 sump is equipped with a flexible liner install and was installed under a Work Order by MSS. The manufacturer's specifications, installation instructions, and installation certification is maintained by MSS in CMMS in accordance with AP-MSS-003. Any required maintenance or repair of the liner would be identified as an AR during the RCRA inspections, per EWMO-DOP-20215, and a Work Order would be initiated through MSS for repair.

5.13 Training (Attachment F) [Permit Section 2.12.2(16)]

LANL Permit, Attachment F describes the personnel training program for LANL permitted unit workers. LANL's training program is implemented in accordance with LANL Policy P781-1, Conduct of Training. Completed training is tracked in the LANL learning management system, UTrain. The ADNHHO organization Training Services Group supports training operations for EWMO and WM-SVS personnel.

The group provides a wide range of training services, including

- training and qualification programs for LANL nuclear and nonnuclear facilities consisting of qualification standards development, course design, and development, delivery, and evaluation
- workers with training required to work safely and securely in nuclear and nonnuclear facilities
- workers with training to ensure compliance with regulatory drivers including the operation and maintenance of permitted units.

5.14 Alternate Emergency Equipment Notification and Training [Permit Section 2.12.2(17)]

In accordance with the requirements of Permit Section 2.10.2, the inspection of emergency equipment including communication equipment, alarm system, fire protection component, spill control, or decontamination equipment is conducted by a Nuclear Operator who documents the condition and corrective actions on the IRF. If faulty equipment is identified, the equipment is promptly repaired or replacement equipment is utilized. Employees and contractors working in the area are notified of replacement equipment and are trained in its use. Documentation of the repair and/or replacement of faulty equipment is maintained in the AR per EWMO-AP-20215. The notification and training, if necessary, of area personnel is implemented by EWMO-AP-20252, EWMO General Site Hazards and Controls. The AR is maintained in accordance with EP-AP-10003.

The Operations Center (typically the Shift Operations Supervisor or SOM) also documents the condition and any replacement equipment/procedures in the Operations Center Logbook. Facility operating practices are described in LANL Policy P315, Attachment 2, Shift Routines and Operating Practices. Logbooks are retained as a record in accordance with EP-AP-10003.

5.15 Indoor Fire Suppression Activation [Permit Section 2.12.2(18)]

Activation of a fire suppression system would initiate a response in accordance with EP-DIV-BEP-20048. The Operations Center will manage the records for any instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a waste storage pad regardless of whether the activation of the fire suppression system is due to an emergency, emergency testing, or the result of an accident or break in a system per EP-AP-10003.

5.16 Secondary Containment Monitoring [Permit Section 3.7.1]

If a sump or secondary containment system cannot be evacuated within 24 hours, a daily inspection must be completed and documented to demonstrate that the sump or secondary containment system retains sufficient capacity to contain 10% of the volume of containers or the volume of the largest container holding free liquids, whichever is greater.

EWMO Nuclear Operators utilize EWMO-DOP-20215 to meet the daily inspection requirement. All inspection results are recorded on the IRF and maintained in the AR database. Completed IRFs are sent to records management in accordance with EP-AP-10003.

5.17 Area G, Dome 224 HDPE Management [Permit Section 3.12.1]

Documentation that all fluids above the high density polyethylene (HDPE) liner at Area G, Dome 224 are removed/evacuated within 24 hours of discovery including a complete chemical analysis of the fluid that is maintained as part of the Facility Operating Record.

EWMO Nuclear Operators utilize EWMO-DOP-20215 to identify the need for pumping and chemical analysis of the HDPE liner at Area G, Dome 224. Sump pumping and chemical analysis is documented in the Operations Center logbook. Facility operating practices are described in LANL Policy P315, Attachment 2, Shift Routines and Operating Practices. Logbooks are retained as a record in accordance with EP-AP-10003.

6. ASPHALT PAD MANAGEMENT (RCRA TREATMENT, STORAGE, AND DISPOSAL ASPHALT PADS) [PERMIT SECTION 2.6.3(4)]

6.1 Inspection

Inspections conducted under EWMO-DOP-20215 will identify and record the location of all cracks or gaps in floors or base materials (asphalt pads) utilized for hazardous waste management.

If the crack or gap is in the base of a unit utilized for secondary containment, the unit will be repaired in accordance with Permit Section 3.7.1. Alternative means of secondary containment will be utilized (e.g., secondary containment pallets) or the liquid waste container will be moved to a location with compliant secondary containment until repairs can be made.

If the crack or gap is in a permitted unit surface where solid wastes are stored (not secondary containment), then the IRFs will be used to track the corrective action to closure. Waste containers will <u>not</u> be stored on any cracks or gaps in the asphalt until repairs or corrective actions can be implemented (see Section 6.2, Repairs).

Any cracks/gaps in the surface (e.g., asphalt pad) less than one inch will be repaired on a semiannual basis. Cracks/gaps in permitted unit surface greater than one inch or creating a loading/unloading hazard or other safety issues will be repaired or have compensatory actions implemented as soon as practical.

6.2 Repairs

Due to material availability (asphalt plant shuts down in fall/winter) and weather/temperature restrictions, asphalt repairs will be scheduled twice a year to allow for proper corrective maintenance. Compensatory measures prior to asphalt repair may include actions such as backfilling the crack/gap with a base course or other material, sand bagging around the defective area, covering the area with plastic sheeting/tarps, or removing waste from the damaged area.

7. LIGHTNING PROTECTION [PERMIT SECTION 2.8.1(5)]

The Permittees must prevent accidental ignition or reaction of ignitable or reactive wastes by ensuring that appropriate lightning protection is provided for all storage and treatment units.

LANL Design Engineering, the subject matter experts, assessed the RCRA permitted structures/pads lightning protection systems for adequacy and determined all areas, except those listed below, to be adequate. Areas that currently do not have functioning lightning protection and will not store ignitable or reactive wastes include:

- Pad 5 (Outside asphalt pad near 54-224 and 54 tritium sheds pad)
- Pad 11 (Outside asphalt pad for 54-375)
- Pad 1 (Former location of 54-226)
- Pad 3 (Outside pad for 54-48, south end)
- Pad 10 (Asphalt pad for characterization trailers)
- Pad 9 (Outside Pad for TWISP domes 54-229 through 54-232)
- Area L Outside pad
- TA-54 West/RANT Outside pad
- WCRRF Outside pad

8. EMERGENCY EQUIPMENT BACKUP POWER [PERMIT SECTION 2.10.1]

At permitted units where equipment is necessary to mitigate the effects of a power outage, the Permittees must maintain batteries, generators, or some other form of backup power supply capable of operating equipment including evacuation alarms, emergency communication equipment, automatic fire suppression systems, and emergency lights.

LANL has determined, through communications with NMED, that this requirement allows the use of procedures/processes in lieu of backup power for the equipment stated above.

8.1 Evacuation Alarms

If power or functionality of evacuation alarms (where installed) is lost, then the applicable Abnormal Operating Procedure (AOP) is utilized to respond to mitigate the loss of functionality.

8.2 Emergency Communication Equipment

If the loss of power affects emergency communication systems, the facility utilizes the applicable AOP in these situations. EWMO also has redundant/backup communication systems (battery powered) consisting of cell phones, pagers, and two-way radios that are used to communicate an emergency situation and appropriate responses/actions.

