



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

JUN 03 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 2 Permit Modification Request for the Waste Isolation Pilot Plant Hazardous
Waste Facility Permit, Number NM4890139088-TSDF

Dear Mr. Kieling:

Enclosed is the following Class 2 Permit Modification Request consisting of the following items:

- Revise the *RCRA Contingency Plan* and Associated Emergency Response Personnel Training
- Active Room Ventilation Flow Rate

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,

Original Signatures on File

Todd Shrader, Manager
Carlsbad Field Office

Philip J. Breidenbach, Project Manager
Nuclear Waste Partnership LLC

Enclosure

cc: w/enclosure
R. Maestas, NMED *ED
C. Smith, NMED ED
CBFO M&RC
*ED denotes electronic distribution

Class 2 Permit Modification Request

**Revise the *RCRA Contingency Plan* and
Associated Emergency Response Personnel Training**

and

Active Room Ventilation Flow Rate

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

WIPP Permit Number - NM4890139088-TSDF

June 2016

Item 1

Class 2 Permit Modification Request

**Revise the *RCRA Contingency Plan* and
Associated Emergency Response Personnel Training**

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

WIPP Permit Number - NM4890139088-TSDF

June 2016

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Acronyms and Abbreviations

Agreement	Settlement Agreement and Stipulated Final Order
AIB	Accident Investigation Board
CFR	Code of Federal Regulations
CMR	Central Monitoring Room
CMRO	Central Monitoring Room Operator
DOE	U.S. Department of Energy
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ERT	Emergency Response Team
FLIRT	First Line Initial Response Team
FEMA	Federal Emergency Management Agency
FSM	Facility Shift Manager
GET	General Employee Training
HAZMAT	hazardous material
HWMU	hazardous waste management unit
ICS	Incident Command System
JON	Judgment of Need
MRT	Mine Rescue Team
NIMS	National Incident Management System
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NFPA	National Fire Protection Association
Order	Administrative Compliance Order, No. HWB-14-21
Permit	Hazardous Waste Facility Permit
PM	Preventative Maintenance
PMR	Permit Modification Request
RCRA	Resource Conservation and Recovery Act
RH	remote-handled
SCBA	Self-Contained Breathing Apparatus
TRU	transuranic
TSDF	treatment, storage, and disposal facility
WIPP	Waste Isolation Pilot Plant

Overview of the Permit Modification Request

This document contains a Class 2 Permit Modification Request (**PMR**) for the Waste Isolation Pilot Plant (**WIPP**) Hazardous Waste Facility Permit (**Permit**) Number NM4890139088-TSDF.

This PMR is being submitted by the U.S. Department of Energy (**DOE**) and Nuclear Waste Partnership LLC, collectively referred to as the Permittees, in accordance with the 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(b)). The purpose of this modification is to revise the *RCRA Contingency Plan* and associated emergency response personnel training. It provides for the following changes:

I. **Revise and Update Attachment D, *Resource Conservation and Recovery Act Contingency Plan***

- a. Accomplish the following:
 - i. Facilitate the Resource Conservation and Recovery Act (**RCRA**) Emergency Coordinator's ability to make an immediate decision regarding implementation of the *RCRA Contingency Plan* by simplifying the implementation criteria to be consistent with the Permit, Part 2, Section 2.12.1. and 20.4.1.500 NMAC (incorporating 40 CFR §264.51(b)).
 - ii. Revise descriptions of notification and reporting procedures to ensure that the New Mexico Environment Department (**NMED**) is immediately notified whenever there is an event that could potentially threaten human health or the environment.
 - iii. Remove extraneous information that is redundant, found elsewhere in the Permit, or not specifically required by 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D).
- b. Revise Attachment D, Sections D-1, D-2, and D-4 through D-9, to accomplish the following:
 - i. Clearly define the scope and applicability of the *RCRA Contingency Plan* as it pertains to 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D).
 - ii. Clearly delineate and explain the portions of RCRA regulations that require the development and implementation of a formal contingency plan for the WIPP facility.
 - iii. Clearly define the notification and response duties of the RCRA Emergency Coordinator in the event of fires, explosions, or releases (sudden and non-sudden), including leaks and spills, of hazardous waste or hazardous waste constituents, which could threaten human health or the environment.
 - iv. Revise Table D-6, *Emergency Equipment Maintained at the Waste Isolation Pilot Plant*, to include updated information, provide clarification, and ensure consistency with applicable standards.

- v. Revise Attachment E, Table E-1, *Inspection Schedule, Process and Forms*, to include updated information, consistent with changes made to Table D-6.
- vi. Revise Coordination Agreements described in Section D-4a(1) and Section D-6 which may be invoked by the RCRA Emergency Coordinator upon implementation of the *RCRA Contingency Plan*.
- vii. Update Section D-7, *Evacuation Plan*, to provide current evacuation route maps and align with standard operating procedures.

II. Revise Emergency Response Personnel Job Titles and Descriptions

- a. Remove reference to the Facility Shift Manager (**FSM**) as the designated RCRA Emergency Coordinator.
- b. Remove references to Emergency Services Technician/Fire Protection Technician, First Line Initial Response Team (**FLIRT**), and Fire Brigade.
- c. Add definitions for FSM, Firefighter, and Incident Commander.
- d. Expand duties of Emergency Response Team (**ERT**); revise the definition of the Mine Rescue Team (**MRT**).
- e. Revise descriptions of the Emergency Operations Center (**EOC**) and its activation.
- f. Clarify that the RCRA Emergency Coordinator has the authority to delegate responsibility for managing activities related to the mitigation of incidents to the Incident Commander.
- g. Remove references to Office Warden, Chief Office Warden, and Assistant Office Warden.

III. Revise Emergency Response Personnel Training

- a. Add section to Attachment D to address standards for emergency response personnel training, consistent with the *WIPP Fire Department Training Plan*.
- b. Revise Attachments F, F1, and F2 to accomplish the following:
 - i. Make consistent with revised emergency response job titles and descriptions.
 - ii. Describe the professional qualifications required for WIPP Fire Department personnel.
 - iii. Remove training courses that are duplicative of the required qualifications.
 - iv. Address site-specific training required to meet the standards of 20.4.1.500 NMAC (incorporating 40 CFR §264.16).

IV. Editorial Changes

- a. Make editorial changes and other appropriate revisions to ensure accuracy of the Permit text and internal consistency within the *RCRA Contingency Plan*.

This PMR addresses the requirements for contingency planning and emergency procedures, as outlined in 20.4.1.500 NMAC (incorporating 40 CFR 264, Subpart D, *Contingency Plan and Emergency Procedures*); personnel training, as described in 20.4.1.500 NMAC (incorporating 40 CFR 264.16, *Personnel training*); and a listing of emergency equipment, as detailed in 20.4.1.500 NMAC (incorporating 40 CFR 264.32, *Required equipment*). The changes in this PMR do not reduce the ability of the Permittees to provide continued protection of human health and the environment.

The requested modification to the Permit and related supporting documents are provided in this PMR. The proposed modification to the text of the Permit has been identified using red text and double underline and a ~~strikeout~~ font for deleted information. All direct quotations are indicated by italicized text. The following information specifically addresses how compliance has been achieved with the Permit, Part 1, Section 1.3.1. for submission of this Class 2 PMR.

1. **20.4.1.900 NMAC (incorporating 40 CFR 270.42(b)(1)(i)) requires the applicant to describe the exact change to be made to the permit conditions and supporting documents referenced by the Permit.**

As stated above, the Permittees are proposing changes to the *RCRA Contingency Plan* and associated emergency response personnel training. These are described as Topics 1 through 4.

Topic 1: The Permittees are proposing to revise the *RCRA Contingency Plan* in response to Paragraph 31 of the Settlement Agreement and Stipulated Final Order (**Agreement**), resulting from the December 6, 2014, Administrative Compliance Order, No. HWB-14-21 (**Order**). Paragraph 115 of the Order stated the following:

115. The Respondents' failure to immediately implement the Contingency Plan found in Permit Attachment D when there was a release of TRU mixed or hazardous waste or hazardous waste constituents which threatened human health or the environment, is a violation of Permit Conditions: 2.12.1, Implementation of [Contingency] Plan, referencing 20.4.1.500 NMAC, incorporating 40 C.F.R. § 264.51(b); D-3, Implementation, referencing 20.4.1.500 NMAC, incorporating 40 C.F.R. § 264.51(b), and D-4a(1), Initial Emergency Response and Alerting the RCRA Emergency Coordinator.

The criteria that would require implementation of the *RCRA Contingency Plan* have been simplified and aligned with the requirements of Permit, Part 2, Section 2.12.1. and 20.4.1.500 NMAC (incorporating 40 CFR §264.51(b)) in order to facilitate the RCRA Emergency Coordinator's ability to make an immediate decision regarding implementation of the *RCRA Contingency Plan*.

Additionally, the Permittees are proposing changes to the *RCRA Contingency Plan* to clearly define its scope and applicability pursuant to 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D).

The notification and response duties of the RCRA Emergency Coordinator in the event of a fire, explosion, or release of hazardous waste or hazardous waste constituents that could threaten human health or the environment have been clearly explained.

The list of emergency equipment provided in Table D-6 has been revised as follows: 1) remove overly prescriptive detail associated with equipment inventories and reference applicable standards; 2) revise descriptions of equipment capabilities; 3) clarify locations of emergency equipment; 4) consolidate equipment listings, where appropriate; and 5) remove certain emergency equipment that is either obsolete, only required for radiological emergency response, or has been determined by the Permittees to no longer be needed¹. The list of required inspections in the Permit, Attachment E, Table E-1, has also been revised accordingly. Detail relative to equipment inventories, which is required by the New Mexico Emergency Medical Services Act, New Mexico Ambulance Standard as codified in 18.3.14 NMAC, requirements of the National Fire Protection Association (**NFPA**), and other applicable regulatory standards, has been replaced with references to inventory lists that will be maintained in the WIPP facility files. In addition, the list of emergency equipment in Table D-6 has been revised to clarify that equipment locations apply to areas and buildings that are used for hazardous waste management and that these locations will be specified in WIPP facility files.

The sections of the *RCRA Contingency Plan* that describe agreements with local emergency response agencies and the site evacuation plan have been updated. Finally, the Permittees are proposing to remove redundant and extraneous information, which is not specifically required by 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D), from the *RCRA Contingency Plan* in order to enable the plan to be easily integrated into the *WIPP Emergency Management Plan*², which, in accordance with DOE policy, is the comprehensive emergency response plan for the WIPP facility.

Topic 2: As a result of the underground vehicle fire, which occurred on February 5, 2014, and the radiological release event, which occurred on February 14, 2014, the DOE appointed two separate Accident Investigation Boards (**AIBs**) to investigate each accident and identify Judgments of Need (**JONs**). In response to this effort, corrective action plans were developed by the Permittees, and the WIPP Fire Department was established to enhance the effectiveness of the emergency response organization at the WIPP facility. The *WIPP Fire Department Program Plan* has been developed to outline the organization of the WIPP Fire Department. Consequently, the Permittees are proposing to revise the *RCRA Contingency Plan* to align with the emergency response job descriptions and functions described in the *WIPP Fire Department Program Plan*. Additionally, the Permittees are proposing to remove references to Office Wardens as the individuals responsible for personnel accountability in the event of an evacuation to ensure consistency with the regulations of 40 CFR Part 264, Subpart D.

