



Department of Energy

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DEC 06 2016

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

Ms. Kathryn Roberts, Director
Resource Protection Division
New Mexico Environment Department
Harold Runnels Building
1190 Saint Francis Drive, Room 4050
Santa Fe, NM 87502-5469

Subject: Revision 2 of the Underground Compliance Plan per Item 17(a) of the May 12, 2014, NMED Administrative Order

Dear Mr. Kieling and Ms. Roberts:

The purpose of this letter is to transmit Revision 2 of the *Underground Compliance Plan* per Item 17(a) 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. This revision updates information provided in Revision 1 of the plan (dated October 30, 2014) and provides the Permittees' statement relative to the resumption of Permit-required activities in anticipation of the NMED inspection and approval to return the WIPP facility to normal operating status in accordance with Paragraphs 24 and 25 of the Administrative Order.

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision according to 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,

Signatures on File

Todd Shrader, Manager
Carlsbad Field Office

Philip J. Breidenbach, Project Manager
Nuclear Waste Partnership LLC

Enclosure

cc:

D. Biswell, NMED
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*ED denotes electronic distribution

Underground Compliance Plan

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

1.0 INTRODUCTION

This Underground Compliance Plan (Plan) was required by the NMED Administrative Order (Order) issued on May 12, 2014, to the U.S. Department of Energy (DOE) and Nuclear Waste Partnership LLC, collectively referred to as the Permittees. The Order, at Paragraph 17(a), required 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 required that the UCP include:

- a detailed compliance schedule for those requirements described in Paragraph 13 of the Order, including identification of all underground Hazardous Waste Facility Permit (Permit) requirements;
- a description of the current compliance status of each underground 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
- other pertinent information.

The initial revision of the UCP was submitted to the NMED on June 25, 2014, and included a spreadsheet summary with each category listed above as a column or row.

On September 24, 2014, the NMED issued a letter to the Permittees stating that its review of the draft UCP, submitted on June 25, 2014, was suspended pending the release of the WIPP Recovery Plan. NMED specified in their letter that “[t]he updated UCP shall identify what steps in the Recovery Plan must occur before the UCP can proceed.” The WIPP Recovery Plan was issued on September 30, 2014. Upon finalization of the WIPP Recovery Plan, the Permittees submitted an updated UCP on October 30, 2014. At that time, the Permittees considered many of the activities to be interdependent; therefore, the Recovery Plan was included as an attachment to the updated UCP.

Since the submittal of Revision 1 of the UCP, the Permittees have completed the recovery-related activities necessary to resume waste emplacement operations at the WIPP facility. This Revision 2 to the UCP updates the information listed above and provides the Permittees’ statement with regard to the resumption of Permit-required

activities in anticipation of the NMED inspection and approval to return the WIPP facility to normal operating status in accordance with Paragraphs 24 and 25 of the Order.

In accordance with Paragraph 18(c) of the Order, the Permittees have submitted regular status reports to the NMED with updates to information contained in the *Underground Compliance Plan Compliance Schedule and Status* (Attachment 1), as well as the current status of Permit-required surface inspections, per Paragraph 18(e)(iii) of the Order. Additionally, these reports have provided updated information relative to recovery-related activities pursuant to the UCP in accordance with Paragraph 18(e)(ii) of the Order. On February 26, 2016, the NMED amended this reporting frequency from monthly to quarterly, and the first quarterly report was submitted to the NMED on April 29, 2016.

2.0 BACKGROUND

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 salt haulage truck fire on February 5, 2014, caused soot buildup on some electrical equipment. The Permittees determined the extent of such contamination and performed radiological fixing/decontamination activities. Because the contamination posed a risk to workers, some Permit-required activities were not able to be performed in contaminated portions of the underground until such areas were rendered safe or special precautions were instituted for entry into those areas. The inability to perform these activities did not pose a threat to human health or the environment because of the restrictions placed on personnel entry to the underground and because emissions from the underground were being continuously filtered.

3.0 WIPP RECOVERY

During the Recovery Phase, activities in the underground were carefully planned and performed to ensure workers were not exposed to harmful doses of radioactivity. Steps associated with this planning included the preparation of work packages, classification of radiation areas, and preparation and approval of safety basis documents. These steps were not specifically outlined in the Permit; however, they were important steps in ensuring the Permit-required activities occur within the boundaries of radiologically safe operations during the Recovery Phase.

The objective of the WIPP Recovery Plan was to safely resume emplacing waste at the WIPP facility. Safety, health, and protection of the public, the workers, and the environment have remained the Permittees' highest priorities. The recovery strategy included seven key elements:

- Safety – Safety is paramount to the overall strategy
- Regulatory Compliance – The regulatory and permitting aspects of recovery focus on ensuring that modifications to the facility are protective of human health and the environment
- Decontamination – The concept of operations at the WIPP facility was revised from a fully uncontaminated “clean” facility to one that has contaminated as well as uncontaminated areas
- Ventilation – Increasing ventilation capacity is a principal requirement for safe underground operations, as it supports worker safety, mining, and waste emplacement
- Mine Stability and Underground Habitability – Recovery activities address mine stability and those activities required to make the mine habitable and ensure worker safety and health
- Workforce Retraining – The strategy to staff the recovery project
- Managing Waste Streams

Details regarding these elements were addressed in the WIPP Recovery Plan which was submitted as an attachment to Revision 1 of the UCP. The updated status of these activities has been provided to the NMED in the quarterly reports, as required by Paragraph 18(e)(ii) of the Order, and as amended per the August 29, 2014, December 9, 2014, July 15, 2015, and February 26, 2016, NMED letters.

4.0 INFORMATION REQUIRED BY THE ORDER

Paragraph 17(a)(i) of the Order requires the Permittees to provide a detailed compliance schedule for those requirements described in Paragraph 13 of the Order. The attached table (Attachment 1) addresses the seven underground activities described in Paragraph 13(a) through 13(g) of the Order and required by the Permit. The Permit-required items that are subject to periodic inspection include those listed in Attachment E, Table E-1, which is updated through October 30, 2016. Underground activities that are “Not Current” are highlighted in blue.