Fire Panels (fire alarm systems) are equipped with National Fire Protection Association (NFPA) compliant battery backup.

8.3 Automatic Fire Suppression Systems

Function of the fire suppression systems at all EWMO RCRA permitted facilities are mechanical in nature and therefore no back up electrical power is required. All sprinkler systems in these areas are monitored by fire alarm systems compliant with NFPA 72.

8.4 Emergency Lights

As outlined in NFPA, emergency lighting is not be required for structures occupied only during daylight hours with skylights or windows arranged to provide the required level of illumination on all portions of the means of egress during such hours. Work is restricted to daylight hours only, except for fire watches or emergency trouble-shooting maintenance activities, in which case personnel entering these structures are equipped with flashlights.

EWMO performed an assessment “Area G Illumination Survey” of all structures within permitted units during daylight hours to ensure appropriate emergency/egress lighting requirements could be met. All structures, except TA-54-8 and TA-54-230, satisfy the required illumination when tested with operational doors closed, either through battery powered emergency lights or passive illumination (opaque sky light material in dome fabric). For TA-54-8 and TA-54-230, EP-AREAG-FO-DOP-1087, TA-54 Work Release Sheets, requires personnel to open the doors during entry during daylight hours.

9. RECORDS PROCESSING

No records are directly generated by the performance of this document; however, Attachment 1 provides a matrix of the following information related to the generation and retention of the Facility Operating Record as described in this document:

- Facility Operating Record Requirement
- Generating Organization
- Record Generation Implementing Procedure
- Record Maintenance Procedure
- Record Storage Location.

10. REFERENCES

ADESH-AP-006, Records Management Plan

ADESH-TOOL-111, Waste Characterization

ADESH-TOOL-803, Facility TSF Operating Record

AP-MNT-006, Preventive and Predictive Maintenance

AP-MSS-003, Records Management

AREAG-FO-AP-1334, TA-54 Area G Non-TSR Transient Combustible Loading

EP-AP-10003, Records Management

EP-AREAG-FO-DOP-1087, TA-54 Work Release Sheets

EP-DIV-BEP-20048, EWMO Division Building Emergency Plan

EP-WCRR-FO-DOP-0203, WCRRF Round Sheet

EWMO-AP-20252, EWMO General Site Hazards and Controls

EWMO-DOP-20215, EWMO RCRA Inspections and Notifications

LANL Policy P781-1, Conduct of Training

10. REFERENCES (CONTINUED)

LANL Policy P1020-1, Laboratory Records Management

LANL Policy P1201-4, Emergency Procedures and Protective Actions

LANL Policy P315, Conduct of Operations Manual

LANL Policy PD1020, Document Control and Records Management

Los Alamos National Laboratory Hazardous Waste Facility Permit, November 2010, attachments, and all revisions

MAN-5004, WCATS User's Manual

P409, Waste Management Tools

P&T-WI-125, OS-PT Waste Operations Instructions

WM-AP-0005, Waste Characterization and Processing Review

WM-PROG-QP-236, Waste Verification

WM-SVS-AP-201, Reviewing and Approving Waste Stream Profiles

WM-SVS-DOP-300, Preparing and Shipping Waste Off-Site

WM-SVS-SOP-303, On-Site Waste Management

ATTACHMENT 1

FACILITY OPERATING RECORD IMPLEMENTATION MATRIX

Permit Section	Generating Organization	Record Generation Implementing Procedure(s)	Record Management Procedure	Record Storage Location
Permit Section 2.12.1 Requirement				
Recordkeeping and reporting requirements associated with manifests in accordance with 40 CFR §§ 264.71, 264.72, and 264.76, whenever a shipment of hazardous waste is either received at, or initiated from, the Facility.	WM-SVS OS-PT	MAN-5004, WCATs User's Manual WM-SVS-DOP-300, Preparing and Shipping Waste Off-Site P&T-WI-125, OS-PT Waste Operations Instructions	ADESH-AP-006, Records Management Plan LANL Policy 1020-1, Laboratory Records Management	WCATS EDMS
Permit Section 2.12.2 Requirements				
(1) A description of the hazardous waste received and the methods and dates of treatment and storage at each permitted unit.	LANL-wide waste generators	P409, Waste Management Tools MAN-5004, WCATs User's Manual		WCATS
(2) The location of each type of hazardous waste within each permitted unit and the total quantity of all wastes and waste types at each unit and any associated structure (e.g., room, dome).	LANL-wide waste generators	P409, Waste Management Tools MAN-5004, WCATs User's Manual		WCATS
(3) Records and results of waste analyses and waste determinations.	LANL-wide waste generators	P409, Waste Management Tools WM-SVS-AP-201, Reviewing and Approving Waste Stream Profiles ADESH-TOOL-803, Facility TSF Operating Record ADESH-TOOL-111, Waste Characterization WM-AP-0005, Waste Characterization and Processing Review WGS-PROG-QP-236, Waste Verification MAN-5004, WCATs User's Manual	EP-AP-10003, Records Management ADESH-AP-006, Records Management Plan	WCATS EDMS WIPPIVE
(4) Instances of fire, explosion, spill, or release from, or at, a permitted unit regardless of whether the incident required implementation of the Contingency Plan or Permit Part 11 (see 40 CFR § 270.32(b)(2)). AND Instances of fire, explosion, spill, or release from, or at, a permitted unit regardless of whether the incident required implementation of the Contingency Plan or Permit Part 11 (see 40 CFR § 270.32(b)(2)).	EWMO EPC-CP	EP-DIV-BEP-20048, EWMO Division Building Emergency Plan	EP-AP-10003, Records Management ADESH-AP-006, Records Management Plan	EDMS ORPS PFITS

Permit Section	Generating Organization	Record Generation Implementing Procedure(s)	Record Management Procedure	Record Storage Location
(5) Records and results of inspections and documentation of corrective actions.	EWMO WM-SVS MSS Los Alamos County Dispatch Center	EWMO-DOP-20215, EWMO RCRA Inspections and Notifications AREAG-FO-AP-1334, TA-54 Area G Non-TSR Transient Combustible Loading EP-WCRR-FO-DOP-0203, WCRRF Round Sheet WM-SVS-DOP-303, On-Site Waste Management AP-MNT-006, Preventive and Predictive Maintenance	EP-AP-10003, Records Management AP-MSS-003, Records Management	EDMS CMMS
(6) Monitoring, testing, analytical data, and response actions related to tanks systems (40 CFR §§ 264.191, .193, .195), miscellaneous units (264.602), air emission standards for equipment leaks (264.1063, .1064), and air emission standards for tanks, surface impoundments, and containers (264.1082 - 264.1090).	No applicability	No applicability	No applicability	No applicability
(7) Notices to off-site generators as specified in 40 CFR § 264.12(b).	No applicability	No applicability	No applicability	No applicability
(8) Reserved in Permit.				
(9) Annual certification stating a Facility program is in place to reduce the volume and toxicity of hazardous waste generated.	EPC-ES		ADESH-AP-006, Records Management Plan	EDMS LANL Public Reading Room
(10, 11, 12) For treated wastes, hazardous wastes left in the ground after closure (i.e., disposal units), and stored waste, the information contained in the notice and certification required under 40 CFR § 268.7	WM-SVS (Waste treated off-site)	WM-SVS-DOP-300, Preparing and Shipping Waste Off-Site MAN-5004, WCATs User's Manual	ADESH-AP-006, Records Management Plan	WCATS EDMS
(13) All monitoring reports and records required by this Permit, including but not limited to: a. Records of all monitoring data used to complete Permit Application(s); b. All data gathered or generated during the closure or post-closure process; and c. All laboratory reports, drilling logs, bench-scale or pilot scale data;	EPC-CP	EPC AIRNET SOPs, 5100 series	ADESH-AP-006, Records Management Plan	LANL Public Reading Room

