

**STATE OF NEW MEXICO
BEFORE THE OFFICE OF THE SECRETARY**

**IN THE MATTER OF THE
APPLICATION OF THE
WASTE ISOLATION PILOT PLANT
FOR RENEWAL OF HAZARDOUS
WASTE FACILITY PERMIT
EPA I.D. NUMBER NM 4890139088**

SETTLEMENT AGREEMENT AND STIPULATION ON DRAFT PERMIT


This Settlement Agreement ("Agreement") is effective on the 23rd day of June, 2023, by and between the U.S. Department of Energy and Salado Isolation Mining Contractors, LLC (hereinafter referred to as "Permittees"), Carlsbad Department of Development, Citizens for Alternatives To Radioactive Dumping, Concerned Citizens for Nuclear Safety, Conservation Voters New Mexico, Nuclear Watch New Mexico, Southwest Alliance For a Safe Future, Southwest Research and Information Center, Steve Zappe, (hereinafter referred to as "Interested Persons"), and the Hazardous Waste Bureau ("HWB") of the New Mexico Environment Department ("NMED") (NMED, Permittees and Interested Persons are collectively referred to as the "Parties").

1. WHEREAS, the Permittees have filed an application with the NMED to renew and modify the Waste Isolation Pilot Plant ("WIPP") Hazardous Waste Facility Permit ("Permit");
2. WHEREAS, the NMED reviewed the subject Permit application, and subsequently issued a draft Permit on December 20, 2022, with a public notice requesting public comment;
3. WHEREAS, the Interested Persons have objected to provisions in the draft Permit and have requested a public hearing be held on the subject renewal and modification of the draft Permit;
4. WHEREAS, pursuant to 20.4.1.901.A(4) NMAC, the Parties have met in confidential negotiations to discuss the contested issues in this matter and have agreed to stipulate that certain conditions will be placed in the Permit that is the subject of this proceeding to resolve the contested issues and Permit conditions;
5. WHEREAS, Permittees have agreed to add information to Section 3.4 of the Community Relations Plan that will reflect the public information process in the NMED Public Involvement Plan as requested by Interested Parties; and,
6. WHEREAS Permittees have agreed to withdraw two Permit modifications pending with the NMED and pursue two additional Permit modification requests at the suggestion of the Interested Parties.
7. NOW THEREFORE, in consideration of the mutual covenants in this Agreement and in the interests of resolution of this matter without the necessity of a contested hearing on the draft Permit and eliminating future conflicts related to the renewal that is the subject of this proceeding, the Parties stipulate and agree that claims and disputes that the Parties raised or could have raised in this matter shall be and are hereby settled and resolved, compromised, released, and dismissed with prejudice, except as otherwise set forth below:

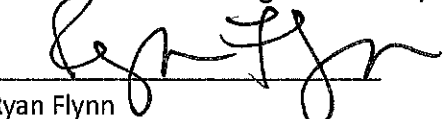
- a. The Parties agree to the proposed final Permit including conditions extracted from the pertinent proposed final Permit Parts or Attachments, attached hereto as Exhibit 1.
- b. Interested Persons and Permittees agree to withdraw their hearing requests in this matter and waive any challenge to the issuance of the subject proposed final Permit, including but not limited to any public hearing or judicial appeal of approval and issuance of the final Permit by NMED.
- c. Permittees agree to timely withdraw, without prejudice to resubmit them at a later date, the Permit modification request titled "Addition of a Concrete Overpack Storage Unit" and the permit modification titled "Modify Excluded Waste Prohibition".
- d. Permittees agree to add information to Section 3.4 of the Community Relations Plan during the next annual update to the plan that will reflect the public information process in the NMED Public Involvement Plan as requested by Interested Parties.
- e. Permittees agree to timely prepare and file two Class 1 Permit modifications with the NMED to change "100-year flood plain" to "500-year flood plain" and to ensure consistency with reference to the Tribal communities for notice and community involvement.
- f. Permittees agree to provide the Interested Parties, upon request, a color copy of the final Permit resulting from this negotiation.
- g. None of the terms of the final Permit and this Agreement shall be construed as a waiver by the Parties of any rights, privileges or immunities with regard to implementation and enforcement of the conditions of the final Permit.
- h. Each signatory below has been fully and duly authorized to execute this Agreement by their respective Party and to bind their respective Party, and its successors in interest and assigns hereby.
- i. This Agreement constitutes the entire agreement between the Parties and all prior conversations, negotiations, meetings, discussions, drafts, and writings of any kind are specifically superseded by this Agreement, and there exists between the Parties no oral agreement, understanding, statement, promise, representation, warranty, or inducement other than as is expressly set forth in this Agreement.
- j. Nothing in this Agreement shall be construed to hinder or prohibit any Party from bringing any action to enforce this Agreement or from bringing any action for breach of this Agreement.
- k. This Agreement may be executed in multiple counterparts.

IN WITNESS WHEREOF, the Parties have set their hand hereto as of the day and year set forth below.

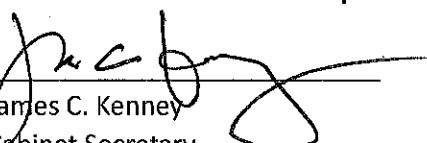
For: U.S. Department of Energy, Carlsbad Field Office

By: 
Michael Gerle
Title: Environmental Regulatory Compliance Division Director
Date: June 23, 2023

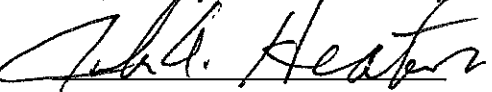
For: Salado Isolation Mining Contractors, LLC

By: 
Ryan Flynn
Title: Vice President and ESH Manager
Date: June 23, 2023

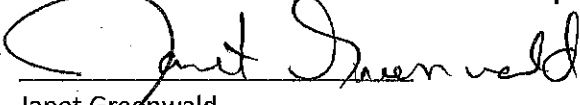
For: New Mexico Environment Department

By: 
James C. Kenney
Title: Cabinet Secretary
Date: June 23, 2023

For: Carlsbad Department of Development

By: 
John Heaton 2/23/23
Title: Authorized Representative
Date: _____

For: Citizens for Alternatives to Radioactive Dumping

By: 
Janet Greenwald
Title: Authorized Representative
Date: CARD

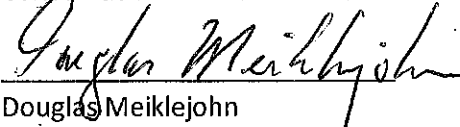
For: Concerned Citizens for Nuclear Safety

By: 
Joni Arends

Title: Executive Director

Date: June 23, 2023


For: Conservation Voters New Mexico

By: 
Douglas Meiklejohn

Title: Water Quality & Land Restoration Advocate

Date: 6/23/23

For: Nuclear Watch New Mexico

By: 
Scott Kovac

Title: Operations and Research Director

Date: 6-23-23


For: Southwest Alliance for A Safe Future

By: 
Patricia Cardona

Title: Policy Analyst

Date: 6/23/2023

For: Southwest Research and Information Center

By: 
Don Hancock

Title: Director of Nuclear Waste Safety Program

Date: 6/23/2023

For: Steve Zappe

By: 
Steve Zappe

Title: SAHS

Date: 6/23/2023

**SETTLEMENT AGREEMENT AND
STIPULATION ON DRAFT PERMIT**

Exhibit 1

As to those activities specifically authorized or otherwise specifically addressed under this Permit, compliance with this Permit during its term shall constitute compliance, for purposes of enforcement, with Subtitle C of RCRA and the HWA, and the implementing regulations at 40 CFR Parts 264, 266, and 268 except for those requirements that become effective by statute after the Permit has been issued [20.4.1.900 NMAC (incorporating 40 CFR §270.4)]

Compliance with this Permit shall not constitute a defense to any order issued or any action brought under Sections 74-4-10.E or 74-4-13 of the HWA; Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. §9601 et seq., commonly known as CERCLA) Sections 106(a), 104, or 107; or any other federal, state, or local law providing for protection of public health or the environment. This Permit does not convey any property rights of any sort or any exclusive privilege, nor authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations. [20.4.1.900 NMAC (incorporating 40 CFR §§270.4, 270.30(g), and 270.32(b)(1))]

1.3. PERMIT ACTIONS

1.3.1. Permit Modification, Suspension, and Revocation

This Permit may be modified, suspended, and/or revoked for cause as specified in Section 74-4-4.2 of the HWA and 20.4.1.900 NMAC (incorporating 40 CFR §§270.41, 270.42, and 270.43). The filing of a request by the Permittees for a permit modification, suspension, or revocation, or the notification of planned changes or anticipated noncompliance, shall not stay any permit condition [20.4.1.900 NMAC (incorporating 40 CFR §270.30(f))]. The Secretary shall issue a notice of revocation and reissuance for cause within 30 calendar days if, as specified in the Land Withdrawal Act (Pub. L. 102-579, as amended), the volumetric disposal limit for TRU waste of 6.2 million cubic feet at the WIPP facility is increased, or additional types of waste (i.e., other than defense-related TRU waste) are authorized, by federal statute.