Paragraph 26 of 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.

Attachment 1

Underground Compliance Plan Compliance Schedule and Status

	UNDERGROUND PERMIT REQUIREMENTS					DESCRIPTION OF CURRENT COMPLIANCE STATUS		PROPOSED TIMELINE FOR COMPLIANCE	PLANS FOR ATTAINING COMPLIANCE	REASON FOR PERMIT NON-COMPLIANCE	OTHER PERTINENT INFORMATION
ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
1	(a) Geomechanical Monitoring	N/A	Geotechnical Engineering	Frequency not specified in this requirement	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).	Current	Ongoing	N/A	Except for Room 7 which is closed and the remote polling of Room 4 which has experienced a ground fall, the Geomechanical Monitoring Program is current for Panel 7 which is the only active HWDU in the underground.	Inaccessibility to portions of the underground to gather manually read data is due to the radiological event and entry restrictions based on the current condition of the openings.	Collection of remotely-pollled data for the active HWDU (Panel 7) is current, and manually collected data in drifts and other areas are current in accessible areas. The Geomechanical Monitoring System is ready to support waste emplacement activities in Panel 7. Some manually read locations are in inaccessible due to ground conditions. These areas are proposed for closure in the Temporary Authorization Request (TAR) submitted to the NMED on 11/10/2016. Once closed, monitoring of these areas will not be required.
2	(a) Geomechanical Monitoring	N/A	Geotechnical Engineering	Annually	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.	Current	October 2016 (Annual Report for July 2014 – June 2015)	N/A	N/A	N/A	Panel 5 is prohibited to personnel access and Panels 1 and 2 require catch up bolting for access. As part of a TAR submitted to the NMED on 11/10/2016, it is proposed that future certifications of explosion-isolation walls will not be conducted.
					The Permittees shall post a link to the geomechanical	Current	October 2016				

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					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.						
3	(a) Geomechanical Monitoring	N/A	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".	Current	10/7/2016	As conditions require notification	N/A	N/A	On 10/7/2016, a Notification of Trend Towards Adverse Conditions was submitted to the NMED. This notification was provided because although Panels 3, 4, 5, and 6 are filled, they have not been closed with a final panel closure. This notification also identified several areas in the underground that have been posted as prohibited, meaning entry is not allowed. Three of these areas have experienced ground falls.
					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	October 2016				
4	(a) Geomechanical Monitoring	N/A	Geotechnical Engineering	Frequency not specified in this requirement	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.	Current	Ongoing	N/A	Except for Room 7 which is closed and the remote polling of Room 4 which has experienced a ground fall, the Geomechanical Monitoring Program is current for Panel 7 which is the only active HWDU in the underground.	Inaccessibility to portions of the underground to gather manually read data is due to the radiological event and entry restrictions based on the current condition of the openings.	Collection of remotely-polled data for the active HWDU (Panel 7) is current, and manually collected data in drifts and other areas are current in accessible areas. The Geomechanical Monitoring System is ready to support waste emplacement activities in Panel 7. Some manually read locations are in inaccessible due to ground conditions. These areas are proposed for closure in the

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				Annually	The results of the geotechnical investigations will be reported annually. The report will describe monitoring programs and geomechanical data collected during the previous year.	Current	October 2016 (Annual Report for June 2014 – July 2015.)	N/A	N/A	N/A	Temporary Authorization Request (TAR) submitted to the NMED on 11/10/2016.
5	(a) Geomechanical Monitoring	N/A	Geotechnical Engineering	Monthly for electronically read data.	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. 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. The Permittees will evaluate the performance of the excavation. If an open panel shows the trend is toward	Current	10/25/2016	N/A	Except for Room 7 which is closed and the remote polling of Room 4 which has experienced a ground fall, the Geomechanical Monitoring Program is current for Panel 7 which is the only active HWDU in the underground.	Inaccessibility to portions of the underground to gather manually read data is due to the radiological event and entry restrictions based on the current condition of the openings.	Collection of remotely-pollled data for the active HWDU (Panel 7) is current, and manually collected data in drifts and other areas are current in accessible areas. The Geomechanical Monitoring System is ready to support waste emplacement activities in Panel 7. Some manually read locations are inaccessible due to ground conditions. These areas are proposed for closure in the Temporary Authorization Request (TAR) submitted to the NMED on 11/10/2016.

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					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.						
6	(a) Geomechanical Monitoring	N/A	Geotechnical Engineering	N/A	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. 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. 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.	Descriptive information	N/A	N/A	N/A	N/A	Panel 1 is filled and partially closed. Geomechanical monitoring is no longer required.

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7	(b) Repository VOC Monitoring	N/A	Environmental Monitoring & Hydrology	Frequency not specified in this requirement	4.6.2.1. Implementation of Repository VOC Monitoring The Permittees shall implement repository VOC monitoring and the Laboratory Performance Evaluation Plan (LPEP) or 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.	Current	Ongoing	N/A	N/A	N/A	A Class 2 PMR was approved on 1/8/2016, which bases the action levels on the total carcinogenic and non-carcinogenic risk to the surface non-waste worker. The approval of the Class 2 PMR also relocated the Repository VOC monitoring locations at Stations A and B in the underground to the surface at Stations C and D. In lieu of the LPEP, the Permittees proposed and implemented an alternative plan for proficiency testing.
8	(b) Repository VOC Monitoring	N/A	Environmental Monitoring & Hydrology	Semi-annually	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.	Current	October 2016 (Semi-Annual Report for January 2016 through June 2016)	N/A	N/A	N/A	
9	(b) Repository VOC Monitoring	N/A	Environmental Monitoring & Hydrology	As needed	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. The Permittees shall review EPA risk factors and the	Current	As needed	N/A	N/A	N/A	

