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**Department of Energy**  
Carlsbad Field Office  
P. O. Box 3090  
Carlsbad, New Mexico 88221  
May 20, 2011



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

Subject: Request for Permit Modification Determination for Hazardous Waste Facility Permit,  
Permit Number: NM4890139088-TSDF

Dear Mr. Kieling:

In accordance with 20.4.1.900 NMAC (incorporating 40 CFR §270.42(d)), the Permittees are requesting a determination that the enclosed permit modification request be managed as a Class 1. The basis for this request is included in the overview of the proposed Permit Modification.

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

Please contact George T. Basabilvazo at (575) 234-7488 if you have any questions regarding this request.

Sincerely,

Edward Ziemianski, Acting Manager  
Carlsbad Field Office

M. F. Sharif, General Manager  
Washington TRU Solutions LLC

Enclosure

cc: w/enclosure  
J. Davis, NMED \* ED  
T. Hall, NMED ED  
C. Walker, Trinity Engineering ED  
CBFO M&RC  
\*ED denotes electronic distribution



**Determination of Class Modification**

**Update Ventilation Language for Consistency**

**Waste Isolation Pilot Plant  
Carlsbad, New Mexico**

**Permit #NM4890139088-TSDF**

**May 2011**

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## Overview of the Proposed Permit Modification

This document contains one proposed Permit Modification to modify the Hazardous Waste Facility Permit (**Permit**) at the Waste Isolation Pilot Plant (**WIPP**), Permit Number NM4890139088-TSDF hereinafter referred to as the Permit.

This modification is not explicitly listed in 20.4.1.900 New Mexico Administrative Code (**NMAC**) incorporating Title 40 of the Code of Federal Regulations (40 **CFR**) §270.42, Appendix I. In accordance with 20.4.1.900 NMAC (incorporating 40 CFR §270.42(d)) the U.S. Department of Energy (**DOE**), Carlsbad Field Office (**CBFO**) and Washington TRU Solutions LLC (**WTS**), collectively referred to as the Permittees, are requesting a determination of class by the New Mexico Environment Department (**NMED**).

This modification corrects an inconsistency between two portions of the Permit. The Permittees believe that this change qualifies as a Class 1 modification in that it is similar to an administrative change to correct an inconsistency.

The Permittees request that the NMED Secretary concur with this interpretation and act upon this request as a Class 1 modification. The Permittees have reached this recommendation after reviewing the items in Appendix 1 of 20.4.1.900 NMAC (incorporating 40 CFR 270.42) and the definition of Class 1 and Class 2 permit modifications found in 20.4.1.900 NMAC (incorporating 40 CFR 270.42(d)(2)(i) and (ii)) and precedents set with other modifications submitted to and approved by the NMED.

The regulations at 20.4.1.900 NMAC (incorporating 40 CFR 270.42(d)(2)(i) and (ii)) state:

*(i) Class 1 modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment. In the case of Class 1 modifications, the Director may require prior approval.*

*(ii) Class 2 modifications apply to changes that are necessary to enable a permittee to respond, in a timely manner, to,*

*(A) Common variations in the types and quantities of the wastes managed under the facility permit,*

*(B) Technological advancements, and*

*(C) Changes necessary to comply with new regulations, where these changes can be implemented without substantially changing design specifications or management practices in the permit.*

The proposed changes meet the definition of a Class 1 minor change because it seeks to make inconsistent language in Attachment O agree with similar language in the rest of the Permit. This is similar to item A.1., *Administrative and informational changes*, Class 1 in Appendix 1 of 20.4.1.900 NMAC (incorporating 40 CFR 270.42). The proposed changes do not fall into the general category of Class 2 modifications because they are not required for the Permittees to respond to common variations in types and quantities of waste, technological advances, or implement new regulations. The changes do not affect the manner in which the Permittees safely manage TRU mixed waste; they do not change any of the relevant definitions (i.e., active

room, CH TRU waste room, RH TRU waste room) in the Permit; they do not reduce the frequency of monitoring; they do not alter the ventilation criteria applicable to waste handling operations; and they do not reduce routine activities that are performed by the Permittees to maintain compliance with the Permit.

