



Department of Energy
 Carlsbad Field Office
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JAN 31 2018

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

Mr. J. C. Borrego, Deputy Secretary
 New Mexico Environment Department
 Harold Runnels Building
 1190 Saint Francis Drive, P.O. Box 5469
 Santa Fe, NM 87502-5469

Subject: Quarterly Report for the Reporting Period between October 1, 2017, through December 31, 2017, as required by NMED Administrative Orders dated February 27, 2014, and May 12, 2014, as amended by NMED Directives dated August 29, 2014, December 9, 2014, July 15, 2015, and February 26, 2016, Waste Isolation Pilot Plant Hazardous Waste Facility Number: NM4890139088-TSDF

Dear Messrs. Kieling and Borrego:

The purpose of this letter is to transmit the quarterly report for the reporting period between October 1, 2017, through December 31, 2017, as required by the February 27, 2014, and May 12, 2014, Administrative Orders issued under the authority of the New Mexico Hazardous Waste Act § 74-4-13 from Mr. Ryan Flynn to Messrs. Hellstrom, Franco, Cook, and McQuinn, and as amended by the August 29, 2014, and December 9, 2014, directives from Mr. Ryan Flynn to Messrs. Franco and McQuinn, the July 15, 2015, directive from Ms. Kathryn Roberts to Messrs. Bryson and Breidenbach, the February 26, 2016, directive from Ms. Kathryn Roberts to Messrs. Shrader and Breidenbach and the December 16, 2016, directive from Ms. Kathryn Roberts to Messrs. Shrader and Breidenbach. The paper copy of the report is enclosed.

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

Bruce C. Covert, Project Manager
 Nuclear Waste Partnership LLC

Enclosure

cc: w/enclosure
 R. Maestas, NMED *ED
 D. Biswell, NMED ED
 H. Tellez, NMED ED
 M. Mclean, NMED ED
 J. Sales, EPA ED
 CBFO M&RC

*ED denotes electronic distribution

Quarterly Status Report for the New Mexico Environment Department Administrative Orders

Reporting Period October 1, 2017, through December 31, 2017

Introduction

This report serves to fulfill the monitoring and reporting requirements set forth by Administrative Orders, AO2 and AO3, as amended by the NMED directives dated August 29, 2014, December 9, 2014, July 15, 2015, February 26, 2016, and December 16, 2016. Per the NMED letter on December 16, 2016, AO1 has been closed. In accordance with Paragraph 18(a) of AO2, subsequent reports will identify new information since the previous reporting period. The following sections combine the information required by the orders and provide references to the respective paragraphs from AO2 and AO3.

1.0 Status of Permit-related underground inspections for this reporting period, as requested per Paragraphs 18(c) and 18(e)(iii) of AO2, including the accessibility for personnel performing these Permit-required activities per Paragraph 18(e)(i) of AO2 and the status of recovery activities per Paragraph 18(e)(ii) of AO2:

Attachment 1, *List of Underground Inspections*, shows the current status of each underground inspection required by the Permit. Accessibility for personnel performing inspections is noted in the attachment. Recovery activities have been completed.

2.0 Status of Permit-related monitoring activities for this reporting period, as requested per Paragraph 18(c) of AO2, including the accessibility for personnel performing these Permit-required activities per Paragraph 18(e)(i) of AO2 and the status of recovery activities per Paragraph 18(e)(ii) of AO2:

Volatile Organic Compound (VOC) Monitoring

In accordance with AO2, ongoing disposal room VOC monitoring in filled panels (required by Permit, Part 4, Section 4.4.3.) is not currently being performed due to underground access prohibition in Panels 3, 4, and 6. Ongoing disposal room monitoring is addressed in the revised Class 3 PMR, *Modifications to the WIPP Panel Closure Plan*, which was submitted to the NMED on November 10, 2016. The Permittees responded to the NMED's Technical Incompleteness Determination regarding the Class 3 PMR on October 6, 2017.

Repository VOC monitoring activities are currently being performed as required by Permit Part 4, Section 4.6.2. and associated requirements in Attachment N.

Room-based VOC monitoring activities are currently being performed in Panel 7, Rooms 4, 5, and 6 as required by Permit Part 4, Section 4.6.3. and associated requirements in Attachment N. In accordance with the *WIPP Nitrate Salt Bearing Waste Container Isolation Plan*, Revision 2, dated May 29, 2015, the Panel 7, Room 7, VOC monitoring lines have been capped and monitoring has been terminated.

Recovery activities have been completed.