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					tentatively identified compound list annually and will submit the appropriate permit modification to update Table 4.6.2.3 as needed.						
10	(b) Repository VOC Monitoring	N/A	Environmental Monitoring & Hydrology	N/A	Table 4.6.2.3, Recommended EPA Risk Factors	Descriptive Information	N/A	N/A	N/A	N/A	
11	(b) Repository VOC Monitoring	N/A	Environmental Monitoring & Hydrology	As needed	4.6.2.4. Remedial Action If the running annual average for the total carcinogenic risk due to releases of VOCs specified in Table 4.6.2.3 exceeds 10^{-5}, or if the running annual average for the total non-carcinogenic hazard index due to releases of VOCs specified in Table 4.6.2.3 exceeds 1.0, the Permittees shall cease disposal in the active CH waste disposal room and install ventilation barriers as specified in Permit Section 4.5.3.3. Alternatively, prior to reaching these action levels, the Permittees may propose an alternative remedial action plan to the Secretary. The Permittees may implement such plans in lieu of closing the active room only after approval by the Secretary. If the running annual average for the total carcinogenic risk due to releases of VOCs specified in Table 4.6.2.3 exceeds 10^{-5} or if the running annual average for the total non-carcinogenic hazard index due to releases of VOCs specified in Table 4.6.2.3 exceeds 1.0 for six consecutive months, the Permittees shall close the affected Underground HWDU as specified in Permit Section 4.1.1. Alternatively, prior to reaching these action levels for six consecutive months, the Permittees may propose an alternative remedial action plan to the Secretary. The Permittees may implement such plans in lieu of closing the active HWDU only after approval by the Secretary. 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.	Current	As needed	N/A	N/A	N/A	
12	(b) Repository VOC	N/A	Environmental	Frequency not	N-3a(1) Sampling Locations for Repository VOC Monitoring	Current	Ongoing	N/A	N/A	N/A	A Class 2 PMR was

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	Monitoring		Monitoring & Hydrology	specified in this requirement	Mine ventilation air, which could potentially be impacted by VOC emissions from the Underground HWDUs identified as Panels 1 through 8, will exit the underground through the Exhaust Shaft. Building 489 has been identified as the location of the maximum non-waste surface worker exposure. Air samples will be collected from Station VOC-C located at the west air intake for Building 489 (Figure N-1) to quantify VOCs in the ambient air. Background VOCs will be measured by sampling from Station VOC-D located at groundwater pad WQSP-4 (Figure N-1). This pad is located approximately one mile southeast (upwind based on the predominant wind direction) of the Exhaust Shaft within the WIPP facility boundary.						approved on 1/8/2016, which bases the action levels on total carcinogenic and non-carcinogenic risk to the surface non-waste worker. Approval of the Class 2 PMR also relocated the Repository VOC monitoring locations at Stations A and B in the underground to the surface at Stations C and D.
13	(b) Repository VOC Monitoring	N/A	Environmental Monitoring & Hydrology	Twice per week	N-3d(1) Sampling Schedule for Repository VOC Monitoring Routine collection of a 24-hour time-integrated sample will be conducted two times per week. The RVMP sampling will continue until the certified closure of the last Underground HWDU.	Current	October 2016	N/A	N/A	N/A	Routine collection of Repository VOC monitoring samples is ongoing and the program is ready to support resumption of normal facility operations.
14	(c) Room Based VOC Monitoring	N/A	Environmental Monitoring & Hydrology	Frequency not specified in this requirement	4.4.1. Room-Based Limits The measured concentration of VOCs in any open (active) room and in each closed room in active panels within an Underground HWDU shall not exceed the limits specified in Table 4.4.1 below:	Not Current	2/3/2014 (Panel 7, Room 7)	12/12/2016	Disposal Room monitoring in Panel 7 will be restarted in conjunction with resumption of waste emplacement operations.	Inaccessibility to portions of the underground to gather VOC monitoring data is due to the radiological event and entry restrictions based on the current condition of the openings.	Disposal Room monitoring in the active waste emplacement room of Panel 7 will be restarted in conjunction with resumption of waste emplacement operations. Most recent data collected in Room 7 did not exceed values in Table 4.4.1. Sampling lines in Room 7 of Panel 7 have been terminated as described in the <i>Nitrate Salt Bearing Waste Container Isolation Plan</i> .
15	(c) Room Based VOC Monitoring	N/A	Environmental Monitoring & Hydrology	N/A	Table 4.4.1 – VOC Room-Based Limits	Descriptive Information	N/A	N/A	N/A	N/A	
16	(c) Room Based VOC Monitoring	N/A	Environmental Monitoring & Hydrology	Frequency not specified in this requirement	4.4.2. Determination of VOC Room-Based Limits The Permittees shall confirm the VOC concentration and emission rate limits identified in Permit Section 4.4.1 using the VOC Monitoring Plan specified in Permit Attachment N	Not Current	2/3/2014 (Panel 7, Room 7)	12/12/2016	Disposal Room monitoring in Panel 7 will be restarted in conjunction with	Inaccessibility to portions of the underground to gather VOC	Disposal Room monitoring in the active waste emplacement room of Panel 7 will be restarted in

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					(Volatile Organic Compound Monitoring Plan). The Permittees shall conduct monitoring of VOCs as specified in Permit Sections 4.6.2 and 4.6.3.				resumption of waste emplacement operations. The Permittees are not planning to restart ongoing disposal room monitoring. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of ongoing disposal room monitoring in filled HWDUs.	monitoring data is due to the radiological event and entry restrictions based on the current condition of the openings.	conjunction with resumption of waste emplacement operations. Sampling lines in Room 7 of Panel 7 have been terminated as described in the <i>Nitrate Salt Bearing Waste Container Isolation Plan</i> .
17	(c) Room Based VOC Monitoring	N/A	Environmental Monitoring & Hydrology	Frequency not specified in this requirement	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) 1/15/2014 (Panel 6)	TBD	Because Panels 3 and 4 are prohibited and the monitoring lines have been terminated in Panel 6 pursuant to the <i>Nitrate Salt Bearing Waste Container Isolation Plan</i> the Permittees are not planning to restart ongoing disposal room monitoring. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of ongoing disposal room monitoring in filled HWDUs.	N/A	
18	(c) Room Based VOC Monitoring	N/A	Environmental Monitoring &	Frequency not specified in	4.6.3.1. Implementation of Disposal Room VOC Monitoring The Permittees shall implement disposal room VOC	Not Current	2/3/2014 (Panel 7,	12/12/2016	Disposal Room monitoring in Panel	Inaccessibility to portions of the	Disposal Room monitoring in the active waste

