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JUN 26 2014

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NMED  
Hazardous Waste Bureau

Mr. John E. Kieling, Bureau Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87508-6303

Mr. Tom Blaine, Division Director  
Environmental Health Division  
Harold Runnels Building  
1190 Saint Francis Drive, Room 4050  
Santa Fe, NM 87502-5469

Subject: Underground Compliance Plan and Underground Derived Waste Storage Plan, as requested per Item 17a and 17b of the May 12, 2014, NMED Administrative Order

Dear Mr. Kieling and Mr. Blaine:

The purpose of this letter is to transmit the Draft Underground Compliance Plan and Underground Derived Waste Storage Plan, as required by Item 17a and 17b of the May 12, 2014, Administrative Order issued under authority of the New Mexico Hazardous Waste Act § 74-4-13 from Ryan Flynn to Messrs Hellstrom, Franco, Cook, and McQuinn.

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our 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 our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. George T. Basabilvazo at (575) 234-7488.

Sincerely,

*Jose R. Franco*  
Jose R. Franco, Manager  
Carlsbad Field Office

*Robert L. McQuinn*  
Robert L. McQuinn, Project Manager  
Nuclear Waste Partnership LLC

Enclosures(3)

cc: w/enclosure(s)  
T. Kliphuis, NMED \*ED  
J. Sales, EPA ED  
CBFO M&RC  
\*ED denotes electronic distribution



# Underground Derived Waste Storage Plan

Prepared in Response to New Mexico Environment Department  
Administrative Order Issued May 12, 2014

## 1.0 INTRODUCTION

The purpose of this document is to provide the plan required by the New Mexico Environment Department (NMED) Administrative Order (Order) issued on May 12, 2014, to the U.S. Department of Energy (DOE) and Nuclear Waste Partnership LLC (NWP), collectively referred to as the Permittees. The Order, at paragraph 17(b), requires the Permittees to submit an *Underground Derived Waste Storage Plan* (Plan) for the Waste Isolation Pilot Plant (WIPP) underground disposal facility. The Order requires that the Plan include; “i. A detailed description of the planned derived waste storage areas to be created and/or used in the underground; ii. The volumetric flow rate for ventilation in each storage area, a description of how the volumetric flow rate is protective of human health and the environment and a description of how it will be achieved; iii. For the derived waste stored in the WIPP underground, a description of how the requirements found in 40 CFR 264 Subpart I will be met and how the storage area(s) will meet Permit Part 2, Section 2.3.3 – Treatment, Storage, and Disposal Facility Waste Acceptance Criteria (‘TSDF-WAC’); and iv. For the derived waste stored in the WIPP underground, a description of how all other applicable Resource Conservation and Recovery Act (RCRA) and Permit requirements will be complied with.”

Any revisions and updates to this Plan will be submitted to the NMED for approval before the changes are implemented pursuant to the Order paragraph 17(c).

## 2.0 BACKGROUND

At 11:14 P.M. on February 14, 2014, a Continuous Air Monitor (CAM) detected airborne radiation in the WIPP underground facility. When the CAM alarmed, underground ventilation exhaust air automatically shifted to flow through high efficiency particulate air (HEPA) filters to remove radioactive particulates. Since that time underground exhaust air has continued to be routed through HEPA filtration.

The radiological release contaminated portions of the underground facility. The Permittees are currently in the process of determining the extent of such contamination. Because of the contamination, activities in the underground must be carefully planned and performed to assure workers are not exposed to harmful doses of radioactivity. Throughout this Plan there are references to numerous documentation steps associated with this planning such as preparing work packages, classifying radiation areas, and preparing and approving safety basis documents. These are important steps in assuring the required WIPP Hazardous Waste Facility Permit (Permit) activities occur within the boundaries of safe radiological operations.

Since portions of the underground facility have been contaminated, decontamination activities must take place to achieve a safe workplace for employees to enter and perform work activities. Some of the waste that will be generated as a result of these decontamination activities will be managed, stored, and disposed as derived waste. Storage of derived waste in the underground is required to facilitate decontamination of underground equipment and contaminated areas. The Permit authorizes the management, storage, and disposal of derived waste. However, storage of derived waste in the underground prior to its disposal is not specifically addressed in the Permit. This Plan is, therefore, required pursuant to the Order to address storage of derived waste in the underground prior to its disposal.

Every effort will be made to minimize the generation of derived waste pursuant to Permit Attachment D, Section D-4d(6). In order to minimize the amount of derived waste and to facilitate storage prior to disposal, the Permittees may manage some of the waste generated from decontamination activities as low-level waste. Low-level waste will be shipped to an off-site low-level hazardous waste disposal facility. Prior to transferring low-level waste to the surface for shipment offsite, it will be stored in the same areas in the underground as derived waste. This Plan only addresses the management of derived waste in the underground. The waste expected to be generated during recovery operations is described in Permit Attachment D, Section D-4d(6). It is anticipated by the Permittees that derived waste will include contaminated salt, equipment, and personnel protective equipment.

### **3.0 INFORMATION REQUIRED BY THE ORDER**

The following sections describe the Plan required under the Order.

#### **3.1 Paragraph 17, Section (b) i**

The Order requires the Permittees to provide a detailed description of the planned derived waste storage areas to be created and/or used in the underground.

##### **3.1.1 Derived Waste Storage Areas**

A map delineating the planned derived waste storage areas can be found in Attachment 1, *Derived Waste Storage Areas*. The location descriptions refer to underground access drifts (e.g. S-700 is the underground S-700 drift). The Permittees have identified three areas for storage of derived waste based on the current understanding of the conditions in the underground. These areas may have to be changed as new information becomes available. Changes to locations will be submitted to the NMED for approval and the Plan will be updated.

###### **3.1.1.1 Location 1**

Location 1 is outside the regulated Hazardous Waste Management Unit (HWMU) and is located at S-700 between E-140 and E-300. This location was selected based on

access to the north end of E-300 (through vehicle doors) and provides a short travel distance from E-300.

### **3.1.1.2 Location 2**

Location 2 is inside the regulated HWMU in the transition area between Panels 9 and 10 and is located at E-140 between S-2520 and S-2750. This location was selected based on access to the south end of E-300 (through vehicle doors) and provides a short travel distance from E-300.

### **3.1.1.3 Location 3**

Location 3 is inside the regulated HWMU and is located in Panel 7, Room 2. This area was selected based on access in the Panel 7 area, and provides a short travel distance from all areas of the Panel where decontamination activities will be taking place.

## **3.2 Paragraph 17, Section (b) ii**

The Order requires the Permittees to provide the volumetric flow rate for ventilation in each storage area, a description of how the volumetric flow rate is protective of human health and the environment and a description of how it will be achieved.

### **3.2.1 Derived Waste Storage Areas Ventilation**

The post-radiological release operation of the WIPP facility incorporates continuous HEPA filtration as the primary method of protecting human health and the environment. Ventilation air passes through and by waste disposal areas and is circulated through filtration units, thus assuring that no air from the disposal area is discharged from the mine unfiltered. The filtration system has been operating since February 14, 2014. This mitigates the public exposure hazards associated with a potential release of radioactive contaminants from waste containers and provides protection to human health and the environment. Note that this ventilation plan only addresses derived waste storage during recovery operations and is not intended to replace the ventilation requirements in the Permit for waste disposal and normal operations.

Air is circulated into the underground repository through three shafts (Air Intake, Waste, and Salt) and exits through a common shaft (Exhaust). The overall ventilation design and operation assures that the air that flows through the waste disposal areas are separated from the air that flows through the mining and experimental area. This is accomplished with an appropriate alignment of underground bulkheads and flow regulators which provide adequate ventilation flows to select work areas (including derived waste storage areas when workers are present) and to direct the air flow to the exhaust shaft. Pressure differentials are maintained between flow paths to ensure that air flow is always from areas of lower to higher contamination potential.