Permit Section	Generating Organization	Record Generation Implementing Procedure(s)	Record Management Procedure	Record Storage Location
(14) Documentation demonstrating distribution of the Contingency Plan in accordance with Permit Section 2.11.3	EPC-CP		ADESH-AP-006, Records Management Plan	EDMS
(15) Documentation demonstrating the installation and maintenance of secondary containment system coatings or sealants as required at Permit Sections 3.7.1(4) and 4.4(4).	MSS EWMO	AP-Work Order Process EWMO-AP-20215, RCRA Inspections and Notifications	AP-MSS-003, Records Management	CMMS
(16) Personnel training records including both introductory and continuing training programs used to prepare employees to safely operate and maintain a permitted unit in compliance with 40 CFR § 264.16(d) and the Permit.	EWMO WMS-SVS	LANL Policy P781-1, Conduct of Training		UTrain
(17) Documentation of notifications and trainings associated with alternate emergency equipment as required at Permit Section 2.10.2.	EWMO	EWMO-AP-20215, RCRA Inspections and Notifications EWMO-AP-20252, EWMO General Site Hazards and Controls LANL Policy P315, Conduct of Operations	EP-AP-10003, Records Management	EDMS
(18) Documentation of all instances where an indoor fire suppression system has been activated resulting in fire suppressants contacting a hazardous waste unit.	EWMO	EP-DIV-BEP-20049, EWMO Division Building Emergency Plan	EP-AP-10003, Records Management	EDMS
Permit Section 3.7.1 Requirement				
If a sump or secondary containment system cannot be evacuated within 24 hours, daily documentation to demonstrate that sump or secondary containment system retains sufficient capacity to contain 10% of the volume of containers or the volume of the largest container holding free liquids, whichever is greater.	EWMO	EWMO-DOP-20215, EWMO RCRA Inspections and Notifications	EP-AP-10003, Records Management	EDMS
Permit Section 3.12.1 Requirement				
Documentation that all fluids above the HDPE liner at Area G, Dome 224 are removed/evacuated within 24 hours of discovery including a complete chemical analysis of the fluid.	EWMO	EWMO-DOP-20215, EWMO RCRA Inspections and Notifications LANL Policy P315, Conduct of Operations	EP-AP-10003, Records Management	EDMS

Document Action Request

Section 1 – Originator Request

Document No.: ~~EP-AP-21~~ EWMO-DOP-20284	Revision No.:0
Title: EWMO RCRA Permit Operating Record and Compliance Programs	Page 1 of 1

Reviewed procedure in accordance with DOE/IG-0922 and ER-AP-10007 to ensure procedure is accurate, complete, and ready for field use. Revised to incorporate comments from ENV-CP.

Originator Name (print): Jessica Moseley	Z#: 128795	Organization: OS-BSI	Date: 10/26/15

Section 2 – Responsible Manager Approval for Processing (see P315, Att. 16, Section 16.5.1.c)

☐ New Document ☐ Minor Revision ☐ Deactivation ☒ Perform Concurrent Periodic Review?
☒ Major Revision ☐ Cancellation

☒ Approved ☐ Disapproved (return to originator) Comments:

Signature	Print Name, Title Les Sonnenberg, EWMO FOD	Z# 290408	Date 10/28/2015
RLM Concurrence Signature	Print Name, Title Paul Newberry, WD-SRS Group Leader	Z# 112056	Date 10/27/15

Section 3 – Hazard Grading (see P315, Att. 16, Section 16.5.1.f)

Hazard Determination: ☒ Low ☐ Moderate ☐ High/Complex ☐ N/A

Document is authorized to serve as IWD? ☐ Part I only ☒ Full IWD ☐ N/A

Section 4 – Required Reviews (see P315, Att. 16, Section 16.5.3)

Discipline	Name	Signature	Date
EWMO Operation Manager	Gail Helm		
WD-SRS Group Leader	Paul Newberry		
WD-SRS Operations SME	Dave Lalonde		
Shift Operation Manager	Bob Harder		
Engineering	Val Rhodes		
Quality Assurance	Robert Trujillo		
Industrial Hygiene and Safety	Gary Whitney		
Environmental Compliance Programs	Clare Bena		
Maintenance	Glenn VanDerpoel		
Deployed Environmental Professional	Jim Stanton		
Radiation Protection	Christine Bullock		
Criticality Safety Officer	Art Crawford		
Criticality Safety Analyst	Sean Gough		

Validation Required? ☑ Yes ☐ No ☐ Waive Comment:

Scope of Validation: ☐ Entire Procedure ☐ Change Only Validation Method: ☐ Walkdown ☐ Simulation ☑ Tabletop

Training Determination Completed: ☐ Yes ☐ N/A Completed By:

USQ/USI Number (if needed):	Signature	Z#	Date

Section 5 – Final Approvals (see P315, Att. 16, Section 16.5.4)

☐ Release ☐ Hold Details:

Responsible Manager Signature	Print Name, Title	Z#	Date
Additional Approval Signature	Print Name, Title	Z#	Date

Reviewer	Comments	Approved	Pending Disposition
Bena, Clare	3 comments	3 approved	0 pending dispositions
Bullock, Christine	0 comments		
Crawford, Arthur	0 comments		
Gough, Sean	0 comments		
Harder, Robert	0 comments		
Helm, Gail	0 comments		
Lalonde, David	0 comments		
Newberry, Paul	0 comments		
Rhodes, Valerie	1 comment	0 approved	1 pending disposition
Stanton, James	49 comments	46 approved	0 pending dispositions
Trujillo, Robert	0 comments		
VanDerpoel, Glenn	0 comments		
Whitney, Gary	1 comment	0 approved	0 pending dispositions
13 reviewers	**54 comments**	**49 approved**	**1 pending disposition**

