



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

**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, New Mexico 87505-6303

Subject: Class 1 Permit Modification Notifications to the Waste Isolation Pilot Plant Hazardous Waste Facility Permit Number: NM4890139088-TSDF

Dear Mr. Kieling:

Enclosed is a Notification of Class 1 Permit Modifications for the following items:

- Revise and Update Inspection Schedule/Procedures
- Revise and Update Personnel Training
- Revise List of Resource Conservation and Recovery Act Emergency Coordinators
- Revise List of Emergency Equipment
- Revise Incident Commander Description and Associated Training

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: w/enclosure  
D. Biswell, NMED           \*ED  
R. Maestas, NMED         ED  
CBFO M&RC  
\*ED denotes electronic distribution

**Class 1 Permit Modification Notification**

**Revise and Update Inspection Schedule/Procedures**

**Revise and Update Personnel Training**

**Revise List of Resource Conservation and Recovery Act Emergency Coordinators**

**Revise List of Emergency Equipment**

**Revise Incident Commander Description and Associated Training**

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

**WIPP Permit Number - NM4890139088-TSDF**

**December 2016**

## Table of Contents

Transmittal Letter	
Table of Contents.....	i
Acronyms and Abbreviations .....	ii
Overview of the Permit Modification Notifications .....	1
Attachment A Description of the Class 1 Permit Modification Notifications .....	A-1
Table 1. Class 1 Hazardous Waste Facility Permit Modification Notifications .....	A-2
Item 1 .....	A-5
Description .....	A-5
Basis .....	A-6
Discussion.....	A-6
Revised Permit Text:.....	A-9
Item 2 .....	A-21
Description .....	A-21
Basis .....	A-21
Discussion.....	A-21
Revised Permit Text:.....	A-23
Item 3 .....	A-33
Description .....	A-33
Basis .....	A-33
Discussion.....	A-33
Revised Permit Text:.....	A-34
Item 4 .....	A-35
Description .....	A-35
Basis .....	A-35
Discussion.....	A-35
Revised Permit Text:.....	A-36
Item 5 .....	A-37
Description .....	A-37
Basis .....	A-37
Discussion.....	A-37
Revised Permit Text:.....	A-39

## **Acronyms and Abbreviations**

CFR	Code of Federal Regulations
NFPA	National Fire Protection Association
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
Permit	Waste Isolation Pilot Plant Hazardous Waste Facility Permit
Permittees	DOE and Nuclear Waste Partnership LLC
PMN	Permit Modification Notification
SAT	Systematic Approach to Training
WIPP	Waste Isolation Pilot Plant

## Overview of the Permit Modification Notifications

This document contains five (5) Class 1 Permit Modification Notifications (**PMNs**) for the Waste Isolation Pilot Plant (**WIPP**) Hazardous Waste Facility Permit (**Permit**) Number NM4890139088-TSDF.

These PMNs are being submitted by the U.S. Department of Energy and Nuclear Waste Partnership LLC, collectively referred to as the **Permittees**, in accordance with Permit Part 1, Section 1.3.1. (20.4.1.900 New Mexico Administrative Code (**NMAC**) incorporating Title 40 of the Code of Federal Regulations (**CFR**) §270.42(a)(2)). The PMNs in this document are necessary to notify the New Mexico Environment Department (**NMED**) of changes which impact the Permit. These changes do not reduce the ability of the Permittees to provide continued protection to human health and the environment.

The requested modifications to the Permit and any related supporting documents are provided in this PMN. 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. Direct quotations are indicated by italicized text.

**Attachment A**  
**Description of the Class 1 Permit Modification Notifications**

**Table 1. Class 1 Hazardous Waste Facility Permit Modification Notifications**

Item No.	Affected Permit Section	Change Description	Category
1.	Attachment E, Table E-1, Pages E-13 through E-20	<p>This modification adds a new line item, with the respective procedure number and inspection criteria and frequency, to Table E-1 for the following equipment:</p> <ul style="list-style-type: none"> <li>• Emergency Lighting</li> </ul> <p>This modification adds procedure numbers and associated inspection criteria and frequencies to existing lines items in Table E-1 for the following equipment:</p> <ul style="list-style-type: none"> <li>• Fire Pumps: Adds procedures WP 12-FP5113 and WP 12-FP5114, and specifies “fire water valve positions” and “panel light status” as inspection criteria for procedure WP 12-FP0026</li> <li>• Fire Sprinkler Systems: Adds procedures WP 12-FP0063 and WP 12-FP0064</li> <li>• Ventilation Exhaust: Adds IC413000 to address the quarterly verification of total mine airflow; adds procedures IC413005 and IC041087 for the inspection of the 860 Fans and 960 Fans, respectively, and revises text to clarify that procedure IC041098 is associated with the quarterly inspection of the 700 Fans</li> </ul> <p>This modification clarifies the inspection criteria and governing National Fire Protection Association (<b>NFPA</b>) standards associated with Fire Detection and Alarm System inspection procedures by listing the inspection criteria and frequencies associated with procedures WP 12-FP0027 and WP 12-FP0028 separately. This modification to Table E-1 also clarifies the inspection criteria for the following:</p> <ul style="list-style-type: none"> <li>• Underground Openings—Roof Bolts and Travelways: Clarifies that the inspection is “of Accessible Areas”</li> <li>• Water Tanks: Clarifies that the inspection criteria include “valve lineup”</li> </ul> <p>This modification revises the procedure numbers for the following line items:</p> <ul style="list-style-type: none"> <li>• Perimeter Fence, Gates, Signs: Changes “PFO-008” to “WP 17-SS1023”</li> <li>• Water Tanks: Changes “SDD-WD00”</li> </ul>	A.1

Item No.	Affected Permit Section	Change Description	Category
		<p>to "WP 04-AD3008"</p> <p>This modification revises text to add "Self-Contained Self-Rescuers" to the line item for Self-Rescuers.</p> <p>This modification revises the "Inspection Schedule/Procedure Lists" at the end of Table E-1 by changing "Fire Protection Specialist" to "Fire Protection Engineering Representative" and adding "Qualified Fire Department Personnel" under List 12. Additionally, the modification removes "Senior Facilities Technician" and "Central Monitoring Room Specialist" and changes "Facility Operations Specialist" to "Facility Operations Roving Watch" under List 3. The modification also removes the "*" denotation from "Central Monitoring Room Operator" and adds it to "Facility Shift Manager."</p> <p>This modification makes minor editorial changes to Table E-1 such as adding "WP" before procedure numbers, adding a footnote "c" designation after each occurrence of "preoperational;" changing "Rescue Carts/Trucks" to "Rescue Cart/Truck;" and changing the reference to "Table D-6" to "Table D-2" in Footnote "n" of the "Inspection Schedule/Procedures Notes."</p>	
1.	Attachment O, Table of Contents; Section O-3, Page O-4; Section O-3d, Page O-7; Section O-4, Page O-7; Section O-5b, Page O-8; and Table O-2, Page O-14	This modification changes "quarterly verification" to "verification" in five places and "quarterly flow verification" to "flow verification" in three places.	A.1
2.	Attachment F, Section F-1, Page F-2, and Section F-1b(3), Page F-6	This modification revises the discussion of the Systematic Approach to Training in Section F-1 to incorporate an additional reference to a DOE Handbook entitled, <i>Alternative Systematic Approach to Training (DOE-HDBK-1074-95)</i> . Section F-1b(3) is being revised to clarify that "on-the-job-training," "on-the-job-evaluation," and "job performance measures" are considered equivalent in accordance with DOE-HDBK-1074-95.	B.5.b
2.	Attachment F, References	This modification updates the list of references for Attachment F to include DOE-HDBK-1078-94 and DOE-HDBK-1075-95.	A.1
2.	Attachment F1, Page F1-12	This modification revises the "Radiological Control Technician" job description by changing the "Health Physics Technician Qualification (RCT 01/02)" course listing to "Radiological Control Technician Fundamental and Site Specific Lessons."	B.5.b
2.	Attachment F2, Page F2-3	This modification revises the "GET-19X/GET-20X/GET-21X - General Employee Training"	B.5.b