Underground ventilation is established in accordance with the U.S. Department of Labor, Mine Safety and Health Administration (MSHA) requirements to protect underground workers and is related to the type and number of internal combustion

engines being used for work activities and providing breathable air. Sufficient ventilation air is defined by the MSHA regulations (30 CFR 57 Subpart G) promulgated for mines such as the WIPP facility. Because the mine is being ventilated in filtration mode, approximately 60,000 standard cubic feet per minute (scfm) of ventilation air is available to support activities in the underground. A portion of this ventilation is dedicated to Panel 7. Ventilation air passes through and by waste disposal areas, including Panel 7, and is circulated through filtration units, thus assuring that air follows the ventilation pathway and not into other portions of the mine or to the surface unfiltered. The limited amount of ventilation air dictates the types and number of activities that can be performed at any given time in the underground. Until the Permittees install additional filtration devices, the amount of air will remain limited to its current capacity. The volumetric flow rate for ventilation in each storage area will be managed to meet the MSHA requirements. In addition, for compounds not addressed by MSHA, such as volatile organic compounds (VOCs) which are known to be present in the underground, industrial hygiene monitoring will be used to assure the storage areas are safe for workers to enter. Standards established by DOE Order and the American Conference of Governmental Industrial Hygienists (ACGIH) will be enforced to protect workers entering storage areas. Additional ventilation will be diverted to the areas to remove VOCs, if necessary, to allow entry, or workers will be required to wear appropriate personnel protective equipment (PPE). Emissions of VOCs from derived waste containers are expected to be minimal since the containers will be used to hold salt and non-waste debris that have become radiologically contaminated. There has been no indication of VOC chemical contamination associated with the release.

### **3.3 Paragraph 17, Section (b) iii**

The Order requires the Permittees to provide a description of how the requirements found in 40 CFR 264, Subpart I will be met and how the storage areas will meet Permit Part 2, Section 2.3.3., *Treatment, Storage, and Disposal Facility Waste Acceptance Criteria* ("TSD-FWAC").

#### **3.3.1 40 CFR 264, Subpart I Requirements**

Implementation of container management requirements in this Plan for the derived waste storage areas will be controlled by written standard operating procedures (SOPs) and will be conducted by individuals trained in the management of derived waste.

##### **3.3.1.1 Condition of Containers (40 CFR 264.171)**

Only containers specified in Permit Part 4, Section 4.3.1, *Acceptable Disposal Containers*, will be used to collect, store, and dispose of derived waste. These containers will include standard 55-gallon drums, 85-gallon drums, 100-gallon drums, Standard Waste Boxes, Standard Large Boxes, and Ten Drum Overpacks (TDOPs). The containers will be standard DOT Type 7A, or equivalent, containers. These waste containers will be new (not previously used) and, therefore, in good condition. Pursuant to Permit Attachment A1-1b(1), one or more filtered vents (as described in Permit Attachment A, Section A1-1d(1)) will be installed on the container to prevent the escape

of any radioactive particulates and to eliminate any pressurization within the container due to gas build-up.

If a derived waste container is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittees will transfer the waste to a container that is in good condition, overpack the container, or repair/patch the container, as described in Permit Attachment A, Section A1-1c(1).

### **3.3.1.2 Compatibility of Waste with Containers (40 CFR 164.172)**

The Permittees will use containers made of or lined with materials which will not react with, and are otherwise compatible with, the derived waste to be stored, so that the ability of the container to contain the waste is not compromised, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.172).

Items delivered to waste containers will be inspected in accordance with applicable SOPs to ensure the absence of prohibited items. Prohibited items include chemicals that are not compatible with TRU mixed waste, the containers, the salt, or the backfill.

### **3.3.1.3 Management of Containers (40 CFR 264.173)**

The Permittees SOPs will require that derived waste containers be closed during storage, except when it is necessary to add waste to or remove waste from the containers.

Containers may be filled and stored with derived waste in various areas of the underground as decontamination activities progress. Multiple containers may be used simultaneously, as needed, for derived waste. Once a container is filled and sealed, it will be relocated to a derived waste storage area within 72 hours or as otherwise specified in work control documents. Derived waste containers will be properly identified and marked prior to removing them from the location where they are filled.

The Permittees SOPs and training will assure that the Permittees will not open, handle, or store containers in a manner which may rupture the container or cause it to leak, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.173).

### **3.3.1.4 Inspection Schedules and Procedures (40 CFR 264.174)**

The Permittees will inspect the underground derived waste storage area at least weekly (as access is permitted) to look for leaking containers and for deterioration of containers, as required by 20.4.1.500 NMAC (incorporating 40 CFR 264.174). If derived waste areas are not accessible due to maintenance activities (e.g., HEPA filter replacement) or work conditions (e.g., minimum ventilation is not available), then inspections will be completed once access to the area becomes available. These situations will be noted in the inspection records.

### **3.3.1.5 Containment Systems (40 CFR 264.175)**

Because derived waste will not contain free liquids, there are no liquids resulting from precipitation in the underground, and there is no accumulated liquid in the underground, a containment system is not necessary pursuant with 20.4.1.500 NMAC (incorporating 40 CFR 264.175[c]).

Liquid waste that may be generated as a result of decontamination activities (e.g. brine from collection system boreholes) will be solidified in accordance with SOPs. Liquid within containers will be solidified prior to placement into the derived waste storage areas.

### **3.3.1.6 Special Requirements for Ignitable, Reactive, and Incompatible Waste (40 CFR 264.176 – 40 CFR 264.177)**

No ignitable, reactive and incompatible wastes will be stored in derived waste areas. Items delivered to waste containers will be inspected in accordance with SOPs to ensure the absence of prohibited items including ignitable, corrosive, or reactive waste. Only derived waste or waste compatible with derived waste will be stored in designated derived waste storage areas.

### **3.3.1.7 Closure (40 CFR 264.178)**

Because the WIPP underground repository is a miscellaneous unit, the conditions of 20.4.1.500 NMAC (incorporating 40 CFR 264.178) do not apply to derived waste storage areas. Closure of the derived waste storage areas will be conducted in accordance with the Permittees' Hazardous Waste Facility Permit Closure Plan. Derived waste stored in an area that is not an approved disposal panel will be moved to an approved disposal panel when the storage area is no longer needed.

### **3.3.2 TSDF-Waste Acceptance Requirements**

The derived waste will comply with the TSDF waste acceptance criteria specified in Permit Section 2.3.3.

These requirements are met by controlling materials that will be used during decontamination and clean-up activities. Items delivered to waste containers will be inspected to ensure the absence of prohibited items, and the controls described in Section 3.3.1 above and in this section will be controlled by SOPs. Applicable procedures will be provided to the NMED.

### **3.4 Paragraph 17, Section (b) iv**

The Order requires the Permittees to describe other applicable RCRA and Permit requirements.

### **3.4.1 Other RCRA and Permit Requirements Applicable to Storage of Derived Waste in the Underground**

Because the Permit does not address storage of waste in the underground facility, except as authorized by the RCRA Contingency Plan, no other Permit requirements specifically apply. However, there are other RCRA requirements that apply (e.g., 40 CFR 264.35, Preparedness and Prevention). These other requirements are discussed below.

#### **3.4.1.1 Container Locations (Paragraph 18[d] of the Order)**

The location of underground derived waste containers will be reported in the bi-weekly report. Containers will not be stacked any higher than three high in the storage areas. The location of each container and the quantity (volume of waste container) of each hazardous waste will be recorded and maintained in the operating record as required by 20.4.1.500 NMEC incorporating 40 CFR 264.73(b)(2).

#### **3.4.1.2 Minimum Aisle Space (40 CFR 264.35)**

The Permittees will maintain a minimum aisle space that will ensure the containers can be inspected in accordance with the container storage requirements in 40 CFR 264 Subpart I. The minimum aisle space will be maintained to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the storage locations in an emergency. The minimum aisle space for derived waste containers is 44 inches.

#### **3.4.1.3 Operating Record (40 CFR 264.73)**

The Permittees shall use inspection logbooks and/or forms for the inspection of the underground derived waste containers. Original copies of these completed forms will be kept in the Operating Record in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.73[b][5]).