1.3.2. Permit Renewal

The Permittees may renew this Permit by submitting an application for a new Permit at least 180 calendar days before the expiration date of this Permit. In reviewing any application for a Permit renewal, the Secretary shall consider improvements in the state of control and measurement technology and changes in applicable regulations. [20.4.1.900 NMAC (incorporating 40 CFR §§270.10(h) and 270.30(b))]

1.3.3. Permit Review

The Secretary shall review this Permit no later than five (5) years after the effective date of this Permit, and shall modify this Permit as necessary pursuant to Section 74-4-4.2 of the HWA and 20.4.1.900 NMAC (incorporating 40 CFR §270.41). Such modification(s) shall not extend the effective term of this Permit specified in Permit Section 1.7.2. [20.4.1.900 NMAC (incorporating 40 CFR §§270.41 and 270.50(b) and (d))]

1.5.21. TRU Mixed Waste RCRA Volume

“TRU Mixed Waste RCRA Volume (**TRU Mixed Waste Volume**)” means the gross internal volume of the outermost disposal container of TRU mixed waste pursuant to waste volumes in this Permit. For purposes of this Permit, all TRU waste is managed as though it were mixed. This volume is tracked and reported by the Permittees relative to the authorized maximum capacities in Permit Part 4, Table 4.1.1.

1.5.22. Land Withdrawal Act TRU Waste Volume

“Land Withdrawal Act TRU Waste Volume (**LWA TRU Waste Volume**)” means the volume of TRU waste inside a disposal container. This volume is tracked and reported by the DOE internally relative to the WIPP Land Withdrawal Act total capacity limit of 6.2 million ft³ (175,564 m³) (Pub. L. 102-579, as amended). For informational purposes, the LWA TRU Waste Volume is included in Table 4.1.1.

1.6. EFFECT OF INACCURACIES IN PERMIT APPLICATION

This Permit is based on the assumption that all information contained in the permit application and the administrative record is accurate and that the Facility will be constructed and operated as specified in the application. The permit application consists of information submitted in March 2020 and supplementary technical documents.

Any inaccuracies found in the submitted information may be grounds for the termination or modification of this Permit in accordance with 20.4.1.900 NMAC (incorporating 40 CFR §270.41, §270.42, and §270.43) and for potential enforcement action.

1.7. DUTIES AND REQUIREMENTS

1.7.1. Duty to Comply

The Permittees shall comply with all conditions of this Permit, except to the extent and for the duration such noncompliance is authorized in an emergency permit specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.61). Any Permit noncompliance, except under the terms of an emergency permit, constitutes a violation of RCRA and/or HWA and is grounds for enforcement action; for Permit modification, suspension, or revocation; or for denial of a Permit modification or renewal application. [20.4.1.900 NMAC (incorporating 40 CFR §270.30(a))]

1.7.2. Permit Term

This Permit shall be effective for a fixed term not to exceed ten years from the effective date. The effective date of this Permit shall be 30 days after notice of the Secretary’s decision has been served on the Permittees or such later time as the Secretary may specify. [20.4.1.900 NMAC (incorporating 40 CFR §270.50(a))]

1.7.3. Duty to Reapply

If the Permittees wish to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittees shall apply for and obtain a new Permit. The Permittees shall begin the pre-application public participation process at least 360 calendar days before the expiration date of this Permit, pursuant to 40 CFR §124.31. The Permittees shall submit an application for a new Permit at least 180 calendar days before the expiration date of this Permit. The Permittees shall provide an inventory of TRU waste from the DOE complex to support the renewal application. The inventory shall include the basis for estimated quantities. [20.4.1.900 NMAC (incorporating 40 CFR §§270.10(h), 270.30(b))]

1.7.4. Continuation of Expiring Permits

If the Permittees have submitted a timely and complete application for renewal of this Permit as specified in 20.4.1.900 NMAC (incorporating 40 CFR §§270.10, 270.13 through 270.29), this Permit shall remain in effect until the effective date of the new Permit if, through no fault of the Permittees, the Secretary has not issued a new Permit on or before the expiration date of this Permit. [20.4.1.900 NMAC (incorporating 40 CFR §270.51)]

1.7.5. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittees in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. [20.4.1.900 NMAC (incorporating 40 CFR §270.30(c))]

1.7.6. Duty to Mitigate

In the event of noncompliance with this Permit, the Permittees shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. [20.4.1.900 NMAC (incorporating 40 CFR §270.30(d))]

1.7.7. Proper Operation and Maintenance

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 shall include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. [20.4.1.900 NMAC (incorporating 40 CFR §270.30(e))]

1.7.8. Duty to Provide Information

The Permittees shall furnish to the Secretary, within a reasonable time frame as specified by the Secretary, any relevant information which the Secretary may request to determine

1.15. COMMUNITY RELATIONS PLAN

1.15.1. Requirement for Community Relations Plan

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, as specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.32(b)(2)). The CRP shall explain how communities and interested members of the public can participate in Permit-related activities.

The Permittees shall implement and post the CRP on the WIPP Home Page within 180 days of the effective date of this Permit. The Permittees shall maintain the CRP until the termination of this Permit.

1.15.2. Contents of Community Relations Plan

The CRP must describe how the Permittees will accomplish the following elements:

1. Identify and establish an open working relationship with communities and interested members of the public;
2. Establish a productive government-to-government relationship between the Permittee DOE and affected tribes and pueblos;
3. Keep communities and interested members of the public informed of permit actions of interest (e.g., implementation of the Contingency Plan, Permit modification requests, Permit compliance issues), to include pre-submittal meetings for Class 2 and 3 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.
7. The Permittees shall conduct WIPP Community Forum public meetings three times per year with interested stakeholders, communities, and members of the public. Specifically, the Permittees must invite the members of the New Mexico Radioactive Waste Consultation Task Force to each meeting. The Permittees shall provide evidence of at least 30 days' public notice prior to the meeting taking place.

2.3.2. Audit and Surveillance Program

The Permittees shall not manage, store, or dispose TRU mixed waste at WIPP from a generator/storage site until the following conditions have been met as necessary for the Secretary to determine that the applicable characterization requirements of Permit Section 2.3.1 have been implemented:

2.3.2.1. Requirement to Audit

DOE shall demonstrate to the Secretary that the generator/storage sites have implemented and comply with applicable requirements of the WAP by conducting audits as specified in Permit Attachment C, Section C-5a(3), and Permit Attachment C6 (Audit and Surveillance Program), and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.13).

2.3.2.2. Observation of Audits and Generator Site Technical Reviews

The Secretary may observe such audits as necessary to validate the implementation of and compliance with applicable WAP requirements at each generator/storage site. The NMED will be invited to the daily audit team caucus as observers. DOE shall provide the Secretary with a current audit schedule on a monthly basis and notify the Secretary no later than 30 calendar days prior to each audit.

The NMED will be invited to observe Generator Site Technical Reviews (**GSTRs**). The GSTR schedule shall be submitted to the NMED as specified in Permit Attachment C6, Section C6-4.

2.3.2.3. Final Audit Report

DOE shall provide the Secretary a final audit report as specified in Permit Attachment C6, and post a link to the final audit report transmittal letter on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11. The final audit report shall include all information specified in Permit Attachment C6, Section C6-4, and:

- i. A detailed description of all corrective actions and the resolution of any corrective action applicable to WAP requirements, including re-audits and GSTRs if applicable;
- ii. All documentation necessary for the Secretary to determine if the corrective action was resolved.

2.12.3. Amendments to Plan

The Permittees shall review and immediately amend, if necessary, the Contingency Plan, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.54).

2.12.4. Emergency Coordinator

An Emergency Coordinator as specified in Table D-1 of Permit Attachment D shall be available at all times in case of an emergency. The Emergency Coordinator shall be thoroughly familiar with the Contingency Plan and shall have the authority to commit the resources needed to implement the Contingency Plan, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.55). In the event of an imminent or actual emergency, the Emergency Coordinator shall implement the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.56).

2.13. MANIFEST SYSTEM

The Permittees shall comply with the manifest requirements of 20.4.1.500 NMAC (incorporating 40 CFR §§264.71 and 264.72). The Permittees shall not accept for storage or disposal any mixed waste from an off-site source without an accompanying manifest.

The Permittees will report non-compliances with Federal Department of Transportation requirements related to WIPP shipments that are reportable through the Occurrence Reporting and Processing System.

2.14. RECORDKEEPING AND REPORTING

In addition to the recordkeeping and reporting requirements specified elsewhere in this Permit, the Permittees shall comply with the following conditions:

2.14.1. Operating Record

The Permittees shall maintain a written operating record at the facility, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.73(a)). The written operating record shall include all information required under 20.4.1.500 NMAC (incorporating 40 CFR §264.73(b)) subject to the limitations on the storage of classified information as discussed in Permit Attachment C. Unless specifically prohibited by this Permit, an electronic record that cannot be altered by the user and capable of producing a paper copy shall be deemed to be a written record. The Permittees shall maintain the operating record until closure of the facility.