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	If the Deployed Environmental Professional is responsible for maintaining the accuracy of this procedure, then should the DSESH-EWMO Group Leader (Bob Stokes) also be listed here?	Implement	Responsibility for implementation and maintenance of the Facility Operating Record resides with the FOD. Section 3.1 revised as follows: "Deployed Services Environment, Safety, and Health - Environmental Waste Management Operations The Deployed Environmental Professional, for the facilities supported by this procedure, supports the collection and maintenance of the information provided in this document."	Implement			
Whitney, Gary	Preference		No comments reported by Reviewer	Reviewer reported no comments.				
Rhodes, Valerie	Preference	Hard copy comments provided to Jessica Moseley on Feb. 1, 2016.						
Stanton, James	Preference	Change to "Permit." The correct title of the Permit is the Hazardous Waste Facility Permit, which was defined earlier in the paragraph.	Implement	Revised as noted.	Implement			
Stanton, James	Preference	Change to "That" because you are discussing the TWF document. When using the word "this," the reference is to the Area G, L, RANT, and WCRRF document.	Implement	Deleted paragraph and reference to TWF as EWMO supported facility.	Implement			
Stanton, James	Preference	ENV-ES is no longer the responsible group for DEPs. Deployed Services Division holds these positions. For EWMO, the reference should be to DSESH-EWMO.	Implement	Responsibility section removed from document.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	Change RCRA Storage Areas to "Hazardous Waste Permitted Units"	Implement	Replaced "RCRA Storage Areas" with "Hazardous Waste Permitted Units"	Implement			
Stanton, James	Preference	Suggest also correlating these designations to the Designated Areas in the BIO. While there is not a 100% match, it may be useful to correlate them.	Disregard	Recommendation reserved for a future revision.	Disregard	Agreed		
Bena, Clare	Preference	Capitalize Facility Operating Record here and through out document.	Implement	Revision made throughout document.	Implement			
Stanton, James	Preference	Capitalize. In the same way that SHALLs, ANDs, ORs, etc., are capitalized in TSR related documents, they should be capitalized here, too. These are Permit requirements. Apply throughout the document.	Disregard	All caps verbs currently used only in the context of TSRs. Revised shall to must throughout document.	Disregard	Agreed		
Stanton, James	Preference	Where is this kept? WCATS?	Implement	Reformated into table to include applicable document sections. For completeness, included each bullet from Permit Section 2.11.2.	Implement			
Stanton, James	Preference	Where? WCATS?	Implement	Reformated into table to include applicable document sections. For completeness, included each bullet from Permit Section 2.11.2.	Implement			
Stanton, James	Preference	Show location of record in the Operating Record for each item in this list.	Implement	Reformated into table to include applicable document sections. For completeness, included each bullet from Permit Section 2.11.2.	Implement			
Stanton, James	Preference	This is a separate item from Contingency Plan implementation incidents and should have its own bullet. Regulatory citation may apply to both bullets.	Implement	Reformated into table to include applicable document sections. Made these two sections distinct. For completeness, included each bullet from Permit Section 2.11.2.	Implement			
Stanton, James	Preference	Expand. Monitoring of what? Groundwater? Air Quality?	Implement	Reformated into table to include applicable document sections. For completeness, included each bullet from Permit Section 2.11.2.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	Either spell out the items required by 40 CFR 268.7 or change the wording in this bullet to "Generator paperwork and Treatment Facility paperwork required by 40 CFR 268.7."	Implement	Section 5.(10), 5.(11), and 5.(12) combined and 40 CFR 264.7 referenced.	Implement			
Stanton, James	Compliance	This bullet is associated with waste left in the ground. Therefore, the regulatory citation is incorrect. 268.7(b) addresses treated waste while 268.7(c) addresses waste that is land disposed (i.e., left in the ground). You must change the citation.	Implement	Section 5.(10), 5.(11), and 5.(12) combined and 40 CFR 264.7 referenced.	Implement			
Stanton, James	Preference	Change reference to 268.7(a)	Implement	Section 5.(10), 5.(11), and 5.(12) combined and 40 CFR 264.7 referenced.	Implement			
Stanton, James	Preference	Change to "Sections"	Implement	Revised as noted.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	This list is rather lax in how it refers to regulatory programs and drivers. WCATS is compliant with the EPA and NM Environment Department regulations implementing the Resource Conservation and Recovery Act (RCRA), which includes hazardous waste regulations, but also solid waste regulations. Moreover, WCATS is compliant with EPA regulations pertaining to the Toxic Substances Control Act (TSCA), which regulates things like PCBs and asbestos. Therefore, the phrase "RCRA hazardous waste" is insufficient. Similarly, the Department of Transportation regulations apply to shipping, transport, and storage during transport. The LANL Hazardous Waste Facility Permit includes DOT guidance for safely storing incompatible materials at TA-54 Area L and G. As such, the phrase "DOT shipping" is insufficient.	Implement	Paragraph revised to read "WCATS is a software application that has been specifically designed to manage LANL's waste from cradle to grave. WCATS supports the generation, characterization, processing, and shipment of LANL radioactive, hazardous, and industrial waste. WCATS is compliant with the Environmental Protection Agency (EPA) and New Mexico Environment Department regulations implementing RCRA, which includes hazardous waste regulations, and solid waste regulations. Moreover, WCATS is compliant with EPA regulations pertaining to the Toxic Substances Control Act, which regulates polychlorinated biphenyls and asbestos; Department of Transportation regulations applying to shipping, transport, and storage during transport; National Nuclear Security Agency nuclear material control and accountability; Department of Energy nuclear safety; LANL permit; and TRU waste certification requirements. WCATS serves as one element of LANL's Facility Operating Record. All LANL waste management and processing activities are expected to be documented and tracked in WCATS. "	Implement			
Stanton, James	Preference	Change to "documented and tracked". These activities are "performed" in the field, not in WCATS.	Implement	Revised as noted.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Bena, Clare	Preference	and ADESH-TOOL-803, Facility TSF Operating Record here and also: (1) 5.3.2-last para. after EP-AP-10003; (2) 5.4 - end of para. after EP-AP-10003; (3) 5.4.2 - end of 1st, 2nd, 3rd para. after EP-AP-10003; (4) 5.8 - end of 1st para. after EP-AP-10003; (5) 10.0 - end of para. after EP-AP-10003.	Implement	Incorporated	Implement			
Stanton, James	Preference	Is this still accurate? WCATS refers to "Waste Stream Profile." The physical Waste Profile Form has been replaced by WCATS. I do not think WPF numbers are still assigned. Instead, WSP numbers are assigned.	Implement	WPF replaced with waste stream profile throughout document.	Implement			
Stanton, James	Preference	Sections 5.2 through 5.8 appear to be unnecessary. Developing a table that combines the previous list with the locations of where the information is kept and the Permit/Regulatory section requiring the information seems to be less wordy and just as effective.	Implement	Table developed and attached as Attachment 1.	Implement			
Stanton, James	Preference	WSP here and througout the document.	Implement	WPF changed to waste stream profile thoughout document.	Implement			
Stanton, James	Preference	Comma after "process."	Implement	Revised as noted.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	Include ORPS reporting documentation as part of the Operating Record. Incidents such as spills, leaks, etc., that are not captured on the completed IRFs (though they should be) and do not require the Contingency Plan to be implemented are often investigated and reported under ORPS.	Implement	Added description of ORPS to Section 5.4.	Implement			