Item No.	Affected Permit Section	Change Description	Category
		course description by changing the specific reference to procedure "WP 12-ES3918" to a general reference to the "Standard Operating Procedure for Occurrence Reporting."	
2.	Attachment F2, Page F2-110	This modification revises the "Radiological Control Technician (RCT)" qualification card description by replacing the "Radiation Safety, Operational Health Physics" Oral Examination Board members with the "Radiological Control and Dosimetry Department."	B.5.b
3.	Attachment D, Table D-1, Page D-27	This modification revises the list of Resource Conservation and Recovery Act Emergency Coordinators by removing "A. E. (Alvy) Williams" from the list.	B.6.d
4.	Attachment D, Table D-2, Page D-28	This modification revises the list of <i>Emergency Equipment Maintained at the Waste Isolation Pilot Plant</i> to remove two locations of "Building Fire Alarms" that are listed in error: Guardshack (Building 242) and North Maintenance Shop (Building 247).	A.1
5.	Attachment D, Section D-2a, Page D-4	This modification revises the description of the Incident Commander by clarifying that, for an incident that implements the <i>RCRA Contingency Plan</i> , the Incident Commander is a member of the WIPP Fire Department. Text is added to explain that for security-related events that invoke implementation of the <i>RCRA Contingency Plan</i> , a unified command will be established with the WIPP Protective Force.	A.1
5.	Attachment F1, Page F-25	This modification revises the job position description of "Incident Commander" by renaming the job title to "Fire Department Incident Commander." The "Duties" for the Fire Department Incident Commander are being clarified by changing "once achievable" to "if necessary" after the job duty which states, "Ensures that a well-defined unified command is in place." Additionally, the qualifier, "(Fire Department Incident Commanders)," is being removed from the bullet, "Requisite Skills, Qualifications, and Education possessed by Firefighter."	B.5.b

## Item 1

### Description

This modification revises Permit Attachment E, Table E-1, *Inspection Schedule/Procedures*, and Attachment O, *WIPP Mine Ventilation Rate Monitoring Plan*.

A new line item, with the respective procedure number and associated inspection criteria and frequency, has been added to Table E-1 for the following equipment:

- Emergency Lighting

Procedure numbers and associated inspection criteria and frequencies have been added to existing line items in Table E-1 for the following equipment:

- Fire Pumps: Procedures WP 12-FP5113 and WP 12-FP5114 have been added, and “fire water valve positions” and “panel light status” have been specified as inspection criteria for procedure WP 12-FP0026
- Fire Sprinkler Systems: Procedures WP 12-FP0063 and WP 12-FP0064 have been added
- Ventilation Exhaust: Procedure IC413000 has been added to address the quarterly verification of total mine airflow; procedures IC413005 and IC041087 have been added for the inspection of the 860 Fans and 960 Fans, respectively, and text has been revised to clarify that procedure IC041098 is associated with the quarterly inspection of the 700 Fans

The inspection criteria and governing National Fire Protection Association (**NFPA**) standards associated with Fire Detection and Alarm System inspection procedures have been clarified by listing the inspection criteria and frequencies associated with procedures WP 12-FP0027 and WP 12-FP0028 separately. Table E-1 has also been revised to clarify the inspection criteria for the following:

- Underground Openings—Roof Bolts and Travelways: Clarified that the inspection is “of Accessible Areas”
- Water Tanks: Clarified that inspection criteria include “valve lineup”

Procedure numbers have been revised for the following line items:

- Perimeter Fence, Gates, Signs: “PFO-008” has been changed to “WP 17-SS1023”
- Water Tanks: “SDD-WD00” has been changed to “WP 04-AD3008”

Text has been revised to add “Self-Contained Self-Rescuers” to the line item for Self-Rescuers.

In the “Inspection Schedule/Procedure Lists” at the end of Table E-1, “Fire Protection Specialist” has been changed to “Fire Protection Engineering Representative” and “Qualified Fire Department Personnel” has been added under List 12. Additionally, “Senior Facilities Technician” and “Central Monitoring Room Specialist” have been removed and “Facility

Operations Specialist” has been changed to “Facility Operations Roving Watch” under List 3. The “\*” denotation has been removed from “Central Monitoring Room Operator” and added to “Facility Shift Manager.”

Minor editorial changes have been made to Table E-1 such as adding “WP” before procedure numbers; adding a footnote “c” designation after each occurrence of “preoperational;” changing “Rescue Carts/Trucks” to “Rescue Cart/Truck;” and changing the reference to “Table D-6” to “Table D-2” in Footnote “n” of the Inspection Schedule/Procedures Notes.

The following sections of Attachment O, *WIPP Mine Ventilation Rate Monitoring Plan*, have been revised to change “quarterly verification” to “verification” in five places and “quarterly flow verification” to “flow verification” in three places:

- Table of Contents
- Section O-3, *Design and Procedures*
- Section O-3d, *Quarterly Verification of Total Mine Airflow*
- Section O-4, *Equipment Calibration and Maintenance*
- Section O-5b, *Recordkeeping*
- Table O-2, *Mine Ventilation Rate Testing Equipment*

## **Basis**

The changes described above are classified as an “Administrative and informational changes” and are, therefore, Class 1 modifications pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, A.1).

## **Discussion**

The revisions to Attachment E, Table E-1, and Attachment O are needed to provide clarifying language to allow for consistent field implementation, update the existing information, make minor editorial corrections, and/or ensure consistency with Table D-2.

Table E-1 has been revised to add new line items and/or procedure numbers or revise existing line items to ensure consistency with Attachment D (*RCRA Contingency Plan*), Table D-2, and to ensure clarity and consistency within Table E-1. A new line item for Emergency Lighting has been added to ensure consistency with the Emergency Lighting line item in Table D-2. Two procedures have been added to the Fire Pumps line item (WP 12-FP5113 and 12-FP5114) to ensure consistency with the required annual inspection already listed in the table. Procedures WP 12-FP0063 and WP 12-FP0064 have been added to the Fire Sprinkler Systems line item to ensure completeness with respect to the locations listed in the Sprinkler Systems line item in Table D-2. Three procedures (IC413000, IC413005 and IC041087) have been added to the Ventilation Exhaust line item to ensure completeness relative to the quarterly flow verification of the total mine airflow per Attachment O, Section O-3d, and the semi-annual calibration checks conducted for the 860 and 960 Fans, which are currently in use in lieu of the 700 Fans (the 700 Fans are not in service due to ventilation of the underground in continuous filtration mode).

Because procedure WP 12-FP0027 is specific to the underground fuel station and procedure WP 12-FP0028 applies to fire detection and alarm systems site-wide, the inspection frequencies associated with each have been listed separately. Additionally, references to the applicable NFPA standards have been revised to ensure consistency with both procedures; references to NFPA 101 and 801 have been removed from the inspection criteria for procedure WP 12-FP0028 because they pertain to the Life Safety Code and Standard for Fire Protection for Facilities Handling Radioactive Materials, respectively, and are outside the scope of this procedure. The Life Safety Code requirements of NFPA 101 have been incorporated into procedure WP 12-FP0051, *Fire and Life Safety Inspections and Testing*, which has been added to Table E-1 for the new Emergency Lighting line item. The requirements of NFPA 801 are implemented through various WIPP Fire Protection procedures, many of which are included in Table E-1 (e.g. fire suppression systems, fire detection and alarm systems, etc.). NFPA 801 does not identify fire suppression system equipment inspections or criteria, but rather identifies that inspections will be in accordance with numerous NFPA standards. For this reason, the reference to the more programmatic NFPA 801 standard has been removed from Table E-1. Procedure WP 12-FP0028 relies on more specific guidance found in NFPA 72, *National Fire Alarm and Signaling Code*; therefore, the reference to this standard has been retained in Table E-1.

The inspection criteria associated with the Water Tanks line item have been revised to ensure completeness and to facilitate implementation. The inspection criteria associated with Underground Openings—Roof Bolts and Travelways have been clarified to address accessibility of underground areas. Inspections can only be performed in areas that can be safely accessed, and this change makes the text consistent with the line item for Bulkhead in Filled Panels.

Procedure numbers have been revised, as appropriate, to ensure that current implementing procedure numbers are listed in lieu of documents associated with Protective Force Orders (PFO-008) or System Design Descriptions (SDD-WD00).

Additional clarifications have been made to Table E-1 to distinguish the procedure for the 700-Fan quarterly inspection, which was previously the only procedure listed in Table E-1 for Ventilation Exhaust, from the procedures for the quarterly verification of total mine airflow and the 860- and 960-Fan semi-annual inspections. This change was needed to address inspections for the filtration and new Interim Ventilation System fans. “Self-Contained Self-Rescuers” has been added to the Self-Rescuers line item to ensure consistency with the Self-Contained Self-Rescuer line item in Table D-2.