Geomechanical Monitoring

Remote geomechanical monitoring data continue to be transmitted electronically on a weekly basis via remote instruments located in Panel 7, Room 6, as required by Permit Part 4, Section 4.6.1., associated requirements in Attachment A2-5b(2), and Attachment E, Table E-2. As stated in Revision 2 of the *Underground Compliance Plan*, submitted to the NMED on December 6, 2016, some manually read locations are in inaccessible areas of the underground due to deteriorating ground conditions.

Hydrogen and Methane Monitoring

Hydrogen and methane monitoring activities (required by Permit Part 4, Section 4.6.5. and associated requirements in Attachment N1) are not currently being performed due to underground access prohibition in Panels 3 and 4. In accordance with the *WIPP Nitrate Salt Bearing Waste Container Isolation Plan*, Revision 2, dated May 29, 2015, the Panel 6 VOC and hydrogen/methane monitoring lines have been capped. Previous monitoring data (prior to the 2014 events) from the Semi-Annual VOC, Hydrogen and Methane Data Summary Reports indicate that the inability to monitor does not pose a threat to underground waste workers. Hydrogen and methane monitoring is addressed in the revised Class 3 PMR, *Modifications to the WIPP Panel Closure Plan*, which was submitted to the NMED on November 10, 2016. The Permittees responded to the NMED's Technical Incompleteness Determination regarding the Class 3 PMR on October 6, 2017.

Mine Ventilation Rate Monitoring

Mine ventilation rate monitoring activities are currently being performed as required by Permit Part 4, Section 4.6.4. and associated requirements in Attachment O.

3.0 Updates on activities performed pursuant to the Underground Derived Waste Storage Plan, including a description of any underground derived waste produced, whether the derived waste is mixed or non-mixed, the contents, container type, container location, total container count, and approximate volume of derived waste per container, as requested per Paragraph 18(d) of AO2:

On August 2, 2017, the Permittees notified the NMED that the Underground Derived Waste Storage Areas had been closed and returned to their previous functions. Therefore, Attachment 2, *Underground Derived Waste Currently in Storage at the WIPP Facility*, is currently reserved.

4.0 The current status of activities required by the RCRA Contingency Plan, Permit Attachment D, including identification of applicable sections of the Contingency Plan, the schedule for actions required under the Contingency Plan, and any deviations from any Contingency Plan requirements, as requested per Paragraph 18(b) of AO2. Non-applicable sections shall also be identified and explanations shall be provided as to why such sections do not apply:

There were no changes to this section during the reporting period. Therefore, Attachment 3, *Status of RCRA Contingency Plan Required Activities*, is currently reserved.

5.0 The report shall include the submission of a list containing all additional requirements placed upon the WIPP by any state or federal agency relating to corrective actions or recovery and as a result of the incidents referenced in Paragraphs 8 and 9 of the May 12, 2014, Administrative Order, including requirements by other segments of DOE, as requested by Paragraph 18(f) of AO2:

During this reporting period, there were no additional requirements placed upon the Waste Isolation Pilot Plant (WIPP) by any state or federal agency relating to corrective actions or recovery and as a result of the incidents referenced in Paragraphs 8 and 9 of the May 12, 2014, Administrative Order, including requirements by other segments of the U.S. Department of Energy (DOE), as requested by Paragraph 18(f) of AO2. Therefore, Attachment 4, *Corrective Actions*, is currently reserved.

6.0 The Permittees shall provide a status of recovery-related activities relative to the underground per Paragraph 18(e)(ii) of AO2 and a summary of recovery-related work performed in Panel 7, including relevant photographs, as requested per Paragraph 18(k) of AO2:

Recovery activities have been completed; therefore, there were no changes to this section during the reporting period, and Attachment 5, *Recovery-Related Work Activities*, is currently reserved.

7.0 The Permittees shall submit a WIPP Nitrate Salt Bearing Waste Container Isolation Plan per Paragraph 22(a) of AO3. The plan shall contain a detailed proposal for the expedited closure of Panel 6 per Paragraph 22(a)(i) of AO3 and the expedited closure of Panel 7, Room 7 per Paragraph 22(a)(iii) of AO3:

There were no changes to this section during the reporting period. Therefore, Attachment 6, *WIPP Nitrate Salt Bearing Waste Container Isolation Plan Information Required by Administrative Order 3*, is currently reserved.