#### **3.4.1.4 Polychlorinated Biphenyls (U.S. Environmental Protection Agency Region 6 Conditions of Approval, May 21, 2013)**

*The Conditions of Approval for the Disposal of PCB/TRU and PCB/TRU Mixed Waste at the WIPP Facility* authorizes the DOE to store PCB/TRU waste in the Parking Area Container Storage Unit and the Waste Handling Building Container Storage Unit. However, there is no indication that waste released in the February 14, 2014 incident was contaminated with polychlorinated biphenyls (PCBs). Therefore, PCB management requirements do not apply to the underground derived waste storage areas. If it is found that the waste is contaminated with PCBs, the Permittees will notify the EPA in writing and wait until the EPA submits a written approval authorizing the new storage area. Moreover, the storage of waste contaminated with PCBs will comply with the additional storage requirements in accordance with the conditions of approval.



#### **3.4.1.5 Traffic Pattern for Underground Derived Waste (Part 4, Section 4.5.3.1)**

The flow of traffic in the underground during recovery will be managed to prevent the spread of radioactive contamination. Traffic routes will be specified in work control documents to achieve this goal. Records of traffic routes will be available at the facility for inspection.

#### **4.0 PARAGRAPH 26**

The Order requires the Permittees to post the final report and submissions to NMED related to this Order in the Information Repository within five (5) working days of submission to NMED. The Permittees will create a folder in the information repository specifically for these submissions.

**ATTACHMENT 1**  
**DERIVED WASTE STORAGE AREAS**



# Underground Compliance Plan

Prepared in Response to New Mexico Environment Department  
Administrative Order Issued May 12, 2014

## 1.0 INTRODUCTION

The purpose of this document is to provide the plan required by the New Mexico Environment Department (NMED) Administrative Order (Order) issued on May 12, 2014, to the U.S. Department of Energy (DOE) and Nuclear Waste Partnership LLC (NWP), collectively referred to as the Permittees. The Order, at paragraph 17(a), requires the Permittees to submit an *Underground Compliance Plan* (UCP) for review and comment for the Waste Isolation Pilot Plant (WIPP) underground disposal facility. The Order requires that the UCP include “a detailed compliance schedule for those requirements described in Paragraph 13 of the Order, including identification of all underground Permit requirements; a description of the current compliance status of each underground Hazardous Waste Facility Permit (Permit) requirement; a proposed timeline, including dates, for compliance and achieving underground recovery; any plans related to attaining compliance with the Permit; the reason(s) for any Permit non-compliance; and, any other pertinent information. This shall include a spreadsheet summary with each category listed above as a column or row.”

## 2.0 BACKGROUND

At 11:14 P.M. on February 14, 2014, a Continuous Air Monitor (CAM) detected airborne radiation in the WIPP underground facility. When the CAM alarmed, underground ventilation exhaust air automatically shifted to flow through high efficiency particulate air (HEPA) filters to remove radioactive particulates. Since that time underground exhaust air has continued to be routed through HEPA filtration.

The radiological release contaminated portions of the underground facility. In addition, the assessment of the impacts of the salt haulage truck fire on February 4, 2014 needs to be completed (e.g., the extent of impact such as soot buildup). The Permittees are currently in the process of determining the extent of such contamination. Because of the contamination, some Permit required activities cannot be performed due to inaccessibility of the underground. The inability to perform these activities does not pose a threat to human health or the environment because of the restrictions placed on entry to the underground and because emissions from the underground are continuously filtered. Activities in the underground must be carefully planned and performed to assure workers are not exposed to harmful doses of radioactivity. Throughout this UCP there are references to numerous documentation steps associated with this planning such as preparing work packages, classifying radiation areas, and preparing and approving safety basis documents. These steps are not specifically described in the Permit; however, they are important steps in assuring the Permit-required activities occur within the boundaries of radiologically safe operations.

### 3.0 INFORMATION REQUIRED BY THE ORDER

The following sections describe the UCP required under the Order. In formulating the schedule portion of the UCP, some of activities may be done concurrently. The relationship between these activities will become more obvious once prerequisite activities are completed and the schedule evolves.

#### 3.1 Prerequisite Activities

The Order covers underground Permit-required activities (e.g., inspections, monitoring). General access to the underground for these activities is not allowed at this time pending the completion of certain prerequisite activities that will establish the safety and habitability of the work areas. The underground has been divided into specific areas (zones) for systematically accomplishing recovery. In each of the zones, there is a sequence of activities that must occur in order to resume normal or limited activities in the areas. The designation of the zones and the timing of activities are based, to an extent, on the amount of contamination anticipated or actually found in these areas.

The Permittees' priorities place safety, health, and environmental protection ahead of mission resumption. These priorities are listed below.

- Mine stability (e.g., ground control, bolting), which includes taking the actions necessary to ensure that the underground is safe for personnel.
- Ventilation, which includes providing adequate airflow for workers to conduct activities.
- Underground habitability, which includes radiological characterization, posting of radiological zones, re-establishing habitability (e.g., toilets, cleaning, trash removal), and the safe restart of the electrical system.
- Underground maintenance and bringing the underground equipment, including fire protection systems, into working order with preventative maintenance and open corrective actions complete or compensatory measures in place.
- Decontamination of portions of the mine to allow for operations.

There are numerous important enabling activities to support the accomplishment of these top priorities, including Evaluation of the Safety of the Situation revisions, Documented Safety Analysis revisions, corrective action completion, safety management system enhancements, and aboveground support activities. As zones are released in the underground, some Permit-related activities such as underground inspections and monitoring may resume. Updates on these activities will be included in the bi-weekly report, as required by Paragraph 18(c) of the Order. It is anticipated that the release of these zones for Permit-related activities will be completed by January 2016.

Some of the enabling activities are delineated below. Activities that are underway are shown in italics:

- *Evaluation of the cause of the release, which has currently been narrowed down to a single container in Panel 7, Room 7.*

- *Release of the underground by the DOE Accident Investigation Board. This will be conducted in phases, with the release of all but Panel 7, Room 7 expected by June 20, 2014.*
- *Work packages, procedures, and health and safety plans that require updating to address work in minimally ventilated areas and in potentially contaminated areas. Personnel training to these documents and activities will be required*
- *Performance of underground radiation surveys to determine the extent of contamination. The surveys performed to date have been focused on re-entry needs for the purposes of investigations. This must be expanded to cover areas where personnel will be working and to gain access to the required equipment.*
- Evaluation of the ground conditions in and around the Hazardous Waste Disposal Units (HWDUs).
- *Filter replacement. Replacement of some or all of the filters in the HEPA filtration system is expected to occur during the duration of the activities under this Order. This activity is required to ensure the filtration system operates at optimal efficiency.*
- Evaluation of the extent of radiological contamination on equipment needed to maintain the mine entries for the HWDUs.
- Evaluation of the extent of soot on electrical equipment needed to perform work in the underground.
- *Finalization and implementation of the WIPP Recovery Plan and associated schedule.*
- *Completion of corrective actions and/or implement compensatory measures for inadequacies noted for fire protection and emergency management.*
- Establishment of underground habitability. Activities required for personnel hygiene and safety (e.g., portable toilets, eyewash stations inspections, fire suppression equipment inspections) must be re-established for personnel habitability.
- Establishment of required ventilation. Minimum ventilation must be established pursuant Mine, Safety, and Health Administration (MSHA) requirements in order operate the salt haulage vehicles and other necessary diesel equipment.
- *Preparation and approval of safety basis documentation.*
- Preventative maintenance (PM) on the salt haulage vehicles and scissor lifts to ensure safe operability.
- *Activation of the Waste Hoist.*
- Completion of Panel 6 initial closure activities
- Completion of Panel 7, Room 7 closure activities
- Establishment of supplemental HEPA filtration
- Preparation of balance of Panel 7 for restart
- Establishment of supplemental construction ventilation
- Re-establishment of mining for Panel 6 final closure
- Installation of permanent closure in Panel 6
- NMED inspection of the underground prior to restart

### **3.2 Paragraph 17, Section (a) i**

The Order requires the Permittees to provide a detailed compliance schedule for those requirements described in Paragraph 13 of the Order. The attached spreadsheet addresses the underground activities required by the Permit. Activities cannot be started until the appropriate prerequisites activities have been completed. Dates are subject to change as field conditions change over time. Once the Recovery Plan is finalized more definitive dates will be available and an update to this Plan will be submitted to the NMED. With regard to the inspection dates in the status portion in the attached spreadsheet, the date provided reflects the most recent inspection at the time this Plan was prepared. The bi-weekly report required by Paragraph 18 of the Order contains updated information.