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ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
			Hydrology	this requirement	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)) and Section 310 of Public Law 108-447.		Room 7)		7 will be restarted in conjunction with resumption of waste emplacement operations.	underground to gather VOC monitoring data is due to the radiological event and entry restrictions based on the current condition of the openings.	emplacement room of Panel 7 will be restarted in conjunction with resumption of waste emplacement operations. Sampling lines in Room 7 of Panel 7 have been terminated as described in the <i>Nitrate Salt Bearing Waste Container Isolation Plan</i> .
19	(c) Room Based VOC Monitoring	N/A	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	N/A	N/A	N/A	
20	(c) Room Based VOC Monitoring	N/A	Environmental Monitoring & Hydrology	N/A	Table 4.6.3.2, Action Levels For Disposal Room Monitoring	Descriptive information	N/A	N/A	N/A	N/A	
21	(c) Room Based VOC Monitoring	N/A	Environmental Monitoring & Hydrology	As needed	4.6.3.3. Remedial Action Upon receiving validated analytical results that indicate one or more of the VOCs specified in Table 4.4.1 in any of the closed rooms in an active panel has reached the “50% Action Level” in Table 4.6.3.2, the sampling frequency for such closed rooms will increase to once per week. The once per week sampling will continue either until the concentrations in the closed room(s) fall below the “50% Action Level” in Table 4.6.3.2, or until closure of Room 1 of the panel, whichever occurs first. If one or more of the VOCs in Table 4.4.1 in the active open room or immediately adjacent closed room reaches the “95% Action Level” in Table 4.6.3.2, another sample will be taken to confirm the existence of such a condition. If the second sample confirms that one or more of VOCs in the immediately adjacent closed room have reached the “95% Action Level” in Table 4.6.3.2, the active open room will be abandoned, ventilation barriers will be installed as specified in Permit Section 4.5.3.3, waste emplacement will proceed in the next open room, and monitoring of the subject closed room will	Current	As needed	N/A	N/A	N/A	Disposal Room monitoring in the active waste emplacement room of Panel 7 will be restarted in conjunction with resumption of waste emplacement operations. Sampling lines in Room 7 of Panel 7 have been terminated as described in the <i>Nitrate Salt Bearing Waste Container Isolation Plan</i> .

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ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
					continue at a frequency of once per week until commencement of panel closure. Alternatively, prior to reaching these action levels, the Permittees may propose an alternative remedial action plan to the Secretary. The Permittees may implement such plans in lieu of closing and abandoning the active room only after approval by the Secretary.						
22	(c) Room Based VOC Monitoring	N/A	Environmental Monitoring & Hydrology	N/A	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.	Descriptive information	N/A	N/A	N/A	N/A	
23	(c) Room Based VOC Monitoring	N/A	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	Not Current	1/15/2014 (Panel 3) 2/3/2014 (Panel 4)	TBD	Because Panels 3 and 4 are prohibited to personnel access and the monitoring	N/A	

	UNDERGROUND PERMIT REQUIREMENTS					DESCRIPTION OF CURRENT COMPLIANCE STATUS		PROPOSED TIMELINE FOR COMPLIANCE	PLANS FOR ATTAINING COMPLIANCE	REASON FOR PERMIT NON-COMPLIANCE	OTHER PERTINENT INFORMATION
ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
					installed in the panel.		1/15/2014 (Panel 6)		lines in Panel 6 have been terminated pursuant to the <i>Nitrates Salt Bearing Waste Container Isolation Plan</i> , the Permittees are not planning to restart ongoing disposal room monitoring. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of ongoing disposal room monitoring in filled HWDUs.		
24	(c) Room Based VOC Monitoring	N/A	Environmental Monitoring & Hydrology	Monthly (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)	12/12/2016	Disposal Room monitoring in Panel 7 will be restarted in conjunction with resumption of waste emplacement operations.	Inaccessibility to portions of the underground to gather VOC monitoring data is due to the radiological event and entry restrictions based on the current condition of the openings.	Disposal Room monitoring in the active waste emplacement room of Panel 7 will be restarted in conjunction with resumption of waste emplacement operations. Sampling lines in Room 7 of Panel 7 have been terminated as described in the <i>Nitrate Salt Bearing Waste Container Isolation Plan</i> .
25	(c) Room Based VOC Monitoring	N/A	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-5d. The validated 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 DRVMP specified in Permit Part 4, Table 4.6.3.2.	Current	As needed	N/A	N/A	N/A	Data evaluation and reporting programs are ready to support resumption of normal operations at the facility.