Attachment 1
List of Underground Inspections

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status as of 12/31/2017 (Current/Not Current/Other ¹)	Date of Last Inspection	Proposed Start Date (if Not Current or Other)	Comments
Medical Cart (Underground)	Fire Department	Weekly	WP 12-FP0030 Inspecting for Mechanical Operability, Deterioration, and Required Equipment	Current	12/27/2017 (74-C-321)	N/A	
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	12/29/2017 (52-H-008A)	N/A	
Eye Wash and Shower Equipment (Underground locations)	Equipment Custodian	Weekly	WP 12-IS1832 Inspecting for Deterioration	Current	12/27/2017	N/A	
Eye Wash and Shower Equipment (Underground locations)	Equipment Custodian	Semi-annually	WP 12-IS1832 Inspecting for Deterioration and Fluid Levels-Replace as Required	Current	09/26/2017	N/A	
Fire Detection and Alarm System	Fire Protection Engineering	Semi-annually	WP 12-FP0027 Inspecting for Deterioration and Operability of underground fuel station fire suppression system in accordance with NFPA 17	Current	10/12/2017	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status as of 12/31/2017 (Current/Not Current/ Other ¹)	Date of Last Inspection	Proposed Start Date (if Not Current or Other)	Comments
Fire Detection and Alarm System	Fire Protection Engineering	Annually	WP 12-FP0027 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	10/12/2017	N/A	
Fire Detection and Alarm System (Underground locations)	Fire Protection Engineering	Monthly/Quarterly/ Annually	WP 12-FP0028 Inspecting for Deterioration and Operability of the Fire Alarm Panel and transmitter, audible/visual alarm devices, detectors, and pull stations in accordance with NFPA 72.	Current	12/13/2017 (Monthly) 10/18/2017 (Quarterly) 10/12/2017 (Annually)	N/A	
Fire Extinguishers (Underground locations)	Fire Department	Monthly	WP 12-FP0036 Inspecting for Deterioration, Leaks/Spills, Expiration, seals, fullness, and pressure	Current	12/12/2017	N/A	
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	12/26/2017 (Underground Fire Suppression Cart) 12/28/2017 (Underground Rescue Cart)	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status as of 12/31/2017 (Current/Not Current/Other ¹)	Date of Last Inspection	Proposed Start Date (if Not Current or Other)	Comments
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	12/29/2017 (52-H-127C) 12/29/2017 (52-H-127D)	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status as of 12/31/2017 (Current/Not Current/Other ¹)	Date of Last Inspection	Proposed Start Date (if Not Current or Other)	Comments
Automatic on-board fire suppression systems	Fire Protection Engineering	Monthly	WP 12-FP0085 Inspecting for Mechanical Operability and Deterioration	Current	12/01/2017 (52-H-008A) 12/07/2017 (52-H-008D) 12/15/2017 (52-H-008E) 12/08/2017 (52-H-035A) 12/01/2017 (52-H-035B) 12/08/2017 (52-H-126) 12/07/2017 (52-H-127B) 12/08/2017 (52-H-127C) 12/07/2017 (52-H-127D)	See comments	Nine pieces of equipment have had the installation of the automatic fire suppression system verified and the initial inspection of the system performed. Additional automatic fire suppression systems continue to be tagged OOS until the approved vendor can confirm the existing configuration or install new systems/parts and perform the initial inspection, thus ensuring the systems can perform their intended function. Qualified fire watches continue to function as compensatory measures for the OOS equipment.