2.14.2. Biennial Report

The Permittees shall submit to the Secretary a biennial report, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.75).

2.14.3 Repository Siting Annual Report

The DOE shall submit an annual report summarizing its progress toward siting another repository for TRU waste in a state other than New Mexico. The annual report shall summarize the steps the DOE has taken toward siting such a repository in another state and the report shall include documentation supporting the summary. Such documentation may include: with what disposal regulations another repository shall comply; consent-based or other siting process, timeline and milestones for identifying possible sites for another repository; National Environmental Policy Act actions, congressional authorizations and budget appropriation requests; communications with EPA and other federal agencies or Congress about activities to establish another repository; land acquisition(s); state and public engagement activities; feasibility studies; design, construction, and operation plans; and plans, timelines, and milestones for independent technical expert reviews of the activities related to establishing another repository for TRU waste.

- ii. Notwithstanding Permit Section 4.1.1.2.i, any Underground HWDU CH TRU waste capacity may be increased by up to 25 percent of the total maximum capacity in Table 4.1.1 by submitting a Class 2 permit modification request in accordance with 20.4.1.900 NMAC (incorporating 40 CFR §270.42(b)).
- iii. Notwithstanding Permit Sections 4.1.1.2.i and ii, future capacity in Table 4.1.1 shall be requested through the submittal of a renewal application which describes the final facility footprint.

Table 4.1.1 - Underground HWDUs				
Description¹	Waste Type	Maximum TRU Mixed Waste Capacity²	Final TRU Mixed Waste Volume³	Final LWA TRU Waste Volume⁴
Panel 1	CH TRU	636,000ft ³ (18,000 m ³)	370,685.70 ft ³ (10,496.65 m ³)	267,096.48 ft ³ (7,563.33 m ³)
Panel 2	CH TRU	636,000 ft ³ (18,000 m ³)	635,581.72 ft ³ (17,997.67 m ³)	462,712.19 ft ³ (13,102.55 m ³)
Panel 3	CH TRU	662,150 ft ³ (18,750 m ³)	603,600.40 ft ³ (17,092.06 m ³)	348,299.73 ft ³ (9,862.75 m ³)
Panel 4	CH TRU	662,150 ft ³ (18,750 m ³)	503,500.27 ft ³ (14,257.54 m ³)	367,973.88 ft ³ (10,419.86 m ³)
	RH TRU	12,570 ft ³ (356 m ³)	6,223.15 ft ³ (176.22 m ³)	2,974.91 ft ³ (84.24 m ³)
Panel 5	CH TRU	662,150 ft ³ (18,750 m ³)	562,454.22 ft ³ (15,926.93m ³)	427,749.61 ft ³ (12,112.52 m ³)
	RH TRU	15,720 ft ³ (445 m ³)	8,297.53 ft ³ (234.96 m ³)	5,416.21 ft ³ (153.37 m ³)
Panel 6	CH TRU	662,150 ft ³ (18,750 m ³)	510,911.06 ft ³ (14,467.39 m ³)	403,569.65 ft ³ (11,427.82 m ³)
	RH TRU	18,860 ft ³ (534 m ³)	7,578.53 ft ³ (214.60 m ³)	3,990.20 ft ³ (112.99 m ³)
Panel 7	CH TRU	662,150 ft ³ (18,750 m ³)		
	RH TRU	22,950 ft ³ (650 m ³)		
Panel 8	CH TRU	662,150 ft ³ (18,750 m ³)		
	RH TRU	22,950 ft ³ (650 m ³)		
Panel 11	CH TRU	662,150 ft ³ (18,750 m ³)		

4.2.1.3. Hazardous Waste Numbers

The TRU mixed waste shall contain only hazardous waste numbers specified in Permit Section 2.3.4.

4.2.1.4 Prioritization and Risk Reduction of New Mexico Waste

Pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.10.k), within 15 days of publishing the Annual Transuranic Waste Inventory Report (ATWIR), the Permittees shall certify to the NMED that there is sufficient TRU Mixed Waste Volume capacity in permitted HWDUs to dispose of the New Mexico generator/storage site waste detailed in this report. The certification shall contain the underlying calculations and data used to validate the certification. While this permit remains in effect, the Permittees shall prioritize by so certifying the emplacement at WIPP of stored (including buried) TRU mixed waste from the clean-up activities at the Los Alamos National Laboratory (LANL).

4.2.1.5 Legacy TRU Waste Disposal Plan

The Permittees shall define legacy TRU and TRU mixed waste and develop the Legacy TRU Waste Disposal Plan (Plan). The Plan will be developed in consultation with the generator/storage sites and stakeholders. Consultation with stakeholders shall begin within 90 days of the effective date of this Permit. The Plan shall be submitted to the Secretary within one year of the effective date of this Permit. The Permittees shall seek public input for 60 days following the submittal of the Plan and submit received comments to the Secretary. To the extent practicable as articulated in the final Plan, Panel 12 will be reserved for the disposal of legacy TRU mixed waste.

Derived waste may be disposed in the Underground HWDUs as specified in Permit Section 2.3.5.

4.2.2. Prohibited Waste

4.2.2.1. General Prohibition

The Permittees shall not dispose any TRU mixed waste that fails to comply with Permit Section 4.2.1.

4.2.2.2. Specific Prohibition

After this Permit becomes effective, the Permittees shall not dispose non-mixed TRU waste in any Underground HWDU unless such waste is characterized in accordance with the requirements of the WAP specified in Permit Section 2.3.1. The Permittees shall not dispose TRU mixed

4.6.1.3. Notification of Adverse Conditions

When evaluation of the geomechanical monitoring system data identifies a trend towards unstable conditions which requires a decision whether to terminate waste disposal activities in any Underground HWDU, the Permittees shall provide the Secretary with the same report provided to the WIPP Operations Manager within seven calendar days of its issuance, as specified in Permit Attachment A2, Section A2-5b(2)(a), "Description of the Geomechanical Monitoring System". The Permittees shall post a link to the adverse condition notice transmittal letter on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11.

4.6.2. Repository Volatile Organic Compound Monitoring

4.6.2.1. Implementation of Repository VOC Monitoring

The Permittees shall implement repository VOC monitoring and proficiency testing, as specified in Permit Attachment N (Volatile Organic Compound Monitoring Plan) and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.602 and §264.601(c)). The Permittees shall implement repository VOC monitoring until the certified closure of all Underground HWDUs.

4.6.2.2. Reporting Requirements

The Permittees shall report to the Secretary semi-annually in April and October the data and analysis of the VOC Monitoring Plan.

4.6.2.3. Notification Requirements

After each sampling event for the compounds listed in Table 4.6.2.3, the Permittees shall calculate the total and running annual averages for the carcinogenic and the total non-carcinogenic risk to the non-waste surface worker, using the methodology in Attachment N and the recommended EPA risk factors listed in Table 4.6.2.3.

The Permittees shall notify the Secretary in writing, within seven calendar days of obtaining validated analytical results, whenever the total and/or the running annual average carcinogenic risk to the non-waste surface worker exceeds 10^{-5} or the total and/or the running annual average non-carcinogenic risk as measured by the hazard index exceeds 1.0.

The Permittees shall post a link to any exceedance notice transmittal letter on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11.

PART 6 – CLOSURE REQUIREMENTS

6.1. OVERVIEW

This Part specifies the closure requirements for the WIPP facility. The Permittees shall close the permitted Container Storage Units and Underground Hazardous Waste Disposal Units (**Underground HWDUs**) in accordance with the requirements in 20.4.1.500 NMAC (incorporating 40 CFR §§264.110 through 264.116 and §264.178), this Permit Part, and the procedures described in Permit Attachment G (Closure Plan).

6.2. PERFORMANCE STANDARD

The Permittees shall close the facility as specified in Permit Attachment G and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.111).

6.3. AMENDMENT TO CLOSURE PLAN

The Permittees shall amend Permit Attachment G, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.112(c)), whenever necessary.

6.4. NOTIFICATION OF CLOSURE

The Permittees shall notify the Secretary in writing at least 60 calendar days prior to the date on which they expect to begin partial closure, e.g., closure of an Underground Hazardous Waste Disposal Unit (**Underground HWDU**), or final closure of the facility as required by 20.4.1.500 NMAC (incorporating 40 CFR §§264.112(d) and 264.601). The Permittees shall post a link to the closure notice transmittal letter on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11.

6.5. TIME ALLOWED FOR CLOSURE

6.5.1. Partial Closure

Upon completion of disposal operations in an Underground HWDU or upon completion of decontamination and decommission of surface equipment, structures, and soils, the Permittees shall complete partial closure activities as specified in Permit Attachment G, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.113).