Topic 3: The AIBs identified several JONs associated with emergency response personnel training. In response to the concerns raised by the AIBs, the *WIPP Fire Department Training Plan* has been developed to establish the standards, requirements, methods, and guidance for developing, conducting, and documenting the training and qualifications of the WIPP Fire Department personnel. This training plan provides for a more rigorous qualification process than what is currently required by the Permit for certain emergency response personnel. However, the professional qualifications that are required for WIPP Fire Department personnel are driven

¹ Nuclear Waste Partnership LLC, *WIPP Baseline Needs Assessment*, WP 12-FP.23, Rev. 0

² Nuclear Waste Partnership LLC, *WIPP Emergency Management Plan*, WP 12-9, Rev. 42, November 2, 2015.

by national consensus standards, such as NFPA and the Federal Emergency Management Agency (**FEMA**). Therefore, the Permittees are proposing to add an additional section to the *RCRA Contingency Plan* to describe the emergency response personnel training for members of the WIPP Fire Department. Since the *WIPP Fire Department Training Plan* requires certain professional qualifications for emergency response personnel to be possessed prior to assignment to respective emergency response positions, training courses listed in the Permit, Attachment F1, that are duplicative of the training described in the *WIPP Fire Department Training Plan* are being proposed for deletion. However, the site-specific training that is required to meet the RCRA-specific standards of 20.4.1.500 NMAC (incorporating 40 CFR §264.16) will remain in the Permit. Additionally, the Permittees are proposing to revise Attachments F, F1, and F2 to be consistent with the revised emergency response job titles and descriptions of the WIPP Fire Department.

Topic 4: Minor editorial changes are also being made. For example: certain acronyms have been added or corrected, where required; capitalization has been added to certain terms, such as Hazardous Waste Staging Areas; lists of actions have been revised to use consistent verb tense; and punctuation has been added or corrected, where required. These changes and other minor revisions are needed to correct and clarify Permit text and ensure consistency throughout. These changes are not discussed as a separate topic in Sections 2 or 3.

The Table of Changes (Appendix A) describes each change that is being proposed and the Proposed Revised Permit Text (Appendix B) shows the changes to the Permit text in redline/strikeout form.

2. 20.4.1.900 NMAC (incorporating 40 CFR 270.42(b)(1)(ii)), requires the applicant to identify that the modification is a Class 2 modification.

This PMR is classified as a Class 2 modification for the reasons indicated below:

- 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, Item B, “General Facility Standards,” 6. Contingency plan: a. Changes in emergency response procedures (i.e., spill or release response procedures))...Class 2
- 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, Item B, “General Facility Standards,” 6. Contingency plan: c. Removal of equipment from emergency equipment list)...Class 2
- 20.4.1.900 NMAC (incorporating 40 CFR 270.42, Appendix I, Item B, “General Facility Standards,” 5. Changes in the training plan: a. That affect the type or decrease the amount of training given to employees)...Class 2

Topic 1 proposes to change the emergency response procedures described in the *RCRA Contingency Plan* and remove equipment from the list of emergency equipment. Therefore, these changes are classified as Class 2 modifications pursuant to the first two bullets listed above.

Similar to Topic 1, Topic 2 also proposes to change the emergency response procedures described in the *RCRA Contingency Plan*; therefore, this change is classified as a Class 2 modification pursuant to the first bullet listed above.

Topic 3 proposes to change the type of training given to emergency response personnel; therefore, this change is classified as a Class 2 modification pursuant to the third bullet listed above.

3. **20.4.1.900 NMAC (incorporating 40 CFR 270.42(b)(1)(iii)), requires the applicant to explain why the modification is needed.**

Topic 1: Revise and Update Attachment D, *Resource Conservation and Recovery Act Contingency Plan*

As currently written, the *RCRA Contingency Plan* includes much information that is provided elsewhere in the Permit or not specifically required by the regulations. The applicability of 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D) to the WIPP facility, as a large-quantity generator of hazardous waste, container storage unit, and miscellaneous unit, is not clearly explained. There are many internal inconsistencies with respect to the description of permitted units within the facility, the types of emergency events that would require implementation of the *RCRA Contingency Plan*, and the roles and responsibilities of emergency response personnel.

The *RCRA Contingency Plan* originally served as the stand-alone emergency response plan for the WIPP facility. Since the Permit was initially issued, the Permittees have developed and implemented the *WIPP Emergency Management Plan*, in accordance with DOE Order DOE O 151.1C, *Comprehensive Emergency Management System*, which is the technical basis for WIPP facility emergency planning, preparedness, response, recovery, and readiness assurance activities. The *WIPP Emergency Management Plan* implements requirements of the *RCRA Contingency Plan* in addition to other DOE orders and guides; applicable federal regulations; and State and local laws, regulations, and ordinances. The *WIPP Emergency Management Plan* capabilities include the following:

- Provide maximum protection for onsite and offsite personnel who could be affected by an emergency at WIPP.
- Ensure protection of national security, the environment, critical infrastructure, facilities, and equipment.
- Minimize the impact of an emergency on facility and site operations and security.
- Provide clear, timely, and technically accurate site-related emergency information to the public and public officials; federal, state, and county agencies/organizations; DOE Headquarters; and the media.
- When requested and in accordance with mutual aid agreements with offsite agencies (e.g., Memoranda of Understanding, Memoranda of Agreement, Mutual Aid Agreements, Agreements in Principle), provide emergency assistance to the State of New Mexico and New Mexico counties and communities in planning and responding to an emergency occurring outside the boundaries of the WIPP facility.
- Facilitate emergency planning with offsite authorities by providing a technical-based assessment of hazards, to include those hazards related to transportation.

- Implement the National Incident Management System (**NIMS**) per U.S. Department of Homeland Security Presidential Directive-5, *Management of Domestic Incidents*.

The WIPP facility supports and uses the NIMS during emergency incidents. The NIMS will be applied to drills, exercises, and other situations that involve hazards similar to those encountered at actual emergency incidents and to simulate incidents that are conducted for training and familiarization purposes.

Currently, there is significant overlap between the two plans with respect to information that is not pertinent to respond to emergencies involving or threatening hazardous waste. The Permittees are proposing to revise the *RCRA Contingency Plan* such that its scope aligns with 20.4.1.500 NMAC (incorporating 40 CFR §264.51(a)), thereby allowing the hazardous waste management provisions of 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D) to be easily integrated into the *WIPP Emergency Management Plan*, which serves as the consolidated emergency response plan for the facility.

In order to provide the needed clarification to the *RCRA Contingency Plan*, the Permittees are proposing revised text in Attachment D, Section D-1, to explain that the provisions of the plan apply to incidents involving hazardous or mixed waste, or threatening to cause a release of hazardous or mixed waste, occurring in or near the Hazardous Waste Disposal Units in the underground waste disposal panels, the Hazardous Waste Management Units (**HWMUs**) in the Waste Handling Building and Parking Area Storage Units, the supporting TRU mixed waste handling areas, and the Hazardous Waste Staging Areas for site-generated hazardous waste.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.51(a)), the proposed revised *RCRA Contingency Plan* does not address spills or releases of hazardous substances that are not waste (e.g., diesel fuel, sulfuric acid) and are regulated by the Comprehensive Environmental Response, Compensation and Liability Act at 40 CFR Part 302. Responses to these events, and associated notifications, are managed through the *WIPP Emergency Management Plan* and associated WIPP facility standard operating procedures and guides.

The regulations acknowledge the use of a consolidated emergency response plan to address the various responses to different types of events at a facility. The regulations at 20.4.1.500 NMAC (incorporating 40 CFR §264.52(b)) state that, "If the owner or operator has already prepared...some other emergency or contingency plan...he need only amend that plan to incorporate the hazardous waste management provisions that are sufficient to comply with the requirements of this part. The owner or operator may develop one contingency plan which meets all regulatory requirements...When modifications are made to non-RCRA provisions in an integrated contingency plan, the changes do not trigger the need for a RCRA permit modification." These regulations align with the Permittees' revised approach to modify the *RCRA Contingency Plan* to address the hazardous waste management provisions of 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D). As stated above, the *WIPP Emergency Management Plan*, as the integrated plan for the WIPP facility, incorporates the requirements of the *RCRA Contingency Plan*, and a Permit modification will only be necessary in the future if the Permittees identify a need to modify the RCRA-related provisions of the *WIPP Emergency Management Plan*.

The Permittees are proposing to add clarifying text to Attachment D, Section D-1, to address the unique hazards posed by transuranic (**TRU**) mixed waste. Because of the dual hazard associated with this waste, the actions necessary to protect human health and the environment from the effects of radioactivity are the same actions necessary to provide protection from

hazardous waste and hazardous waste constituents. Although the *RCRA Contingency Plan* may require additional actions to mitigate the hazards associated with the hazardous component of the waste, the emergency response measures described are not intended to supersede actions required to respond to radiological response activities.

In response to the Agreement, the implementation section of the *RCRA Contingency Plan*, Attachment D, Section D-3, has been rewritten. The proposed revision to the plan does not address incidents involving hazardous substances (e.g., gasoline or diesel fuel), thereby eliminating the need for the RCRA Emergency Coordinator to categorize the event based on the size of the spill or release. The regulations do not require a quantitative assessment of the emergency by the RCRA Emergency Coordinator, but rather a qualitative assessment. Consequently, the Permittees have developed implementing criteria in accordance with the Permit, Part 2, Section 2.12.1., which states, "The Permittees shall immediately implement the *RCRA Contingency Plan* as specified in Permit Attachment D whenever there is a fire, explosion, or release of mixed or hazardous waste or hazardous waste constituents which could threaten human health or the environment, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.51(b))." The proposed revised implementation criteria are as follows:

- Fires
 - If a fire involving TRU mixed waste or site-generated hazardous waste occurs
 - If a fire (e.g., building, grass, nonhazardous waste fire) occurs within or near the Hazardous Waste Staging Areas that threatens to involve site-generated hazardous waste
 - If a fire (e.g., building, grass, nonhazardous waste fire) occurs within or near the permitted HWMUs that threatens to involve TRU mixed waste
 - If a fire occurs in the underground that results in immediate personnel evacuation or prevents normal personnel access to the underground
- Explosions
 - If an explosion involving TRU mixed waste or site-generated hazardous waste occurs
 - If an explosion occurs within or near the Hazardous Waste Staging Areas which threatens to involve site-generated hazardous waste
 - If an explosion occurs within or near the permitted HWMUs which threatens to involve TRU mixed waste
 - If an explosion occurs in the underground that results in immediate personnel evacuation or prevents normal personnel access to the underground
 - If there is an imminent danger of an explosion occurring (e.g., gas leak with an ignition source nearby) which could involve TRU mixed or site-generated hazardous waste