The Permittees propose reviewing the modification as a Class 1 modification because, by correcting an oversight that was made when Attachment O was issued, the Permit is made current with routine practices at the WIPP facility. Specifically, Permit Part 4 establishes the conditions for ventilation in active TRU mixed waste rooms. These conditions are referenced to detailed language in Attachment A2. Attachment O, in specifying monitoring requirements has established different conditions than those in Part 4 and Attachment A2, creating an inconsistency. This was unintentional and can be corrected by inserting language in Attachment O referring to the details in Attachment A2. The Permittees assert that the language in Attachment O is incorrect since it subjects underground workers to risks that are avoided with the language in Part 4 and Attachment A2. The details of this assertion are presented in the discussion of the modification. In the past, the Permittees have submitted similar modifications to ensure that language within the Permit is consistent (the most recent being a submittal on January 2011 (items 1 and 2), which the New Mexico Environment Department (NMED) subsequently incorporated into the Permit as Class 1 modifications on April 15, 2011).

These proposed changes do not reduce the ability of the Permittees to provide continued protection to human health and the environment.

The requested modification to the Permit and any related supporting documents are provided in this proposed Permit Modification. The proposed modifications to the text of the Permit have been identified using red text and double underline and a ~~strikeout~~ font for deleted information. All direct quotations are indicated by italicized text.

**Attachment A**  
**Description of the Proposed Permit Modification**

**Table 1. Proposed Hazardous Waste Facility Permit Modification**

Affected Permit Section	Change Description	Category	Attachment A Page #
<ul style="list-style-type: none"> <li>Attachment O, Section O-1</li> </ul>	<ul style="list-style-type: none"> <li>Add text "(as specified in Permit Attachment A2, Section A2-2a(3))"</li> </ul>	A.1	A-4
<ul style="list-style-type: none"> <li>Attachment O, Section O-2</li> </ul>	<ul style="list-style-type: none"> <li>Add text "(as specified in Permit Attachment A2, Section A2-2a(3))"</li> <li>Delete text "when workers are present in the rooms"</li> </ul>	A.1	A-4
<ul style="list-style-type: none"> <li>Attachment O, Section O-3</li> </ul>	<ul style="list-style-type: none"> <li>Add text "(as specified in Permit Attachment A2, Section A2-2a(3))"</li> <li>Delete text "whenever workers are present in the room"</li> </ul>	A.1	A-4
<ul style="list-style-type: none"> <li>Attachment O, Section O-3a(1)</li> </ul>	<ul style="list-style-type: none"> <li>Add text "(as specified in Permit Attachment A2, Section A2-2a(3))"</li> </ul>	A.1	A-4
<ul style="list-style-type: none"> <li>Attachment O, Section O-3b(2)</li> </ul>	<ul style="list-style-type: none"> <li>Add text "(as specified in Permit Attachment A2, Section A2-2a(3))"</li> <li>Delete text "when workers are present in the room are not achieved"</li> </ul>	A.1	A-5
<ul style="list-style-type: none"> <li>Attachment O, Section O-3c(1)</li> </ul>	<ul style="list-style-type: none"> <li>Add text "(as specified in Permit Attachment A2, Section A2-2a(3))"</li> </ul>	A.1	A-5

## Item 1

### Description:

Revise the language in Attachment O, "WIPP Mine Ventilation Rate Monitoring Plan" to be consistent with Part 4.5.3.2 and Permit Attachment A2, Section A2-2a(3).

### Basis:

Since this change is not specifically addressed in 40 CFR 270.42, Appendix I, the Permittees are submitting this change as a determination of class pursuant to 40 CFR 270.42(d)(1). The Permittees request that this be managed, by NMED, as a Class 1 Permit Modification.

### Discussion:

Permit Attachment O first became effective in December, 2010. Some language in Attachment O is inconsistent with the following two requirements in Permit Attachment A2, Section A2-2a(3):

*A minimum ventilation rate of 35,000 ft<sup>3</sup> (990 m<sup>3</sup>) per minute will be maintained in each room where waste disposal is taking place when workers are present in the room...*  
(Page A2-8, lines 3-5)

*The rooms that are filled with waste will be isolated from the ventilation system, while the rooms that are actively being filled will receive a minimum of 35,000 SCFM of air when workers are present to assure worker safety...* (Page A2-8, lines 25-28)

The phrases "where waste disposal is taking place" and "that are actively being filled" were not included in Attachment O, Sections O-1, O-2, O-3, O-3a(1), O-3b(2), and O-3c(1). These phrases refer to when waste handling is taking place. To correct this inconsistency these respective sections are being revised to refer back to Permit Attachment A2, Section A2-2a(3).