6.5.2. Final Facility Closure

After the HWDUs have received the final volume of waste, the Permittees shall remove from the facility all non-mixed hazardous waste, dispose in the Underground HWDUs all TRU-mixed hazardous waste and derived waste, and complete closure activities as specified in Permit Attachment G and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.113).

6.6. DISPOSAL OR DECONTAMINATION OF EQUIPMENT, STRUCTURES, AND SOILS

As part of either partial closure or final facility closure, the Permittees shall decontaminate or dispose of contaminated equipment, structures, and soils, as specified in Permit Attachment G and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.114).

6.7. CERTIFICATION OF CLOSURE

Within 60 calendar days of completion of closure of each Underground HWDU, and within 60 calendar days of completion of final closure, the Permittees shall certify in writing to the Secretary that the Underground HWDUs and/or facility have been closed as specified in Permit Attachment G and as required by 20.4.1.500 NMAC (incorporating 40 CFR §§264.115 and 264.601).

6.8. SURVEY PLAT

No later than the submission of the certification of closure of each Underground HWDU, the Permittees shall submit a survey plat detailing the location and dimensions of each Underground HWDU with respect to permanently surveyed benchmarks, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.116).

6.9. CLOSURE OF PERMITTED CONTAINER STORAGE UNITS

At closure of the WHB Unit and Parking Area Unit, the Permittees shall remove all hazardous waste and hazardous waste residues from the containment system, in accordance with the procedures in Permit Attachment G, as required by 20.4.1.500 NMAC (incorporating 40 CFR §§264.111 and 264.178).

6.10. CLOSURE OF PERMITTED DISPOSAL UNITS

6.10.1. Panel Closure

The Permittees shall close each Underground HWDU in a manner that meets the closure standard for volatile organic compounds in Table 6.10.1, which represent health based levels (**HBLs**) at the location of the nearest resident beyond the WIPP site boundary. Upon completion of disposal in an Underground HWDU, the Permittees shall provide written notification to the Secretary stating the final TRU mixed waste volume, calculated based on the gross internal volume of the outermost disposal container, emplaced in the Underground HWDU. The Permittees shall also close the Underground HWDU as specified in Permit Attachment G and Permit Attachment G1 (*WIPP Panel Closure Design Description and Specifications*) and submit a Closure Report to the Secretary pursuant to 20.4.2.201.G NMAC. The Permittees shall post a link to the final Underground HWDU TRU mixed waste volume notice transmittal letter and the Closure Report on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11.

1 sufficient aisle space (i.e., minimum of 44 in. (1.1 m)) is maintained. Transuranic mixed waste
2 may be stored in the CH Bay Storage Area of the WHB Unit in quantities not to exceed the
3 maximum capacities specified in Permit Part 3, Table 3.1.1.

4 The Derived Waste Storage Area of the WHB Unit is on the north wall of the CH Bay. This area
5 may contain containers up to the volume of an SWB for collecting derived waste from all TRU
6 mixed waste handling processes in the WHB Unit. The Derived Waste Storage Area can
7 accommodate containers in size up to an SWB to be used to accumulate derived waste. The
8 TRU mixed waste volume stored in this area will not exceed the maximum capacity specified in
9 Permit Part 3, Table 3.1.1. The derived waste containers in the Derived Waste Storage Area are
10 stored on containment pallets, which are polyethylene trays with a grated deck, which elevate
11 the derived waste containers at least 6 in. (15 cm) from the floor surface and provide
12 approximately 50 gal (190 L) of secondary containment capacity.

13 The aisle space in the WHB Unit TRU mixed waste storage areas is adequate to allow
14 unobstructed movement of fire-fighting personnel, spill-control equipment, and decontamination
15 equipment that would be used in the event of an off-normal event. A minimum aisle spacing of
16 44 in. (1.1 m) between loaded facility pallets is maintained in the WHB Unit TRU mixed waste
17 storage areas. Barriers provide added protection from equipment being utilized in adjacent
18 rooms and buildings to the west of the CH-Bay wall in the WHB.

19 The WHB has been designed to meet DOE design and associated quality assurance
20 requirements. The 2009 Amended Renewal Application, Chapter M1, Table M1-1 (DOE, 2009)
21 provided a summary of basic design requirements, principal codes, and standards for the WIPP
22 facility. Appendix D2 of the WIPP RCRA Part B Permit Application (DOE, 1997a) provided
23 engineering design-basis earthquake and tornado reports. The design-basis earthquake report
24 provides the basis for seismic design of WIPP facility structures, including the WHB foundation.
25 The WIPP facility design-basis earthquake is 0.1 g peak ground acceleration. The WIPP facility
26 design-basis tornado includes a maximum windspeed of 183 miles per hour (**mi/hr**) ((294.5
27 kilometers per hr (**km/hr**)), which is the vector sum of the velocity components. It is also limited
28 to a translational velocity of 41 mi/hr (66 km/hr) and a tangential velocity of 124 mi/hr (200
29 km/hr). Other parameters are a radius of maximum wind of 325 ft (99 m), a pressure drop of 0.5
30 pounds per square inch (**lb/in.²**) (3.4 kilopascals (**kPa**)), and a rate-of-pressure drop of
31 0.09 pounds per square inch per second (**lb/in.²/s**) (0.6 kilopascals per second (**kPa/s**)). A
32 design-basis flood report is not available because flooding is not a credible phenomenon at the
33 WIPP facility. Design calculations for the probable maximum precipitation (**PMP**) event,
34 provided in Appendix D7 of the WIPP RCRA Part B Permit Application (DOE, 1997a), illustrated
35 run-on protection for the WIPP facility.

36 The WIPP facility does not lie within a 100-year floodplain. There are no major surface-water
37 bodies within 5 miles (**mi**) (8 kilometers (**km**)) of the site, and the nearest river, the Pecos River,
38 is approximately 12 mi (19 km) away. The general ground elevation in the vicinity of the surface
39 facilities (approximately 3,400 feet (**ft**) (1,036 meters (**m**)) above mean sea level) is about 500 ft
40 (152 m) above the riverbed and 400 ft (122 m) above the 100-year floodplain. Protection from
41 flooding or ponding caused by PMP events is provided by the diversion of water away from the
42 WIPP facility by a system of peripheral interceptor berms and dikes. Additionally, grade
43 elevations of roads and surface facilities are designed so that storm water will not collect within
44 the Property Protection Area under the most severe conditions.

1 A1-1c(2) Parking Area Container Storage Unit (PAU)

2 The parking area south of the WHB (see Figure M-2) is used for storage of waste containers
3 within sealed shipping containers awaiting unloading. The area extending south from the WHB
4 within the security-fenced enclosure identified as the Controlled Area is defined as the PAU.
5 Barriers provide protection from vehicles and equipment for the interior of the south side of the
6 WHB. The PAU provides storage space for up to 6,734 ft³ (191 m³) of TRU mixed waste,
7 contained in up to 40 loaded CH packages and eight RH packages. Secondary containment and
8 protection of the waste containers from standing liquid are provided by the CH or RH packaging.
9 Wastes placed in the PAU remain sealed in their CH or RH packages while in this area.

10 The NRC Certificate of Compliance requires that sealed CH or RH packages containing waste
11 be vented every 60 days to avoid unacceptable levels of internal pressure. Any off-normal event
12 which results in the need to store a waste container in the PAU for a period of time approaching
13 59 days shall be handled in accordance with Section A1-1e(2) of this Permit Attachment. Under
14 no circumstances shall a CH or RH package be stored in the PAU for more than 59 days after
15 the date that the CH or RH package was sealed at the generator site, as recorded in the Inner
16 Containment Vessel (ICV) Closure Date field of the WIPP Waste Information System (WWIS)
17 database.

18 Parking Area Unit Surge Storage Area

19 The Permittees coordinate shipments with the generator/storage sites in an attempt to minimize
20 the use of surge storage. However, there may be circumstances causing shipments to arrive
21 that would exceed the maximum capacity of the PAU, as specified in Permit Part 3, Table 3.1.2,
22 *Parking Area Unit*. The Permittees may use the PAU Surge Storage Area as specified in Permit
23 Part 3, Section 3.1.2.3 (see Figure M-2) only when the maximum capacity in the PAU is reached
24 and at least one of the following conditions is met:

- 25 • Surface or underground waste handling equipment malfunctions prevent the
26 Permittees from moving waste to disposal locations;
- 27 • Hoisting or underground ventilation equipment malfunctions prevent the Permittees
28 from moving waste into the underground;
- 29 • Power outages cause a suspension of waste emplacement activities;
- 30 • Inbound shipment delays are imminent because the PAU is full; or
- 31 • Onsite or offsite emergencies cause a suspension of waste emplacement activities.

32 The Permittees must notify NMED and those on the e-mail notification list (as specified in Permit
33 Part 1, Section 1.11 and Permit Part 3, Section 3.1.2.4) upon using the PAU Surge Storage
34 Area and provide justification for its use.