### **3.3 Paragraph 26**

The Order requires the Permittees to post the final report and submissions to NMED related to the Order in the Information Repository within five (5) working days of submission to NMED. The Permittees will create a folder in the Information Repository specifically for these submissions.

**Underground Compliance Plan Compliance Status and Schedule**

UNDERGROUND PERMIT REQUIREMENTS					DESCRIPTION OF CURRENT COMPLIANCE STATUS		PROPOSED TIMELINE FOR COMPLIANCE	PLANS FOR ATTAINING COMPLIANCE	REASON FOR PERMIT NON-COMPLIANCE	OTHER PERTINENT INFORMATION
Activity Type	System/ Equipment Name	Responsible Organization	Inspection/Monitoring Frequency	Permit Requirement/Procedure Number and Inspection Criteria	Status	Date of Last Inspection/Monitoring	Proposed Start Date (if Not Current or Equipment Not in Use)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comment
Geomechanical Monitoring	NA	Geotechnical Engineering	NA	4.6.1.1. Implementation of Geomechanical Monitoring Program The Permittees shall implement a geomechanical monitoring program in each Underground HWDU as specified in Permit Attachment A2, Section A2-5b(2), "Geomechanical Monitoring" and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.602).	Indeterminate	A frequency is not specified in this section.	Jan '16	The Geomechanical Monitoring Program is still partially implemented as data are electronically sent to the geomechanical monitoring system computer electronically. Notification and reporting will still occur as required.	Inaccessibility to the U/G to gather manually read data is due to the radiological event.	The Geomechanical Monitoring System consists of both remotely and manually read locations in the underground. The remote points are working properly, however, manual readings cannot be taken until areas become accessible for normal activities. As they become accessible, they will be read and added to the database. To date, visual inspections by the re-entry teams have not found any deteriorating conditions.
Geomechanical Monitoring	NA	Geotechnical Engineering	NA	4.6.1.2. Reporting Requirements The Permittees shall submit to the Secretary an annual report in October evaluating the geomechanical monitoring program and shall include geomechanical data collected from each Underground HWDU during the previous year, as specified in Permit Attachment 2, Section A2-5b(2), "Geomechanical Monitoring", and shall also include a map showing the current status of HWDU mining. The Permittees shall also submit at that time an annual certification by a registered professional engineer certifying the stability of any explosion-isolation walls. The Permittees shall post a link to the geomechanical monitoring report transmittal letter on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11.	Current with regard to reporting Not current with regard to wall inspection by a registered professional engineer	Oct '13 (Annual Report)	Jan '16	Reinstate the inspection program in accordance with the Recovery Plan.	Inaccessibility to the U/G to perform inspections of walls is due to the radiological event.	The Permittees will submit a Geomechanical Monitoring Report in October 2014. This report will be complete since it covers monitoring that occurred before the February 2014 events. The PE certification will not be available in October unless the areas become accessible to perform this activity. The report for October 2015 will not have the same amount of data, however, if manual monitoring can resume before the data cutoff date, conclusions regarding creep closure and room stability can be updated.
Geomechanical Monitoring	NA	Geotechnical Engineering	As needed	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.	Current	As conditions require notification	As conditions require notification	NA	NA	The Permittees will notify the NMED whenever data received from the geomechanical monitoring system provides data that identifies a trend toward unstable conditions which requires a decision whether to terminate waste disposal activities in any Underground HWDU. To date, re-entry observations have not found any conditions that would require notification.
Geomechanical Monitoring	NA	Geotechnical Engineering	Annual	A2-5b(2) Geomechanical Monitoring HWDUs, drifts, and geomechanical test rooms will be monitored to provide confirmation of structural integrity. Geomechanical data on the performance of the repository shafts and excavated areas will be collected as part of the geotechnical field-monitoring program. The results of the geotechnical investigations will be reported annually. The report will describe monitoring programs and geomechanical data collected during the previous year.	Collection of manually read data not current. Annual reporting is current.	Oct '13 (Annual Report)	Jan '16 (For collecting manual data)	Collecting manual data for the geomechanical monitoring system will commence in accordance with the Recovery Plan.	Inaccessibility to the U/G to gather manual data is due to the radiological event.	Permittees will report on the geomechanical monitoring data obtained automatically through the Geomechanical Monitoring System.