In the “Inspection Schedule/Procedures Lists” at the end of Table E-1, “Fire Protection Specialist” has been changed to “Fire Protection Engineering Representative” and “Qualified Fire Department Personnel” has been added under List 12 to ensure consistency with the personnel designations used at the WIPP facility. Additionally, “Senior Facilities Technician” and “Central Monitoring Room Specialist” have been removed from List 3 as these are obsolete job positions within Facility Operations; “Facility Operations Specialist” has been renamed to “Facility Operations Roving Watch” to ensure consistency with current Facility Operations job positions. The “\*” denotation has been removed from “Central Monitoring Room Operator” since this job position is listed in Attachment F1, *RCRA Hazardous Waste Management and Emergency Response Job Titles and Descriptions*, and the denotation is, therefore, not applicable. The “\*” denotation is, however, applicable to the “Facility Shift Manager” job title since this position is not considered a RCRA position and has no RCRA-specific training requirements outlined in Attachment F1.

Minor editorial changes have also been made throughout Table E-1 to ensure internal consistency within the table and with Attachment D, Table D-2.

Attachment O, *WIPP Mine Ventilation Rate Monitoring Plan*, has been revised to change “quarterly verification” to “verification” in five places and “quarterly flow verification” to “flow verification” in three places in order to avoid confusion with the changes made to the Ventilation Exhaust line item in Attachment E, Table E-1. Since the inspection frequency of the 700 Fans is quarterly and the inspection frequency for both the 860 and 960 Fans is semi-annually, it was necessary to revise the text in Attachment O to remove the specified periodicity for the verification of total mine airflow and, instead, retain existing Permit language which refers to the frequencies specified in Table E-1.

**Revised Permit Text:**

**Table E-1  
Inspection Schedule/Procedures**

<b>System/Equipment Name</b>	<b>Responsible Organization</b>	<b>Inspection<sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection</b>	<b>Procedure Number and Inspection Criteria<sup>h</sup></b>
Air Intake Shaft Hoist	Underground Operations	Preoperational <sup>c</sup> See Lists 1b and c	WP 04-HO1004 Inspecting for Deterioration <sup>b</sup> , Safety Equipment, Communication Systems, and Mechanical Operability <sup>m</sup> in accordance with Mine Safety and Health Administration (MSHA) requirements
Ambulance (Surface) and Medical Cart (Underground)	Fire Department	Weekly See List 11	<u>WP</u> 12-FP0030 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and Required Equipment <sup>n</sup>
Adjustable Center of Gravity Lift Fixture	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1410 Inspecting for Mechanical Operability <sup>m</sup> and Deterioration <sup>b</sup>
Backup Power Supply Diesel Generators	Facility Operations	Monthly See List 3	WP 04-ED1301 Inspecting for Mechanical Operability <sup>m</sup> and Leaks/Spills by starting and operating both generators. Results of this inspection are logged in accordance with WP 04-AD3008.
Facility Inspections (Water Diversion Berms)	Facility Engineering	Annually See List 4	WP 10-WC3008 Inspecting for Damage, Impediments to water flow, and Deterioration <sup>b</sup>
Central Monitoring Systems (CMS)	Facility Operations	Continuous See List 3	Automatic Self-Checking
Contact-Handled (CH) TRU Underground Transporter	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1603 Inspecting for Leaks/Spills, Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and area around transporter clear of obstacles
Conveyance Loading Car	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1406 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , path clear of obstacles, and guards in the proper place

System/Equipment Name	Responsible Organization	Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria <sup>h</sup>
Facility Transfer Vehicle	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1204 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , path clear of obstacles, and guards in the proper place
<u>Emergency Lighting</u>	<u>Fire Department</u>	<u>Monthly/annually</u> <u>See List 11</u>	<u>WP 12-FP0051</u> <u>Inspecting for Deterioration<sup>b</sup> and Operability of indicator lights in accordance with NFPA 101</u>
Exhaust Shaft	Underground Operations	Quarterly See List 1a	PM041099 Inspecting for Deterioration <sup>b</sup> and Leaks/Spills
Eye Wash and Shower Equipment	Equipment Custodian	Weekly See List 5	WP 12-IS1832 Inspecting for Deterioration <sup>b</sup>
		Semi-annually See List 2a	WP 12-IS1832 Inspecting for Deterioration <sup>b</sup> and Fluid Levels—Replace as Required
Fire Detection and Alarm System	Fire Protection Engineering	Monthly/quarterly/Semi-annually/annually See List 12	<u>WP 12-FP0027</u> Inspecting for Deterioration <sup>a</sup> and Operability of underground fuel station fire suppression system in accordance with NFPA 17; <u>12-FP0028</u> Inspecting for Deterioration <sup>b</sup> , and Operability of the alarm panel and transmitter, audible/visual alarm devices, detectors, and pull stations in accordance with NFPA 72, 101, and 801
		<u>Monthly/quarterly/annually</u> <u>See List 12</u>	<u>WP 12-FP0028</u> <u>Inspecting for Deterioration<sup>b</sup> and Operability of the alarm panel and transmitter, audible/visual alarm devices, detectors, and pull stations in accordance with NFPA 72</u>
Fire Extinguishers <sup>j</sup>	Fire Department	Monthly See List 11	<u>WP 12-FP0036</u> Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, Expiration, seals, fullness, and pressure
Fire Hoses	Fire Department	Annually (minimum) See List 11	<u>WP 12-FP0031</u> Inspecting for Deterioration <sup>b</sup> and Leaks/Spills

System/Equipment Name	Responsible Organization	Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria <sup>h</sup>
Fire Hydrants	Fire Protection Engineering	Semi-annual/annually See List 12	<a href="#">WP 12-FP0034</a> Inspecting for Deterioration <sup>b</sup> and Leaks/Spills
Fire Pumps	Fire Protection Engineering	Weekly/ <del>annually</del> See List 12  <a href="#">Annually (Electric Pump)</a> <a href="#">See List 12</a>  <a href="#">Annually (Diesel Pump)</a> <a href="#">See List 12</a>	WP 12-FP0026 Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, <a href="#">fire water valves position(s)</a> , and panel lights <a href="#">status</a>  <a href="#">WP 12-FP5113</a> <a href="#">Inspecting for Deterioration<sup>b</sup>, operability, flow, discharge pressure, suction pressure, and pump speed</a>  <a href="#">WP 12-FP5114</a> <a href="#">Inspecting for Deterioration<sup>b</sup>, operability, flow, discharge pressure, suction pressure, and pump speed</a>
Fire Sprinkler Systems	Fire Protection Engineering	Monthly/quarterly/ annually See List 12	WP 12-FP0025, <a href="#">WP 12-FP0063</a> , and <a href="#">WP 12-FP0064</a> Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, water pressures, and main drain test
Fire and Emergency Response Vehicles (Fire Trucks, Fire Suppression Cart, -and Rescue Carts/Trucks)	Fire Department	Weekly See List 11	<a href="#">WP 12-FP0033</a> Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , Leaks/Spills, and Required Equipment <sup>n</sup>
Forklifts Used for Waste Handling (Electric and Diesel forklifts, Push-Pull Attachment)	Waste Handling	Preoperational <sup>c</sup> See List 8	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 <sup>m</sup> , Deterioration <sup>b</sup> , and On board fire suppression system
Automatic on-board fire suppression systems	Fire Protection Engineering	Semi-annually See List 12	WP 12-FP0060 Inspecting for Mechanical Operability <sup>m</sup> and Deterioration <sup>b</sup>
Hazardous Material Response Equipment	Fire Department	Quarterly See List 11	<a href="#">WP 12-FP0033</a> Inspecting for Deterioration <sup>b</sup> , and Required Equipment <sup>n</sup>
Head Lamps	Facility Personnel	Daily <sup>i</sup>	Head lamps are operated daily and are repaired or replaced upon failure