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ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
26	(c) Hydrogen and Methane Monitoring	N/A	Environmental Monitoring & Hydrology	Frequency not specified in this requirement	4.6.5.1. Implementation of Hydrogen and Methane Monitoring The Permittees shall implement the <i>Hydrogen and Methane Monitoring Plan</i> specified in Permit Attachment N1 (Hydrogen and Methane Monitoring Plan).	Not Current	1/15/2014 (Panel 3) 2/3/2014 (Panel 4) 1/15/2014 (Panel 6)	TBD	Because Panels 3 and 4 are prohibited to personnel access and pursuant to the <i>Nitrates Salt Bearing Waste Container Isolation Plan</i> the monitoring lines in Panel 6 have been terminated, the Permittees do not plan to restart Hydrogen and Methane monitoring. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of Hydrogen and Methane monitoring.	N/A	
27	(d) Hydrogen and Methane Monitoring	N/A	Environmental Monitoring & Hydrology	Semi-annually	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.	Not Current	October 2016 (Semi-Annual Report for January 2016 through June 2016)	TBD	Because Panels 3 and 4 are prohibited to personnel access and pursuant to the <i>Nitrates Salt Bearing Waste Container Isolation Plan</i> the monitoring lines in Panel 6 have been terminated, the Permittees do not plan to restart Hydrogen and Methane monitoring. A TAR was submitted to the NMED on 11/10/2016	N/A	

	UNDERGROUND PERMIT REQUIREMENTS					DESCRIPTION OF CURRENT COMPLIANCE STATUS		PROPOSED TIMELINE FOR COMPLIANCE	PLANS FOR ATTAINING COMPLIANCE	REASON FOR PERMIT NON-COMPLIANCE	OTHER PERTINENT INFORMATION
ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
									proposing the termination of Hydrogen and Methane monitoring.		
28	(d) Hydrogen and Methane Monitoring	N/A	Environmental Monitoring & Hydrology	As needed	4.6.5.3. Notification Requirements 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.	Not Current	As needed	TBD	Because Panels 3 and 4 are prohibited to personnel access and pursuant to the <i>Nitrates Salt Bearing Waste Container Isolation Plan</i> the monitoring lines in Panel 6 have been terminated, the Permittees do not plan to restart Hydrogen and Methane monitoring. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of Hydrogen and Methane monitoring.	N/A	
29	(d) Hydrogen and Methane Monitoring	N/A	Environmental Monitoring & Hydrology	N/A	Table 4.6.5.3 – Action Levels for Hydrogen and Methane	Descriptive information	N/A	N/A	N/A	N/A	
30	(d) Hydrogen and Methane Monitoring	N/A	Environmental Monitoring & Hydrology	As needed	4.6.5.4. Remedial Action Upon receiving validated analytical results that indicate at least one compound exceeded “Action Level 1” in Table 4.6.5.3, the sampling frequency in that filled panel will increase to once per week. Upon receiving validated analytical results that indicate at least one compound exceeded “Action Level 2” in Table 4.6.5.3 in two consecutive weekly samples, the Permittees shall install in that panel the explosion-isolation wall specified in Permit Attachment G1.	Not Current	As needed	TBD	Because Panels 3 and 4 are prohibited to personnel access and pursuant to the <i>Nitrates Salt Bearing Waste Container Isolation Plan</i> the monitoring lines in Panel 6 have been	N/A	

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ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
									terminated, the Permittees do not plan to restart Hydrogen and Methane monitoring. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of Hydrogen and Methane monitoring.		
31	(d) Hydrogen and Methane Monitoring	N/A	Environmental Monitoring & Hydrology	As needed	4.6.5.5. Sampling Line Loss The Permittees shall notify the Secretary in writing within seven calendar days of the discovery of loss of sampling line(s). The Permittees shall evaluate any loss of sampling lines as described in Permit Attachment N1, Section N1-5b, "Sample Tubing", and shall notify the Secretary in writing within seven calendar days the results of such evaluation. The Permittees shall also post a link to such notification letters on the WIPP Home Page and inform those on the e-mail notification list as specified in Permit Section 1.11	Not Current	As needed	TBD	Because Panels 3 and 4 are prohibited to personnel access and pursuant to the <i>Nitrates Salt Bearing Waste Container Isolation Plan</i> the monitoring lines in Panel 6 have been terminated, the Permittees do not plan to restart Hydrogen and Methane monitoring. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of Hydrogen and Methane monitoring.	N/A	
32	(d) Hydrogen and Methane Monitoring	N/A	Environmental Monitoring & Hydrology	Monthly (below Action Level) Weekly (above Action	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.	Not Current	1/15/2014 (Panel 3) 2/3/2014 (Panel 4) 1/15/2014	TBD	Because Panels 3 and 4 are prohibited to personnel access and pursuant to the <i>Nitrates Salt</i>	N/A	

	UNDERGROUND PERMIT REQUIREMENTS					DESCRIPTION OF CURRENT COMPLIANCE STATUS		PROPOSED TIMELINE FOR COMPLIANCE	PLANS FOR ATTAINING COMPLIANCE	REASON FOR PERMIT NON-COMPLIANCE	OTHER PERTINENT INFORMATION
ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
				Level)	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.		(Panel 6)		<i>Bearing Waste Container Isolation Plan</i> the monitoring lines in Panel 6 have been terminated, the Permittees do not plan to restart Hydrogen and Methane monitoring. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of Hydrogen and Methane monitoring.		
33	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	Frequency not specified in this requirement	4.5.3.2 Ventilation The Permittees shall maintain a minimum active room ventilation rate of 35,000 standard ft ³ /min (scfm) in each active room when waste disposal is taking place and workers are present in the room, as specified in Permit Attachment A2, Section A2-2a(3), "Subsurface Structures (Underground Ventilation System Description)," and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.601(c)). If an active room ventilation rate of 35,000 scfm cannot be met, measures actions as described in Permit Attachment O shall be taken during waste disposal operations when workers are present.	Current	Ongoing	N/A	N/A	N/A	Active waste-emplacement disposal Room minimum ventilation rates will be verified before and during waste emplacement activities upon resumption of normal operations at the facility.
34	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	Frequency not specified in this requirement	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)).	Current	Ongoing	N/A	N/A	N/A	
35	(e) Mine Ventilation Rate Monitoring	N/A	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	October 2016 (Annual Report for July 2015 through June 2016)	N/A	N/A	N/A	