Stanton, James	Preference	Change this to the actual location where these records can be found. The intent of Sections 5.2 - 5.8 is, apparently, to describe the type of record and where it is specifically kept. Saying that incident reports are kept in the "Operating Record" in a document that is describing all the parts of the operating record is circular logic.	Implement	Revised to state that EMR generates records and EWMO FOD will maintain per EP-AP-10003.	Implement			
Stanton, James	Preference	Fires, explosions, natural disasters, and certain spills are specifically called out in the Contingency Plan as triggers for its implementation. Please use examples that would not trigger it.	Implement	Deleted "(e.g., releases, explosions, fires, etc.)"	Implement			
Stanton, James	Preference	Change to "records for". Again, it is important to designate where these records will be maintained.	Implement	This paragraph moved to 5.15. Revised to note actual storage location.	Implement			
Stanton, James	Preference	Change to "Permit Attachment E (Inspection Plan)".	Implement	Revised as noted.	Implement			
Stanton, James	Preference	The AR database used by the Nuc Operators/RCRA Inspectors is also part of the Operating Record	Implement	Description of AR added.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	Does this procedure describe how the completed records are maintained on Documentum? If not, please point to Documentum here and note that the records can be accessed under the LANL Electronic Document Management System.	Implement	Section 4. Records Management added and addresses LANL-wide records storage.	Implement			
Stanton, James	Preference	This sentence is not pertinent to this document and should be deleted.	Implement	This paragraph moved to Section 5.14. Revised to include specific implement document and records management.	Implement			
Stanton, James	Preference	Since a required inspection is documented on Round Sheets, they are part of the Operating Record. Please clarify whether the Round Sheets are maintained on Documentum or elsewhere.	Implement	Revised to include implementing procedure.	Implement			
Stanton, James	Preference	What records are required and where are they kept?	Implement	Revised section to note that fire alarms inspected during RCRA inspections. Maintained in EDMS.	Implement			
Stanton, James	Preference	There should, however, be a statement of this maintained somewhere in the Operating Record. Where is it?	Implement	Revised paragraph to clarify non-applicability.	Implement			
Stanton, James	Preference	These are still tracked by MSS under its CMMS system.	Implement	Deleted "outside contractor"	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	There is no discussion of Fire Pumps, which are specifically called out in Permit Attachment E Section E.1.1. Fire pumps are maintained and inspected under the Preventive Maintenance program, and fire alarms may also be under that program. Records are maintained in the CMMS system as Maintenance History per P950 and its implementing procedures.	Implement	EWMO facilities have no fire pumps. Revised section to include implementing and records management procedures.	Implement			
Stanton, James	Preference	Section 6 is now Shipping Papers. I do not believe that the certifications regarding waste left behind will be maintained under that Section.	Implement	Revised this section to refer back to Permit requirements becuase this is future activities.	Implement			
Stanton, James	Preference	There needs to be a distinction here between waste treated by LANL generators in <90 day storage areas or at the point of generation and waste treated at a permitted facility (e.g., Area G Process Areas). Generator treatment certifications would be maintained in WCATS, but there may be a completely different process for dealing with treatment at Permitted facilities. Also, it is not clear that WCATS has the information necessary to track generator treatment of legacy TRU waste that was performed at the generator sites prior to transferring the waste to EWMO.	Implement	Revised this to clarify no treatment at EWMO and off-site treatment records generation and storage.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	Even if the data are not EWMO's responsibility, this is an Operating Record document. If the data and reports are maintained in the Electronic Reading Room or on the Intellus system, please note that fact here.	Implement	REvised text to reference LANL Public Reading Room.	Implement			
Bena, Clare	Preference	Hazardous Waste Manifests for internal LANL shipments of MLLW and MTRU are maintained by WM Division. Manifests for transuranic waste shipments to WIPP are kept by OS-PT. (refer to ADESH-TOOL-803). The procedure doesn't identify if these are internal or off-site manifests. It should be more specific.	Implement	Section 5.1 addresses the management of manifests.	Implement			
Stanton, James	Preference	Not sure if this is happening. MSS is likely to perform this work or oversee a subcontractor in performing it. Records would be maintained in the CMMS system under Maintenance History as required by P950.	Implement	Deleted reference to DEP and revised to MSS and CMMS.	Implement			
Stanton, James	Preference	WM Division maintains these in WCATS. Where does OS-PT maintain the manifests they manage?	Implement	Shipping papers section deleted and Section 5.1 addresses manifests. OS-PT referenced as TRU manifest generator.	Implement			
Stanton, James	Preference	How precisely? The completed IRFs indicate issues associated with Pads, Domes, etc., but do not go into much more detail.	Implement	RCRA inspections include inspection of asphalt pads on which haz waste is stored. Cracks and gaps are noted as an AR.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	Two things here: First, I'm not sure the Permit allows for semiannual repair of smaller cracks. Second, the repair times and frequencies do not belong in this document. Responses to noncompliant items identified during the inspection should be addressed in the procedure governing the inspection.	Implement	This section included in this document as request of DEP. Cracks and gaps are noted in AR log.	Implement			
Stanton, James	Preference	Again, repairs should not be addressed in this document other than to say that records relating to compensatory actions and repairs are part of the Operating Record and to identify where they will be maintained.	Disregard	This section included in this document as request of DEP.	Disregard	Agreed		
Stanton, James	Preference	Lightning protection evaluations, determinations, installation records, maintenance histories, and inspection records should be maintained in the Operating Record. Identify where they will be kept. The rest of this discussion is not relevant to this procedure.	Implement	Lightning protection not required to be maintained as part of Operating Record. This section included in document at request of DEP.	Implement			
Stanton, James	Preference	This determination should be documented and maintained as part of the Operating Record. Is it in the Public Reading Room? Documentum?	Implement	Determination maintained by ENV-CP.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	This paragraph is not relevant to this procedure. Maintenance, inspection, and other records applicable to the Evac Alarms (including engineering documentation, incident investigations, evacuation drills, etc.) are part of the Operating Record. Where are they maintained? Also, procedures (such as the referenced AOP) should be considered part of the Operating Record. Their maintenance and location for reference should be addressed in this procedure/document.	Implement	Section 8 maintained in document at request of DEP. Incident response and the associated records are addressed in Section	Implement			
Stanton, James	Preference	Same as previous comments. This document really should be something like an Operating Record Management Plan that identifies the required items for the OR and describes where the items will be kept, referencing the appropriate procedure for maintaining that record, and who is responsible. Don't regurgitate the permit requirements for each item, except to identify where in the permit the item is actually required to be in the OR. This and all simliar sections should function as a crosswalk for personnel to be able to find pertinent records when doing things like reporting to NMED or developing a closure plan. Also, procedures are part of the OR and need to be listed, as do sampling and analysis plans.	Implement	Section 8 maintained in document at request of DEP. Attachment 1 provides a matrix which provides regulatory drivers and implementing procedures.	Implement			