System/Equipment Name	Responsible Organization	Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria <sup>h</sup>
Miners First Aid Station	Fire Department	Quarterly See List 11	<a href="#">WP 12-FP0035</a> Inspecting for Required Equipment <sup>n</sup>
Mobile Phones	Facility Personnel	Daily <sup>j</sup>	Mobile Phones are operated daily and are repaired or replaced upon failure
Mine Pager Phones (between surface and underground)	Facility Operations	Monthly <sup>o</sup> See List 3	WP 04-PC3017 Testing of Mine Pager Phones at essential locations
MSHA Air Quality Monitor	Maintenance/ Underground Operations	Daily <sup>l</sup> See Lists 1 and 10	WP 12-IH1828 -Inspecting for Air Quality Monitoring Equipment Functional Check
Perimeter Fence, Gates, Signs	Security	Daily See List 6	<del>PFO-008</del> <a href="#">WP 17-SS1023</a> Inspecting for Deterioration <sup>b</sup> and Posted Warnings
Mine Rescue Self-Contained Breathing Apparatus (SCBA)	Mine Rescue Team	30 days See List 5	Inspection for Deterioration <sup>b</sup> and Pressure <sup>9</sup>
Fire Department SCBA	Fire Department	Weekly/monthly See List 11	<a href="#">WP 12-FP0029</a> Inspecting for Deterioration <sup>b</sup> and Pressure
Site Notification System; Underground Evacuation Alarm System	Facility Operations	Monthly See List 3	WP 04-PC3017 Testing of PA and Underground Alarms
Radio Equipment	Facility Personnel	Daily <sup>i</sup>	Radios are operated daily and are repaired or replaced upon failure
Salt Handling Shaft Hoist	Underground Operations	Preoperational <sup>c</sup> See List 1b and c	WP 04-HO1002 Inspecting for Deterioration <sup>b</sup> , Safety Equipment, Communication Systems, and Mechanical Operability <sup>m</sup> in accordance with MSHA requirements
<del>Self-Rescuers</del> <a href="#">and Self-Contained Self-Rescuers</a>	Underground Operations	Quarterly See List 1c	WP 04-AU1026 Inspecting for Deterioration <sup>b</sup> and Functionality in accordance with MSHA requirements

System/Equipment Name	Responsible Organization	Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria <sup>h</sup>
Surface TRU Mixed Waste Handling Area <sup>k</sup>	Waste Handling	Preoperational <sup>c</sup> or Weekly <sup>e</sup> See List 8	WP 05-WH1101 Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, Required Aisle Space, Posted Warnings, Communication Systems, Container Condition, and Floor coating integrity
TRU Mixed Waste Decontamination Equipment	Waste Handling	Annually See List 8	WP 05-WH1101 Inspecting for Required Equipment <sup>n</sup>
Underground Openings— Roof Bolts and Travelways	Underground Operations	Weekly See List 1a	WP 04-AU1007 Inspecting for Deterioration <sup>b</sup> <u>of Accessible Areas</u>
Underground— Geomechanical Instrumentation System (GIS)	Geotechnical Engineering	Monthly See List 9	WP 07-EU1301 Inspecting for Deterioration <sup>b</sup>
Underground TRU Mixed Waste Disposal Area	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1810 Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, mine pager phones, equipment, unobstructed access, signs, debris, and ventilation
Uninterruptible Power Supply (Central UPS)	Facility Operations	Daily See List 3	WP 04-ED1542 Inspecting for Mechanical Operability <sup>m</sup> and Deterioration <sup>b</sup> with no malfunction alarms. Results of this inspection are logged in accordance with WP 04-AD3008.
TDOP Upender	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1010 Inspecting for Mechanical Operability <sup>m</sup> and Deterioration <sup>b</sup>
<u>Ventilation Exhaust</u>	<u>Maintenance Operations</u>	<u>Quarterly</u> <u>See List 10</u>	<u>IC413000 (700, 860, and 960 Fans)</u> <u>Flow verification of total mine airflow for fans in service</u>
Ventilation Exhaust	Maintenance Operations	Quarterly See List 10	IC041098 <u>(700 Fans)</u> Check for Deterioration <sup>b</sup> and Calibration of Mine Ventilation Rate Monitoring Equipment <u>and flow verification of individual fans</u>

System/Equipment Name	Responsible Organization	Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria <sup>h</sup>
		<u>Semi-annually</u> <u>See List 10</u>	<u>IC413005 (860 Fans)</u> <u>IC041087 (960 Fans)</u> <u>Check for Deterioration<sup>b</sup> and Calibration of Mine Ventilation Rate Monitoring Equipment and flow verification of individual fans</u>
Waste Handling Cranes	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1407 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and Leaks/Spills
Waste Hoist	Underground Operations	Preoperational <sup>c</sup> See List 1b and c	WP 04-HO1003 Inspecting for Deterioration <sup>b</sup> , Safety Equipment, Communication Systems, and Mechanical Operability <sup>m</sup> , Leaks/Spills, in accordance with MSHA requirements
Water Tanks	Facility Operations	Daily See List 3	<del>SDD-WD00</del> <u>WP 04-AD3008</u> Inspecting for Deterioration <sup>b</sup> , <u>valve lineup</u> , and water levels. Results of this inspection are logged in accordance with WP 04-AD3008.
Push-Pull Attachment	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1401 Inspecting for Damage and Deterioration <sup>b</sup>
Trailer Jockey	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1405 Inspecting for Leaks/Spills, Mechanical Operability <sup>m</sup> and Deterioration <sup>b</sup>
Explosion-Isolation Walls	Underground Operations	Quarterly See List 1	PM 000032 Integrity and Deterioration <sup>b</sup> of Accessible Areas
Bulkhead in Filled Panels	Underground Operations	Monthly See List 1	PM 000011 Integrity and Deterioration <sup>b</sup> of Accessible Areas
Bolting Robot	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1203 Mechanical Operability <sup>m</sup>
Yard Transfer Vehicle	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1205 Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , Path clear of obstacles and Guards in proper place

<b>System/Equipment Name</b>	<b>Responsible Organization</b>	<b>Inspection<sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection</b>	<b>Procedure Number and Inspection Criteria<sup>h</sup></b>
Payload Transfer Station	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1208 Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and Guards in proper place
Monorail Hoist	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1202 Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and Leaks/Spills
Bolting Station	Waste Handling	Preoperational <sup>c</sup> See List 8	WP 05-WH1203 Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and Guards in proper place

**Table E-1 (Continued)  
Inspection Schedule/Procedures Lists**

List 1: Underground Operations

- a. Mining Technician \*
- Senior Mining Technician \*
- Continuous Mining Specialist \*
- Senior Mining Specialist \*
- Mine OPS Supervisor \*
- b. Waste Hoist Operator
- Waste Hoist Shaft Tender
- c. U/G Facility Operations\* - Self Rescuers
- Shaft Technician \*
- d. Operations Engineer
- Supervisor U/G Services\*
- Senior Operations Engineer\*

List 2: Industrial Safety

- a. Safety Technician \*
- Senior Safety Technician \*
- Safety Specialist \*
- Safety Engineer \*
- Industrial Hygienist \*
- b. Fire Protection Engineering \*

List 3: Facility Operations

- Facilities Technician \*
- ~~Senior Facilities Technician\*~~
- Facility Operations Specialist Roving Watch \*
- Central Monitoring Room Operator \*
- ~~Central Monitoring Room Specialist \*~~
- Operations Engineer
- Senior Operations Engineer \*
- Facility Shift Manager\*
- Operations Technical Coordinator \*

List 4: Facility Engineering

- Senior Engineer \*

List 5: General

- Equipment Custodian\*

List 6: Security

- Security Protective \*
- Security Protective Supervisor \*

List 8: Waste Handling

- Manager, Waste Operations
- TRU-Waste Handler

List 9: Geotechnical Engineering

- Engineer Technician \*
- Associate Engineer \*
- Engineer \*
- Senior Engineer \*
- Principal Engineer\*

List 10: Maintenance Operations

- Maintenance Technician \*
- Maintenance Specialist \*
- Senior Maintenance Specialist \*
- Contractor \*

List 11: Fire Department

- Qualified Fire Department Personnel

List 12: Fire Protection Engineering

- Fire Protection Specialist Engineering Representative\*
- Qualified Fire Department Personnel