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status as of 12/31/2017 (Current/Not Current/Other ¹)	Date of Last Inspection	Proposed Start Date (if Not Current or Other)	Comments
Automatic on-board fire suppression systems	Fire Protection Engineering	Semi-annually	WP 12-FP0060 Inspecting for Mechanical Operability and Deterioration	Current	10/16/2017 (52-H-008A) 12/07/2017 (52-H-008D) 12/15/2017 (52-H-008E) 11/30/2017 (52-H-035A) 09/12/2017 (52-H-035B) 12/20/2017 (52-H-126) 12/20/2017 (52-H-127B) 10/09/2017 (52-H-127C) 10/09/2017 (52-H-127D)	See comments	Nine pieces of equipment have had the installation of the automatic fire suppression system verified and the initial inspection of the system performed. Additional automatic fire suppression systems continue to be tagged OOS until the approved vendor can confirm the existing configuration or install new systems/parts and perform the initial inspection, thus ensuring the systems can perform their intended function. Qualified fire watches continue to function as compensatory measures for the OOS equipment.
Miners First Aid Station	Fire Department	Quarterly	WP 12-FP0035 Inspecting for Required Equipment	Current	10/23/2017	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status as of 12/31/2017 (Current/Not Current/Other ¹)	Date of Last Inspection	Proposed Start Date (if Not Current or Other)	Comments
Mine Pager Phones (between surface and underground)	Facility Operations	Monthly	WP 04-PC3017 Testing of Mine Pager Phones at essential locations	Current	12/13/2017	N/A	
Mine Pager Phones (between surface and underground)	Facility Operations	Annually	WP 04-PC3018 Testing of Mine Pager Phones at essential locations	Current	05/12/2017	N/A	
MSHA Air Quality Monitor	Maintenance/Underground Operations	Daily	WP 12-IH1828 Inspecting for Air Quality Monitoring Equipment Functional Check.	Current	12/31/2017	N/A	
Fire Department SCBA (Underground locations)	Fire Department	Weekly	WP 12-FP0029 Inspecting for Deterioration and Pressure	Current	12/27/2017 (Underground Rescue Cart)	N/A	
Fire Department SCBA (Underground Locations)	Fire Department	Monthly	WP 12-FP0029 Inspecting for Deterioration and Pressure	Current	12/13/2017 (Underground Rescue Cart)	N/A	
Underground Evacuation Alarm System	Facility Operations	Monthly	WP 04-PC3017 Testing of PA and Underground Alarms	Current	12/13/2017	N/A	
Underground Evacuation Alarm System	Facility Operations	Annually	WP 04-PC3018 Testing of PA and Underground Alarms	Current	05/12/2017	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status as of 12/31/2017 (Current/Not Current/Other ¹)	Date of Last Inspection	Proposed Start Date (if Not Current or Other)	Comments
Self-Rescuers and Self-Contained Self-Rescuers	Underground Operations	Quarterly	WP 04-AU1026 Inspecting for Deterioration and Functionality in accordance with MSHA requirements	Current	10/03/2017 (Self-Rescuers) 10/04/2017 (Self-Contained Self-Rescuers)	N/A	Self-Contained Self-Rescuer caches in W-30/S-2750 and E-300/S-1600 were not inspected due to ground control issues in these areas. These caches will be inspected as soon as the areas become accessible. No compensatory measures are needed since personnel are not allowed in these areas. There are 21 caches of SCSRs in the underground, 19 of which are current on their quarterly inspections. This exceeds the requirement of Permit Attachment D, Table D-2, which requires a minimum of 12 caches in the underground.
Underground Openings—Roof Bolts and Travelways	Underground Operations	Weekly	WP 04-AU1007 Inspecting for Deterioration of Accessible Areas	Current	12/27/2017	N/A	
Underground—Geomechanical Instrumentation System (GIS)	Geotechnical Engineering	Monthly	WP 07-EU1301 Inspecting for Deterioration	Current	12/26/2017	N/A	
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	12/29/2017	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status as of 12/31/2017 (Current/Not Current/Other ¹)	Date of Last Inspection	Proposed Start Date (if Not Current or Other)	Comments
Push-Pull Attachment (Underground)	Waste Handling	Preoperational	WP 05-WH1401 Inspecting for Damage and Deterioration	Current	12/29/2017 (52-H-128E) 12/29/2017 (52-H-128F)	N/A	
Explosion-Isolation Walls	Underground Operations	Quarterly	PM000032 Integrity and Deterioration of Accessible Areas	Current	10/03/2017	N/A	
Bulkhead in Filled Panels	Underground Operations	Monthly	PM000011 PM000015 Integrity and Deterioration of Accessible Areas	Current	12/10/2017	N/A	

1 **Current** – As of the end of the reporting period, the inspection of in-service equipment was up-to-date (any missed inspections that occurred during the reporting period are noted in the “Comments” field)

Not Current – As of the end of the reporting period, either 1) inspection of in-service equipment was delinquent or 2) emergency equipment was out-of-service, with no established compensatory measure(s)

Other – As of the end of the reporting period either 1) equipment was out-of-service (applicable compensatory measures are noted in the “Comments” field) or 2) equipment was not being used to handle TRU mixed waste

N/A Not Applicable

Attachment 2
Underground Derived Waste Currently in Storage at the WIPP Facility
Underground Derived Waste Storage Areas were closed as of August 2, 2017
[Last updated March 31, 2017]

Attachment 3
Status of RCRA Contingency Plan Required Activities (reserved)
[Last updated September 30, 2016]

Attachment 4
Corrective Actions (reserved)
[Last updated October 31, 2015]

Attachment 5
Recovery-Related Work Activities (reserved)
[Last updated September 30, 2016]

Attachment 6
WIPP Nitrate Salt Bearing Waste Container Isolation Plan
Information Required by Administrative Order 3 (reserved)
[Last updated November 30, 2015]