- Unplanned Sudden/Non-Sudden Releases
 - If, prior to waste emplacement, one or more containers of TRU mixed waste has spilled or been breached due to dropping, puncturing, container failure or degradation, or any other physical or chemical means, resulting in a release
 - If, after waste emplacement, one or more containers of TRU mixed waste in an active room has been breached
 - If a continuous air monitor confirms a release of radioactive particulates to the ambient atmosphere, indicating a possible release of TRU mixed waste constituents from the permitted facility
 - If a spill of site-generated hazardous waste occurs in a Hazardous Waste Staging Area and cannot be contained with secondary containment methods or absorbents, thereby threatening a release to air, soil, or surface water
 - If a site-generated hazardous waste spill occurs in a Hazardous Waste Staging Area and results in the release of flammable material, thereby creating a fire or explosion hazard
 - If a site-generated hazardous waste spill occurs in a Hazardous Waste Staging Area and results in the release of potentially toxic fumes that threaten human health
- Other Occurrences
 - If a natural phenomenon (e.g., earthquake, flood, lightning strike, tornado) occurs that involves TRU mixed waste or site-generated hazardous waste or threatens to involve TRU mixed waste or site-generated hazardous waste
 - If an underground structural integrity emergency (e.g., roof fall in an active room) occurs that involves TRU mixed waste, threatens to involve TRU mixed waste, results in immediate personnel evacuation, or prevents normal personnel access to the underground

Simplifying and streamlining the list of emergency situations that would warrant implementation of the *RCRA Contingency Plan* will enable the RCRA Emergency Coordinator to make an immediate determination of whether or not to implement the plan and in doing so, address Paragraph 115 of the Order. Implementing criteria have also been developed to ensure that incidents such as the underground vehicle fire and radiological release would warrant immediate implementation of the plan by the RCRA Emergency Coordinator and notification of the NMED by the Permittees. Text has also been added to require the RCRA Emergency Coordinator to document the rationale for not implementing the *RCRA Contingency Plan* (e.g., there is no threat to human health or the environment) should a fire, explosion, sudden or non-sudden release, natural phenomenon, or underground structural emergency occur that does not specifically meet the criteria outlined above. The Permittees are also proposing to add text to the *RCRA Contingency Plan* to ensure that if the RCRA Emergency Coordinator is unable to make an immediate determination of the type of incident or the hazards posed, the plan will be implemented as a precautionary measure.

The proposed revised text in Attachment D, Section D-4, addresses emergency response methods specific to TRU mixed waste and site-generated hazardous waste handled at the WIPP facility. The Permittees are proposing to revise Section D-4 to describe actions that facility personnel are required to take in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents. These descriptions have been revised to remove redundancy within the current plan, eliminate overly prescriptive detail, and ensure compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.51 and §§264.56(a) through (i)). This revision is needed to ensure that the *RCRA Contingency Plan* follows a logical order, the emergency response duties of the RCRA Emergency Coordinator are clearly defined, and the required notifications are conducted immediately, as described in the subsequent paragraphs.

The notification procedures described in Attachment D, Section D-4a, have been revised to provide clarity and to ensure that certain notifications will be immediate. Text has been added to ensure that whenever an emergency situation occurs that warrants implementation of the *RCRA Contingency Plan*, the Secretary of the NMED will be immediately notified by the Permittees. The Permit text has been revised to reduce the level of detailed information that the first person to become aware of an incident must provide to the Central Monitoring Room Operator (**CMRO**), because such detail is unnecessary and not required by the regulations. Facility employees are trained in General Employee Training (**GET**) with regard to reporting incidents to the CMRO. The level of detail pertaining to EOC activation has been reduced as this detail is not required by the regulations; likewise, the information pertaining to Contingency Evacuation Notifications has also been removed.

Clarification has been added to describe delegation of incident command responsibilities to the Incident Commander by the RCRA Emergency Coordinator. The Incident Commander directs activities at the incident scene and uses the Incident Command System (**ICS**), which provides defined operating characteristics and interactive management components. This NIMS ISC structure allows for the integration of community mutual aid resources to supplement or relieve WIPP facility response units. Offsite agencies supporting response efforts typically integrate into the ICS, forming a Unified Command Structure. Unified Command uses individuals designated by their jurisdictional authorities to jointly determine objectives, plans, and priorities and work together to execute them². As discussed in Topic 3, the Permittees are proposing to revise the Permit training requirements, found in the Permit, Attachment F1, to address the training and qualification of the Incident Commander.

The notifications required by 20.4.1.500 NMAC (incorporating 40 CFR §264.56(d)) have been moved to a subsequent section in Section D-4 since these notifications occur after the RCRA Emergency Coordinator performs the hazards assessment. This proposed new section, Section D-4d, *Post-Assessment Notifications*, contains a revised listing of local authorities, regulatory agencies, and public safety agencies to which the RCRA Emergency Coordinator must report if there is a threat to human health or the environment outside the facility. These revised lists ensure consistency with the regulatory requirements, the *WIPP Emergency Management Plan*, and the revised scope of the *RCRA Contingency Plan*. The Permittees are proposing to revise the list of required information to be reported to the agencies, which include the NMED Department of Public Safety and the National Response Center, to be consistent with the list found in 20.4.1.500 NMAC (incorporating 40 CFR §§264.56(d)(2)(i) through (vi)).

In order to provide further clarification to the *RCRA Contingency Plan*, the Permittees are proposing to reorganize the remaining subsections of Attachment D, Section D-4, and remove or consolidate redundant and extraneous information. The section has been revised to describe

the actions to be taken by the RCRA Emergency Coordinator and the Incident Commander in response to an emergency. The steps that follow the initial notifications include identification of the released materials and assessment of the extent of the emergency (Section D-4b); assessment of the potential hazards (Section D-4c); post-assessment notifications (Section D-4d); control and containment of the emergency (Section D-4e); and post-emergency activities (Section D-4f). Text has been added to the new Section D-4c, *Assessment of the Potential Hazards*, to allow the RCRA Emergency Coordinator to terminate the *RCRA Contingency Plan* if it is determined that there are no actual or potential hazards to human health or the environment. The subsections of the new Section D-4e, *Control and Containment of the Emergency*, align with the implementing criteria of the new Section D-3, *Criteria for Implementation of the RCRA Contingency Plan*, and text has been added to clarify that emergency response measures may include, but not be limited to, the steps listed in the plan. Text has also been added to explain that once the RCRA Emergency Coordinator has successfully controlled and contained the release and the scene is stable, the emergency can be terminated.

The new Attachment D, Section D-4f, *Post-Emergency Activities*, consolidates the remaining sections of the existing Section D-4 pertaining to: (1) management and disposition of released material (Section D-4f(1)), (2) incompatible waste, and (3) cleaning and restoration of equipment (Section D-4f(2)). The applicable consolidated sections have been revised to remove redundancy and extraneous detail and to ensure compliance with the regulations.

In order to provide further needed clarification and flexibility in managing emergency equipment, the Permittees are proposing to update the list of emergency equipment at the WIPP facility in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.32) and remove overly prescriptive detail associated with equipment inventories. Additionally, changes have been made to the table to revise the equipment descriptions and capabilities and update or clarify the locations of equipment. In many instances, the specific detail currently found in Attachment D, Table D-6, is required by regulatory standards other than 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subparts C and D). For example, the detailed inventory lists of emergency equipment to be maintained on the ambulances is governed by the New Mexico Ambulance Standard, which has been updated since the Permit was originally issued and has been codified as 18.3.14 NMAC. The Permittees propose to remove detailed inventory lists associated with emergency vehicles and commit to maintain the inventories consistent with applicable standards. Inventory lists will be kept in the WIPP facility files, which can be made available for inspection upon request. This proposed change will allow the Permittees to update the inventory lists when the applicable standard is revised without having to prepare and submit a request for modification of the Permit. Table 1, *Proposed Revised List of Emergency Equipment Maintained at the Waste Isolation Pilot Plant*, provides the information from the current Attachment D, Table D-6, in redline/strikeout form, along with the explanations for each proposed change.

Table 1. Proposed Revised List of Emergency Equipment Maintained at the Waste Isolation Pilot Plant

Equipment	Description and Capabilities	Location	Explanation of Change
Communications			
Building Fire Alarms	Manual pull stations and automatic <u>Fire alarm panels, fire alarm transmitter, and audible alarm devices (e.g., horns, bells, tones) that provide notification of fires; transmitted to the CMR</u> (sprinkler system flow, and smoke and thermal detectors) trigger fire alarm; locally visible and audible; visual display and alarm in Central Monitoring Room (CMR)	Guard and Security Building, <u>Water</u> Pumphouse, Warehouse/Shops, Exhaust Filter Building, Support Building, CMR/ Computer Room, Waste Handling Building <u>(Building 411)</u> , TRUPACT Maintenance Facility, <u>Salt Handling (SH)</u> Hoisthouse, Maintenance Shops, Guard Shack <u>Entry Control Point</u> , Auxiliary Warehouse, Core Storage Building , Engineering Building, Training Facility, Safety Building <u>(Building 452)</u> , Maintenance Shop, Hazardous Waste Storage Staging (non-TRU) Areas <u>(Facility 474 Buildings 474A and 474B)</u> *local alarms; not connected to the CMR	Revise description of equipment capabilities and revise equipment locations. The fire alarm at the Entry Control Point (previously Guard Shack) is connected directly to the Central Monitoring Room (CMR); therefore, the footnote is no longer needed.
Underground Fire Alarms	<u>Fire alarm panels, fire alarm transmitter, and audible/visual alarm devices (e.g., horns, bells, strobes) that provide notification of fires; transmitted to the CMR</u> Automatic/Manual; have priority over other paging channel signals but not override intercom channels; alarms sound in the general area of the control panel and are connected to the underground evacuation alarms; they also interface with the CMR.	Fire detection and control panel locations: Waste Shaft Underground Station, SH Shaft Underground Station, Between E-140 and E-300 in S-2180 Drift, E-0/N-1200, Fuel Station	Revise description of equipment capabilities and update equipment locations. E-0/N-1200 is no longer a valid alarm location.
Site-wide Evacuation Alarm <u>Surface Evacuation Signals;</u> <u>Underground Evacuation Warning System</u>	For surface, it transmitted over paging channel of the public address system, overriding its normal use; manually initiated according to procedures requiring evacuation; <u>for underground</u> , audible alarm produced by tone generator at 10 decibels above ambient noise level (or at least 75 decibels); flashing strobe lights; radios and/or pagers are used to notify facility personnel outside alarm range. Monthly test are performed on the PA, site notification alarms, and plectrons.	Site-wide	Revise equipment name and remove specificity from description of equipment capabilities. "Site-wide Evacuation Alarm" is being changed to "Surface Evacuation Signals," and "Underground Evacuation Warning System" is being added, consistent with the text in Attachment D, Section D-4a(2).
Vehicle Siren	Manual; oscillating; emergency services/surface response vehicles; is mechanical and electronic.	WIPP surface emergency vehicles	Remove redundant equipment. This is standard equipment on emergency vehicles and is part of the emergency vehicle inspections.
Public Address System	Includes intercom phones; handset stations and loudspeaker assemblies, each with own amplifiers; multichannel, one for public address and pages, and others for independent party lines.	Surface and underground	Remove specificity from description of equipment capabilities.