**Underground Compliance Plan Compliance Status and Schedule**

UNDERGROUND PERMIT REQUIREMENTS					DESCRIPTION OF CURRENT COMPLIANCE STATUS	PROPOSED TIMELINE FOR COMPLIANCE	PLANS FOR ATTAINING COMPLIANCE	REASON FOR PERMIT NON-COMPLIANCE	OTHER PERTINENT INFORMATION	
Activity Type	System/ Equipment Name	Responsible Organization	Inspection/Monitoring Frequency	Permit Requirement/Procedure Number and Inspection Criteria	Status	Date of Last Inspection/Monitoring	Proposed Start Date (if Not Current or Equipment Not in Use)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comment
Geomechanical Monitoring	NA	Geotechnical Engineering	Monthly for electronically read data.	<p>A2-5b(2)(a) Description of the Geomechanical Monitoring System (also covered in Table E-2) The minimum instrumentation for each of the eight panels will be one borehole extensometer installed in the roof at the center of each disposal room. The roof extensometers will monitor the dilation of the immediate salt roof beam and possible bed separations along clay seams.</p> <p>Additional instrumentation will be installed as conditions warrant. Remote polling of the geomechanical instrumentation will be performed at least once every month. This frequency may be increased to accommodate any changes that may develop. The results from the remotely read instrumentation will be evaluated after each scheduled polling. Documentation of the results will be provided annually in the Geotechnical Analysis Report. Data from remotely read instrumentation will be maintained as part of a geotechnical instrumentation system. The instrumentation system provides for data maintenance, retrieval, and presentation. The Permittees will retrieve the data from the instrumentation system and verify data accuracy by confirming the measurements were taken in accordance with applicable instructions and equipment calibration is known. Next, the Permittees will review the data after each polling to assess the performance of the instrument and of the excavation. Anomalous data will be investigated to determine the cause (instrumentation problem, error in recording, changing rock conditions). The Permittees will calculate various parameters such as the change between successive readings and deformation rates. This assessment will be reported to the Permittees' cognizant ground control engineer and operations personnel. The Permittees will investigate unexpected deformation to determine if remediation is needed.</p> <p>The Permittees will evaluate the performance of the excavation. If an open panel shows the trend is toward adverse (unstable) conditions, the results will be reported to determine if it is necessary to terminate waste disposal activities in the open panel. This report of the trend toward adverse conditions in an open HWDU will also be provided to the Secretary of the NMED within seven (7) calendar days of issuance of the report.</p>	Current	5/30/2014 (For electronically read data)	Jan '16 (For collecting manual data)	Monitoring will resume in accordance with the Recovery Plan	Some instrumentation in Table A2-2 is not available for use in support of the geomechanical program due to inaccessibility of the U/G.	Remote reading is occurring monthly. Manual readings cannot be made at this time which will affect annual reporting. To date, visual inspections by the re-entry teams have not found any deteriorating conditions.
Geomechanical Monitoring	NA	Geotechnical Engineering	NA	<p>A2-5b(2)(b) System Experience Much experience in the use of geomechanical instrumentation was gained as the result of performance monitoring of Panel 1, which began at the time of completion of the panel excavation in 1988. The monitoring system installed at that time involved simple measurements and observations (e.g., vertical and horizontal convergence rates, and visual inspections). Minimal maintenance of instrumentation is required, and the instrumentation is easily replaced if it malfunctions. Conditions throughout Panel 1 are well known. The monitoring program continues to provide data to compare the performance of Panel 1 with that established elsewhere in the underground. Panel 1 performance is characterized by the following: The development of bed separations and lateral shifts at the interfaces of the salt and the clays underlying the anhydrites "a" and "b." Room closures. A closure due only to the roof movement will be separated from the total closure. The behavior of the pillars. Fracture development in the roof and floor. distribution of load on the support system.</p> <p>Roof conditions are assessed from observation boreholes and extensometer measurements. Measurements of room closure, rock displacements, and observations of fracture development in the immediate roof beam are made and used to evaluate the performance of a panel. A description of the Panel 1 monitoring program was presented to the members of the Geotechnical Experts Panel (in 1991) who concurred that it was adequate to determine deterioration within the rooms and that it will provide early warning of deteriorating conditions. The assessment and evaluation of the condition of WIPP excavations is an interactive, continuous process using the data from the monitoring programs. Criteria for corrective action are continually reevaluated and reassessed based on total performance to date. Actions taken are based on these analyses and planned utilization of the excavation. Because WIPP excavations are in a natural geologic medium, there is inherent variability from point to point. The principle adopted is to anticipate potential ground control requirements and implement them in a timely manner rather than to wait until a need arises.</p>	Descriptive information	NA	NA	NA	NA	
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	As needed	<p>4.6.2.4. Remedial Action If the running annual average concentration for a VOC specified in Table 4.4.1 exceeds the concentration of concern specified in Table 4.6.2.3, the Permittees shall cease disposal in the active CH disposal room and install ventilation barriers as specified in Permit Section 4.5.3.3. If the running annual average concentration for a VOC specified in Table 4.4.1 exceeds the concentration of concern specified in Table 4.6.2.3 for six consecutive months, the Permittees shall close the affected Underground HWDU as specified in Permit Section 4.9.1. For any remedial action taken under this Permit Section, the Permittees shall submit to the Secretary written quarterly status reports, beginning 30 calendar days after the Permittees submit the initial notification in Permit Section 4.6.2.3 which resulted in the remedial action. The quarterly status report shall analyze the cause of exceedance, describe the implementation and results of the remedial action, and describe measures taken to prevent future exceedances. The Permittees shall submit such reports until the Secretary determines the remedial action has been completed in accordance with all applicable requirements of this Permit.</p>	Current per AO 2	This section applies to remedial action and does not specify a frequency.	Jan '16	Monitoring will resume in accordance with the Recovery Plan	Inaccessibility to areas of the U/G due to the February fire and radiation events.	Due to inaccessibility of the U/G, the Permittees are not able to sample repository VOCs and, therefore, not able to report on the VOC running annual average. Per AO 2, surface measurements are being made to assure protection of the non-waste worker on the surface. No waste handlers are working in the underground at this time.
Repository VOC Monitoring	NA	Environmental Monitoring & Hydrology	Frequency not specified in this requirement	<p>N-3a(1) Sampling Locations for Repository VOC Monitoring The initial configuration for the repository VOC monitoring stations is shown in Figure N-1. All mine ventilation air which could potentially be impacted by VOC emissions from the Underground HWDUs identified as Panels 1 through 8 will pass monitoring Station VOC-A, located in the E-300 drift as it flows to the exhaust shaft. Air samples will be collected at two locations in the facility to quantify airborne VOC concentrations. VOC concentrations attributable to VOC emissions from open and closed panels containing TRU mixed waste will be measured by placing one VOC monitoring station just downstream from Panel 1 at VOC-A. The location of Station VOC-A will remain the same throughout the term of this Permit. The second station (Station VOC-B) will always be located upstream from the open panel being filled with waste (starting with Panel 1 at monitoring Station VOC-B (Figure N-1). In this configuration, Station VOC-B will measure VOC concentrations attributable to releases from the upstream sources and other background sources of VOCs, but not releases attributable to open or closed panels. The location of Station VOC-B will change when disposal activities begin in the next panel. Station VOC-B will be relocated to ensure that it is always upstream of the open panel that is receiving TRU mixed waste. Station VOC-A will also measure upstream VOC concentrations measured at Station VOC-B, plus any additional VOC concentrations resulting from releases from the closed and open panels. A sample will be collected from each monitoring station on designated sample days. For each quantified target VOC, the concentration measured at Station VOC-B will be subtracted from the concentration measured at Station VOC-A to assess the magnitude of VOC releases from closed and open panels.</p>	Current per AO 2	This section does not specify a frequency.	Jan '16	Monitoring will resume in accordance with the Recovery Plan	Inaccessibility to areas of the U/G due to the February fire and radiation events.	The Permit required sampling locations are still located consistent with Permit requirements. However, inaccessibility to the U/G has not allowed sampling activities to be performed at these locations. Per AO 2, surface measurements are being made to assure protection of the non-waste worker on the surface. No waste handlers are working in the underground at this time.

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Activity Type	System/ Equipment Name	Responsible Organization	Inspection/Monitoring Frequency	Permit Requirement/Procedure Number and Inspection Criteria	Status	Date of Last Inspection/Monitoring	Proposed Start Date (if Not Current or Equipment Not in Use)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comment
Repository VOC Monitoring	NA	Environmental Monitoring & Hydrology	Twice per week	N-3d(1) Sampling Schedule for Repository VOC Monitoring Repository VOC sampling at Stations VOC-A and VOC-B will begin with initial waste emplacement in Panel 1. Sampling will continue until the certified closure of the last Underground HWDU. Routine sampling will be conducted two times per week.	Current per AO 2	See bi-weekly report for most recent validated data.	Jan '16	Resume implementation of the Repository VOC Monitoring Program in accordance with the Recovery Plan	In accessibility to the U/G due to the radiological event	Per AO 2, surface measurements are being made to assure protection of the non-waste worker on the surface. No waste handlers are working in the underground at this time.
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	Monthly	4.4.3. Ongoing Disposal Room VOC Monitoring in Panels 3 Through 8 The Permittees shall continue disposal room VOC monitoring in Room 1 of Panels 3 through 8 after completion of waste emplacement until final panel closure unless the explosion-isolation wall specified in Permit Attachment G1 (Detailed Design Report for an Operation Phase Panel Closure System) is installed in the panel.	Not Current	1/15/2014 (Panel 3) 2/3/2014 (Panel 4)	Jan '16	Reinstate monitoring in accordance with Recovery Plan	In accessibility to U/G due to radiological event.	No waste handlers are working in the underground at this time.
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	Bi-weekly	4.6.3.1. Implementation of Disposal Room VOC Monitoring The Permittees shall implement disposal room VOC monitoring as specified in Permit Attachment N and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.602 and §264.601(c)).	Not Current	2/3/2014 (Panel 7, Room 7)	Jan '16	Reinstate monitoring in accordance with Recovery Plan	In accessibility to U/G due to radiological event.	No waste handlers are working in the underground at this time.
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	As needed	4.6.3.2. Notification Requirements The Permittees shall notify the Secretary in writing, within seven calendar days of obtaining validated analytical results, whenever the concentration of any VOC specified in Table 4.4.1 in any closed room in an active panel or in the immediately adjacent closed room exceeds the action levels specified in Table 4.6.3.2 below. The Permittees shall post a link to the 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.	Current	As needed	NA	NA	NA	The procedure for notifications is active. Inaccessibility to the U/G has prevented the Permittees from obtaining sample data and results. The Permittees are conducting surface monitoring in lieu of underground monitoring and using risk calculations to assure protection. Should risk calculations indicate an exceedance, the NMED will be notified in the bi-weekly report.
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	NA	Table 4.4.1	This table contains applicable concentration limits	NA	NA	NA	NA	
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	NA	Table 4.6.3.2	This table contains applicable concentration limits	NA	NA	NA	NA	The Permittees are conducting surface monitoring in lieu of underground monitoring and using risk calculations to assure protection. Should risk calculations indicate an exceedance, the NMED will be notified in the bi-weekly report.
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	As needed when rooms are filled	N-3a(2) Sampling Locations for Disposal Room VOC Monitoring For purposes of compliance with Section 310 of Public Law 108-447, the VOC monitoring of airborne VOCs in underground disposal rooms in which waste has been emplaced will be performed as follows: 1. A sample head will be installed inside the disposal room behind the exhaust drift bulkhead and at the inlet side of the disposal room. 2. TRU mixed waste will be emplaced in the active disposal room. 3. When the active disposal room is filled, another sample head will be installed to the inlet of the filled active disposal room. (Figure N-3 and N-4) 4. The exhaust drift bulkhead will be removed and re-installed in the next disposal room so disposal activities may proceed. 5. A ventilation barrier will be installed where the bulkhead was located in the active disposal room's exhaust drift. Another ventilation barrier will be installed in the active disposal room's air inlet drift, thereby closing that active disposal room. 6. Monitoring of VOCs will continue in the now closed disposal room. Monitoring of VOCs will occur in the active disposal room and all closed disposal rooms in which waste has been emplaced until commencement of panel closure activities (i.e., completion of ventilation barriers in Room 1). This sequence for installing sample locations will proceed in the remaining disposal rooms until the inlet air ventilation barrier is installed in Room 1. An inlet sampler will not be installed in Room 1 because disposal room sampling proceeds to the next panel.	Current	2/4/2014 (Panel 7, Room 6)	NA	NA	NA	
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	Monthly	N-3a(3) Ongoing Disposal Room VOC Monitoring in Panels 3 through 8 The Permittees shall continue VOC monitoring in Room 1 of Panels 3 through 8 after completion of waste emplacement until final panel closure unless an explosion-isolation wall is installed in the panel.	Not Current	1/15/2014 (Panel 3) 2/3/2014 (Panel 4)	Jan '16	Reinstate the monitoring program in accordance with the Recovery Plan.	In accessibility to the U/G.	No waste handlers are working in the underground at this time.