**Table E-1 (Continued)**  
**Inspection Schedule/Procedures Notes**

- a Inspection may be accomplished as part of or in addition to regularly scheduled preventive maintenance inspections for each item or system. Certain structural systems of the WHB, Waste Hoist and Station A are also subject to inspection following severe natural events including earthquakes, tornados, and severe storms. Structural systems include columns, beams, girders, anchor bolts and concrete walls.
- b Deterioration includes: obvious visible cracks, erosion, salt build-up, damage, corrosion, loose or missing parts, malfunctions, and structural deterioration.
- c "Preoperational" signifies that inspections are required prior to the first use during a calendar day. For calendar days in which the equipment is not in use, no inspections are required. For an area this includes: area is clean and free of obstructions (for emergency equipment); adequate aisle space; emergency and communications equipment is readily available, properly located and sign-posted, visible, and operational. For equipment, this includes: checking fluid levels, pressures, valve and switch positions, battery charge levels, pressures, general cleanliness, and that all functional components and emergency equipment is present and operational.
- e These weekly inspections apply to container storage areas when containers of waste are present for a week or more.
- g Inspections are performed per manufacturer's maintenance instructions.
- h Inspections and PM's are not required for equipment that is out of service. However, if compensatory measures have been established to ensure an equivalent level of protection during the period that the equipment is out of service (e.g., required equipment/supplies from an out-of-service emergency vehicle have been temporarily relocated), appropriate inspections will be scheduled, conducted, and documented in the Operating Record, in accordance with Attachment E, Section E-1.
- i Head Lamps, Mobile Phones, and Radios are not routinely "inspected." They are typically used in day-to-day operations. They are used until they fail, at which time they are replaced and repaired.
- j Fire extinguisher inspections are performed in accordance with NFPA 10.
- k Surface CH TRU mixed waste handling areas include the Parking Area Unit, the WHB unit, and unloading areas.
- l No log forms are used for daily readings. However, readings that are out of tolerance are reported to the CMR and logged by CMR operator. Inspection includes daily functional checks of portable equipment.
- m Mechanical Operability means that the equipment has been checked and is operating in accordance with site safety requirements (e.g., proper fluid levels and tire pressure; functioning lights, alarms, sirens, and power/battery units; and belts, cables, nuts/bolts, and gears in good condition), as appropriate.
- n Required Equipment means that the equipment identified in Table D-26 is available and usable (i.e., not expired/depleted and works as designed).
- o Mine pager phones in non-essential locations are not routinely "inspected". Many are used in day-to-day operations. They are used until they fail, at which time they are repaired. Mine pager phones are used routinely by Underground Operations.
- \* Positions are not considered RCRA positions (i.e., personnel do not manage or respond to emergencies involving TRU mixed waste).

# ATTACHMENT O

## WIPP MINE VENTILATION RATE MONITORING PLAN

### TABLE OF CONTENTS

O-3d ~~Quarterly~~ Verification of Total Mine Airflow..... 18

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 of active room(s) to ensure a minimum flow of 35,000 scfm whenever waste disposal is taking place and workers are present in the room
- If an active room ventilation rate of 35,000 scfm cannot be met, actions as described in Section O-3c(1) shall be taken during waste disposal operations when workers are present.

- ~~Quarterly~~ Verification of the total mine airflow

O-3d ~~Quarterly~~ Verification of Total Mine Airflow

The Permittees shall perform a ~~quarterly~~ verification of the total mine airflow to ensure that rates established by the Test and Balance for various operational modes are reasonably maintained. These checks are identified in Permit Attachment E, Table E-1, and are performed as indicated in Table E-1.

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. Work performed by subcontractors shall also be calibrated to an equivalent standard. Equipment shall be inspected before each use to ensure that it is functioning properly and that the equipment calibration is current. Maintenance of equipment shall be completed by qualified individuals or by qualified off-site service vendors.

Equipment used to conduct the Test and Balance, ~~Quarterly~~ Verification of Total Mine Airflow, and to determine the airflow through the active disposal room(s) are provided in Table O-2.

O-5b Recordkeeping

The Permittees shall retain the following information in the 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.

**TABLE O-2  
Mine Ventilation Rate Testing Equipment**

<b>Equipment Used to Conduct Test</b>	<b>Ventilation Test Performed</b>		
	Test and Balance	Active Disposal Room(s)	Quarterly-Flow Verification Check
Calibrated Anemometer	X	X	
Calibrated Differential Pressure Sensor	X		
Pitot Tubes	X		X
Tubing	X		X
Temperature Sensing Device	X		X
Relative Humidity Sensor	X		X
Calibrated Barometers	X		X
Electronic Manometer	X		X

## Item 2

### Description

This modification revises Permit Attachment F, *Personnel Training*; Attachment F1, *RCRA Hazardous Waste Management and Emergency Response Job Titles and Descriptions*; and Attachment F2, *Training Course and Qualification Card Outlines*.

The discussion of the Systematic Approach to Training (**SAT**) in Attachment F, Section F-1, *Outline of the Training Program*, has been revised to incorporate an additional reference to a DOE Handbook entitled, *Alternative Systematic Approach to Training (DOE-HDBK-1074-95)*. Section F-1b(3), *Training Techniques*, has been revised to clarify that “on-the-job-training,” “on-the-job-evaluation,” and “job performance measures” are considered equivalent in accordance with DOE-HDBK-1074-95. The list of references for Attachment F has been updated to include DOE-HDBK-1078-94 and DOE-HDBK-1075-95.

The “Radiological Control Technician” job description in Attachment F1 has been revised to change the “Health Physics Technician Qualification (RCT 01/02)” course listing to “Radiological Control Technician Fundamental and Site Specific Lessons.”

The “GET-19X/GET-20X/GET-21X - General Employee Training” course description in Attachment F2 has been revised to change the specific reference to procedure “WP 12-ES3918” to a general reference to the “Standard Operating Procedure for Occurrence Reporting.”

The “Radiological Control Technician (RCT)” qualification card description in Attachment F2 has been revised to replace the “Radiation Safety, Operational Health Physics” Oral Examination Board members with the “Radiological Control and Dosimetry Department.”

### Basis

The changes described above are classified as “Changes in the training plan: other changes” and are, therefore, Class 1 modifications pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, B.5.b). This modification does not affect the type nor does it decrease the amount of training personnel receive at the WIPP facility.

The change to the “References” section of Attachment F is classified as an “Administrative and informational changes” and is, therefore, a Class 1 modification pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, A.1).

### Discussion

The changes to Attachment F, Sections F-1 and F-1b(3), are necessary to update the Permit with DOE training guidelines that allow Technical Training additional flexibility in identifying appropriate instructional techniques. DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*, recommends that both DOE Handbooks, *Training Program Handbook: A Systematic Approach to Training (DOE-HDBK-1078-94)* and *Alternative Systematic Approaches to Training (DOE-HDBK-1074-95)*, be used to implement a graded approach to the SAT process. Therefore, Attachment F, Section F-1, has been revised to add the reference to DOE-HDBK-1074-95, which recommends the development of “job performance measures (JPMs), or their equivalent,” to establish testing

parameters. Per this guidance, Section F-1b(3) has been revised to clarify that “on-the-job training,” “on-the-job evaluation,” and “job performance measures” are considered equivalent with respect to training courses and qualification cards. The “References” section for Attachment F has been updated to include DOE-HDBK-1078-94 and DOE-HDBK-1075-95, thereby ensuring completeness with respect to the changes made to Sections F-1 and F-1b(3).

The “Radiological Control Technician” job description in Attachment F1 requires revision since Technical Training no longer uses the term “Health Physics” when discussing radiological control. Therefore, the course listing entitled, “Health Physics Technician Qualification (RCT 01/02),” has been changed to “Radiological Control Technician Fundamental and Site Specific Lessons.”

The “GET-19X/GET-20X/GET-21X - General Employee Training” course description in Attachment F2 requires revision to remove the specific reference to procedure “WP 12-ES3918.” Replacing the specific procedure number in the General Employee Training course description with a general reference to “Standard Operating Procedure for Occurrence Reporting,” achieves consistency with the rest of the course outline, which provides general references to other procedures (e.g., emergency procedures, procedures for personally owned software). Additionally, this change provides the Permittees with increased programmatic and administrative flexibility, while still maintaining an implementing procedure for DOE Order 232.2, *Occurrence Reporting and Processing of Operations Information*.

The revision to Item 4 of the “Radiological Control Technician (RCT)” qualification card outline in Attachment F2, is necessary to update the Permit by removing outdated department names from the description of the “Oral Examination Board” members. The Radiation Safety and Operational Health Physics Departments have been changed to Radiological Control and Dosimetry Department.

## Revised Permit Text:

### F-1 Outline of the Training Program

Employee training for the purpose of hazardous waste management at the WIPP facility is the overall responsibility of the Management and Operating Contractor (**MOC**) Project Manager, with responsibility for implementation delegated to Technical Training. Technical Training is managed by the Technical Training Manager who has the responsibility for directing the training program. The list of job titles in Attachment F1 shows the personnel with key responsibilities for waste management and emergency response.

The WIPP facility uses a modified version of the Systematic Approach to Training (**SAT**) to analyze, design, develop, implement, and evaluate training.