Equipment	Description and Capabilities	Location	Explanation of Change
Intraplant Phones	Private automatic branch exchange; direct dial; provide communication link between surface and underground operations	Throughout surface and underground	Remove obsolete communications equipment. Telephones are a common form of communication, and no specific inspection is required per Table E-1. Two-way radios are used to summon emergency assistance.
Mine Page Phones	Battery-operated paging system	CMR, Mine Rescue Room, EOC, lamproom, underground at S550/W30, S1000/W30, S1950/E140, SH Shaft Collar and Underground Station, Waste Shaft Collar and Underground Station, FSM desk, EST Station <u>Fire Department workstation area</u>	Revise locations of emergency equipment. The EOC location has been removed because it is not staffed at the outset of an emergency, and therefore, immediate notifications via the mine page phones are not required.
Emergency Pagers	Manual; , intermittent alarm signals	Issued to appropriate emergency personnel	Remove obsolete communications equipment. Pagers are rarely used for emergency communications and are being phased out, consistent with current industry trends towards improved technology.
Electrons	Tone alert radio receivers placed in areas not accessible by the public address system	Site-wide	Remove obsolete communications equipment. Electrons are being phased out, consistent with current industry trends towards improved technology. In audible dead zone areas, portable radios are being used for communication with the CMR.
Portable Radios	Two-way, portable; transmits and monitors information to/from other transmitters	Issued to individuals	No change proposed.
Plant Base Radios	Two-way, stationary; <u>transmits and monitors information to/from other transmitters</u> ; VHF-FM; linked to Eddy County Sheriff Department, NM State Police, and Otis Fire Department), and WIPP Channels 1-18 (Communication with the Lea County Sheriff's Department, the Hobbs Fire Department, Carlsbad Medical Center and Lea Regional Hospital is available via the Eddy County dispatcher) (Site Security, Site Operations and Site Emergency, maintenance, repeater to Carlsbad). Wireless communications such as cellular phones may be used to contact the Eddy County emergency responders.	Various site locations <u>Building 452, Building 458, Building 451 (CMR, FSM desk)</u>	Remove specificity from description of equipment capabilities and clarify equipment locations.
Mobile Phones	Provide communications link between WIPP Security and key <u>emergency response</u> personnel, <u>as needed</u>	Issued to individuals plus emergency vehicles;	Clarify equipment capabilities.

Equipment	Description and Capabilities	Location	Explanation of Change
Spill Response <u>Equipment and Materials</u>			
<u>HAZMAT Equipment</u>	<u>Spill response equipment and supplies, PPE, and decontamination supplies stored and maintained in accordance with NFPA 1901 and as documented in WIPP facility files</u>	<u>Surface, in designated areas near Building 452</u>	Consolidate Hazardous Material (HAZMAT) equipment into a separate section of the table, clarify equipment capabilities and reference applicable standard, and provide equipment location.
<u>Absorbent Materials</u>	<u>Containment or cleanup of spills, including: Pressurized spill-response gun; Absorbent sheets and/or dikes for containment or cleanup of spills of oil, petroleum-based chemicals, and general liquids; Spill-control material for solvents and neutralizing absorbents and for acids/caustics</u>	<u>Surface, in designated areas near Building 452</u>	Consolidate SPILL-X-S Guns and Recharge Powder; Absorbent Sheets; Absorbents; and Absorbent Material into a separate section of the table.
SPILL X-S Guns and Recharge Powder	Containment; (1)SPILL X model SC-30 C(Gun) (1)SPILL X model XC-30 S(Gun) (1)SPILL X model SC-30 A(Gun); (1) A-Acid, 5-gallon-bucket (Recharge Powder) (1)S-Solvent, 5 gallon bucket (Recharge Powder) (1)C-Caustic, 5 gallon bucket (Recharge Powder)	HAZMAT trailer	This detail is being referred to the "Absorbent Materials" field; remove specificity from description of equipment capabilities.
Absorbent Sheets	Containment or cleanup; (1) 3' x 100' Sheet	HAZMAT trailer	See explanation above.
Absorbents	Grab and Go container; spill control bucket; (1) for solvents and neutralizing absorbents; 5 gallon bucket (1) for acids/caustics; 5 gallon bucket	HAZMAT trailer	See explanation above.
Absorbent Material	Containment or cleanup; (1) 100 ft. rolled or equivalent socks "Pig" for general liquid (1) 100 ft. rolled or equivalent socks "Pig" for oil	HAZMAT trailer	See explanation above.
Air Bag System	Extrication, Stabilization, Cribbing (1) bag system with tank kit and the following bag sizes: (1)12-ton, (1) 21.8-ton, (1)17-ton	Surface-rescue truck	This detail is being referred to the "Rescue Carts/Trucks" field. The detailed listing of emergency equipment stored in this location has been removed and replaced with references to lists of emergency equipment inventories kept in the WIPP facility files. This change will enable the Permittees to update the inventory lists whenever the applicable NFPA standards are revised.
Air Chisel	Extrication (1) Capable of cutting 3/16" steel	Surface-rescue truck	See explanation above.

Equipment	Description and Capabilities	Location	Explanation of Change
Drum Transfer Pumps and Drum Opener	Containment or cleanup; (1) unit for chemical transfer (1) hand operated pump for petroleum transfer (1) drum opener	HAZMAT trailer	This detail is being referred to the "HAZMAT Equipment" field. The detailed listing of emergency equipment stored in this location has been removed and replaced with references to lists of emergency equipment inventories kept in the WIPP facility files. This change will enable the Permittees to update the inventory lists whenever the applicable NFPA standards are revised.
Floor Squeegee	Containment or cleanup; (1) straight rubber blade, nonwood handle	HAZMAT trailer	See explanation above.
Foam Concentrate	AFFF 6% (4) 5-gallon pail	Fire truck # 1	This detail is being referred to the "Fire Trucks" field. The detailed listing of emergency equipment stored in this location has been removed and replaced with references to lists of emergency equipment inventories kept in the WIPP facility files. This change will enable the Permittees to update the inventory lists whenever the applicable NFPA standards are revised.
Gas Cylinder Leak Control Kit	(1) Series A Hazardous Material Response Kit; contains nonsparking equipment to control and plug leaks	HAZMAT trailer	See explanation for Drum Transfer Pumps and Drum Opener.
Portable Generator	(1) Backup power; 5,000 watt; 120 or 240 volt	Surface rescue truck	See explanation for Air Bag System.

Equipment	Description and Capabilities	Location	Explanation of Change
Hand Tools	Containment and cleanup; Underground rescue truck: (1)12# Sledge Hammer (1)3/8" Drive Socket Set (1)1/2" Drive Socket Set (1)3/4" Drive Socket Set (1)25' 1/4" Chain (1)6' Wrecking Bar (1)Bottle Jack (1)4# Hammer (1)18" Crescent Wrench (1)5' Pry Bar (1)2' Pry Bar (1)100' Extension Cord (1)4' Nylon Sling (1)6' Nylon Sling (1)10' Nylon Sling These tools are located in the HAZMAT Trailer. They are non-sparking. (1)14"L adjustable pipe wrench (1)15" multi-opening bung wrench (1)hammer/crate opener (1)8" pipe pliers (1)8" blade Phillips (1)#2 screwdriver (1)6" blade standard screwdriver (1)Claw Hammer	Underground rescue truck, HAZMAT trailer	See explanations for Drum Transfer Pumps and Drum Opener and Air Bag System.
Come-a-longs	(1) 4-ton, cable type Ratchet lever tool designed specifically for lifting, lowering and pulling applications including jobs requiring rigging, positioning, and stretching. Used in rescue for extrication.	Surface rescue truck and underground rescue truck	See explanation for Air Bag System.
Porta-power	(1) 10-ton hydraulic, hand-powered jaws used for extrication during rescues.	Surface rescue truck	See explanation above.
Jugs	Containment or cleanup; (4) 1-gallon plastic	HAZMAT trailer	See explanation for Drum Transfer Pumps and Drum Opener.
Pails	Containment or cleanup; (3) 5-gallon plastic with lid	HAZMAT trailer	See explanation above.
Portable Lighting	(1) Emergency lighting system; 120 volts; 500-watt bulbs; suitable for wet location	Underground rescue truck	See explanation for Air Bag System.
Patching Kit	Series A Hazardous Response Kit; Class A; contains nonsparking equipment to control and plug leaks.	HAZMAT trailer	See explanation for Drum Transfer Pumps and Drum Opener.
Scoops and Shovels	Cleanup; plastic; various sizes; nonsparking; nonwood handles (1) Scoop (3) Shovels	HAZMAT trailer	See explanation above.

Medical Resources			
Ambulance #1	<u>A minimum of one ambulance, maintained and equipped in accordance with the New Mexico Ambulance Standard 18.3.14 NMAC, and as documented in WIPP facility files.</u> Equipped as per Federal Specifications KKK-A-1822 and New Mexico Emergency Medical Services Act General Order 35; equipped with a radio to Carlsbad Medical Center, VHF radio, UHF medical frequency, cellular phone	Surface (Safety and Emergency Services Facility Building 452)	Revise equipment name; remove specificity from description of equipment capabilities, referencing applicable standard; and clarify equipment location. The detailed listing of emergency equipment stored in this location has been removed and replaced with references to lists of emergency equipment inventories kept in the WIPP facility files. This change will enable the Permittees to update the inventory lists whenever the New Mexico Ambulance Standard is revised.
Ambulance #2 <u>Medical Cart</u>	<u>A minimum of one medical cart.</u> Diesel and/or electric ambulance equipped <u>to provide basic life support operations, as documented in WIPP facility files</u> first aid kit, 2 stretchers, and other associated medical supplies	Underground	See explanation for Ambulance. The Permittees have determined that only one medical cart is needed in the underground ¹ .
Ambulance #3 ^a	Diesel and/or electric ambulance equipped with first aid kit, rescue basket, oxygen, cardiac monitor and other associated medical supplies	Underground	See explanation above.
Rescue Truck #1	Special purpose vehicle; light and heavy duty rescue equipment; transports 1 litter patient; medical oxygen and supplies for mass casualties; fire suppression support equipment (rescue tool, air bag, K-12 Rescue Saw, 5,000-watt generator, self-contained breathing apparatus (SCBA), and much more equipment	Surface (Safety and Emergency Services Facility)	Relocate emergency equipment on the list. Based on an assessment of needs ¹ , this rescue vehicle will no longer provide patient transport capabilities; therefore, is it being moved to the Fire Detection and Suppression Equipment section of the table ("Rescue Carts/Trucks" field).
<u>Miner's First Aid Station</u>	<u>Equipped per 30 CFR 57.15001</u>	<u>Various locations underground</u>	Added emergency equipment to be consistent with Table E-1. The detailed listing of emergency equipment stored in this location is maintained in the WIPP facility files. This change will enable the Permittees to update the inventory list whenever the applicable regulations are revised.