Reviewer	Comment Type	Formatted Comment	Initial Disposition	Initial Disposition Comment (Moseley)	Final Disposition	Final Disposition Comment (Griego)	Verification	Verification Comment (Reviewer)
Stanton, James	Preference	Same as previous	Implement	Section 8 maintained in document at request of DEP. Attachment 1 provides a matrix which provides regulatory drivers and implementing procedures.	Implement			
Stanton, James	Preference	Same as previous.	Implement	Section 8 maintained in document at request of DEP. Attachment 1 provides a matrix which provides regulatory drivers and implementing procedures.	Implement			

Supplemental Comment Resolutions Summary Including Non-DRS Comments
EWMO-AP-20284, R.0 - EWMO RCRA Permit Operating Record and Compliance Programs

Reviewer	Organization	Page (Draft - RL/SO)	Comment Type	Error Type	Formatted Comment	Initial Disposition	Initial Disposition Comment
Stanton, James	ENV-CP	1	Preference	Suggested - Editorial Error	If the Deployed Environmental Professional is responsible for maintaining the accuracy of this procedure, then should the DSESH-EWMO Group Leader (Bob Stokes) also be listed here?	Implement	Responsibility for implementation and maintenance of the Facility Operating Record resides with the FOD. Section 3.1 revised as follows: "Deployed Services Environment, Safety, and Health - Environmental Waste Management Operations The Deployed Environmental Professional, for the facilities supported by this procedure, supports the collection and maintenance of the information provided in this document."
Whitney, Gary	IH&S	1	Preference	No comments to report		No comments reported by Reviewer	Reviewer reported no comments.
Stanton, James		6	Preference	Suggested - Editorial Error	Change to "Permit." The correct title of the Permit is the Hazardous Waste Facility Permit, which was defined earlier in the paragraph.	Implement	Revised as noted.
Stanton, James		6	Preference	Suggested - Editorial Error	Change to "That" because you are discussing the TWF document. When using the word "this," the reference is to the Area G, L, RANT, and WCRRF document.	Implement	Deleted paragraph and reference to TWF as EWMO supported facility.
Stanton, James		6	Preference	Suggested - Editorial Error	ENV-ES is no longer the responsible group for DEPs. Deployed Services Division holds these positions. For EWMO, the reference should be to DSESH-EWMO.	Implement	Responsibility section removed from document.
Rhodes, Val	EWMO-ENG	6			Scope - Applicable to all of TA-54?	Implement	Clarified to include Areas G and L (per Permit).
Stanton, James		7	Preference	Suggested - Editorial Error	Change RCRA Storage Areas to "Hazardous Waste Permitted Units"	Implement	Replaced "RCRA Storage Areas" with "Hazardous Waste Permitted Units"
Stanton, James		8	Preference	Suggested - Editorial Error	Suggest also correlating these designations to the Designated Areas in the BIO. While there is not a 100% match, it may be useful to correlate them.	Disregard	Recommendation reserved for a future revision.
Rhodes, Val		8			Section 4.2.2 - Area G. Is haz waste stored in Area G?	Disregard	Hazardous waste in not rountinely stored in Area G but is allowed by Permit; therefore, sentence not revised.
Bena, Clare	ENV-CP	9	Preference	Suggested - Editorial Error	Capitalize Facility Operating Record here and through out document.	Implement	Revision made throughout document.
Stanton, James		9	Preference	Suggested - Editorial Error	Capitalize. In the same way that SHALLs, ANDs, ORs, etc., are capitalized in TSR related documents, they should be capitalized here, too. These are Permit requirements. Apply throughout the document.	Disregard	All caps verbs currently used only in the context of TSRs. Revised shall to must throughout document.
Stanton, James		10	Preference	Suggested - Editorial Error	Where is this kept? WCATS?	Implement	Reformated into table to include applicable document sections. For completeness, included each bullet from Permit Section 2.11.2.
Stanton, James		10	Preference	Suggested - Editorial Error	Where? WCATS?	Implement	Reformated into table to include applicable document sections. For completeness, included each bullet from Permit Section 2.11.2.
Stanton, James		10	Preference	Suggested - Editorial Error	Show location of record in the Operating Record for each item in this list.	Implement	Reformated into table to include applicable document sections. For completeness, included each bullet from Permit Section 2.11.2.
Stanton, James		10	Preference	Suggested - Editorial Error	This is a separate item from Contingency Plan implementation incidents and should have its own bullet. Regulatory citation may apply to both bullets.	Implement	Reformated into table to include applicable document sections. Made these two sections distinct. For completeness, included each bullet from Permit Section 2.11.2.
Stanton, James		10	Preference	Suggested - Editorial Error	Expand. Monitoring of what? Groundwater? Air Quality?	Implement	Reformated into table to include applicable document sections. For completeness, included each bullet from Permit Section 2.11.2.
Stanton, James		10	Preference	Suggested - Editorial Error	Either spell out the items required by 40 CFR 268.7 or change the wording in this bullet to "Generator paperwork and Treatment Facility paperwork required by 40 CFR 268.7."	Implement	Section 5.(10), 5.(11), and 5.(12) combined and 40 CFR 264.7 referenced.

Supplemental Comment Resolutions Summary Including Non-DRS Comments
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Reviewer	Organization	Page (Draft - RL/SO)	Comment Type	Error Type	Formatted Comment	Initial Disposition	Initial Disposition Comment
Stanton, James		10	Compliance	Essential - Compliance	This bullet is associated with waste left in the ground. Therefore, the regulatory citation is incorrect. 268.7(b) addresses treated waste while 268.7(c) addresses waste that is land disposed (i.e., left in the ground). You must change the citation.	Implement	Section 5.(10), 5.(11), and 5.(12) combined and 40 CFR 264.7 referenced.
Stanton, James		10	Preference	Essential - Compliance	Change reference to 268.7(a)	Implement	Section 5.(10), 5.(11), and 5.(12) combined and 40 CFR 264.7 referenced.
Stanton, James		10	Preference	Suggested - Editorial Error	Change to "Sections"	Implement	Revised as noted.
Bishop, Tony	WM-SVS	11			Section 5.1 - Correct organization reference to Waste Management Division-Waste Management Services.	Implement	Corrected
Stanton, James		12	Preference	Suggested - Editorial Error	This list is rather lax in how it refers to regulatory programs and drivers. WCATS is compliant with the EPA and NM Environment Department regulations implementing the Resource Conservation and Recovery Act (RCRA), which includes hazardous waste regulations, but also solid waste regulations. Moreover, WCATS is compliant with EPA regulations pertaining to the Toxic Substances Control Act (TSCA), which regulates things like PCBs and asbestos. Therefore, the phrase "RCRA hazardous waste" is insufficient. Similarly, the Department of Transportation regulations apply to shipping, transport, and storage during transport. The LANL Hazardous Waste Facility Permit includes DOT guidance for safely storing incompatible materials at TA-54 Area L and G. As such, the phrase "DOT shipping" is insufficient.	Implement	Paragraph revised to read "WCATS is a software application that has been specifically designed to manage LANL's waste from cradle to grave. WCATS supports the generation, characterization, processing, and shipment of LANL radioactive, hazardous, and industrial waste. WCATS is compliant with the Environmental Protection Agency (EPA) and New Mexico Environment Department regulations implementing RCRA, which includes hazardous waste regulations, and solid waste regulations. Moreover, WCATS is compliant with EPA regulations pertaining to the Toxic Substances Control Act, which regulates polychlorinated biphenyls and asbestos; Department of Transportation regulations applying to shipping, transport, and storage during transport; National Nuclear Security Agency nuclear material control and accountability; Department of Energy nuclear safety; LANL permit; and TRU waste certification requirements. WCATS serves as one element of LANL's Facility Operating Record. All LANL waste management and processing activities are expected to be documented and tracked in WCATS.
Rhodes, Val		12			2nd paragraph - Is mixed waste implied?	Implement	Revised to "radioactive, hazardous, mixed, and industrial"
Stanton, James		11	Preference	Suggested - Editorial Error	Change to "documented and tracked". These activities are "performed" in the field, not in WCATS.	Implement	Revised as noted.
Bena, Clare		14	Preference	Suggested - Editorial Error	Add "and ADESH-TOOL-803, Facility TSF Operating Record" here and also: (1) 5.3.2-last para. after EP-AP-10003; (2) 5.4 - end of para. after EP-AP-10003; (3) 5.4.2 - end of 1st, 2nd, 3rd para. after EP-AP-10003; (4) 5.8 - end of 1st para. after EP-AP-10003; (5) 10.0 - end of para. after EP-AP-10003.	Implement	Incorporated
Stanton, James		14	Preference	Suggested - Editorial Error	Is this still accurate? WCATS refers to "Waste Stream Profile." The physical Waste Profile Form has been replaced by WCATS. I do not think WPF numbers are still assigned. Instead, WSP numbers are assigned.	Implement	WPF replaced with waste stream profile throughout document.
Stanton, James		14	Preference	Suggested - Editorial Error	Sections 5.2 through 5.8 appear to be unnecessary. Developing a table that combines the previous list with the locations of where the information is kept and the Permit/Regulatory section requiring the information seems to be less wordy and just as effective.	Implement	Table developed and attached as Attachment 1.
Stanton, James		14	Preference	Suggested - Editorial Error	WSP here and througout the document.	Implement	WPF changed to waste stream profile thoughout document.
Bishop, Tony		14			Section 5.3.1 - Deleted sentence "WMCs also document the approval of waste stream profiles utilizing WCATs. " Waste Services approves.	Implement	Sentence deleted.