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Activity Type	System/ Equipment Name	Responsible Organization	Inspection/Monitoring Frequency	Permit Requirement/Procedure Number and Inspection Criteria	Status	Date of Last Inspection/Monitoring	Proposed Start Date (if Not Current or Equipment Not in Use)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comment
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	Bi-weekly (open panels) Monthly (filled panels)	N-3d(2) Sampling Schedule for Disposal Room VOC Monitoring The disposal room sampling in open panels will occur once every two weeks, unless the need to increase the frequency to weekly occurs in accordance with Permit Section 4.6.3.3. Beginning with Panel 3, disposal room sampling in filled panels will occur monthly until final panel closure unless an explosion-isolation wall is installed. The Permittees will sample VOCs in Room 1 of each filled panel.	Not Current	2/3/2014 (Panel 7, Room 7)	Jan '16	Reinstate the monitoring program in accordance with the Recovery Plan.	In accessibility to the U/G.	No waste handlers are working in the underground at this time.
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	As needed	N-3e(2) Data Evaluation and Reporting for Disposal Room VOC Monitoring When the Permittees receive laboratory analytical data from an air sampling event, the data will be validated as specified in Section N-5a, within 14 calendar days of receiving the laboratory analytical data. After obtaining validated data from an air sampling event, the data will be evaluated to determine whether the VOC concentrations in the air of any closed room, the active open room, or the immediately adjacent closed room exceeded the Action Levels for Disposal Room Monitoring specified in Permit Part 4	Current	As needed	NA	NA	NA	Data received prior to the February events have been validated and evaluated.
Room Based VOC Monitoring	NA	Environmental Monitoring & Hydrology	As needed	4.6.3.2. The Permittees shall notify the Secretary in writing, within seven calendar days of obtaining validated analytical results, whenever the concentration of any VOC specified in Permit Part 4, Table 4.4.1 exceeds the action levels specified in Permit Part 4, Table 4.6.3.2. The Permittees shall submit to the Secretary the Semi-Annual VOC Monitoring Report specified in Permit Section 4.6.2.2 that also includes results from disposal room VOC monitoring.	Current	As needed	NA	NA	NA	No waste handlers are working in the underground at this time.
Hydrogen and Methane Rate Monitoring	NA	Environmental Monitoring & Hydrology	NA	4.6.5.1. Implementation of Hydrogen and Methane Monitoring The Permittees shall implement the Hydrogen and Methane Monitoring Plan specified in Permit Attachment N1 (Hydrogen and Methane Monitoring Plan).	Current	A frequency is not specified in this section.	Jan '16	Resume implementation of the Hydrogen-Methane Monitoring Program in accordance with the Recovery Plan	Inaccessibility to the U/G.	
Hydrogen and Methane Rate Monitoring	NA	Environmental Monitoring & Hydrology	Semiannually	4.6.5.2. Reporting Requirements The Permittees shall report to the Secretary semi-annually in April and October the data and analysis of the Hydrogen and Methane Monitoring Plan.	Current	Oct '13 (Annual Report)	Jan '16	Resume reporting of the Hydrogen-Methane Monitoring Program in accordance with the Recovery Plan	Inaccessibility to the U/G.	
Hydrogen and Methane Rate Monitoring	NA	Environmental Monitoring & Hydrology	As needed	The Permittees shall notify the Secretary in writing, within seven calendar days of obtaining validated analytical results, whenever the concentration of hydrogen or methane in a filled panel exceeds the action levels specified in Table 4.6.5.3 below. The Permittees shall post a link to the notification letter on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11.	Current	As needed	Jan '16	Resume reporting of the Hydrogen-Methane Monitoring Program in accordance with the Recovery Plan	Inaccessibility to the U/G.	Although the procedures are in place for notifying hydrogen-methane level that exceed Permit limits, sampling cannot be performed due to inaccessibility to the U/G.
Hydrogen and Methane Rate Monitoring	NA	Environmental Monitoring & Hydrology	Monthly (below action Level) Weekly (above action level)	N1-3 Sampling Frequency Sampling frequency will vary depending upon the levels of hydrogen and methane that are detected. • If monitored concentrations are at or below Action Level 1 as specified in Permit Part 4, Table 4.6.5.3, monitoring will be conducted monthly. • If monitored concentrations exceed Action Level 1 as specified in Permit Part 4, Table 4.6.5.3, monitoring will be conducted weekly in the affected filled panel.	Not Current	1/15/2014 (Panel 3) 2/3/2014 (Panel 4)	Jan '16	Resume sampling at the required frequency of Hydrogen-Methane in accordance with the Recovery Plan	Inaccessibility to the U/G.	
Mine Ventilation Rate Monitoring	NA	Facility Engineering	On-going	4.6.4.1. Implementation of Mine Ventilation Rate Monitoring Plan The Permittees shall implement the Mine Ventilation Rate Monitoring Plan specified in Permit Attachment O (WIPP Mine Ventilation Rate Monitoring Plan) until the certified closure of all Underground HWDUs and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.602 and §264.601(c)).	Not Current	2/14/2014	Jan '16	Reinstate the Mine Ventilation Rate Monitoring Plan in accordance with the Recovery Plan.	In accessibility to the U/G.	The Permittees are unable to maintain an annual average 260,000 scfm flow in the disposal portion of the underground. This will be addresses during recovery. Until then, the underground is restricted and no TRU waste handling is underway and no workers are allowed into disposal rooms where they may be exposed to VOCs without adequate protection. Surface non-waste workers are protected based on surface-based monitoring that occurs at the Training Building.
Mine Ventilation Rate Monitoring	NA	Facility Engineering	Annual	4.6.4.2. Reporting Requirements The Permittees shall report to the Secretary annually in October the results of the data and analysis of the Mine Ventilation Rate Monitoring Plan.	Current	Oct '13 (Annual Report)	NA	NA	NA	The 2013 Mine Ventilation Rate Monitoring Program Report will be submitted in October.