Fire Detection and Fire Suppression Equipment			
Building Smoke, Thermal Detectors, or Manual Pull Stations	<u>Devices that trigger an alarm and/or fire suppression system</u> ; ionization and photoelectric or fixed temperature/rate of rise detectors; visual display and alarm in CMR; manual pull stations. The underground has manual fire alarm pull stations located where personnel have access when evacuating. These are connected to the U/G evacuation alarm.	Guard and Security Building, Warehouse/Shops, Support Building, CMR/Computer Room, Waste Handling Building, TRUPACT Maintenance Facility, Waste Shaft Collar, Underground Fuel Station, SH Hoisthouse, Engineering Building, Industrial Safety Building, Training Facility	Remove specificity from description of equipment capabilities.
Fire Trucks <u>#4</u>	<u>A minimum of two fire trucks to assist in fighting fires; firefighter equipped in accordance with NFPA 1901 and/or 1906 and as documented in WIPP facility files</u> Equipped per Class "A" fire truck per NFPA; capacity 750 gallons, with pump capacity of 1200 gallons per minute	Surface (<u>Building 452</u> Safety and Emergency Services Facility)	Revise equipment name; remove specificity from description of equipment capabilities, referencing applicable standards; and clarify equipment location. The detailed listing of emergency equipment stored in this location has been removed and replaced with references to lists of emergency equipment inventories kept in the WIPP facility files. This change will enable the Permittees to update the inventory lists whenever the applicable NFPA standards are revised.
Fire Truck #2	Equipped per Class "A" fire truck per NFPA; capacity 1500 gallons, with pump capacity rated for 1250 gallons per minute.	Surface (Safety and Emergency Services Facility)	This equipment has been combined with the "Fire Trucks" field.
Rescue Truck #2 (U/G)	(1) 125-pound dry chemical extinguisher (1) 150-pound foam extinguisher	Underground	This equipment has been combined with the "Rescue Carts/Trucks" field.
Rescue Truck #3 ^a (U/G)	(1) 125-pound dry chemical extinguisher (1) 33-gallon foam extinguisher	Underground	This equipment has been combined with the "Rescue Carts/Trucks" field.
<u>Rescue Carts/Trucks</u>	<u>A minimum of two special-purpose vehicles, one on the surface and one in the underground; light rescue units, equipped in accordance with NFPA 1901 and as documented in WIPP facility files</u>	<u>Surface (Building 452) and Underground</u>	Revise equipment name; remove specificity from description of equipment capabilities, referencing applicable standard; and clarify equipment location. Moved Rescue Truck #1 from the Medical Resources section of the table. The detailed listing of emergency equipment stored in this location has been removed and replaced with references to lists of emergency equipment inventories kept in the WIPP facility files. This change will enable the Permittees to update the inventory lists whenever the applicable NFPA standard is revised.

Underground Fire ^a Suppression Cart Vehicles	A minimum of one special-purpose electric cart to assist in fighting fires; equipped with a minimum of one fire extinguisher (1) 125-pound dry chemical extinguisher (1) 33-gallon foam extinguisher	Underground	Revise equipment name and remove specificity from description of equipment capabilities. Electric carts are fitted with fire extinguishers, and other vehicles are evaluated for automatic fire suppression systems, thereby reducing the potential for fires in the underground. The Permittees have determined that only one underground fire suppression cart is needed to serve as an enhancement to fire-suppression capabilities ¹ .
Fire Extinguishers	Individual Hand-held fire extinguishers; stations; various types located throughout the facility, conforming to NFPA 10 <u>in accordance with NFPA 10.</u>	Buildings, underground, and underground vehicles <u>Surface and underground locations used for hazardous waste management, as documented in WIPP facility files</u>	Revise equipment name, clarify description of equipment capabilities, and clarify equipment locations. Locations are limited to those areas used to manage hazardous waste.
Automatic Dry Chemical Extinguishing Systems	Automatic; 4,000-pound system (Dry Chemical); actuated by thermal detectors or by manual pull stations	Underground fuel station	Remove specificity from description of equipment capabilities.
Automatic Fire Suppression Systems on liquid fueled vehicles	Individual fire suppression systems are installed on liquid fueled vehicles <u>Individual automatic fire suppression systems installed on applicable liquid-fueled vehicles, as determined by a fire risk assessment performed in accordance with NFPA 122</u>	Underground and Surface <u>Surface and underground locations used for hazardous waste management, as documented in WIPP facility files</u>	Clarify description of equipment capabilities, reference applicable standards, and clarify equipment locations. An example of a "fire risk assessment performed in accordance with NFPA 122" is the engineering analysis provided in response to the Agreement. Locations are limited to those areas used to manage hazardous waste.

Sprinkler Systems	Fire alarms activated by water flow <u>NEPA water-based fire suppression system</u>	Water Pumphouse, Guard and Security Building, Support Building , Waste Handling Building (<u>Contact Handling, Remote Handling, and Overpack and Repair areas</u> contact transuranic waste area only), Warehouse/Shops Building, Auxiliary Warehouse Building, TRUPACT Maintenance Building, Training Facility, SH Shaft Hoisthouse, Exhaust Filter Building, <u>and Hazardous Waste Staging Areas (Buildings 474A and 474B)</u> Engineering Building, and Safety Building	Clarify description of equipment capabilities and revise equipment locations. Locations are limited to those areas used to manage hazardous waste.
Water Tanks, Hydrants	Fire suppression water supply; one 180,000-gallon capacity tank, plus a second tank with 100,000 gallon reserve	Tanks are at southwestern edge of WIPP facility; pipelines and hydrants are throughout the surface	No change proposed.
Fire Water Pumps	Fire suppression water supply; pumps are <u>minimally</u> rated at 125 pounds per square inch, 1,500 gallons per minute centrifugal pump, one with electric motor drive, the other with diesel engine; pressure maintenance <u>jockey</u> pump	<u>Water</u> Pumphouse	Clarify that the pressure maintenance pump is a jockey pump; clarify equipment location.
Personal Protection Equipment			
Headlamps	Mounted on hard hat; battery operated	Each person underground	No change proposed.
Underground Self-Rescuer Units	Short-term rebreathers <u>per 30 CFR 57.15030</u> ; approximately 300	Each person underground	Remove specificity from description of equipment capabilities and reference applicable regulations.
Self-Contained Self-Rescuer	<u>Air supply: a minimum of 12 caches in the underground; self-contained rescue units shall be adequate to protect an individual for one hour or longer or, alternatively, sufficient to allow the employee time to reach an additional self-contained self-rescue device in the underground, per NMSA 69-8-16</u> At least 60 minutes of oxygen available. Approximately 400 units cached throughout the underground	Cached throughout the underground	See explanation above.
<u>Mine Rescue</u> Self-Contained Breathing Apparatus (SCBA)	Oxygen supply; 4-hour <u>closed-circuit</u> units <u>consistent with 30 CFR 49.6; a minimum of 12 units, one for each Mine Rescue Team member</u> ; approximately 14 Mine Rescue Team Draeger units	Mine Rescue Training Room	See explanation above.
<u>Fire Department Self-Contained Breathing Apparatus (SCBA)</u>	<u>Air supply: a minimum of 12 units; SCBAs shall meet the minimum requirements established per NFPA 1981</u>	<u>Surface (Building 452)</u>	Added emergency equipment to provide distinction between Mine Rescue and Fire Department SCBAs. See explanation above.
Chemical and Chemical-Supported Gloves	Body protection; (12 pair) inner cloth, (12 pair) outer pvc, (5 pair) outer viton	HAZMAT trailer	See explanation for Drum Transfer Pumps and Drum Opener.

Suit, Acid	Body protection; (4) acid	HAZMAT trailer	See explanation above.
Suit, Fully Encapsulated	Body protection; used with SCBAs; full outerboot; (4) Level A; (4) Level B	HAZMAT trailer	See explanation above.
Emergency Medical Equipment			
Antishock Trousers	Shock treatment; (2) inflatable, one on each ambulance	Ambulance # 1 and # 2	This detail is being referred to the "Ambulance" and "Medical Cart" fields. The detailed listing of emergency equipment stored in these locations has been removed and replaced with references to lists of emergency equipment inventories kept in the WIPP facility files. This change will enable the Permittees to update the inventory lists whenever the applicable standards are revised.
Heart Monitor and Defibrillator	Heart Monitor/defibrillator	Ambulance # 1 and # 2	See explanation above.
Oxygen	Patient care; Size D: (2) Ambulance #1 (1) Underground Ambulance (1) Health Services Size E: (1) Rescue Truck (2) Underground Ambulance Size M: (1) Ambulance #1	Ambulance # 1 and # 2; surface rescue truck	See explanation above. See explanation for Air Bag System.
Resuscitators (Bag)	Disposable bag-resuscitation Ambulance #1: (2) adult size (1) child size Underground Ambulance: (2) adult size	Ambulance # 1, Ambulance # 2	See explanation for Antishock Trousers.
Splints	Immobilize limbs; (1) Adult traction splint, lower extremity, with limb supporting slings, padded ankle hitch and traction device per ambulance. (2) Rigid splinting devices or equivalents, suitable for immobilization of upper extremities per ambulance. (2) Rigid splinting devices or equivalents, suitable for the immobilization of lower extremities. (1) Set of Airsplints: 6 assorted splints; hand/wrist, half arm, full arm, foot/ankle, half leg, and full leg per miner's aid stations.	Ambulance # 1 and # 2, Miner's Aid Stations	See explanation above. This detail is being referred to the "Miner's First Aid Station" field. The detailed listing of emergency equipment stored in this location is maintained in the WIPP facility files. This change will enable the Permittees to update the inventory list whenever the applicable regulations are revised.

Stretchers	<p>Patient transport;</p> <p>(2) Spine Boards, one short and one long, with nylon straps per ambulance. (also used to perform cardiopulmonary resuscitation)</p> <p>(2) Emergency Stretchers or scoops, or combination per ambulance</p> <p>(1) All purpose multi level ambulance stretch (gurney), with 3 safety straps and locking mechanism per ambulance.</p> <p>(1) Stretcher in each miner's aid station.</p>	Various combinations in Ambulance # 1 and # 2, Miner's Aid Station	See explanation above.
Suctions	<p>For medical emergencies:</p> <p>Portable</p> <p>(1) Suction unit, capable of delivering at least 300 mm. HG on each ambulance.</p>	Ambulances #1 and #2	See explanation for Antishock Trousers.
Trauma Kits	<p>(1) adult blood pressure cuff and stethoscope</p> <p>(4) soft roller bandages</p> <p>(3) triangular bandages</p> <p>(1) pkg. band aids</p> <p>(2) trauma dressings</p> <p>(25) 4X4 sponges</p> <p>(1) roll adhesive tape</p> <p>(1) bite stick</p> <p>(1) penlight</p> <p>(1) sterile burn sheet</p> <p>(1) oropharyngeal airway</p> <p>(1) glucose substance</p> <p>(2) sterile gauze dressings</p>	(1) kit in each: Ambulances #1 and #2, surface rescue truck	See explanation above. See explanation for Air Bag System.
Miner's Aid Station	<p>For First Aid Stations in the Underground</p> <p>(1) Stretcher as referenced above per station</p> <p>(1) Set of aircsplints as referenced above per station</p> <p>(1) Blanket per station</p> <p>(1) Box of latex gloves (50) per station</p> <p>(5) Pathogen Wipes per station</p> <p>(1) First Aid Kit (24) per station; includes;</p> <p>(3) Band Aid Combo Paks</p> <p>(2) Swabs, PVP</p> <p>(1) Antibiotic Ointment</p> <p>(1) Sting Kill Swab</p> <p>(2) Dressing, compresses</p> <p>(2) Roller Bandages</p> <p>(2) Tape</p> <p>(2) Triangle Bandage</p> <p>(1) Eyedressing Pak</p> <p>(1) Burn Dressing</p> <p>(1) Ammonia Inhalants</p> <p>(1) User Log Sheet</p>	Miner's Aid Stations— Various Underground Locations	See explanation for Splints.