35 A1-1d Container Management Practices

36 20.4.1.500 NMAC (incorporating 40 CFR §264.173) requires that containers be managed in a
37 manner that does not result in spills or leaks. Because containers at the WIPP facility contain
38 radioactive waste, safety concerns require that containers be continuously vented to prevent the

1 wastes that are in the container involved in the spill or release. A complete listing of these waste
2 components can be obtained from the WWIS, as described in Permit Attachment C, for the
3 purpose of characterizing derived waste.

4 It is assumed that the process of localized surface decontamination will remove the hazardous
5 waste constituents along with the radioactive waste constituents. Therefore, waste containers
6 will be emplaced in the underground HWDUs without further action once localized radiological
7 contamination is removed unless there is visible evidence of hazardous waste spills or
8 hazardous waste on the container. Hazardous waste decontamination will be conducted, if
9 necessary, in accordance with the requirements of the Permit and the standards of 20.4.1.500
10 NMAC (incorporating 40 CFR Part 264). In the event of area contamination, a radiological
11 boundary will be established in accordance with radiological control procedures. Inside this
12 boundary, cleanup activities are controlled with protocols for the cleanup of spills and releases.
13 As dictated by cleanup protocols, decontamination will be managed consistent with radiological
14 control procedures pursuant to 10 CFR Part 835. Once the area is cleaned up and is shown to
15 be radiologically clean, it will be sampled for the presence of hazardous waste residues.
16 Hazardous waste decontamination will be conducted in accordance with the requirements of the
17 Permit and the standards of 20.4.1.500 NMAC (incorporating 40 CFR Part 264). A sampling
18 plan will be developed, as needed, which incorporates the guidance of SW-846 (EPA, 2015) in
19 selecting random samples over large areas. Selection of constituents for sampling analysis will
20 be based on information (in the WWIS) about the waste that was spilled and information on
21 cleanup procedures. If the results of the analysis show that residual contamination remains, a
22 decision will be made whether further cleaning will be beneficial or whether final clean-up will be
23 deferred until closure. Appropriate notations will be entered into the Operating Record to assure
24 proper consideration of formerly contaminated areas at the time of closure. Furthermore,
25 measures such as covering, barricading, and/or placarding will be used as needed to mark
26 areas that remain contaminated.

27 In the event that extensive area contamination is discovered within a CH package during
28 unloading, the waste will be left in the CH package and the shipping container will be resealed.
29 The DOE considers such contamination problems the responsibility of the shipping site. If an
30 incident occurs involving the release of contamination within a shipping container or which
31 compromises the integrity of the shipping container associated with TRU mixed waste shipped
32 to the WIPP facility and the incident is reported under DOE Order 232.2A, then the Permittees
33 will provide the Secretary with a report prepared to evaluate the incident and the results of any
34 follow-up actions required of the generator/storage sites to prevent the recurrence of the
35 incident. The DOE shall ensure that the generator/storage sites enter the report into their
36 respective required reading programs. The Permittees shall provide evidence that the analysis
37 and corrective measures were received by a responsible official at the generator/storage sites.
38 The DOE will make the analysis available to the audit team prior to the next audit. The shipping
39 package will be dispositioned according to the following options:

- 40 • The CH Package can be returned to the shipper for decontamination and repackaging
41 of the waste. Such waste would have to be re-approved prior to shipment to the WIPP.
- 42 • Shipment to another DOE site for management in the event the original shipper does
43 not have suitable facilities for decontamination. If the repairing site wishes to return the
44 waste to WIPP, the site will have to meet the characterization requirements of the
45 Waste Analysis Plan.

1 conditions in an open HWDU will also be provided to the Secretary of the NMED within seven
2 (7) calendar days of issuance of the report.

3 Using data available on the New Mexico Oil Conservation Division (**OCD**) website, the
4 Permittees shall provide a list of oil and gas production and salt water disposal wells within a
5 one-mile perimeter outside the Land Withdrawal Act boundary that were listed as active by the
6 OCD during the previous calendar year. This report will be provided annually in October.

7 The assessment and evaluation of the condition of WIPP repository excavations is an
8 interactive, continuous process using the data from the monitoring programs. Criteria for
9 corrective action are continually reevaluated and reassessed based on total performance to
10 date. Actions taken are based on these analyses and planned utilization of the excavation.
11 Because excavations are in a natural geologic medium, there is inherent variability from point to
12 point. The principle adopted is to anticipate potential ground control requirements and
13 implement them in a timely manner rather than to wait until a need arises.

14 A2-5b(3) Volatile Organic Compound Monitoring

15 The volatile organic compound monitoring for the WIPP Underground HWDUs will be conducted
16 in accordance with Permit Part 4 and Permit Attachment N.

17 A2-5c Inspection

18 Inspections of the underground HWDUs are conducted in accordance with Permit Part 2 and
19 Permit Attachment E.

20 References

21 DOE, 1997. Resource Conservation and Recovery Act Part B Permit Application, Waste
22 Isolation Pilot Plant (WIPP), Carlsbad, New Mexico, Revision 6.5, 1997.

23 DOE, 2009. WIPP Hazardous Waste Facility Permit Amended Renewal Application, Carlsbad,
24 New Mexico, September 2009.

25 DOE, 2020. WIPP Hazardous Waste Facility Permit Renewal Application, Carlsbad, New
26 Mexico, March 2020.

1 or development of conditions within the container that would lead to the development of
2 ignitable, corrosive, reactive, or other characteristic wastes.

3 To ensure the integrity of the WIPP facility, waste streams identified to contain incompatible
4 materials or materials incompatible with waste containers cannot be shipped to the WIPP facility
5 unless they are treated to remove the incompatibility. Only those waste streams that are
6 compatible or have been treated to remove incompatibilities will be shipped to the WIPP facility.

7 C-1d Control of Waste Acceptance

8 Every waste stream shipped to the WIPP facility shall be preceded by a WSPF (Figure C-1) and
9 a CIS. The required WSPF information and the CIS elements are found in Permit Attachment
10 C3, Section C3-6b(1) and Section C3-6b(2).

11 Generator/storage sites will provide the WSPF to the Permittees for each waste stream prior to
12 its acceptance for disposal at the WIPP facility. The WSPF and the CIS will be transmitted to the
13 Permittees for each waste stream from a generator/storage site. If continued waste
14 characterization reveals discrepancies that identify different EPA hazardous waste numbers or
15 indicates that the waste belongs to a different waste stream, the waste will be redefined to a
16 separate waste stream and a new WSPF submitted. Generator/storage sites will develop criteria
17 to determine the specific circumstances under which a WSPF is revised versus when a new
18 WSPF is required. These criteria will be evaluated by DOE during site audits (Attachment C6).

19 The Permittees are responsible for the review of WSPFs and CISs to verify compliance with the
20 restrictions on TRU mixed wastes destined for disposal at the WIPP facility. The DOE will
21 approve and submit completed WSPFs to the NMED prior to waste stream shipment. The
22 Permittees will be responsible for the review of shipping records (Section C-5) to ensure that
23 each waste container has been prepared and characterized in accordance with applicable
24 provisions of this WAP. Waste characterization data shall ensure the absence of prohibited
25 items specified in Section C-1c.

26 Any time the Permittees request additional information concerning a waste stream, the
27 generator/storage site will provide a Waste Stream Characterization Package (Permit
28 Attachment C3, Section C3-6b(3)). The option for the Permittees to request additional
29 information ensures that the waste being offered for disposal is adequately characterized and
30 accurately described on the WSPF.

31 The NMED retains the right, under the New Mexico Hazardous Waste Act (HWA) at 74-4-13,
32 which is cited in Permit Part 1, Section 1.1, to take action, such as issuing orders, to address
33 evidence of an imminent and substantial endangerment to human health or the environment,
34 including orders to suspend TRU mixed waste shipments and emplacement at the WIPP facility
35 for cause. Specifically and under the authority in the HWA at 74-4-13, the Secretary reserves
36 the right to prohibit shipment and emplacement of TRU mixed wastes at the WIPP facility for,
37 but not limited to, a determination by the Secretary: (1) that the Permittees have not satisfied or
38 are in violation of any conditions of this Permit that may lead to a threat to human health or the
39 environment; (2) that a TRU mixed waste stream or shipment may pose a threat to human
40 health or the environment; or (3) based on evidence of noncompliance. This attachment also
41 requires that all waste shipped to the WIPP facility is compliant with the WAP contained herein
42 and all shipments arriving at the WIPP facility go through a screening and verification process
43 per Section C-5 before emplacement in a HWDU. NMED retains the right to suspend any and

1 all waste shipments to the WIPP facility associated for ~~not complying~~ with noncompliance with
2 the WAP.