This approach employs five distinct phases to develop programs. These phases are:

- Analysis
- Design
- Development
- Implementation
- Evaluation

In “analysis,” technical training and line management identify job performance requirements. These requirements are derived by studying job duty areas, related tasks, and required skills and knowledge. These derived skills and knowledge, in turn, form the blueprint for the “design” phase. In “design” these requirements are translated into learning objectives, performance standards, and test items. In “development” the products of design are incorporated into new training programs or, if appropriate, incorporated into revisions of existing programs. Products of development are lesson plans, qualification cards, student materials, and examinations. Implementation of these programs then occurs. This may be through classroom instruction, on-the-job-training, self-paced study, or any combination of the three. “Evaluation” is the final phase of the SAT process. Evaluation uses feedback derived from several sources to improve or enhance the training. The WIPP utilizes extensive guidance provided within the DOE Handbook<sup>s</sup>, “Training Program Handbook: A Systematic Approach to Training (DOE-HDBK-1078-94),” [and “Alternative Systematic Approaches to Training \(DOE-HDBK-1074-95\)”](#) to direct all program analysis, design, development, implementation, or evaluation. Further details of these processes may be derived by reviewing this manual.

### F-1b(3) Training Techniques

A variety of instructional techniques are used at the WIPP facility depending on the subject matter and the techniques that best suit the learning objectives. Many courses include a combination of lectures, demonstrations, visual aids (such as video tapes, slides, and viewgraphs), and exercises. Most equipment operation courses include hands-on practical instruction.

Written examinations are used as a technique to test and document the knowledge level of individuals participating in classroom training courses. The length and content of each exam varies according to its objective. Calculation, multiple-choice, and fill-in-the-blank, or other approved formats, may be used. If individuals fail a written examination, they must be

reexamined in identified areas of weakness. Personnel filling positions requiring qualification cards to perform job functions will be requalified at least biennially in those specific areas.

On-the-job training at the WIPP facility follows a prescribed set of standards specific to the job to be performed. Typically, to become qualified to operate a piece of equipment or system, employees must be able to demonstrate the location and purpose of specified controls and gauges, describe proper startup and shutdown procedures, describe specific safety features and limitations of the equipment, and, in some cases, perform maintenance functions. They must also demonstrate the ability to operate the equipment or system. On-the-job training may also be function specific, such as performing a specific administrative function that is regulated. [The terms “on-the-job-training,” “on-the-job-evaluation,” and “job performance measures” are considered equivalent with respect to training courses or qualification cards in accordance with DOE-HDBK-1074-95.](#)

In addition to on-the-job training, some positions require the trainee to attend an oral board. The oral board is given upon completion of on-the-job training and prior to operating any equipment unsupervised. In the oral board, the trainee is quizzed on knowledge learned in on-the-job training. The purpose of the oral board is to determine if the trainee fully understands and can apply the knowledge learned in the training process.

#### References

[Nuclear Waste Partnership LLC, “WIPP Training Program,” WP 14-TR.01, Rev. 15, 2015.](#)

[Nuclear Waste Partnership LLC, “WIPP Fire Department Training Plan,” WP 12-FP.04, Rev. 0, 2015](#)

[U.S. Department of Energy, “Training Program Handbook: A Systematic Approach to Training \(DOE-HDBK-1078- 94\)”](#)

[U.S. Department of Energy, “Alternative Systematic Approaches to Training \(DOE-HDBK-1074-95\)”](#)

## ATTACHMENT F1

### RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB TITLES AND DESCRIPTIONS

#### RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB DESCRIPTIONS

**Position Title:** Radiological Control Technician

**Duties:**

- Conducts routine surveys of all incoming shipping containers for radiation, contamination, and damage
- Conducts routine radiological surveys (monitoring for surface and airborne contamination and radiation exposure) of various areas at the WIPP site
- Serves as emergency response personnel for any event involving radiation and radioactive materials
- Oversees any radiological work at the facility. This duty involves writing radiological work permits (RWPs), issuing radiological protective clothing and supplemental dosimetry, conducting radiological monitoring of the job (including personnel, equipment, and areas involved), as well as providing any other radiological safety oversight function
- Monitors TRU waste handling and related operations, as well as any other radiological work, to determine compliance with radiological control documents and procedures
- Performs operational and functional checks of radiological detection and monitoring equipment
- In the unlikely event of personnel radiological contamination, the RadCon Tech is qualified to perform personnel decontamination and provide radiological oversight to medical personnel if an injury is contaminated
- Posts radiological areas with applicable signs and barriers
- Controls radioactive sources (including leak testing) used in the performance/functional checks and calibrations of radiological instrumentation
- Operates some non-radiological measurement equipment associated with radiological monitoring (gravimetric scale, chart recorders, data loggers, etc.)

**Requisite Skills, Experience and Education:**

Academic or vocational high school graduate, or equivalent, with courses in chemistry, physics, geometry, or trigonometry, or equivalent; associate degree in radiation safety or health physics preferred.

**RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB  
DESCRIPTIONS  
(CONTINUED)**

**Training (Type/Amount):**

- General Employee Training (GET-19X/GET-20X/GET-21X)
- General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA)
- ~~Health Physics Technician Qualification (RCT-01/02)~~ Radiological Control Technician  
Fundamental and Site Specific Lessons
- Radiological Worker II (RAD-201)
- Respiratory Protection (SAF-630/631)
- Hazardous Waste Worker (HWW-101/102)
- Hazardous Waste Responder (HWR-101/101A)
- Conduct of Shift Operations (OPS-115)
- First Aid/CPR (MED-101 or 101A)
- Electrical Safety (ELC 103) (Annual)
- Hazardous Material Transportation (HMT 102/103) (Biennial)
- 40-Hour Inexperienced Miner (SAF 501/502) (Annual)
- compressed Gas Cylinder Safety (SAF 619) (Once)
- Fundamental Academic Lessons
- Site-Specific Academic Lessons

**COURSE:** GET-19X/GET-20X/GET-21X - General Employee Training

**DURATION:** ≈ 16 Hours

**PREREQUISITES:** None

**SCOPE:**

**TYPE:** Classroom

**OBJECTIVES:** Upon completion of this course, the student will be able to perform their job in a safe manner and will have an overview of the site organization and description.

Mastery of the terminal objectives will be demonstrated by scoring 80 percent or higher on the course examination.

**REFRESHER:** GET-19XA/GET-20XA/GET-21XA annually

**COURSE DESCRIPTION** (by module)

1. Site Overview & WIPP Description  
≈1 hour
  - a. Mission of DOE and CBFO
  - b. Relationship of WIPP organizations
  - c. Surface structures
  - d. WIPP shafts
  - e. Underground area
  
2. Emergency Preparedness (includes Occurrence Reporting)  
≈1 hour
  - a. Definition of occurrence
  - b. DOE Order 5000.3B
  - c. ~~WP-12-ES3918~~ [Standard Operating Procedure for Occurrence Reporting](#)
  - d. Occurrence reporting process
  - e. Employee involvement with Emergency Preparedness
  - f. Types of emergencies
  - g. Emergency response by WIPP groups
  - h. Off-site response groups
  - i. WIPP emergency procedures
  - j. Emergency equipment
  - k. Employee actions during emergencies
  
3. General Safety  
≈1 hour
  - a. Personal Protective Equipment
  - b. Requirements for PPE
  - c. Warning Tags
  - d. WIPP safety hazards
  - e. Medical assistance
  - f. Actions to take for injuries
  - g. Reporting injuries/accidents
  - h. Employee concerns

- 4. Computer Security  
≈1 hour
  - a. Department to contact
  - b. WIPP policies and procedures for:
    - 1. Personally owned software
    - 2. Computer games
    - 3. Passwords/password protection
  - c. Computer virus prevention
  
- 5. Fire Protection  
≈1 hour
  - a. WIPP Fire Protection Program
  - b. Fire sources at WIPP
  - c. Fire Tetrahedron
  - d. Classes of fires
  - e. Fire extinguisher
  - f. Office Warden Program
  - g. Employee responsibilities during a fire
  
- 6. RCRA & Storm Water Management  
≈2 hours
  - a. RCRA history
  - b. RCRA goals
  - c. WIPP goals and relation to RCRA
  - d. Definition of RCRA wastes
  - e. Site generated waste program
  - f. Training requirements for treatment storage and disposal facilities
  - g. Contingency Plan
  - h. Waste Minimization Program
  - i. RCRA regulatory agencies
  - j. RCRA enforcement options
  - k. Application of Storm Water Management policy in relation to the general employee
  
- 8. Work Policies and Procedures  
≈1 hour
  - a. DOE Orders and MOC Procedures
  - b. Teamwork
  - c. Conduct of Operations Policy
    - 1. Elements of Conduct of Ops
  - d. Quality Assurance Program
  - e. Responsibility for following procedures
  - f. Resuming work after stoppage
  - g. Stopping work for unsafe acts
  - h. Purpose and uses of “Hold Tag”
  - i. Quality records and requirements
  - j. Correcting errors on QA Records
  - k. Configuration Management and affected departments