First Aid Supplies	<p>According to General Order #35</p> <p>(12) bandages, soft roller, self-adhering type—4" or 6" x 5 yards.</p> <p>(6) triangular bandages, 40"</p> <p>(1) box band-aids</p> <p>(1) 1 pair bandage shears</p> <p>(6) Trauma dressings, 30" x 10"</p> <p>(6) Trauma dressings, 5" x 7"</p> <p>(50) 4" x 4" sponges, individually wrapped and sterile</p> <p>(2) rolls adhesive tape</p> <p>(1) penlight</p> <p>(2) sterile burn sheets</p> <p>(2) oropharyngeal airways—adult</p> <p>(2) oropharyngeal airways—child (Ambulance #1 only)</p> <p>(2) oropharyngeal airways—infant (Ambulance #1 only)</p> <p>(1) Glucose substance</p> <p>(3) Occlusive dressings</p> <p>(1) Roll aluminum foil</p> <p>(6) Rigid cervical collars—2 each small, medium and large sizes</p> <p>(4) Cold packs</p> <p>(4) Heat packs</p> <p>(2) Bite sticks</p>	Ambulance #1	See explanation for Antishock Trousers.
First Aid Supplies	<p>(2) Transfer sheets</p> <p>(2) Blankets</p>	Ambulances #1 and #2	See explanation above.
First Aid Supplies	<p>(2) #16g angiosets</p> <p>(2) #18g angiosets</p> <p>(2) #20g angiosets</p> <p>(1) 1000cc LR-IV fluid</p> <p>(1) 500cc NS-IV fluid</p>	Ambulances #1 and #2, surface rescue truck	See explanation above. See explanation for Air Bag System.
General Plant Emergency Equipment			
Emergency Lighting	For employee rescue and evacuation, and fire/spill containment; linked to main power supply, and selectively linked to back up diesel power supply and/or battery-backed power supply	Surface and underground	No change proposed.
Backup Power Sources	Two A minimum of two diesel generators, and battery-powered uninterruptible power supply (UPS); use limited to essential loads; manual or remote starting 1,100-kilowatt diesel generators with on-site fuel for 62% load for 3 days for selected loads; 30 minute battery capacity for essential loads	Generators are east of Safety and Emergency Services Building Building 452 ; UPS is located at the essential loads	Remove specificity from description of equipment capabilities; clarify equipment locations.
Emergency Hoists	Hoists in Waste Shaft, Air Intake Shaft, and SH Shaft	Waste Shaft, Air Intake Shaft, SH Shaft	Revise description of equipment capabilities and remove equipment locations. One emergency hoist is maintained in the Air Intake Shaft. Other hoists are used in day-to-day operations.

Radiation Monitoring Equipment	(5) Portable alpha and beta survey meters, portable air samplers, and portable continuous air monitors	Building 412	Remove emergency equipment. Equipment is used for radiological emergencies not covered by the <i>RCRA Contingency Plan</i> .
Emergency Showers	For emergency flushing of chemical contact or injury	Surface <u>Waste Handling Building and Hazardous Waste Staging Areas</u>	Revise equipment name and clarify equipment locations. Locations are limited to those areas used to manage hazardous waste.
<u>Emergency Eyewash Equipment</u> Eye Wash Fountains	For emergency flushing of affected eyes	Various locations on surface and in the underground <u>Waste Handling Building (RH Bay, Site Derived Waste Area, Waste Shaft Collar, and Room 108 TRUPACT III only), TRUPACT Maintenance Building, Exhaust Shaft Filter Building, Hazardous Waste Staging Areas (Building 474A), and underground locations</u>	Clarify equipment locations. Locations are limited to those areas used to manage hazardous waste.
Decon Shower Equipment	Self-contained decon shower trailer, portable decon shower unit	Surface	Remove emergency equipment. Equipment is used for radiological emergencies not covered by the <i>RCRA Contingency Plan</i> .
Overpack containers <u>for TRU Mixed Waste</u>	44-85 Gallon drums 4-SWBs 4-TDOP	Building 481 Building 481 Building 481	Revise equipment name, remove specificity from description of equipment capabilities, and remove redundant text from equipment location.
HEPA Vacuums	2 HEPA Vacuum to be utilized for removal of contamination.	Building 481	Remove emergency equipment. Equipment is used for radiological emergencies not covered by the <i>RCRA Contingency Plan</i> .
Aquaset or Cement	400 lbs. of aquaset or cement m <u>Material for solidification of liquid waste generated as a result of fire fighting water or decontamination solutions.</u>	Building 481 <u>Surface Connex A, located south of Building 411</u>	Remove specificity from description of equipment capabilities and revise equipment locations.
Paint or Fixative	1—5 gallon bucket of approved fixative to be used during recovery.	Building 481	Remove emergency equipment. Equipment is used for radiological emergencies not covered by the <i>RCRA Contingency Plan</i> .
TDOP Upender	Upender facilitates overpacking standard waste boxes	Building 481 <u>Waste Handling Building (Building 411)</u>	Revise equipment locations.

Non hazardous Decontaminating Agents	4-1 Gallon bottles for decontamination of surfaces, equipment, and personnel	Building 481 <u>Waste Handling Building (Building 411): Surface Connex A, located south of Building 411</u>	Remove specificity from description of equipment capabilities and revise equipment locations.
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In order to make the Inspection Schedule in the Permit, Attachment E, consistent with the changes to the *RCRA Contingency Plan*, the Permittees are also proposing to make changes to Attachment E, Table E-1, to correspond with the proposed changes to the new Table D-2 in the revised Attachment D of the Permit. Revisions to Table E-1 include the following:

- Remove obsolete footnotes “g” and “h” and replace with new footnotes to clarify that 1) inspections for the Mine Rescue Self-Contained Breathing Apparatus (**SCBA**) are performed per the manufacturer’s maintenance instructions and 2) inspections and preventative maintenance (**PM**) are not required for equipment that is out of service
- Revise, add, or remove emergency equipment names to correspond with the changes made to the equipment listing in the new Table D-2
- Add procedure and PM numbers to “Procedure Number and Inspection Criteria” field to ensure completeness and consistency with WIPP facility files
- Revise the inspection frequencies to ensure consistency with NFPA standards and clarify inspection criteria, where appropriate for Fire Detection and Alarm System, Fire Hydrants, Fire Pumps, Fire Sprinkler Systems, Automatic on-board fire suppression systems, and Fire Department SCBAs
- Revise the inspection frequency of Hazardous Material Response Equipment from weekly to quarterly; this change is appropriate since the equipment is controlled via lock and key, and it is replenished immediately after use in accordance with WIPP facility files
- Clarify that Head Lamps, Mobile Phones, and Radios are used by facility personnel in general, not specific organizations
- Change “Emergency Services” to “Fire Department” or “Fire Protection Engineering,” as appropriate
- Remove Fire Protection Technician from the List 11 footnote and place it under a new footnote, “List 12: Fire Protection Engineering” since the Fire Protection Technician is a part of the engineering organization, not the emergency management organization
- Revise footnote “i” to address Head Lamps and Mobile Phones and to clarify their use and applicability
- Revise footnote “j” to read, “Fire extinguisher inspections are performed in accordance with NFPA 10”
- Revise the asterisked footnote to read, “Positions are not considered RCRA positions (i.e., personnel do not manage or respond to emergencies involving TRU mixed waste)” for completeness

The Coordination Agreements section of the *RCRA Contingency Plan* has been revised to describe the agreements in place between the Permittees and local emergency response agencies which may be invoked by the RCRA Emergency Coordinator upon implementation of the plan. The list of local agencies to which a copy of the *RCRA Contingency Plan* must be submitted has been revised to be consistent with the agreements described in this section, which has been renamed *Agreements with Local Emergency Response Agencies*.

The evacuation plan described in the *RCRA Contingency Plan* has been revised to remove references to Office Wardens as the individuals responsible for personnel accountability in the event of an evacuation; instead, a general description of these individuals has been provided. Additionally, the Permittees are proposing to update evacuation routes and maps in Attachment D and clarify that the preferred evacuation route is designated by the Incident Commander and is based on the nature of the event, prevailing weather conditions, and actual or potential radiological release. The evacuation plan description has been revised to provide clarification and to update information to ensure consistency with standard operating procedures for personnel evacuation.

The Permittees are proposing to make the following changes to the tables and figures in Attachment D in order to incorporate the changes described above:

- Table D-1, *Hazardous Substances in Large Enough Quantities to Constitute a Level II Incident*, has been deleted in accordance with the revised scope and implementation criteria of the *RCRA Contingency Plan*. As described above, the *RCRA Contingency Plan* does not address spills or releases of hazardous substances that are not hazardous wastes; these are managed through the *WIPP Emergency Management Plan* and WIPP facility standard operating procedures and guides.
- Table D-2, *Resource Conservation and Recovery Act Emergency Coordinators*, has been renumbered to Table D-1.
- Table D-3, *Planning Guide for Determining Incident Levels and Response*, has been deleted in accordance with the revised scope and implementation criteria of the *RCRA Contingency Plan*. The *RCRA Contingency Plan* does not address spills or releases of hazardous substances; these are managed through the *WIPP Emergency Management Plan* and WIPP facility standard operating procedures and guides.
- Table D-4, *Physical Methods of Mitigation*, has been deleted since this information is extraneous and covered in the new Section D-4e, *Control and Containment of the Emergency*.
- Table D-5, *Chemical Methods of Mitigation*, has been deleted since this information is extraneous and covered in the new Section D-4e, *Control and Containment of the Emergency*.
- Table D-6, *Emergency Equipment Maintained at the Waste Isolation Pilot Plant*, has been renumbered to Table D-2.
- Table D-7, *Types of Fire Suppression Systems by Location*, has been deleted since this information is extraneous and not required for a RCRA contingency plan by the regulations.