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ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
36	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	Monthly (Active room ventilation rate evaluation) Annual (Reporting)	4.6.4.3. Notification Requirements 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 rate specified in the Permit Section 4.5.3.2 has not been achieved.	Current	October 2016 (Annual Report for July 2015 through June 2016)	N/A	N/A	N/A	
37	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	Frequency not specified in this requirement	A2-2a(3) Subsurface Structures A minimum ventilation rate of 35,000 ft ³ (990 m ³) per minute will be maintained in each active room when waste disposal is taking place and workers are present in the room. This quantity of air is required to support the numbers and types of diesel equipment that are expected to be in operation in the area, and to support the underground personnel working in that area. The remainder of the air is needed in order to account for air leakage through inactive rooms. If an active room ventilation rate of 35,000 scfm cannot be met, actions as described in Permit Attachment O shall be taken during waste disposal operations when workers are present.	Current	Ongoing	N/A	N/A	N/A	
38	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	As needed	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 unless measures as described in Section O-3c(1) are implemented.	Current	As needed	N/A	N/A	N/A	
39	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	Frequency not specified in this requirement	O-3a(1) Test and Balance Process The Permittees shall verify underground ventilation system performance by conducting a periodic Test and Balance.	Current	September 2016	N/A	N/A	N/A	
40	(e) Mine Ventilation Rate Monitoring	N/A	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	September 2016	N/A	N/A	N/A	
41	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	Frequency not specified in this requirement	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	Current	Ongoing	N/A	N/A	N/A	

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					system configuration is changed, including periods when there is no ventilation.						
42	(e) Mine Ventilation Rate Monitoring	N/A	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. If an active room ventilation rate of 35,000 scfm cannot be met, measures such as those described below shall be taken during waste disposal operations when workers are present. Measures to allow waste emplacement in an active room when, under abnormal conditions, 35,000 scfm cannot be achieved will be prescribed in standard operating procedure(s) described in Section O-5c. These measures may include, but are not limited to, the following: the adjustment of the volatile organic compound (VOC) immediately dangerous to life or health (IDLH)-based action levels in the Permit, Section 4.6.3.2 (these adjustments are directly proportional to the actual flow rate that is less than 35,000 scfm); or the use of personal protective equipment (PPE) as described in Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.134. Implementing measures taken at the WIPP facility regarding the 35,000 scfm ventilation rate and associated details (i.e., date, start time, end time, and reason) will be recorded in the CMRO Log and reported to the New Mexico Environment Department (NMED) as required by Section O-5a.	Current	N/A	N/A	N/A	N/A	Active waste-emplacement disposal Room minimum ventilation rates will be verified before and during waste emplacement activities upon resumption of normal operations at the facility. Measures will be established as needed to allow waste emplacement in an active room when, under abnormal conditions, 35,000 scfm cannot be achieved.
43	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	Frequency not specified in this requirement	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	N/A	N/A	N/A	N/A	
44	(e) Mine Ventilation Rate Monitoring	N/A	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	Current	700 Fans Fan A (11/9/2013) Fan B	N/A	The Permittees do not intend to use the 700 fans for underground ventilation due to	N/A	A Class 1 Permit Modification Notification is being prepared to add the 860 and 960 fans.

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					E, Table E-1, and are performed as indicated in Table E-1.		(5/20/2013) Fan C (12/18/2013)		operation in continuous filtration mode.		
45	(e) Mine Ventilation Rate Monitoring	N/A	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 for 860 (A, B, & C) and 960 (A & B) Filtration Fans.	N/A	N/A	N/A	
46	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	Annually	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 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 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 rate specified in Permit Section 4.5.3.2 has not been achieved. The Permittees will identify the implementing measures as described in Section O-3c(1) used to allow waste handling activities to proceed when the 35,000 scfm ventilation rate is not achieved. These implementing measures and associated details (i.e., date, start time, end time, and reason) will be reported to NMED in the annual Mine Ventilation Rate Monitoring Report required by this section. The Permittees shall also notify NMED by e-mail within 15 calendar days of commencement of waste emplacement operations taking place below 35,000 scfm. The notification shall include the date, start time, end time, reason and implementing measure taken, as applicable. If the Permittees have not completed the waste emplacement activity by the time of this notification, a follow-up e-mail shall be provided within 15 calendar days to notify NMED of the end of the waste emplacement activity and other relevant information not previously provided.	Current	October 2016 (Annual Report for July 2015 through June 2016)	N/A	N/A	N/A	The Test and Balance was completed in September 2016. It will be reported in the next Mine Ventilation Rate Monitoring Report (October 2017).
47	(e) Mine Ventilation Rate	N/A	Facility Engineering	Frequency not specified in	O-5b Recordkeeping The Permittees shall retain the following information in the	Current	Ongoing	N/A	N/A	N/A	