3 C-1e Waste Generating Processes at the WIPP Facility

4 Waste generated as a result of the waste containers handling and processing activities at the
5 WIPP facility is termed "derived" waste. Because derived wastes can contain only those RCRA-
6 regulated materials present in the waste from which they were derived, no additional
7 characterization of the derived waste is required for disposal purposes. In other words, the
8 generator/storage site's characterization data and knowledge of the processes at the WIPP
9 facility will be used to identify and characterize hazardous waste and hazardous constituents in
10 derived waste. The management of derived waste is addressed in Permit Attachment A1.

11 C-2 Waste Characterization Program Requirements and Waste Characterization Parameters

12 The Permittees shall require the sites to develop the procedure(s) which specify their
13 programmatic waste characterization requirements. The DOE will evaluate the procedures
14 during audits conducted under the Audit and Surveillance Program (Section C-5a(3)) and may
15 also evaluate the procedures as part of the review and approval of the WSPF. Sites must notify
16 the Permittees and obtain DOE approval prior to making data-affecting modifications to
17 procedures (Permit Attachment C3, Section C3-9). Program procedures shall address the
18 following minimum elements:

- 19 • Waste characterization and certification procedures for retrievably stored and newly
20 generated wastes to be sent to the WIPP facility
- 21 • Methods used to ensure prohibited items are documented and managed; these will
22 include procedures for performing radiography, VE, or treatment, if these methods are
23 used to ensure prohibited items are not present in the waste prior to shipment of the
24 waste to the WIPP facility
- 25 • Identify the organization(s) responsible for compliance with waste characterization and
26 certification procedures
- 27 • Identify the oversight procedures and frequency of actions to verify compliance with
28 waste characterization and certification procedures
- 29 • Develop training specific to waste characterization and certification procedures
- 30 • Ensure that personnel may stop work if noncompliance with waste characterization or
31 certification procedures is identified
- 32 • Develop a nonconformance process that complies with the requirements in Permit
33 Attachment C3 of the WAP to document and establish corrective action.
- 34 • As part of the corrective action process, assess the potential time frame of the
35 noncompliance, the potentially affected waste population(s), and the reassessment
36 and recertification of those wastes

1 DOE manager responsible for quality assurance. As part of the planning process for subsequent
2 audits and surveillances, past deficiencies will be reviewed and the previous deficient activity or
3 process is subject to reassessment.

4 The NMED may submit a written Observer Inquiry to the DOE if necessary to seek resolution to
5 a question raised or issue posed during the audit. The DOE shall be responsible for obtaining a
6 response to the Observer Inquiry and submitting a written response to the NMED within 30 days
7 of inquiry submission. The NMED will examine the response and consider this information as
8 part of the audit review and approval process.

9 The sites shall submit corrective action plans to eliminate the deficiency stated on the CAR,
10 including a resolution of the acceptability of any data generated prior to the resolution of the
11 corrective action.

12 The corrective action response will include a discussion of the investigation performed to
13 determine the extent and impact of the deficiency, a description of the remedial actions taken,
14 determination of root cause, and actions to preclude recurrence.

15 An exit meeting will be conducted by the lead auditor prior to departure of the audit team from
16 the site. This meeting will include site management personnel and may include DOE field office
17 personnel. Draft audit results will be presented to the site management.

18 The audit report will be prepared, approved, and issued to the site within 30 days of the
19 completion of the audit by the DOE. The NMED shall receive a copy of the audit report upon
20 issuance for information purposes. A formal final audit report will be provided to the NMED
21 which will include WAP-related CAR resolution results and audit results that will include, as a
22 minimum, sections describing the scope, purpose, summary of deficiencies, and observations in
23 narrative format, completed audit checklists, audited procedures, and other applicable
24 documents which provide evidence of WAP implementation. The report will also include an
25 identification of the organization audited, the dates of the audit, and the requested response
26 date. NMED will make the final audit report available for public review and comment. One copy
27 of the formal final audit report shall be submitted to the NMED in hard copy, but any additional
28 copies may be submitted in electronic format. The audited site will respond to any deficiencies
29 and observations within (30 days after receipt of any CARs and indicate the corrective action
30 taken or to be taken. If the corrective action has not been completed, the response must
31 indicate the expected date the action will be completed. The CARs applicable to WAP
32 requirements shall be resolved prior to waste shipment. Subsequent audits or specific
33 verifications, announced or unannounced, will determine if the corrective action has been
34 satisfactorily implemented. Deficiencies (items corrected during the audit (**CDAs**) and CARs)
35 and observations will be tracked to completion according to established procedure(s). In
36 addition, deficiencies will be trended to determine if similar situations exist system wide. Trend
37 reports will be issued as necessary to provide a "lessons learned" announcement to other sites
38 who might benefit from program improvements implemented as a result of resolutions to the
39 specific situations discovered at the performance of these audits.

40 Generator Site Technical Reviews shall be completed at each generator storage site shipping
41 waste to WIPP on a schedule based on WIPP Standard Operating Procedures. The Permittees
42 will provide a proposed annual GSTR schedule for the upcoming calendar year to the NMED, by
43 October 1, for approval by NMED within 90 days of receipt. Any subsequent changes to the
44 annual schedule proposed by the Permittees will be promptly submitted to the NMED for

1 approval. The Permittees will consider the following for developing the annual schedule and for
2 determining which generator storage site(s) require GSTR:

- 3 • replacement of the contracting organization performing the TRU waste management,
- 4 • new waste processing activities (e.g., additional remediation capabilities or treatment
5 methods),
- 6 • site organizational changes,
- 7 • changes in waste types or forms,
- 8 • unexpected issues and events, and
- 9 • input received from the NMED.

10 A section specific to GSTRs must be included in the final audit report for the site, stating
11 whether a GSTR has been conducted since the previous audit and the status of any WAP-
12 related issues identified.

13 The final audit report provided to the NMED and audit records will be maintained at the WIPP
14 facility as a part of the Operating Record. These records will be included on the Record
15 Inventory and Disposition Schedule and maintained on-site until closure of the WIPP facility.
16 The NMED shall be provided unlimited access to these records.

ATTACHMENT E

INSPECTION SCHEDULE, PROCESS AND FORMS

Introduction

This Permit Attachment describes the facility inspections (including container inspections) that are conducted to detect malfunctions and deterioration, operator errors, and discharges which may be causing—or may lead to—(1) release of hazardous waste constituents to the environment or (2) a threat to human health, in accordance with 20.4.1.500 New Mexico Administrative Code (**NMAC**) (incorporating Title 40 of the Code of Federal Regulations (**CFR**) §264.15(a)).

E-1 Inspection Schedule

Equipment instrumental in preventing, detecting, or responding to environmental or human health hazards, such as monitoring equipment, safety and emergency equipment, security devices, and operating or structural equipment are inspected.

The Permittees have developed and maintain a series of written procedures that include all the detailed inspection procedures and forms used to comply with 20.4.1.500 NMAC (incorporating 40 CFR §264.15(b)), during the Disposal Phase. Tables E-1 and E-1a list each item or system requiring inspection under these regulations, the inspection frequency, the organization responsible for the inspection, the applicable inspection procedure, and what to look for during the inspection. The regulations at 20.4.1.500 NMAC (incorporating 40 CFR §§264.15(b), 264.174, and 264.602) list requirements that are applicable to the Waste Isolation Pilot Plant (**WIPP**) facility. Permit Attachment D, Table D-2, *Emergency Equipment Maintained at the Waste Isolation Pilot Plant*, identifies the emergency equipment and corresponding locations to be inspected in accordance with Table E-1.

The Permittees maintain operational procedures detailing the inspections required under 20.4.1.500 NMAC (incorporating 40 CFR §§264.15(a) and (b)), in electronic format on the WIPP computer network and, as appropriate, in controlled document locations at the WIPP facility. Frequency of inspections is discussed in detail in Section E-1a(2). Inspections are conducted often enough to identify problems in time to correct them before they pose a threat to human health or the environment and are based on regulatory requirements. The operational procedures assign responsibility for conducting the inspection, the frequency of each inspection, the types of problems to be watched for, what to do if items fail inspection, and directions on record keeping. Inspection records are maintained at the WIPP facility for three years. Beginning with the effective date of this Permit, records that are over the three-year retention period are either maintained at the WIPP facility or transferred to the WIPP Records Archive located in Carlsbad, New Mexico until closure. The records maintained at the WIPP Records Archive are stored in facilities that are temperature and humidity controlled especially for the long term storage of records and readily retrievable and available for inspection.