9. Electrical Safety  
≈1 hour
  - a. Variables of electrical circuits
  - b. Severity of electrical shock
  - c. Areas where electrical accidents occur
  - d. WIPP policy on using damaged electrical equipment
  - e. WIPP policy for modifying electrical protective devices
  - f. Requirements for use of Ground Fault Interrupters.
  - g. Purpose of GFIs
  - h. WIPP policy for resetting breakers
  - i. WIPP policy for using extension cords, plug-in devices, and other equipment exposed to energized electrical circuits
  
10. Hazard Communications  
≈1 hour
  - a. Description of Haz Comm Std.
  - b. Health and Safety hazards
  - c. Protection from workplace hazards
    1. PPE
    2. Preparedness/Prevention
    3. Employee responsibilities
  - d. Emergency procedures
  - e. WIPP Hazard Communication Prog.
    1. Training
    2. Container labels
    3. Chemical transfers
    4. Material Safety Data Sheets
  - f. Other information sources
  
11. Personal Protective Equipment  
≈1 hour
  - a. Requirements for head protection
  - b. Requirements for hearing conservation
  - c. Requirements for face/eye protection
  - d. Requirements for foot protection
  
12. Bloodborne Pathogens  
≈1 hour
  - a. Def. of Bloodborne Pathogens
  - b. Def. of Hepatitis B and Human Immunodeficiency Virus
  - c. Bloodborne Pathogen transmission
  - d. Prevention of bloodborne pathogen infection
  - e. WIPP Exposure Control Plan
  
13. Ergonomics  
≈2 hours
  - a. Cumulative Trauma Disorder
  - b. Risk factors for CTD
  - c. Prevention of CTD
  - d. Recognition of CTD
  - e. Steps to take when CTD develops

14. Security  
≈1 hour
  - a. Security Mission
  - b. Def. of Security Officer
  - c. Security Officer Tasks
  - d. Access and Property Control at WIPP
  - e. Badge accountability
  - f. Property Pass system
  - g. Physical security
  - h. Telephone threat list
  - i. Employee responsibilities during demonstration
  - j. Fitness for duty
  - k. Computer security
  - l. Parking requirements
  
15. General Employee Radiological Training (GERT)  
≈1 hour

This program will be implemented prior to declaration of site readiness for all site employees. The standardized core materials for GERT include the following topics:

- Sources of Radiation
- Non-ionizing and Ionizing Radiation
- Risk in Perspective
- ALARA Concept
- Radiological Controls
- Monitoring/Dosimetry
- Emergency Procedures
- Employee Responsibilities

**All times are approximate and do not reflect time spent on additional topics that arise from class participation, student breaks, class size, and/or practical exercises. (i.e., Job Performance Measures)**

## ATTACHMENT F2

### TRAINING COURSE AND QUALIFICATION CARD OUTLINES

<b>QUALIFICATION CARD:</b>	Radiological Control Technician (RCT)
<b>DURATION:</b>	≈9 working months
<b>CLASSROOM TRAINING:</b>	Various classroom courses are utilized to reinforce the training received as part of the qualification card. The candidate is required to complete
<b>SCOPE:</b>	
<b>REFERENCES:</b>	WP 12-5, WIPP Radiological Control Manual WP 12-HP, WIPP OHP Procedures Manual WP 12-RE, Rad Engineering Procedures Manual

#### QUALIFICATION CARD DESCRIPTION (by category)

##### 1. Academics Training

There are 13 lessons associated with the core academics program and 15 lessons associated with the site academics program.

##### 2. Practical Training

There are 33 job performance measures associated with the practical training element of the RCT qualification program covering the following areas:

Demonstrate generation of a Radiological Work Permit.

Demonstrate how a radiological area should be posted.

Demonstrate applicable emergency response to various events.

Demonstrate competency in operating various types of monitoring equipment.

##### 3. Written Examination

This exam is administered after successful completion of academic lessons and practical lessons. Successful completion of the comprehensive written exam is necessary prior to participation in the oral examinations.

#### 4. Oral Examination Board

The oral board consists of members of ~~Radiation Safety, Operational Health Physics,~~ Radiological Control and Dosimetry Department, Facility Operations, and Technical Training. This board will assess the candidate's response to normal and emergency situations encountered by a Radiation Control Technician.

### Item 3

#### **Description**

This modification revises Permit Attachment D, Table D-1, *Resource Conservation and Recovery Act Emergency Coordinators*.

Table D-1 has been revised to remove “A. E. (Alvy) Williams” from the list of RCRA emergency coordinators.

#### **Basis**

The change is classified as “Changes in name, address, or phone number of coordinators or other persons or agencies identified in the plan” and is, therefore, a Class 1 modification pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, B.6.d).

#### **Discussion**

The list of all persons qualified to act as the RCRA emergency coordinator must be kept up to date pursuant to 20.4.1.400 NMAC (incorporating 40 CFR 264.52(d)). Since one of the RCRA emergency coordinators no longer fills that position, this change to Table D-1 is necessary to ensure the that list of RCRA emergency coordinators is current.

**Revised Permit Text:**

**Table D-1  
Resource Conservation and Recovery Act Emergency Coordinators<sup>1</sup>**

<b>Name</b>	<b>Address*</b>	<b>Office Phone</b>	<b>Personal Phone*</b>
R. C. (Russ) Stroble		234-8276 or 234-8554	
J. E. (Joseph) Bealler		234-8276 or 234-8916	
M. G. (Mike) Proctor		234-8276 or 234-8143	
G. L. (Gary) Kessler		234-8326	
A. E. (Alvy) Williams		234-8276 or 234-8216	
P. J. (Paul) Paneral		234-8498	
J. B. (James) Wheeler		234-8273	
M. L. (Mark) Long		234-8170	
A.C. (Andy) Cooper		234-8197	

\* NOTE: Personal information (home addresses and personal phone numbers) has been removed from informational copies of this Permit.

<sup>1</sup> For every shift, one qualified RCRA Emergency Coordinator serves as the primary, and a second qualified RCRA Emergency Coordinator is available to serve as the alternate.

## Item 4

### Description

This modification revises Permit Attachment D, Table D-2, *Emergency Equipment Maintained at the Waste Isolation Pilot Plant*.

Table D-2 has been revised to remove two locations of “Building Fire Alarms” that are listed in error: Guardshack (Building 242) and North Maintenance Shop (Building 247).

### Basis

These changes are classified as “Administrative and informational changes” and are, therefore, Class 1 modifications pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, A.1).

### Discussion

This change is needed to correct the Permit. The Guardshack (Building 242) and North Maintenance Shop (Building 247) are listed in the Permit erroneously; therefore, they have been removed from Table D-2. These buildings are not equipped with fire detection and alarm systems nor are such systems needed. The WIPP Pre-Incident Plans for Buildings 242 and 247 verify this configuration. Pre-Incident Plans are required by NFPA 1620, *Standard for Pre-Incident Planning*, which provides criteria for developing pre-incident plans to help emergency responders effectively manage emergencies so as to maximize protection for occupants, responding personnel, property, and the environment. The WIPP Pre-Incident Plans address facility and site considerations, occupant considerations, available water supplies for the facility, deployed fire protection systems in the facility, identify special features (e.g., fire walls, fire doors, elevators, roof ventilators, etc.), identify special hazards (e.g., open shaft, TRU and TRU mixed waste, segmented sprinkler systems, explosives, etc.), and responding emergency vehicles (first alarm equipment, e.g., Surface Fire Trucks, Surface Rescue Truck, etc.).

Revised Permit Text:

**Table D-2  
Emergency Equipment Maintained at the Waste Isolation Pilot Plant**

Equipment	Description and Capabilities	Location
Communications		
Building Fire Alarms	Fire alarm panels, fire alarm transmitter, audible alarm devices (e.g., horns, bells, tones) that provide notification of fires; transmitted to the CMR	Guard and Security Building (Building 458), Water Pumphouse (Building 456), Warehouse/Shops Building (Building 453), Exhaust Shaft Filter Building (Building 413), Support Building (Building 451), CMR/Computer Room, Waste Handling Building (Building 411), TRUPACT Maintenance Building (Building 412), Salt Handling (SH) Shaft Hoisthouse (Building 384), <del>Guardshack (Building 242)</del> , Auxiliary Warehouse Building (Building 455), Engineering Building (Building 486), Training Building (Building 489), Safety and Emergency Services Facility (Building 452), <del>North Maintenance Shop (Building 247)</del> , and surface Hazardous Waste Staging Areas (Buildings 474A and 474B)

## Item 5

### Description

This modification revises Permit Attachment D, Section D-2a, *Emergency Response Personnel*, and Attachment F1, *RCRA Hazardous Waste Management and Emergency Response Job Descriptions*.