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ID #	Activity Type/ Order Paragraph 13	System/ Equipment Name	Responsible Organization	Inspection/ Monitoring Frequency	Permit Requirement/ Procedure Number and Inspection Criteria	Status	Date of Last Inspection/ Monitoring	Proposed Start Date (12/12/16* if Not Current or Equipment Not in Use, unless otherwise noted)	Plans for Attaining Permit Compliance	Reason Why Activity is Not Current	Comments/Status for Resumption of Normal Operations
	Monitoring			this requirement	Operating Record: • The CMRO Log documenting the ventilation system operating mode. • Active disposal room log sheet documenting the ventilation flow rate readings and applicable information listed in Section O-3c(2). • The quarterly flow verification check and associated documentation. These records will be maintained in the facility Operating Record until closure of the WIPP facility.						
48	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	As needed	O-5c Standard Operating Procedure Applicable to Abnormal Operating Conditions for Active Room Ventilation Flow Rate The abnormal operating conditions procedure provides instructions necessary to evaluate VOC concentrations in an adjacent filled room prior to commencing waste emplacement operations in an active disposal room when workers are present at a reduced active room ventilation flow rate. Abnormal conditions that may prevent 35,000 scfm from being met, may include, but are not limited to, barometric pressure changes, maintenance activities, and equipment malfunctions. VOC data in the adjacent filled room are collected and analyzed in accordance with Permit Part 4, Section 4.6.3. Adjusted VOC action levels are prescribed at a maximum of 5,000 scfm increments (e.g., 30,000 scfm, 25,000 scfm, 20,000 scfm, 15,000 scfm, and 10,000 scfm) to provide a means of assessment. When the measured flow rates falls between the increment values in the SOP, the lower flow rate is used for determining the adjusted VOC action level. The validated VOC monitoring data are compared to the action levels prescribed in the standard operating procedure and a decision flow path is provided to the Facility Shift Manager, or designee, to determine applicable actions. These actions include, but are not limited to, commencing waste emplacement operations at a reduced active room ventilation flow rate based on the adjusted VOC action levels, commencing waste emplacement operations at a reduced active room ventilation flow rate with the use of PPE as described in OSHA standard 29 CFR 1910.134, or restricting access to the active disposal room until the ventilation flow rate requirements of Permit Part 4, Section 4.5.3.2. are met. As stated in the abnormal operating conditions procedure, implementing measures taken at the WIPP facility are recorded in the CMRO Log and reported to NMED as required by Section O-5a.	Current	As needed	N/A	N/A	N/A	A Class 2 PMR was approved on September 19, 2016 which specified the circumstances under which the Permittees can emplace waste when less than 35,000 scfm is available to the active room when workers are present.

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49	(e) Mine Ventilation Rate Monitoring	N/A	Facility Engineering	Frequency not specified in this requirement	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	Ongoing	N/A	N/A	N/A	
50	(f) 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	10/30/2016	N/A	N/A	N/A	
51	(f) 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	10/30/2016	N/A	N/A	N/A	
52	(f) Underground Inspections	Exhaust Shaft	Underground Operations	Quarterly	PM041099 Provides instructions for performing the quarterly video camera inspection of the Exhaust Shaft. Inspecting for deterioration and leaks/spills.	Current	8/23/2016	N/A	N/A	N/A	
53	(f) Underground Inspections	Self-Rescuers	Underground Operations	Quarterly	WP 04-AU1026 Inspecting for Deterioration and Functionality in accordance with MSHA requirements.	Current	10/11/2016	N/A	N/A	N/A	
54	(f) Underground Inspections	Self-Contained Self-Rescuers	Underground Operations	Quarterly	WP 04-AU1026 Inspecting for Deterioration and Functionality in accordance with MSHA requirements.	Current	9/30/2016	N/A	N/A	N/A	A Class I Permit Modification Notification will add Self-Contained Self-Rescuers to Table E-1, <i>Inspection Schedule/Procedures</i> of Permit Attachment E. They are inspected in accordance with the same procedure as the Self-Rescuers (WP 04-AU1026).
55	(f) Underground Inspections	Underground Openings—Roof Bolts and Travelways	Underground Operations	Weekly	WP 04-AU1007 Inspecting for Deterioration.	Current	10/27/2016	N/A	N/A	N/A	Some areas in the underground are prohibited to personnel access. A TAR was submitted to the NMED on 11/10/2016 proposing to remove numerous openings, roof bolts, and travelways from inspection. The TA proposes closure of the main entries in the south

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											end of the repository.
56	(f) 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.	Current	10/30/2016	N/A	N/A	N/A	
57	(f) Underground Inspections	Explosion- Isolation Walls	Underground Operations	Quarterly	PM000032 Integrity and Deterioration of Accessible Areas.	Current	10/11/2016	N/A	Panel 5 is prohibited to personnel access. Panels 1 and 2 require catch up bolting for access. The Permittees are not planning to inspect explosion-isolation walls. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of explosion-isolation wall inspection.	N/A	
58	(f) Underground Inspections	Bulkhead in Filled Panels	Underground Operations	Monthly	PM000011 Integrity and Deterioration of Accessible Areas.	Current	10/12/2016	N/A	Panel 5 is prohibited to personnel access. Panels 1 and 2 require catch up bolting for access. The Permittees are not planning to inspect explosion-isolation walls. A TAR was submitted to the NMED on 11/10/2016 proposing the termination of inspections of bulkheads in filled panels.	N/A	
59	(f) Underground Inspections	Medical Cart (Underground)	Fire Department	Weekly	WP 12-FP0030 Inspecting for Mechanical Operability Deterioration, and Required Equipment.	Current	10/26/2016	N/A	N/A	N/A	

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60	(f) Underground Inspections	Fire Detection and Alarm System (Underground)	Fire Protection Engineering	Semi-annually	WP 12-FP0027 Inspecting for Deterioration, Operability of underground fuel station dry chemical suppression system in accordance with NFPA 17.	Current	12/17/2015	12/30/2016	N/A	N/A	Equipment (underground fuel storage tanks) has been tagged out of service as allowed by the HWFP. It is in the process of being upgraded. As a compensatory measure, no fuel is being stored in the two tanks while the fire suppression system is out of service.
61	(f) Underground Inspections	Fire Detection and Alarm System	Fire Protection Engineering	Monthly, Quarterly, Annually	WP 12-FP0028 Inspecting for Deterioration, and Operability of the alarm panel and transmitter, audible/visual alarm devices, detectors, and pull stations in accordance with NFPA 72.	Current – Monthly Current – Quarterly Current – Annually	10/18/2016 10/18/2016 3/30/2016	N/A	N/A	N/A	Fire detection and control panel locations: Waste Shaft Underground Station, Salt Handling Shaft Underground Station, Between E-140 and E-300 in S-2180 Drift, and Fuel Station (N150/W170). Fuel Station (N150/W170) and ancillary systems have been tagged out of service as allowed by the HWFP. Class I Permit Modification Notification will add WP 12-FP0028 to Table E-1, <i>Inspection Schedule/Procedures</i> of Permit Attachment E.
62	(f) Underground Inspections	Fire Extinguishers	Fire Department	Monthly	WP 12-FP0036 Inspecting for Deterioration, Leaks/Spills, Expiration, seals, fullness, and pressure.	Current	10/30/2016	N/A	N/A	N/A	
63	(f) Underground Inspections	Fire and Emergency Response Vehicles (Fire Suppression Cart, and Rescue Cart)	Fire Department	Weekly	WP 12-FP0033 Inspecting for Mechanical Operability, Deterioration, Leaks/Spills, and Required Equipment.	Current –U/G Fire Suppression Cart (1) Current – U/G Rescue Cart (1)	10/26/2016 10/24/2016	N/A	N/A	N/A	
64	(f) Underground Inspections	Hazardous Material Response Equipment	Fire Department	Quarterly	WP 12-FP0033 Inspecting for Deterioration and Required Equipment.	Current	10/26/2016	N/A	N/A	N/A	