Waste handling equipment and area inspections are typically controlled through established procedures and the results are recorded in logbooks or on inspection forms. Operators are trained to consult the logbook to identify the status of a piece of waste handling equipment prior to its use. Once a piece of equipment is identified to be operable, a preoperational or pre-evolution inspection is initiated in accordance with the appropriate inspection procedure in

ATTACHMENT G

CLOSURE PLAN

Introduction

This Permit Attachment contains the Closure Plan that describes the activities necessary to close the Waste Isolation Pilot Plant (**WIPP**) individual units and facility. Since the current plans for operations extend over several decades, the Permittees will periodically reapply for an operating permit in accordance with 20.4.1.900 New Mexico Administrative Code (**NMAC**) (incorporating Title 40 of the Code of Federal Regulations (**CFR**) §270.10(h)). Consequently, this Closure Plan describes several types of closures. The first type is panel closure, which involves constructing closures for each of the underground hazardous waste disposal units (**HWDUs**) after they are filled. The second type is partial closure, which can be less than the entire facility and, therefore, less than an entire unit as described herein for the Waste Handling Building (**WHB**) Container Storage Unit (**WHB Unit**), the Parking Area Container Storage Unit (**PAU**), or Permit-related surface equipment, structures and contaminated soils. The third type of closure is final facility closure at the end of the Disposal Phase, which will entail “clean” closure of remaining surface storage units and construction of shaft seal systems for each shaft. Finally, in the event a new permit is not issued prior to expiration of an existing permit, a modification to this Closure Plan will be sought to perform contingency closure. Contingency closure defers the final closure of waste management facilities such as the WHB Unit, the conveyances, the shafts, and the haulage ways because these will be needed to continue operations with non-mixed Transuranic (**TRU**) waste.

The hazardous waste management units (**HWMUs**) addressed in this Closure Plan include the WHB Unit, the PAU, and Panels 1 through 8, Panel 11, and Panel 12, each consisting of seven rooms. In addition, this Closure Plan includes closures for Panels 9 and 10.

This plan was submitted to the New Mexico Environment Department (**NMED**) in accordance with 20.4.1.900 NMAC (incorporating 40 CFR §270.14(b)(13)). Closure at the panel level will include the construction of barriers that will contribute to limiting the emission of hazardous waste constituents from the panel into the mine ventilation air stream below levels that meet environmental performance standards. The Post-Closure Plan (Permit Attachment H) includes the implementation of institutional controls to limit access and groundwater monitoring to assess disposal system performance. Until final closure is complete and has been certified in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.115), a copy of the approved Closure Plan and approved revisions will be on file at the WIPP facility and will be available to the Secretary of the NMED in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.112(a)(2)) upon request.

This Closure Plan uses the terms Disposal Phase, facility closure period, and post-closure care period. The Disposal Phase began with the first waste emplacement in March 1999 and extends until the expiration of the Permit term, unless a timely Renewal Application has been submitted and the requirements of Permit Part 1, Section 1.7.3 have been met, or when the HWDUs have received the final volume of waste as specified in Permit Part 4, Table 4.1.1. The facility closure period is the 10-year period that begins once the final waste has been emplaced in the underground. The post-closure care period extends for 30-years after completion of facility closure period.

1 accordance with the panel closure design described in this Closure Plan. Final facility closure,
2 however, will be redefined and a time extension for final closure will be requested. A copy of this
3 Closure Plan will be maintained by the Permittees at the WIPP facility and at the U.S.
4 Department of Energy (DOE) Carlsbad Field Office. The primary contact person at the WIPP
5 facility is:

6 Manager, Carlsbad Field Office
7 U.S. Department of Energy
8 Waste Isolation Pilot Plant
9 P. O. Box 3090
10 Carlsbad, New Mexico 88221-3090
11 (575) 234-7300

12 G-1a Closure Performance Standard

13 The closure performance standard specified in 20.4.1.500 NMAC (incorporating 40 CFR
14 §264.111), states that the closure shall be performed in a manner that minimizes the need for
15 further maintenance; that minimizes, controls, or eliminates the escape of hazardous waste; and
16 that conforms to the closure requirements of §264.178 and §264.601. These standards are
17 discussed in the following paragraphs.

18 G-1a(1) Container Storage Units

19 Final or partial closure of the permitted container storage units (the WHB Unit and PAU) will be
20 accomplished by removing waste and waste residues. Indication of waste contamination will be
21 based, among other techniques, on the use of radiological surveys as described in Permit
22 Attachment G3. Radiological surveys use very sensitive radiation detection equipment to
23 indicate if there has been a potential release of TRU mixed waste, including hazardous waste
24 components, from a container. This allows the Permittees to indicate potential releases that are
25 not detectable from visible evidence such as stains or discoloration. Visual inspection and
26 operating records will also be used to identify areas where decontamination is necessary.
27 Contaminated surfaces will be decontaminated until radioactivity is below DOE-established
28 radiological protection limits¹. Once surfaces are determined to be free of radioactive waste
29 constituents, they will be sampled for hazardous waste contamination. Hazardous waste
30 decontamination, if needed, will be conducted in accordance with the requirements of the Permit
31 and the standards in 20.4.1.500 NMAC (incorporating 40 CFR Part 264). These surface
32 decontamination activities will ensure the removal of waste residues to levels protective of
33 human health and the environment. The facility may require decontamination during the
34 Disposal Phase and at closure because of releases in February 2014 or subsequent releases
35 for which immediate removal is not possible. Solid waste management units listed in
36 Attachment K, Table K-4 will be subject to closure.

37 Once the container storage units are certified by the Permittees to be clean, no further
38 maintenance is required. The facilities and equipment in these units will be available for other
39 purposes. If portions of the facilities or equipment in these units, which require decontamination,

¹ Title 10 CFR Part 835.

1 additional waste management units. The design basis for a panel assumes that it takes about
2 30 months to fill the HWDU and initiate panel closure (DOE, 1997). However, it is anticipated
3 that Panel 7, Panel 8, and Panel 10 (if authorized in the future for TRU mixed waste disposal)
4 will take longer than 30 months to fill due to the reduction in available ventilation capability,
5 ground conditions in Panel 10 and associated remediation efforts, and radiological
6 contamination in Panel 10. These assumptions have been used in preparing the closure
7 schedule in Table G-1. At any given time during disposal operations, it is possible that multiple
8 rooms may be receiving TRU mixed waste for disposal at the same time. Underground HWDUs
9 in which disposal has been completed (i.e., in which CH and RH TRU mixed waste
10 emplacement activities have ceased) will undergo panel closure.

11 G-1d Schedule for Closure

12 For the purpose of establishing a schedule for closure, the final waste disposal will mark the end
13 of the Disposal Phase and will occur when the Permit term expires, unless a timely Renewal
14 Application has been submitted and the requirements of Permit Part 1, Section 1.7.3 have been
15 met, or the permitted HWDUs are filled or have achieved their maximum capacities as outlined
16 in Permit Part 4, Table 4.1.1, within the capacity limit of 6.2 million cubic feet (ft³) (175,564 cubic
17 meters (m³)) of LWA TRU waste volume. The Permittees also assume closure will take 10
18 years. The Disposal Phase may be extended or shortened, within the authorized capacities and
19 Permit term, depending on a number of factors, including the rate of waste approved for
20 shipment to the WIPP facility and the schedules of TRU mixed waste generator sites, and future
21 decommissioning activities.

22 G-1d(1) Schedule for Panel Closure

23 The anticipated schedule for the closure of the underground HWDUs is shown in Figure M-61.
24 Underground HWDUs should be ready for closure according to the schedule in Table G-1.
25 Table G-1 shows actual dates for completed activities and future dates based on the facility
26 design parameters discussed in Section G-1c. These future dates are estimates for planning
27 and permitting purposes. Actual dates may vary depending on the availability of waste from the
28 generator sites.

29 In the schedule in Figure M-61, notification of intent to close occurs 30 days before placing the
30 final waste in an HWDU. Once an HWDU is full, the Permittees will initially block ventilation
31 through the HWDU as described in Permit Attachment A2, Section A2-2a(3) "Subsurface
32 Structures," and then will assess the closure area for ground conditions and contamination so
33 that a definitive schedule and closure location can be determined. If as the result of this
34 assessment the Permittees determine that a panel closure cannot be emplaced in accordance
35 with the schedule in this Closure Plan, a modification will be submitted requesting an extension
36 to the time for closure.

37 G-1d(2) Schedule for Final Facility Closure

38 If, as is currently projected, the WIPP facility is dismantled at closure, surface facilities (except
39 the hot cell portion of the WHB, which will remain as an artifact of the Permanent Marker
40 System [PMS]) will be disassembled and either salvaged or disposed in accordance with
41 applicable standards. Subsurface facilities and equipment will be disassembled and disposed or
42 salvaged to the extent practicable based on underground mining practice. In addition, asphalt
43 and crushed caliche that was used for paving will be removed, and the area will be recontoured

1 G-1e(2)(c) Decontamination Activities

2 Once the extent of contamination is known, radiological control activities (e.g., decontamination,
3 fixing) will be planned and performed. Consistent with radiological control procedures pursuant
4 to 10 CFR Part 835, decontamination activities will be performed, as necessary. Hazardous
5 waste decontamination, if needed, will be conducted in accordance with the requirements of the
6 Permit and the standards in 20.4.1.500 NMAC (incorporating 40 CFR Part 264). Radiological
7 control and the control of hazardous waste residues are the primary criteria used in the design
8 of decontamination activities. Radiological control procedures require that careful planning and
9 execution be used in decontamination activities to prevent the exposure of workers beyond
10 applicable standards and to prevent the further spread of contamination. Careful control of
11 entry, cleanup, and ventilation are vital components of radiological control activities. The level of
12 care mandated by DOE orders and occupational protection requirements results in closure
13 activities that will exceed the 180 days allowed in 20.4.1.500 NMAC (incorporating 40 CFR
14 §264.113(b)). Decontamination activities are included as item 4 above and are shown on the
15 schedule for final facility closure (Figure M-62) as Activities D, E, and F. These activities are
16 anticipated to have a duration of 20 months for both contingency closure and for final facility
17 closure. The result of these activities is the clean closure of the surface container management
18 units. Under contingency closure, the other areas that have been decontaminated will not be
19 closed. Instead, they will remain in use for continued waste management activities involving
20 non-mixed waste. Under final facility closure, other areas that are decontaminated are eligible
21 for closure.