Supplemental Comment Resolutions Summary Including Non-DRS Comments
EWMO-AP-20284, R.0 - EWMO RCRA Permit Operating Record and Compliance Programs

Reviewer	Organization	Page (Draft - RL/SO)	Comment Type	Error Type	Formatted Comment	Initial Disposition	Initial Disposition Comment
Bishop, Tony		15			Section 5.3.2 - Change "waste stream profile is cancelled" to "waste stream profile expires."	Implement	Sentence revised.
Bishop, Tony		15			Section 5.3.2 - When there is a change in waste stream, waste stream is recharacterized and new waste stream profile created.	Implement	Added following sentence: The waste stream is recharacterized and new waste stream profile is created.
Stanton, James		15	Preference	Suggested - Editorial Error	Comma after "process."	Implement	Revised as noted.
Bishop, Tony		16			Section 5.3.3 - correct document reference from WGS-PROG-QP-236 to WM-PROG-QP--236	Implement	Corrected
Stanton, James		16	Preference	Suggested - Editorial Error	Include ORPS reporting documentation as part of the Operating Record. Incidents such as spills, leaks, etc., that are not captured on the completed IRFs (though they should be) and do not require the Contingency Plan to be implemented are often investigated and reported under ORPS.	Implement	Added description of ORPS to Section 5.4.
Stanton, James		16	Preference	Suggested - Editorial Error	Change this to the actual location where these records can be found. The intent of Sections 5.2 - 5.8 is, apparently, to describe the type of record and where it is specifically kept. Saying that incident reports are kept in the "Operating Record" in a doChange this to the actual location where these records can be found. The intent of Sections 5.2 - 5.8 is, apparently, to describe the type of record and where it is specifically kept. Saying that incident reports are kept in the "Operating Record" in a document that is describing all the parts of the operating record is circular logic.	Implement	Revised to state that EMR generates records and EWMO FOD will maintain per EP-AP-10003.
Stanton, James		17	Preference	Suggested - Editorial Error	Fires, explosions, natural disasters, and certain spills are specifically called out in the Contingency Plan as triggers for its implementation. Please use examples that would not trigger it.	Implement	Deleted "(e.g., releases, explosions, fires, etc.)"
Stanton, James		17	Preference	Suggested - Editorial Error	Change to "records for". Again, it is important to designate where these records will be maintained.	Implement	This paragraph moved to 5.15. Revised to note actual storage location.
Stanton, James		18	Preference	Suggested - Editorial Error	Change to "Permit Attachment E (Inspection Plan)".	Implement	Revised as noted.
Stanton, James		18	Preference	Suggested - Editorial Error	The AR database used by the Nuc Operators/RCRA Inspectors is also part of the Operating Record	Implement	Description of AR added.
Stanton, James		18	Preference	Suggested - Editorial Error	Does this procedure describe how the completed records are maintained on Documentum? If not, please point to Documentum here and note that the records can be accessed under the LANL Electronic Document Management System.	Implement	Section 4. Records Management added and addresses LANL-wide records storage.
Stanton, James		18	Preference	Suggested - Editorial Error	This sentence is not pertinent to this document and should be deleted.	Implement	This paragraph moved to Section 5.14. Revised to include specific implement document and records management.
Rhodes, Val		18			Section 5.4.2 - Stormwater - Two words or one?	Disregard	One word per MSGP 2015
Stanton, James		19	Preference	Suggested - Editorial Error	Since a required inspection is documented on Round Sheets, they are part of the Operating Record. Please clarify whether the Round Sheets are maintained on Documentum or elsewhere.	Implement	Revised to include implementing procedure.
Stanton, James		19	Preference	Suggested - Editorial Error	What records are required and where are they kept?	Implement	Revised section to note that fire alarms inspected during RCRA inspections. Maintained in EDMS.
Stanton, James		19	Preference	Suggested - Editorial Error	There should, however, be a statement of this maintained somewhere in the Operating Record. Where is it?	Implement	Revised paragraph to clarify non-applicability.
Stanton, James		19	Preference	Suggested - Editorial Error	Include records generated by AREAG-FO-AP-1334, TA-54 Area G Non-TSR Transient Combustible Loading.	Implement	Incorporated into Section 5.5.2 and Attachment 1.

Supplemental Comment Resolutions Summary Including Non-DRS Comments
EWMO-AP-20284, R.0 - EWMO RCRA Permit Operating Record and Compliance Programs