By interpreting the Permit sections identified above in this manner, the Permittees minimize the risk of VOC exposure to workers by keeping them out of the exhaust air for extended periods of time. For example, in order to adjust ventilation in either an adjacent contact-handled (CH) TRU mixed waste disposal room or within a RH TRU mixed waste disposal room in order to establish the required ventilation flow rates prior to starting waste handling operations personnel may enter the RH TRU mixed waste rooms. This implementation minimizes exposure to the exhaust air from the waste disposal area. Otherwise, on some occasions, personnel would have to travel long distances in the exhaust air drifts downstream of the TRU mixed waste in order to make the adjustments. This approach is inconsistent with the Permittees' protection policy which minimizes the time workers spend downstream from disposed CH TRU mixed waste (see Permit Attachment A4, Section A4-4). The inconsistency in Attachment O requires that the Permittees to notify the NMED of each of these instances, which may be several times per day. This ongoing notification is an unnecessary business expense to the Permittees and the NMED and can be avoided by making the language in Attachment O consistent with Permit Attachment A2, Section A2-2a(3). This modification makes the language consistent by referencing back to the appropriate language in Attachment A2.



## Revised Permit Text:

### O-1 Definitions

Restricted Access: If the required ventilation rate in an active disposal room 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 (as specified in Permit Attachment A2, Section A2-2a(3)).

### O-2 Objective

The objective of this plan is to describe how the ventilation requirements in the Permit will be met. This plan achieves this objective and documents the process by which the Permittees demonstrate compliance with the ventilation requirements by:

- Maintaining an annual running average of 260,000 scfm through the underground repository
- Maintaining a minimum of 35,000 scfm of air through the active disposal rooms (as specified in Permit Attachment A2, Section A2-2a(3)). ~~when workers are present in the rooms~~

This plan contains the following elements: Objective; Design and Procedures; Equipment Calibration and Maintenance; Reporting and Record Keeping; Quality Assurance.

### O-3 Design and Procedures

This section describes the four basic processes that make up the mine ventilation rate monitoring plan:

- Test and Balance, a periodic re-verification of the satisfactory performance of the entire underground ventilation system and associated components
- Monitoring and calculation of the Running Annual Average of the Total Mine Airflow to verify achievement of the 260,000 scfm minimum requirement
- Monitoring of active disposal room(s) to ensure a minimum flow of 35,000 scfm (as specified in Permit Attachment A2, Section A2-2a(3)). ~~whenever workers are present in the room~~
- Quarterly verification of the total mine airflow

#### O-3a(1) Test and Balance Process

The "Balance" portion of the process shall involve adjusting the settings of the system fans and regulators to achieve the desired airflow distribution in all parts of the facility for each mode of

operation. Particular emphasis shall be given to the active disposal room(s) in the Waste Disposal Circuit to ensure that a minimum airflow of 35,000 scfm is achieved (as specified in Permit Attachment A2, Section A2-2a(3)). The system baseline settings for the current Balance shall be established from the previous Test and Balance. Adjustments shall then be made to account for changes in system resistance due to excavation convergence due to salt creep, approved system modifications, or operational changes.

O-3b(2)      Calculation of the Running Annual Average of Total Mine Airflow

The use of an average value of 730 hours per month in the monthly average calculation is reasonable, given that all the numbers involved are very large and that the final use of the monthly average flow is in an annual calculation. The Permittees will notify NMED within seven calendar days if either the minimum running annual average mine ventilation exhaust rate of 260,000 scfm or a minimum active room ventilation rate of 35,000 scfm (as specified in Permit Attachment A2, Section A2-2a(3)) ~~when workers are present in the room~~ are not achieved.

O-3c(1)      Verification of Active Disposal Room Minimum Airflow

Whenever workers are present, the Permittees shall verify the minimum airflow through active disposal room(s) of 35,000 scfm (as specified in Permit Attachment A2, Section A2-2a(3)) 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.