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65	(f) Underground Inspections	Miners' First Aid Station	Fire Department	Quarterly	WP 12-FP0035 Inspecting for Required Equipment.	Current	10/09/2016	N/A	N/A	N/A	
66	(f) Underground Inspections	Fire Department SCBA	Fire Department	Weekly and Monthly	WP 12-FP0029 Inspecting for Deterioration and Pressure.	Current	10/28/2016	N/A	N/A	N/A	
67	(f) Underground Inspections	Contact-Handled (CH) TRU Underground Transporter	Waste Handling	Preoperational	WP 05-WH1603 Inspecting for Leaks/Spills, Mechanical Operability, Deterioration, and area around transporter clear of obstacles.	Current	N/A	When waste disposal operations resume	N/A	N/A	This is a preoperational check needed only prior to waste emplacement activities.
68	(f) 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 Leaks/Spills, Mechanical Operability, Deterioration, and on board fire suppression system.	Current	N/A	When waste disposal operations resume	N/A	N/A	These are preoperational checks needed only prior to waste emplacement activities.
69	(f) Underground Inspections	Automatic on-board fire suppression systems (underground)	Fire Protection Engineering	Semi-annually	WP 12-FP0060 Inspecting for Mechanical Operability and Deterioration.	Current	N/A	The Semi-Annual inspections of the upgraded Automatic Fire Suppression Systems (AFSS) will be due in CY 2017.	N/A	N/A	The AFFS for waste emplacement equipment necessary to support resumption of normal operations at the facility has recently been upgraded or is scheduled for upgrading.
70	(f) 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	N/A	When waste disposal operations resume	N/A	N/A	This is a preoperational check needed only prior to waste emplacement activities.
71	(f) Underground Inspections	Push-Pull Attachment (Underground)	Waste Handling	Preoperational	WP 05-WH1401 Inspecting for Damage and Deterioration.	Current	N/A	When waste disposal operations resume	N/A	N/A	This is a preoperational check needed only prior to waste emplacement activities.
72	(f) Underground Inspections	Mine Pager Phones (between surface and underground)	Facility Operations	Monthly	WP 04-PC3017 Testing of Mine Pager Phones at essential locations.	Current	10/27/2016	N/A	N/A	N/A	
73	(f) Underground Inspections	MSHA Air Quality Monitor	Maintenance/ Underground	Daily	WP 12-IH1828 Inspecting for Air Quality Monitoring Equipment Functional	Current	10/30/2016	N/A	N/A	N/A	

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			Operations		Check.						
74	(f) Underground Inspections	Site Notification System; Underground Evacuation Alarm System	Facility Operations	Monthly	WP 04-PC3017 Testing of PA and Underground Alarms.	Current	10/27/2016	N/A	N/A	N/A	
75	(f) Underground Inspections	Eye Wash and Shower Equipment	Equipment Custodian	Weekly and Semi-annually	WP 12-IS1832 Inspecting for Deterioration.	Current	10/26/2016	N/A	N/A	N/A	
76	(f) Underground Inspections	Underground—Geomechanical Instrumentation System (GIS)	Geotechnical Engineering	Monthly	WP 07-EU1301 Inspecting for Deterioration.	Current	10/25/2016	N/A	N/A	N/A	Complete in accessible areas. The Geomechanical Monitoring Program utilizes both remotely polled data as well as manually read data.
77	(f) Underground Inspections	Ventilation Exhaust	Maintenance Operations	Quarterly (700 Fans) Semi-annually (860 and 960 Fans)	IC041098 Check for Deterioration and Calibration of Mine Ventilation Rat Monitoring Equipment.	Current	<u>700 Fans</u> Fan A (11/9/2013) Fan B (5/20/2013) Fan C (12/18/2013) <u>860 Fans</u> 41-B-860A 41-B-860B 41-B-860C <u>960 Fans</u> 41-B-960A 41-B-960B	N/A	The Permittees do not intend to use the 700 fans for underground ventilation due to operation in continuous filtration mode.	N/A	The filtration fans are 860 (A, B, & C) and 960 (A & B). A Class I Permit Modification Notification will add the following procedures to address the 860 and 960 Fans: IC413005 (860 Fans) IC041087 (960 Fans) Check for Deterioration and Calibration of Mine Ventilation Rate Monitoring Equipment.
78	(g) Underground Site Derived Waste Storage	Underground Site-Derived Mixed Waste Storage Areas	Waste Handling	Weekly (when in use)	Underground Derived Waste Storage Plan (as per the May 12, 2014, Order)/WP 05-WH1811 <i>Underground Site-Derived Mixed Waste Storage Area Inspections</i> . The Underground Derived Waste Storage Plan was approved by NMED on December 2, 2014. The Permittees addressed NMED comments, incorporated changes and resubmitted the Plan to NMED on January 6, 2015.	N/A	N/A	N/A	The Permittees do not anticipate generating site derived waste that will be stored in the underground site derived waste storage areas.	N/A	The decontamination process began in mid-FY 2015 and there was no Site-derived waste generated as the result of underground decontamination activities.

* December 12, 2016, represents the current target date for resumption of waste emplacement activities at the WIPP facility.