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Activity Type	System/ Equipment Name	Responsible Organization	Inspection/Monitoring Frequency	Permit Requirement/Procedure Number and Inspection Criteria	Status	Date of Last Inspection/Monitoring	Proposed Start Date (if Not Current or Equipment Not in Use)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comment
Mine Ventilation Rate Monitoring	NA	Facility Engineering	Annual	4.6.4.3. Notification Requirements The Permittees shall calculate the running annual average mine ventilation exhaust rate on a monthly basis. In addition, the Permittees shall evaluate compliance with the minimum active room ventilation rate specified in Permit Section 4.5.3.2 on a monthly basis. The Permittees shall report to the Secretary in the annual report specified in Permit Section 4.6.4.2 whenever the evaluation of the mine ventilation monitoring program data identifies that the ventilation rates specified in the Permit Section 4.5.3.2 have not been achieved.	Current	Oct '13 (Annual Report)	NA	NA	NA	The Permittee calculate the running annual average mine ventilation exhaust rate on a monthly basis. In addition, the Permittees evaluate compliance with the minimum active room ventilation rate specified in Permit Section 4.5.3.2 on a monthly basis. The Permittees will report to the Secretary in the annual report specified in Permit Section 4.6.4.2 whenever the evaluation of the mine ventilation monitoring program data identifies that the ventilation rates specified in the Permit Section 4.5.3.2 have not been achieved. The Permittees have identified that the disposal room rates cannot be achieved, consequently, no waste handling activities are allowed in those areas at that time. To date all re entry into disposal rooms has been with protective equipment to mitigate any hazards present.
Mine Ventilation Rate Monitoring	NA	Facility Engineering	NA	A2-2a(3) Subsurface Structures In order to ensure the miscellaneous unit environmental performance standards are met, a minimum running annual average exhaust rate of 260,000 SCFM will be maintained. A minimum ventilation rate of 35,000 ft3 (990 m3) per minute will be maintained in each active room when waste disposal is taking place and workers are present in the room.	Not Current	NA	Jan '16	Reinstate required flow rates in accordance with the Recovery Plan.	In accessibility to the U/G.	The Permittees are unable to maintain an annual average 260,000 scfm flow in the disposal portion of the underground. This will be addresses during recovery. Until then, the underground is restricted and no TRU waste handling is underway and no workers are allowed into disposal rooms where they may be exposed to VOCs without adequate protection. Surface non-waste workers are protected based on surface-based monitoring that occurs at the Training Building.
Mine Ventilation Rate Monitoring	NA	Facility Engineering	NA	O-1 Definitions Restricted Access: If the required ventilation rate in an active room when waste disposal is taking place cannot be achieved or cannot be supported due to operational needs, access is restricted by the use of barriers, signs and postings, or individuals stationed at the entrance to the active disposal room when ventilation rates are below 35,000 scfm.	Current	A frequency is not specified in this section.	NA	NA	NA	No waste disposal activity since Feb 5, 2014. Areas are restricted.
Mine Ventilation Rate Monitoring	NA	Facility Engineering	NA	O-3a(1) Test and Balance Process The Permittees shall verify underground ventilation system performance by conducting a periodic Test and Balance.	Current	A frequency is not specified in this section.	NA	NA	NA	The Permittees will submit the Test and Balance results in the Mine Ventilation Rate Monitoring Report subsequent to the next test and balance.
Mine Ventilation Rate Monitoring	NA	Facility Engineering	12 to 18-month interval	O-3a(2) Test and Balance Schedule The Test and Balance is generally conducted on a 12- to 18-month interval, but in no case shall the interval between consecutive Test and Balance performances exceed 18 months.	Current	Jun-13	NA	NA	NA	The Permittees may not be able to conduct the next Test and Balance on the schedule prescribed in the Permit, however, Test and Balance will be necessary before the facility returns to waste handling operations.
Mine Ventilation Rate Monitoring	NA	Facility Engineering	NA	O-3b(1) Monitoring Total Mine Airflow The Permittees shall use the Central Monitoring Room Operator's (CMRO) Log to monitor total mine airflow. Run-times for the various modes of operation shall be entered into the CMRO Log. Run times are recorded to the nearest quarter hour. The CMRO shall record each time when the ventilation system configuration is changed, including periods when there is no ventilation.	Current	A frequency is not specified in this section.	NA	NA	NA	
Mine Ventilation Rate Monitoring	NA	Facility Engineering	Monthly	O-3b(2) Calculation of the Running Annual Average of Total Mine Airflow The Permittees shall calculate the running average flow rate on a monthly basis.	Current	NA	NA	NA	NA	
Mine Ventilation Rate Monitoring	NA	Facility Engineering	Start of each shift	O-3c(1) Verification of Active Room Minimum Airflow Whenever workers are present, the Permittees shall verify the minimum airflow through active room(s) when waste disposal is taking place of 35,000 scfm at the start of each shift, any time there is an operational mode change, or if there is a change in the ventilation system configuration.	Current	NA	NA	NA	NA	Workers are currently not allowed in active disposal rooms unless fully protected. Waste handling activity is restricted (not allowed). Required measurements will resume when waste handling activities resume.
Mine Ventilation Rate Monitoring	NA	Facility Engineering	NA	O-3c(2) Measurement and Calculation of the Active Room Airflow The Permittees shall measure the airflow rate and use the room cross-sectional area to calculate the volume of air flowing through a disposal room. The measurement of airflow shall use a calibrated anemometer and a moving traverse (McPherson, 1993). Airflow measurements shall be collected at an appropriate location, chosen by the operator to minimize airflow disturbances, near the entrance of each active room	Current	A frequency is not specified in this section.	NA	NA	NA	

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Mine Ventilation Rate Monitoring	NA	Facility Engineering	Quarterly	O-3d Quarterly Verification of Total Mine Airflow The Permittees shall perform a quarterly verification of the total mine airflow to ensure that rates established by the Test and Balance for various operational modes are reasonably maintained. These checks are identified in Permit Attachment E, Table E-1, and are performed as indicated in Table E-1.	Not Current	41F30703 Fan A (11/9/13) 41F30704 Fan B (5/20/13) 41F30702 Fan C (12/18/13)	Jan '16	NA	NA	Equipment not in use due to the fire and radiological events. The underground is not accessible, and inspections cannot be performed.
Mine Ventilation Rate Monitoring	NA	Facility Engineering	In accordance with WIPP SOPs	O-4 Equipment Calibration and Maintenance Equipment used for the periodic Test and Balance, quarterly flow verification checks, and daily verification of active disposal room flow rate shall be calibrated in accordance with appropriate WIPP calibration and data collection procedures.	Current	In accordance with WIPP SOPs	NA	NA	NA	
Mine Ventilation Rate Monitoring	NA	Facility Engineering	Annual	O-5a Reporting The Permittees shall submit an annual report to NMED presenting the results of the data and analysis of the Mine Ventilation Rate Monitoring Plan. In the years that the Test and Balance is performed, the Permittees will provide a summary of the results in the annual report. The Permittees shall calculate the running annual average mine ventilation rate on a monthly basis and evaluate compliance with the minimum ventilation rate for an active room specified in Permit Section 4.5.3.2 on a monthly basis. The Permittees shall report the Secretary in the annual report specified in Permit Section 4.6.4.2 whenever the evaluation of the mine ventilation monitoring program data identifies that the ventilation rates specified in Permit Section 4.5.3.2 have not been achieved.	Current	Oct '13 (Annual Report)	NA	NA	NA	
Mine Ventilation Rate Monitoring	NA	Facility Engineering	NA	O-5b Recordkeeping The Permittees shall retain the following information in the Operating Record: • The CMRO Log documenting the ventilation system operating mode. • The underground facility running annual average mine ventilation rate on a monthly basis. • Active disposal room ventilation flow rate readings as documented on the Active Disposal Room Ventilation Rate Log Sheet (Table O-3). • The quarterly flow verification check and associated documentation. These records will be maintained in the facility Operating Record until closure of the WIPP facility.	Current	A frequency is not specified in this section.	NA	NA	NA	
Mine Ventilation Rate Monitoring	NA	Facility Engineering	NA	O-6 Quality Assurance Quality assurance associated with the Mine Ventilation Rate Monitoring Plan shall comply with the requirements of the WIPP Quality Assurance Program Description (QAPD).	Current	A frequency is not specified in this section.	NA	NA	NA	
Underground Inspections	Air Intake Shaft Hoist	Underground Operations	Preoperational	WP 04-HO1004 Inspecting for Deterioration, Safety Equipment, Communication Systems, and Mechanical Operability in accordance with Mine Safety and Health Administration (MSHA) requirements	Current	5/30/2014	N/A	NA	NA	Inspection performed daily before Hoist is declared in service.
Underground Inspections	Salt Handling Shaft Hoist	Underground Operations	Preoperational	WP 04-HO1002 Inspecting for Deterioration, Safety Equipment, Communication Systems, and Mechanical Operability in accordance with MSHA requirements	Current	5/30/2014	N/A	NA	NA	Inspection performed daily before Hoist is declared in service.
Underground Inspections	Self-Rescuers	Underground Operations	Quarterly	WP 04-AU1026 Inspecting for Deterioration and Functionality in accordance with MSHA requirements	Current	3/31/2014	N/A	NA	NA	
Underground Inspections	Underground Openings—Roof Bolts and Travelways	Underground Operations	Weekly	WP 04-AU1007 Inspecting for Deterioration	Not Current	1/29/2014	Jan '16	Inspections will be resumed once access is available and the area is decontaminated or properly posted.	NA	Underground is not accessible due to the fire and radiological events, and inspections cannot be performed. Note that partial underground openings inspections are being performed by re-entry teams, but not the full weekly underground openings inspection.
Underground Inspections	Waste Hoist	Underground Operations	Preoperational	WP 04-HO1003 Inspecting for Deterioration, Safety Equipment, Communication Systems, and Mechanical Operability, Leaks/Spills, in accordance with MSHA requirements	Not Current	2/5/2014	Aug '14	Establishing the Operability of the Waste Hoist is a high priority activity. Once the systems are cleaned of soot, the hoist will be inspected and put back into operation.	NA	Hoist is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Explosion-Isolation Walls	Underground Operations	Quarterly	Integrity and Deterioration of Accessible Areas	Not Current	N/A	Jan '16	Inspections will be resumed once access is available and the area is decontaminated or properly posted.	NA	Area is not accessible due to the fire and radiological events, and inspections cannot be performed. Inspection records are located in the underground and are, therefore, not accessible.