- Table D-8, *Hazardous Release Reporting, Federal*, has been deleted since this information is extraneous, is not consistent with the revised scope of the *RCRA Contingency Plan*, and required reporting is described in new Section D-5 of the plan.
- Table D-9, *Hazardous Release Reporting, State*, has been deleted since this information is extraneous, is not consistent with the revised scope of the *RCRA Contingency Plan*, and required reporting is described in new Section D-5 of the plan.
- Figure D-4, *Direction and Control Under Emergency Conditions in Which the Plan Has Been Implemented*, has been deleted since this organizational structure is being proposed for revision, and furthermore, communication flow diagrams are not required for a RCRA contingency plan by the regulations. The emergency response organizational structure is described in Section D-2 of the plan.
- Figure D-4a, *WIPP Facility Emergency Notifications*, has been deleted since communication flow diagrams are not required for a RCRA contingency plan by the regulations and the notification process is described in Section D-4a of the plan.
- Figure D-5, *Underground Emergency Equipment Locations and Underground Evacuation Routes* has been revised and renamed Figure D-4, *Underground Escapeways/Evacuation Routes*.
- Figure D-6, *Fire-Water Distribution System*, renumbered to Figure D-5.
- Figure D-7, *Underground Diesel Fuel Station Area Fire-Protection System*, has been deleted since this level of detail is not required for a RCRA contingency plan by the regulations.
- Figure D-8, *WIPP On-Site Assembly Areas and WIPP Staging Areas*, has been renumbered to Figure D-6 and renamed *WIPP On-Site Assembly Areas and Off-Site Staging Areas*.
- Figure D-8a, *RH Bay Evacuation Routes*, has been renumbered to Figure D-6a.
- Figure D-8b, *RH Bay Hot Cell Evacuation Route*, has been renumbered to Figure D-6b.
- Figure D-8c, *Evacuation Routes in the Waste Handling Building*, has been renumbered to Figure D-6c.
- Figure D-9, *Designated Underground Assembly Areas*, has been renumbered to Figure D-7.
- Figure D-10, *Waste Handling Building Pre-Fire Survey (First Floor)*, has been deleted since this level of detail is not required for a RCRA contingency plan by the regulations.
- Figure D-10a, *Waste Handling Building Pre-Fire Survey (First Floor – Fire Hydrant/Post Indicator Location)*, has been deleted since this level of detail is not required for a RCRA contingency plan by the regulations.
- Figure D-11, *Waste Handling Building Pre-Fire Survey (Second Floor)*, has been deleted since this level of detail is not required for a RCRA contingency plan by the regulations.

- Figure D-11a, *Waste Handling Building Pre-Fire Survey (Second Floor – Fire Hydrant/Post Indicator Location)*, has been deleted since this level of detail is not required for a RCRA contingency plan by the regulations.
- Figure D-12, *WIPP Hazardous Material Incident Report*, has been deleted since the information contained in it is not consistent with the revised scope of the *RCRA Contingency Plan*. The *RCRA Contingency Plan* does not address spills or releases of hazardous substances; these are managed through the *WIPP Emergency Management Plan* and associated WIPP facility standard operating procedures and guides.
- A new Figure D-8, *WIPP Site Evacuation Routes*, has been added.
- Drawing 41-F-087-014, *Waste Handling Building 411 Fire Water Collection System Flow Diagram*, has been deleted since this level of detail is not required for a RCRA contingency plan by the regulations.

Table 2, *RCRA Regulations Pertaining to Contingency Plan and Emergency Procedures*, provides a cross correlation of each regulatory requirement of NMAC 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D) to the implementing sections, tables, and figures, of both the current *RCRA Contingency Plan* and the proposed revised *RCRA Contingency Plan*.

Table 2. RCRA Regulations Pertaining to Contingency Plan and Emergency Procedures

40 CFR Part 264, Subpart D	Implementing Section of Current RCRA Contingency Plan	Implementing Section of Proposed Revised RCRA Contingency Plan
§264.50 Applicability. The regulations of this subpart apply to owners and operators of all hazardous waste facilities, except as §264.1 provides otherwise.	Attachment D, <i>RCRA Contingency Plan</i>	Attachment D, <i>RCRA Contingency Plan</i>
§264.51 Purpose and implementation of contingency plan. (a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.	Attachment D, Section D-1, <i>General Information</i>	Attachment D, Section D-1, <i>Scope and Applicability</i>
(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.	Attachment D, Section D-3, <i>Implementation</i>	Attachment D, Section D-3, <i>Criteria for Implementation of the RCRA Contingency Plan,</i> and Section D-4c(2), <i>RCRA Contingency Plan Implementation for Releases</i>

40 CFR Part 264, Subpart D	Implementing Section of Current RCRA Contingency Plan	Implementing Section of Proposed Revised RCRA Contingency Plan
<p>§264.52 Content of contingency plan.</p> <p>(a) The contingency plan must describe the actions facility personnel must take to comply with §§264.51 and 264.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.</p>	Attachment D, Section D-2, <i>Response Personnel</i> , and Section D-4, <i>Emergency Response Method</i>	Attachment D, Section D-2a, <i>Emergency Response Personnel</i> , and Section D-4, <i>Emergency Response Method</i>
<p>(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with part 112 of this chapter, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this part. The owner or operator may develop one contingency plan which meets all regulatory requirements. EPA recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan"). When modifications are made to non-RCRA provisions in an integrated contingency plan, the changed do not trigger the need for a RCRA permit modification.</p>	Attachment D, Section D-1, <i>General Information</i>	Attachment D, Section D-1, <i>Scope and Applicability</i>
<p>(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to §264.37.</p>	Attachment D, Section D-6, <i>Coordination Agreements</i>	Attachment D, Section D-7, <i>Agreements with Local Emergency Response Agencies</i>
<p>(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see §264.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. <i>For new facilities</i>, this information must be supplied to the Regional Administrator at the time of certification, rather than at the time of permit application.</p>	Attachment D, Section D-2, <i>Response Personnel</i> , and Table D-2, <i>Resource Conservation and Recovery Act Emergency Coordinators</i>	Attachment D, Section D-2a, <i>Emergency Response Personnel</i> , and Table D-1, <i>Resource Conservation and Recovery Act Emergency Coordinators</i>
<p>(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communication and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.</p>	Attachment D, Section D-5, <i>Emergency Equipment</i> , and Table D-6, <i>Emergency Equipment Maintained at the Waste Isolation Pilot Plant</i>	Attachment D, Section D-6, <i>Emergency Equipment</i> , and Table D-2, <i>Emergency Equipment Maintained at the Waste Isolation Pilot Plant</i>
<p>(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).</p>	Attachment D, Section D-7, <i>Evacuation Plan</i>	Attachment D, Section D-8, <i>Evacuation Plan</i>

40 CFR Part 264, Subpart D	Implementing Section of Current RCRA Contingency Plan	Implementing Section of Proposed Revised RCRA Contingency Plan
<p>§264.53 Copies of contingency plan. A copy of the contingency plan and all revisions to the plan must be:</p> <p>(a) Maintained at the facility; and</p>	Attachment D, Section D-9, <i>Location of the Contingency Plan and Plan Revision</i>	Attachment D, Section D-9, <i>Location of the RCRA Contingency Plan and Plan Revision</i>
<p>(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.</p>	Attachment D, Section D-9, <i>Location of the Contingency Plan and Plan Revision</i>	Attachment D, Section D-9, <i>Location of the RCRA Contingency Plan and Plan Revision</i>
<p>§264.54 Amendment of contingency plan. The contingency plan must be reviewed, and immediately amended, if necessary, whenever:</p> <p>(a) The facility permit is revised;</p> <p>(b) The plan fails in an emergency;</p> <p>(c) The facility changes – in its design, construction, operation, maintenance, or other circumstances – in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;</p> <p>(d) The list of emergency coordinators changes; or</p> <p>(e) The list of emergency equipment changes.</p>	Attachment D, Section D-9, <i>Location of the Contingency Plan and Plan Revision</i>	Attachment D, Section D-9, <i>Location of the RCRA Contingency Plan and Plan Revision</i>
<p>§264.55 Emergency coordinators. At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of the waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources necessary to carry out the contingency plan.</p> <p>[<i>Comment:</i> The emergency coordinator's responsibilities are more fully spelled out in §264.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.]</p>	Attachment D, Section D-2, <i>Response Personnel</i> and Attachment F1	Attachment D, Section D-2a, <i>Emergency Response Personnel</i> and Attachment F1
<p>§264.56 Emergency procedures. (a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:</p>	Attachment D, Section D-4a, <i>Notifications</i>	Attachment D, Section D-4a, <i>Immediate Notifications</i>

40 CFR Part 264, Subpart D	Implementing Section of Current RCRA Contingency Plan	Implementing Section of Proposed Revised RCRA Contingency Plan
(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and	Attachment D, Section D-4a(1), <i>Initial Emergency Response and Alerting the RCRA Emergency Coordinator</i> , and Section D-4a(2), <i>Communication of Emergency Conditions to Facility Employees</i>	Attachment D, Section D-4a(1), <i>Initial Emergency Response and Alerting the RCRA Emergency Coordinator</i> , and Section D-4a(2), <i>Communication of Emergency Conditions to Facility Employees</i>
(2) Notify appropriate State or local agencies with designated response roles if their help is needed.	Attachment D, Section D-4a(3), <i>Notification of Local, State and Federal Authorities</i>	Attachment D, Section D-4a(1), <i>Initial Emergency Response and Alerting the RCRA Emergency Coordinator</i>
(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.	Attachment D, Section D-4a(1), <i>Initial Emergency Response and Alerting the RCRA Emergency Coordinator</i> , Section D-4b, <i>Identification of Hazardous Materials</i> , and Section D-4c, <i>Assessment of the Nature and Extent of the Emergency</i>	Attachment D, Section D-4b, <i>Identification of the Released Materials and Assessment of Extent of the Emergency</i>
(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).	Attachment D, Section D-4a(1), <i>Initial Emergency Response and Alerting the RCRA Emergency Coordinator</i>	Attachment D, Section D-4c(1), <i>Assessment of the Potential Hazards</i>
(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment, outside the facility, he must report his findings as follows:	Attachment D, Section D-4a(3), <i>Notification of Local, State, and Federal Authorities</i>	Attachment D, Section D-4d, <i>Post-Assessment Notifications</i>
(1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and	Attachment D, Section D-4a(3), <i>Notification of Local, State, and Federal Authorities</i>	Attachment D, Section D-4d, <i>Post-Assessment Notifications</i>
(2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:	Attachment D, Section D-4a(3), <i>Notification of Local, State, and Federal Authorities</i>	Attachment D, Section D-4d, <i>Post-Assessment Notifications</i>