Attachment D, Section D-2a has been revised to clarify that, for an incident that implements the *RCRA Contingency Plan*, the Incident Commander is a member of the WIPP Fire Department. Text has been added to explain that for security-related events that invoke implementation of the *RCRA Contingency Plan*, a unified command will be established with the WIPP Protective Force.

The “Incident Commander” job position description has been revised in Attachment F1 by renaming the job title to “Fire Department Incident Commander.” The “Duties” for the Fire Department Incident Commander have been clarified by changing “once achievable” to “if necessary” after the job duty which states, “Ensures that a well-defined unified command is in place.” Additionally, the qualifier, “(Fire Department Incident Commanders),” has been removed from the bullet, “Requisite Skills, Qualifications, and Education possessed by Firefighter.”

### Basis

The change to Attachment D, Section D-2a falls under the classification of “Administrative and informational changes” and is, therefore, a Class 1 modification pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, A.1).

The change to Attachment F1 falls under the classification of “Changes in the training plan: other changes” and is, therefore, a Class 1 modification pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, B.5.b). This modification does not affect the type nor does it decrease the amount of training personnel receive at the WIPP facility.

### Discussion

This change is needed to clarify the role of the WIPP Protective Force with respect to events that could implement the *RCRA Contingency Plan*. As written, a member of the WIPP Protective Force could act as Incident Commander should the *RCRA Contingency Plan* be implemented as a result of a security-related event. Per the *WIPP Emergency Management Plan*<sup>1</sup>, should such an event occur, a unified command will be established between WIPP Fire Department personnel and the WIPP Protective Force. This change makes it clear that personnel from the WIPP Protective Force do not require RCRA-specific training because they are supported by WIPP Fire Department personnel, who are trained in accordance with the requirements of the Permit, during fires, explosions, or releases of hazardous waste or hazardous waste constituents that could threaten human health or the environment.

As a result of the changes made to Attachment D, Section D-2a, changes to Attachment F1 are required to clarify that the “Incident Commander” is the “Fire Department Incident Commander;”

---

<sup>1</sup> Nuclear Waste Partnership LLC, *WIPP Emergency Management Plan*, WP 12-9, Rev. 43, October 26, 2016, Section 3.3 “Emergency Direction and Control”

replace “once achievable” with “if necessary” when describing the Fire Department Incident Commander duties to ensure that a well-defined unified command is in place; and remove the qualifying text that only pertains to the “Fire Department Incident Commanders.”

## Revised Permit Text:

### D-2a Emergency Response Personnel

A RCRA Emergency Coordinator will be on-site at the WIPP facility 24 hours a day, seven days a week, with the responsibility for coordinating emergency response measures. In accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.52(d)), qualified RCRA Emergency Coordinators are listed in Table D-1 and are trained to the requirements found in Attachment F1, under “RCRA Emergency Coordinator”.

In addition, persons qualified to act as the RCRA Emergency Coordinator have the authority to commit the necessary resources to implement this *RCRA Contingency Plan*.

During emergencies, the RCRA Emergency Coordinator has three primary responsibilities:

- **Assess the Situation**—The RCRA Emergency Coordinator shall gather information relevant to the incident, such as the type of event, quantity and type of released waste, and existing or potential hazards to human health and the environment.
- **Protect Personnel**—The RCRA Emergency Coordinator shall take reasonable measures to ensure the safety of personnel, such as ensuring that alarms have been activated, personnel have been accounted for, any injuries have been attended to, and evacuation of personnel has occurred, if necessary.
- **Contain the Release**—The RCRA Emergency Coordinator shall take reasonable measures to ensure that fires, explosions, or releases of hazardous waste or hazardous waste constituents do not occur, recur, or spread.

In addition to the RCRA Emergency Coordinator, the following individuals, groups, and organizations have specified responsibilities during any WIPP facility emergency:

- **WIPP Fire Department**—The primary providers of fire suppression, technical rescue, Emergency Medical Services (EMS), and hazardous materials response for the protection of personnel in both surface and underground facilities.
- **Facility Shift Manager (FSM)**—A member of the Facility Operations organization who is in charge of plant operations and is the senior shift representative responsible for maintaining the facility in a safe configuration during normal and abnormal conditions. The FSM can concurrently serve as the RCRA Emergency Coordinator, if trained to the requirements of Attachment F1, or provide support to the qualified RCRA Emergency Coordinator on shift. Since the FSM provides support to the RCRA Emergency Coordinator relative to the safety of the WIPP facility, no specific RCRA training is required.
- **Central Monitoring Room Operator (CMRO)**—An on-shift operator responsible for Central Monitoring Room (CMR) operations, including coordination of facility communications. The CMRO documents these activities (e.g., communications, notifications) in a facility log. The CMRO is a member of Facility Operations, and during emergencies, the CMRO supports the RCRA Emergency Coordinator.

- Emergency Response Team (ERT) — WIPP facility personnel who serve as an Industrial Fire Brigade and are trained to respond to surface and underground emergencies on site, including fires, medical emergencies, and releases of hazardous materials. The ERT members supplement WIPP Fire Department response capabilities. The ERT member assigned to the underground will not perform any coordinated firefighting underground and will only respond to incipient-stage fires that threaten TRU mixed waste, if it is safe to do so.
- Firefighter—A WIPP Fire Department member who serves as a primary responder to surface and underground emergencies, including fires, medical emergencies, and releases of hazardous materials. Firefighters assigned to the underground will not perform any coordinated firefighting underground and will only respond to incipient-stage fires that threaten TRU mixed waste, if it is safe to do so.
- Fire Department Incident Commander— Upon delegation by the RCRA Emergency Coordinator, and once incident command has been established, the Incident Commander is responsible for direction and supervision of emergency responders during an incident resulting in implementation of the *RCRA Contingency Plan*. The Incident Commander will ~~either~~ be a member of the WIPP Fire Department, ~~or, f~~or security-related incidents that invoke implementation of the *RCRA Contingency Plan*, the Fire Department Incident Commander will establish a unified command with the WIPP Protective Force.
- Mine Rescue Team (MRT)— The MRT is responsible for emergency rescue and recovery of trapped or missing personnel in the underground, conducting mine facility assessments, and underground firefighting once the underground has been evacuated and only if needed to rescue unaccounted personnel.
- Emergency Operations Center (EOC) Staff- Upon activation, the EOC supports the RCRA Emergency Coordinator and Incident Commander with emergency management decision-making and associated notifications. Since EOC staff performs duties similar to their normal job functions during an emergency response and provides support related to their area(s) of expertise, no specific RCRA training is required.

## ATTACHMENT F1

### RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB DESCRIPTIONS

**Position Title:** Fire Department Incident Commander

**Duties:**

- Establishes an Incident Command Post
- Manages incident operations, personnel, and resources
- Develops incident objectives for all aspects of field emergency response
- Ensures that a well-defined unified command is in place, if necessary once achievable

**Requisite Skills, Qualification, and Education:\***

Vocational or commercial high school graduate, or equivalent, and Incident Command System (ICS) Training per the *WIPP Fire Department Training Plan*, or equivalent WIPP facility training plan, which incorporates the Federal Emergency Management Agency, ICS, and the National Incident Management System as follows:

- Requisite Skills, Qualifications, and Education possessed by Firefighter (~~Fire Department Incident Commanders~~)
- IS-100, Introduction to the Incident Command System
- IS-200, ICS for Single Resources and Initial Action Incidents
- IS-700, National Incident Management System Awareness

**Training (Type/Amount):**

The following site-specific training, relative to incidents involving hazardous waste, must be completed no later than six months after assignment to position of Incident Commander at the WIPP facility. Prior to the completion of the following training, Incident Commanders shall be supervised when performing duties related to emergency response to incidents involving hazardous waste:

- General Employee Training (GET-19X/GET-20X/GET-21X)
- General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA)
- Hazardous Waste Worker (HWW-101/102)
- Hazardous Waste Responder (HWR-101/101A)

**\*NOTE:** The required requisite skills, qualifications, and education must be possessed prior to assignment to the position of Incident Commander.