Reviewer	Organization	Page (Draft - RL/SO)	Comment Type	Error Type	Formatted Comment	Initial Disposition	Initial Disposition Comment
Stanton, James		19	Preference	Suggested - Editorial Error	These are still tracked by MSS under its CMMS system.	Implement	Deleted "outside contractor"
Stanton, James		19	Preference	Suggested - Editorial Error	There is no discussion of Fire Pumps, which are specifically called out in Permit Attachment E Section E.1.1. Fire pumps are maintained and inspected under the Preventive Maintenance program, and fire alarms may also be under that program. Records are maiThere is no discussion of Fire Pumps, which are specifically called out in Permit Attachment E Section E.1.1. Fire pumps are maintained and inspected under the Preventive Maintenance program, and fire alarms may also be under that program. Records are maintained in the CMMS system as Maintenance History per P950 and its implementing procedures.	Implement	EWMO facilities have no fire pumps. Revised section to include implementing and records management procedures.
Stanton, James		21			make a note that Section 5.9.1 MUST be revised immediately upon approval of the permit modification to allow treatment of nitrate salt wastes by NMED.	Implement	Noted in Section 5.9.1.
Stanton, James		21	Preference	Suggested - Editorial Error	Section 6 is now Shipping Papers. I do not believe that the certifications regarding waste left behind will be maintained under that Section.	Implement	Revised this section to refer back to Permit requirements becuase this is future activities.
Stanton, James		21	Preference	Suggested - Editorial Error	There needs to be a distinction here between waste treated by LANL generators in <90 day storage areas or at the point of generation and waste treated at a permitted facility (e.g., Area G Process Areas). Generator treatment certifications would be maintaThere needs to be a distinction here between waste treated by LANL generators in <90 day storage areas or at the point of generation and waste treated at a permitted facility (e.g., Area G Process Areas). Generator treatment certifications would be maintained in WCATS, but there may be a completely different process for dealing with treatment at Permitted facilities. Also, it is not clear that WCATS has the information necessary to track generator treatment of legacy TRU waste that was performed at the generator sites prior to transferring the waste to EWMO.	Implement	Revised this to clarify no treatment at EWMO and off-site treatment records generation and storage.
Stanton, James		11	Preference	Suggested - Editorial Error	Even if the data are not EWMO's responsibility, this is an Operating Record document. If the data and reports are maintained in the Electronic Reading Room or on the Intellus system, please note that fact here.	Implement	Revised text to reference LANL Public Reading Room.
Bena, Clare		22	Preference	Other	Hazardous Waste Manifests for internal LANL shipments of MLLW and MTRU are maintained by WM Division. Manifests for transuranic waste shipments to WIPP are kept by OS-PT. (refer to ADESH-TOOL-803). The procedure doesn't identify if these are internalHazardous Waste Manifests for internal LANL shipments of MLLW and MTRU are maintained by WM Division. Manifests for transuranic waste shipments to WIPP are kept by OS-PT. (refer to ADESH-TOOL-803). The procedure doesn't identify if these are internal or off-site manifests. It should be more specific.	Implement	Section 5.1 addresses the management of manifests.
Rhodes, Val		23			Section 5.14 - Numerous places where the doc title does not follow the number…it goes back and forth through out the document - suggest going one way or other	Implement	Revised all document references so title is only provided in first call out/

Supplemental Comment Resolutions Summary Including Non-DRS Comments
EWMO-AP-20284, R.0 - EWMO RCRA Permit Operating Record and Compliance Programs

Reviewer	Organization	Page (Draft - RL/SO)	Comment Type	Error Type	Formatted Comment	Initial Disposition	Initial Disposition Comment
Stanton, James		11	Preference	Suggested - Editorial Error	Not sure if this is happening. MSS is likely to perform this work or oversee a subcontractor in performing it. Records would be maintained in the CMMS system under Maintenance History as required by P950.	Implement	Deleted reference to DEP and revised to MSS and CMMS.
Stanton, James		25	Preference	Suggested - Editorial Error	WM Division maintains these in WCATS. Where does OS-PT maintain the manifests they manage?	Implement	Shipping papers section deleted and Section 5.1 addresses manifests. OS-PT referenced as TRU manifest generator.
Stanton, James		25	Preference	Suggested - Editorial Error	How precisely? The completed IRFs indicate issues associated with Pads, Domes, etc., but do not go into much more detail.	Implement	RCRA inspections include inspection of asphalt pads on which haz waste is stored. Cracks and gaps are noted as an AR.
Stanton, James		25	Preference	Suggested - Editorial Error	Two things here: First, I'm not sure the Permit allows for semiannual repair of smaller cracks. Second, the repair times and frequencies do not belong in this document. Responses to noncompliant items identified during the inspection should be addressed in the procedure governing the inspection.	Implement	This section included in this document as request of DEP. Cracks and gaps are noted in AR log.
Stanton, James		25	Preference	Suggested - Editorial Error	Again, repairs should not be addressed in this document other than to say that records relating to compensatory actions and repairs are part of the Operating Record and to identify where they will be maintained.	Disregard	This section included in this document as request of DEP.
Rhodes, Val		25			Section 7, Lightning Protection, 2nd paragraph: With what results? Or is the intent that DE evaluated and found the LPS to be adquare to prevent accidental ignitiions...	Implement	Clarified sentence to note areas adequate except those listed in 2nd paragraph.
Stanton, James		26	Preference	Suggested - Editorial Error	Lightning protection evaluations, determinations, installation records, maintenance histories, and inspection records should be maintained in the Operating Record. Identify where they will be kept. The rest of this discussion is not relevant to this procedure.	Implement	Lightning protection not required to be maintained as part of Operating Record. This section included in document at request of DEP.
Stanton, James		26	Preference	Suggested - Editorial Error	This determination should be documented and maintained as part of the Operating Record. Is it in the Public Reading Room? Documentum?	Implement	Determination maintained by ENV-CP.
Stanton, James		27	Preference	Suggested - Editorial Error	This paragraph is not relevant to this procedure. Maintenance, inspection, and other records applicable to the Evac Alarms (including engineering documentation, incident investigations, evacuation drills, etc.) are part of the Operating Record. Where are This paragraph is not relevant to this procedure. Maintenance, inspection, and other records applicable to the Evac Alarms (including engineering documentation, incident investigations, evacuation drills, etc.) are part of the Operating Record. Where are they maintained? Also, procedures (such as the referenced AOP) should be considered part of the Operating Record. Their maintenance and location for reference should be addressed in this procedure/document.	Implement	Section 8 maintained in document at request of DEP. Incident response and the associated records are addressed in Section

Supplemental Comment Resolutions Summary Including Non-DRS Comments
EWMO-AP-20284, R.0 - EWMO RCRA Permit Operating Record and Compliance Programs

Reviewer	Organization	Page (Draft - RL/SO)	Comment Type	Error Type	Formatted Comment	Initial Disposition	Initial Disposition Comment
Stanton, James		27	Preference	Suggested - Editorial Error	Same as previous comments. This document really should be something like an Operating Record Management Plan that identifies the required items for the OR and describes where the items will be kept, referencing the appropriate procedure for maintaining that record, and who is responsible. Don't regurgitate the permit requirements for each item, except to identify where in the permit the item is actually required to be in the OR. This and all simliar sections should function as a crosswalk for personnel to be able to find pertinent records when doing things like reporting to NMED or developing a closure plan. Also, procedures are part of the OR and need to be listed, as do sampling and analysis plans.	Implement	Section 8 maintained in document at request of DEP. Attachment 1 provides a matrix which provides regulatory drivers and implementing procedures.
Stanton, James		27	Preference	Suggested - Editorial Error	Same as previous	Implement	Section 8 maintained in document at request of DEP. Attachment 1 provides a matrix which provides regulatory drivers and implementing procedures.
Stanton, James		27	Preference	Suggested - Editorial Error	Same as previous.	Implement	Section 8 maintained in document at request of DEP. Attachment 1 provides a matrix which provides regulatory drivers and implementing procedures.
Bishop, Tony		29			Reference section - correct document reference from WGS-PROG-QP-236 to WM-PROG-QP--236	Implement	Corrected