22 The operating philosophy of the WIPP Project, which is described as “Start Clean – Stay Clean,”
23 was intended to provide for minimum need for decontamination at closure. Decontamination
24 during the Disposal Phase and at closure may be needed because of releases in February
25 2014. Decontamination activities are managed consistent with radiological control procedures
26 pursuant to 10 CFR Part 835, which includes the as-low-as-reasonably-achievable (**ALARA**)
27 principle. The ALARA principle is an approach/philosophy to radiation protection to manage and
28 control exposures (both individual and collective) to the work force and to the general public to
29 as low as is reasonable, taking into account social, technical, economic, practical, and public
30 policy considerations. It is assumed that the process of localized surface decontamination will
31 remove the hazardous waste constituents along with the radioactive waste constituents.

32 Decontamination activities will be coordinated with closure activities so that areas that have
33 been decontaminated will not be recontaminated. Waste resulting from decontamination
34 activities will be surveyed and analyzed for the presence of radioactive contamination and a
35 determination of the hazardous constituents associated with the EPA Hazardous Waste
36 Numbers specified in Part A of the Permit Application. The waste will be characterized as non-
37 radioactive/non-hazardous, hazardous, mixed, or radioactive and will be packaged and handled
38 appropriately. Mixed and radioactive waste, classified as TRU mixed waste, will be managed in
39 accordance with the applicable Permit requirements. Derived mixed waste collected during
40 decontamination activities that are generated before repository shafts have been sealed will be
41 emplaced in the facility, if appropriate, or will be managed together with decontamination
42 derived waste collected after the underground is closed. This waste will be classified and
43 shipped off site to an appropriate, permitted facility for treatment, if necessary, and for disposal.

1 **Background:** The WIPP facility was authorized by Congress as a research and development
2 facility to demonstrate the safe disposal of radioactive wastes. The wastes are derived from
3 DOE defense-related activities. Specifically, the mission of the WIPP Project is to conduct
4 research, demonstration, and siting studies relevant to the permanent disposal of TRU wastes.
5 Most of these wastes are contaminated with hazardous constituents, making them mixed
6 wastes.

7 The WIPP Land Withdrawal Act (**LWA**) addresses the disposal phase of the WIPP Project, the
8 period following closure of the site, and the removal of the surface facilities. The LWA set aside
9 10,240 acres (4,144 hectares) located in Eddy County, 26 miles (42 kilometers) east of
10 Carlsbad, New Mexico, as the WIPP site. A 277-acre (112-hectare) portion within the 10,240
11 acres (4,144 hectares) is bounded by a barbed wire fence. This fenced area contains the
12 surface facilities and the mined salt piles for the WIPP facility. Figure M-44 is a cutaway
13 illustrating the spatial relationship of the surface facilities and the underground repository.

14 After receiving the necessary certifications and permits from the EPA and the NMED, the
15 Permittees began disposal of contact-handled (**CH**) and remote-handled (**RH**) TRU and TRU
16 mixed waste in the WIPP facility. The Disposal Phase will continue until the initiation of final
17 facility closure when the Permit term expires, unless a timely Renewal Application has been
18 submitted and the requirements of Permit Part 1, Section 1.7.3 have been met, or Hazardous
19 Waste Disposal Units have received the final volume of waste as specified in Permit Part 4,
20 Table 4.1.1, remaining within the 6.2 million cubic feet (**ft³**) (175,564 cubic meters (**m³**)) of LWA
21 TRU waste volume limit, and as long as the Permittees comply with the requirements of the
22 Permit. At that time, final facility closure will be initiated as described in Renewal Permit
23 Attachment G. When the original Permit was issued, this time period was assumed to be 25
24 years. The waste is shipped from DOE facilities across the country in specially designed
25 transportation containers certified by the Nuclear Regulatory Commission. The transportation
26 routes from these facilities to the WIPP facility have been predetermined. The CH and RH TRU
27 mixed waste is packaged in approved containers as listed in Permit Part 3, Section 3.3.1 and
28 described in Permit Attachment A1.

29 Upon receipt and inspection of the waste containers in the Waste Handling Building Container
30 Storage Unit, the containers are moved into the repository 2,150 feet (655 meters) below the
31 surface. The containers are then transported to a disposal room. (See Figure M-44 for room and
32 panel arrangement.) Upon filling an entire panel, that panel will be closed to isolate it from the
33 rest of the repository and the ventilation system. During the period of time it takes to fill a given
34 panel, an additional panel will be excavated. Sequential excavation of panels will ensure that
35 these individual panels remain stable during the entire time a panel is being filled with waste.
36 Ground control maintenance and evaluation with appropriate corrective action will be required to
37 ensure that ventilation and access drifts in the repository remain stable.

38 Decontamination of the WIPP facility will commence with a detailed radiation survey of the
39 entire site. Radiologically contaminated areas and equipment will be evaluated and
40 decontaminated consistent with radiological control procedures pursuant to 10 CFR Part 835.
41 Hazardous waste decontamination, if needed, will be conducted in accordance with standard
42 20.4.1.500 NMAC (incorporating 40 CFR Part 264) or as prescribed by the Permit. Where
43 decontamination efforts identify areas that meet clean closure standards for permitted container
44 storage units and are below radiological control limits pursuant to 10 CFR Part 835, routine
45 dismantling and salvaging practices will determine the disposition of the material or equipment
46 involved. Material and equipment that do not meet these standards and criteria will be emplaced

1 determined by the Permittees. System audits will initially address start-up functions for each
2 phase of the project. These audits will consist of on-site evaluation of materials and equipment,
3 review of certifications for canisters and measurement and test equipment, review of laboratory
4 qualification and operation and, at the request of the QA officer, an on-site audit of the
5 laboratory facilities. The function of the system audit is to verify that the requirements in this
6 plan have been met prior to initiating the program. System audits will be performed at or shortly
7 after the initiation of the VOC monitoring programs and on an annual basis thereafter.

8 Performance audits will be accomplished as necessary through the evaluation of analytical QC
9 data by performing periodic site audits throughout the duration of the project, and through the
10 introduction of third-party audit cylinders (laboratory blinds) into the analytical sampling stream.
11 Performance audits will also include a surveillance/review of data associated with canister
12 certifications and measurement and test equipment, a project-specific technical audit of field
13 operations, and a laboratory performance audit. Field logs, logbooks, and data sheets, as
14 applicable will be reviewed during data validation. Blind-audit canisters will be introduced once
15 during the sampling period. Details concerning scheduling, personnel, and data quality
16 evaluation are addressed in the QAPjP.

17 The Permittees have implemented a proficiency testing (PT) plan. The PT plan includes the
18 following, as applicable:

- 19 • Specific analytical method(s),
- 20 • Schedule for proficiency testing implementation, and
- 21 • Provision for the periodic reporting of proficiency testing results and corrective actions, if
22 any.

23 Results of PT will be reported in the Semi-Annual VOC Monitoring Report as specified in Permit
24 Part 4, Section 4.6.2.2.

25 N-5f Preventive Maintenance

26 Maintenance of sample collection units is described briefly in Section N-4d Maintenance of
27 analytical equipment will be addressed in the analytical laboratory SOP.

28 N-5g Corrective Actions

29 If the required completeness of valid data (95 percent) is not maintained, corrective action may
30 be required. Corrective action for field-sampling activities may include recertification and
31 cleaning of sample collection units, reanalysis of samples, additional training of personnel,
32 modification to field and laboratory procedures, and recalibration of measurement and test
33 equipment.

34 Laboratory corrective actions may be required to maintain data quality. The laboratory
35 continuing calibration criteria indicate the relative response factor for the midpoint standard will
36 be less than 30 percent different from the mean relative response factor for the initial calibration.
37 Differences greater than 30 percent will require recalibration of the instrument before samples
38 can be analyzed. If the internal standard areas in a sample change by more than 40 percent,
39 the sample will be reanalyzed. If the 40 percent criterion is not achieved during the reanalysis,