**Underground Compliance Plan Compliance Status and Schedule**

UNDERGROUND PERMIT REQUIREMENTS					DESCRIPTION OF CURRENT COMPLIANCE STATUS	PROPOSED TIMELINE FOR COMPLIANCE	PLANS FOR ATTAINING COMPLIANCE	REASON FOR PERMIT NON-COMPLIANCE	OTHER PERTINENT INFORMATION	
Activity Type	System/ Equipment Name	Responsible Organization	Inspection/Monitoring Frequency	Permit Requirement/Procedure Number and Inspection Criteria	Status	Date of Last Inspection/Monitoring	Proposed Start Date (if Not Current or Equipment Not in Use)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comment
Underground Inspections	Bulkhead in Filled Panels	Underground Operations	Monthly	Integrity and Deterioration of Accessible Areas	Not Current	N/A	Jan '16	Inspections will be resumed once access is available and the area is decontaminated or properly posted.	NA	Area is not accessible due to the fire and radiological events, and inspections cannot be performed. Inspection records are located in the underground and are, therefore, not accessible.
Underground Inspections	Ambulances (Underground) and related emergency supplies and equipment	Emergency Services	Weekly	12-FP0030 Inspecting for Mechanical Operability Deterioration, and Required Equipment	Not Current	2/8/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Fire Detection and Alarm System (Underground)	Emergency Services	Semiannually	12-FP0027 Inspecting for Deterioration, Operability of indicator lights and underground fuel station dry chemical suppression system. Inspection is per NFPA 17	Not Current	2/8/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Fire Extinguishers (Underground)	Emergency Services	Monthly	12-FP0036 Inspecting for Deterioration, Leaks/Spills, Expiration, seals, fullness, and pressure	Not Current	2/8/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Fire and Emergency Response Trucks (Underground Rescue Truck)	Emergency Services	Weekly	12-FP0033 Inspecting for Mechanical Operability, Deterioration, Leaks/Spills, and Required Equipment	Not Current	2/8/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Hazardous Material Response Equipment	Emergency Services	Weekly	12-FP0033 Inspecting for Mechanical Operability, Deterioration, and Required Equipment	Current	5/27/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	
Underground Inspections	Miners First Aid Station	Emergency Services	Quarterly	12-FP0035 Inspecting for Required Equipment	Not Current	2/8/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Personal Protective Equipment (not otherwise contained in emergency vehicles or issued to individuals): —Self-Contained Breathing Apparatus	Emergency Services	Weekly	12-FP0029 Inspecting for Deterioration and Pressure	Current	5/31/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	

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Activity Type	System/ Equipment Name	Responsible Organization	Inspection/Monitoring Frequency	Permit Requirement/Procedure Number and Inspection Criteria	Status	Date of Last Inspection/Monitoring	Proposed Start Date (if Not Current or Equipment Not in Use)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comment
Underground Inspections	Rescue Truck (Underground)	Emergency Services	Weekly	12-FP0030 and 12-FP0033 Inspecting for Mechanical Operability, Deterioration, Leaks/Spills, and Required Equipment	Not Current	2/8/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Vehicle Siren (Underground Vehicles)	Emergency Services	Weekly	Functional Test included with inspection of the Ambulances, Fire Trucks, and Rescue Trucks	Not Current	2/8/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Contact-Handled (CH) TRU Underground Transporter	Waste Handling	Preoperational	WP 05-WH1603 Inspecting for Mechanical Operability, Deterioration, and area around transporter clear of obstacles	Current	2/5/2014	When waste disposal operations resume	This equipment will have to undergo preoperational inspection when waste handling underground is resumed.	NA	Equipment not in use due to the fire and radiological events. The underground is not accessible, and inspections cannot be performed.
Underground Inspections	Forklifts Used for Waste Handling (Electric and Diesel forklifts, Push-Pull Attachment) in Underground	Waste Handling	Preoperational	WP 05-WH1201, WP 05-WH1207, WP 05-WH1401, WP 05-WH1402, WP 05-WH1403, and WP 05-WH1412 Inspecting for Mechanical Operability, Deterioration, and On board fire suppression system	Current	2/5/2014	When waste disposal operations resume	This equipment will have to undergo preoperational inspection when waste handling underground is resumed.	NA	Equipment not in use due to the fire and radiological events. The underground is not accessible, and inspections cannot be performed.
Underground Inspections	Underground TRU Mixed Waste Disposal Area	Waste Handling	Preoperational	WP 05-WH1810 Inspecting for Deterioration, Leaks/Spills, mine pager phones, equipment, unobstructed access, signs, debris, and ventilation	Current	2/5/2014	When waste disposal operations resume	This equipment will have to undergo preoperational inspection when waste handling underground is resumed.	NA	Equipment not in use due to the fire and radiological events. The underground is not accessible, and inspections cannot be performed.
Underground Inspections	Push-Pull Attachment (Underground)	Waste Handling	Preoperational	WP 05-WH1401 Inspecting for Damage and Deterioration	Current	2/5/2014	When waste disposal operations resume	This equipment will have to undergo preoperational inspection when waste handling underground is resumed.	NA	Equipment not in use due to the fire and radiological events. The underground is not accessible, and inspections cannot be performed.
Underground Inspections	Mine Pager Phones (between surface and underground)	Facility Operations	Monthly	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations	Not Current	1/30/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Public Address (and Intercom System) in Underground	Facility Operations	Monthly	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations Systems operated in test mode	Not Current	1/30/2014	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed.
Underground Inspections	Eye Wash and Shower Equipment (Underground)	Equipment Custodian	Weekly	WP 12-IS1832 Inspecting for Deterioration	Not Current	N/A	Jan '16	Inspecting/refurbishing this equipment is part of establishing the habitability of the underground for work to resume.	NA	Equipment is not accessible due to the fire and radiological events, and inspections cannot be performed. Inspection records are located in the underground and are, therefore, not accessible.

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Activity Type	System/ Equipment Name	Responsible Organization	Inspection/Monitoring Frequency	Permit Requirement/Procedure Number and Inspection Criteria	Status	Date of Last Inspection/Monitoring	Proposed Start Date (if Not Current or Equipment Not in Use)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comment
Underground Inspections	Underground— Geomechanical Instrumentation System (GIS)	Geotechnical Engineering	Monthly	WP 07-EU1301 Inspecting for Deterioration	Current	5/30/2014	N/A	The Geomechanical Monitoring Program is still partially implemented as data are electronically sent to the geomechanical monitoring system computer electronically. Notification and reporting will still occur as required.	NA	Partially complete at accessible areas.
Underground Inspections	Ventilation Exhaust	Maintenance Operations	Quarterly	IC041098 Check for Deterioration and Calibration of Mine Ventilation Rate Monitoring Equipment	Not Current	41F30703 Fan A (11/9/13) 41F30704 Fan B (5/20/13) 41F30702 Fan C (12/18/13)	Jan '16		Equipment not in use due to the fire and radiological events. The underground is not accessible, and inspections cannot be performed.	