40 CFR Part 264, Subpart D	Implementing Section of Current RCRA Contingency Plan	Implementing Section of Proposed Revised RCRA Contingency Plan
(i) Name and telephone number of reporter; (ii) Name and address of facility; (iii) Time and type of incident (e.g., release, fire); (iv) Name and quantity of material(s) involved, to the extent known; (v) The extent of injuries, if any; and (vi) The possible hazards to human health, or the environment, outside the facility.	Attachment D, Section D-4a(3), <i>Notification of Local, State, and Federal Authorities</i>	Attachment D, Section D-4d, <i>Post-Assessment Notifications</i>
(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.	Attachment D, Section D-4d, <i>Control, Containment, and Correction of the Emergency</i> , and Section D-4e, <i>Prevention of Recurrence of Spread of Fires, Explosions, or Releases</i>	Attachment D, Section D-4e, <i>Control and Containment of the Emergency</i>
(f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.	Attachment D, Section D-4d, <i>Control, Containment, and Correction of the Emergency</i>	Attachment D, Section D-4e, <i>Control and Containment of the Emergency</i>
(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.	Attachment D, Section D-4f, <i>Management and Containment of Released Material and Waste</i>	Attachment D, Section D-4f, <i>Post-Emergency Activities</i>
(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:	Attachment D, Section D-4g, <i>Incompatible Waste</i> , and Section D-4h, <i>Post-Emergency Facility and Equipment Maintenance and Reporting</i>	Attachment D, Section D-4f, <i>Post-Emergency Activities</i>
(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and	Attachment D, Section D-4b(10), <i>Emergency Termination Procedures</i> , and Section D-4g, <i>Incompatible Waste</i>	Attachment D, Section D-4f(1), <i>Management and Disposition of Released Material</i> , and Section D-4f(2), <i>Incompatible Waste</i>
(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.	Attachment D, Section D-4b(10), <i>Emergency Termination Procedures</i> , and Section D-4h, <i>Post-Emergency Facility and Equipment Maintenance and Reporting</i>	Attachment D, Section D-4f(3), <i>Cleaning and Restoration of Equipment</i> and Section D-5, <i>Required Reporting</i>

40 CFR Part 264, Subpart D	Implementing Section of Current RCRA Contingency Plan	Implementing Section of Proposed Revised RCRA Contingency Plan
(i) The owner or operator must note in the operating record the time, date, and details of any incident that required implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Regional Administrator. The report must include:	Section D-4h, <i>Post-Emergency Facility and Equipment Maintenance and Reporting</i> and Section D-8, <i>Required Reports</i>	Attachment D, Section D-5, <i>Required Reporting</i>
(1) Name, address, and telephone number of the owner or operator; (2) Name, address, and telephone number of the facility; (3) Date, time, and type of incident (e.g., fire, explosion); (4) Name and quantity of material(s) involved; (5) The extent of injuries, if any; (6) An assessment of actual or potential hazards to human health or the environment, where this is applicable, and (7) Estimated quantity and disposition of recovered material that resulted from the incident.	Attachment D, Section D-8, <i>Required Reports</i>	Attachment D, Section D-5, <i>Required Reporting</i>

Topic 2: Revise Emergency Response Personnel Job Titles and Descriptions

In response to the JONs issued by the AIBs, the Permittees are proposing to revise the descriptions of emergency response job titles and functions to align with those described in the *WIPP Fire Department Program Plan*. A new subsection D-2a, *Emergency Response Personnel*, has been added to Attachment D, Section D-2.

References to the Emergency Services Technician/Fire Protection Technician have been removed. Under the WIPP Fire Department organizational structure, the Firefighter will assume the duties of the Emergency Services Technician, as described in Attachment D, Section D-2, with the exception of incident command duties, which may be delegated to the Incident Commander by the RCRA Emergency Coordinator.

References to the FLIRT and the Fire Brigade have been removed; the duties of the FLIRT and the Fire Brigade will be fulfilled by the WIPP Fire Department Firefighters, which will be supported by the ERT as identified in the *WIPP Fire Department Program Plan*.

Section D-2 has been revised to clearly define the roles and responsibilities of the RCRA Emergency Coordinator. Text has been added to clarify that the RCRA Emergency Coordinator has the authority to delegate incident command responsibilities to the Incident Commander. The Incident Commander will either be a member of the WIPP Fire Department or, for security-related incidents, the WIPP Protective Force. Additionally, references to the FSM as the designated RCRA Emergency Coordinator have been removed, and text has been added to clarify that qualified RCRA Emergency Coordinators are listed in Table D-1 and are trained to the requirements found in Attachment F1. The footnotes for Table D-2 have been revised to remove references to the FSM, as the primary RCRA Emergency Coordinator, and the Facility Operations Engineer, as the alternate RCRA Emergency Coordinator and, instead, state that for each shift, a qualified RCRA Emergency Coordinator serves as the primary, and a second qualified RCRA Emergency Coordinator is available to serve as the alternate. The footnote designations have been removed from the listing of names, a footnote has been added to the title of the table, and the “(primary)” qualifier has been removed from the listing of names.

Text has been added to Attachment D, Section D-2a, to clarify that the CMRO supports the RCRA Emergency Coordinator during emergencies. A separate definition for FSM has been provided to explain that the FSM can serve concurrently as the RCRA Emergency Coordinator, if trained to the requirements of Attachment F1, or provide support to the qualified RCRA Emergency Coordinator on shift. Additionally, the definition of the MRT has been revised to ensure consistency with the *WIPP Fire Department Program Plan*. The definition of the EOC has been revised to remove specificity, which is not required by the regulations.

Finally, the Permittees are proposing to remove the definitions of Office Warden, Chief Office Warden, and Assistant Office Warden, from Attachment D, Section D-2. The regulations at 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D) do not require the *RCRA Contingency Plan* to identify the titles of individuals responsible for personnel accountability.

Topic 3: Revise Emergency Response Personnel Training

In response to the JONs issued by the AIBs, the WIPP Fire Department personnel are trained in accordance with the *WIPP Fire Department Training Plan*, which is kept on file at the WIPP facility and incorporates national consensus standards such as NFPA, FEMA, and the National Incident Management System. WIPP facility personnel who perform Emergency Medical Services related duties are licensed through the State of New Mexico Emergency Medical Systems Bureau.

The Permittees are proposing to revise Attachment D, Section D-2, by adding a new subsection, Section D-2b, *Emergency Response Training*, which describes the training requirements for WIPP Fire Department Personnel, including Firefighters, Incident Commanders, and ERT members. This new section of the *RCRA Contingency Plan* describes the emergency response training addressed in the *WIPP Fire Department Training Plan* and refers to the required training in the Permit, Attachments F, F1, and F2.

The standards of 20.4.1.500 NMAC (incorporating 40 CFR §264.16(a)(1)) state, “Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility’s compliance with the requirements of this part...” The training program is to include all the elements described under paragraph (a)(3) of the section, which requires the training program to “be designed to ensure that the facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems...” The regulations also requires, at paragraph (b), that the facility personnel successfully complete the training program within six months after the date of their employment and that employees must not work in unsupervised positions until the training has been completed. The Permittees are not proposing to remove the site-specific training required to meet the regulations stated above from Attachments F1 or F2 of the Permit; these training requirements will remain in place and will be completed within six months from the date of hire for the respective hazardous waste management job positions.

The Permit, Attachment F, *Personnel Training*, has been revised to add “and emergency response” after “hazardous waste management,” where appropriate. “Shift Manager, Facility Operations,” has been removed from the list of supervisory positions considered critical from the standpoint of emergency response in Section F-1a; this change is consistent with the proposed revisions described in Topic 2 related to the removal of references to the FSM as the designated RCRA Emergency Coordinator. References to security personnel training have been removed from Section F-1d. Section F-1e has been revised to be consistent with the revised

descriptions of emergency response job titles and functions, as discussed in Topic 2. Text has been added to Section F-1e to clarify that the training requirements must be met prior to an “unsupervised” individual serving in an “associated” emergency response function and that emergency response personnel receive training “commensurate with their duties;” radiation control specific training has been removed from the listing of such training. A statement referencing course outlines for emergency response training to the Permit, Attachment F2, has been deleted. Figure F-1, *Organizational Location of Training, Waste Handling, and Emergency Response Functions*, and all references to Figure F-1 have been deleted since organizational charts are not required by the regulations.

The Permittees are proposing to revise Attachment F1, *RCRA Hazardous Waste Management Job Titles and Descriptions*, to rename the section, *RCRA Hazardous Waste Management and Emergency Response Job Descriptions*. The following are being removed from the list of RCRA job titles:

- Emergency Services Technician
- Facility Shift Engineer
- Facility Shift Manager
- Chief Office Warden
- Assistant Chief Office Warden
- First Line Initial Response Team Member
- Fire Brigade

The RCRA Hazardous Waste Management Job Descriptions have also been deleted for the above personnel. These proposed changes are consistent with the proposed changes described in Topic 2.

The following positions are being added to the list of RCRA Hazardous Waste Management Job Titles. This change ensures consistency with the proposed changes described in Topic 2:

- Firefighter
- Incident Commander
- RCRA Emergency Coordinator

The job descriptions for the Firefighter, Incident Commander, Mine Rescue Team Member, and Emergency Response Team have been developed or revised to ensure consistency with the *WIPP Fire Department Program Plan*, *WIPP Fire Department Training Plan*, and the requirements of the *RCRA Contingency Plan*. The job duties have been revised. For the Firefighter, Incident Commander, and the Emergency Response Team the section “Requisite Skills, Experience, and Education” has been renamed “Requisite Skills, Qualifications, and Education*,” the asterisk designates a note which states that these requirements must be met prior to an individual being assigned to the respective position. The applicable NFPA, FEMA, and National Incident Management System standards have been listed under the section, “Requisite Skills, Qualifications, and Education.” Courses listed in the “Training (Type/Amount)” section for these job descriptions that are duplicative with the requisite qualifications have been removed. A paragraph has also been added to the “Training (Type/Amount)” section to clarify that the courses listed comprise the site-specific training that must be completed no later than six months after assignment to the respective position and that, prior to completion, the individual must be supervised when performing duties related to emergency response to incidents involving hazardous waste.

The job description for the Fire Protection Technician has been revised to remove duties that are performed by WIPP Fire Department Personnel. Since the only remaining duty of the Fire Protection Technician is to conduct routine inspections and testing of facility fire suppression and detection, training courses listed in this job description that are not related to performing this duty have been deleted.

The Permittees are proposing to revise Attachment F2, *Training Course and Qualification Card Outlines*, to delete the following course outlines:

- TRG-296 – Root Cause Analysis, since this course is specific to the Facility Shift Manager
- SAF-632 – Office Warden, since this course is specific to the Chief Office Warden and the Assistant Chief Office Warden
- SAF-621 – Firefighter I, since this training has been superseded by the more rigorous NFPA-based training described in Attachment D, Section D-2b

The Permittees are proposing to revise Attachment F2 to delete the following qualification card descriptions:

- EST-01 Emergency Services Technician, since this job description has been deleted as described above
- Facility Operations Shift Supervisor, since this qualification is specific to the Facility Shift Manager, which has been deleted as described above

Finally, the title of SAF-645 has been changed from “RCRA Emergency Coordinator (WIPP Contingency Plan Procedure)” to “RCRA Contingency Plan.” The course outline has been revised to be consistent with the proposed changes described in Topic 1.

- 4. 20.4.1.900 NMAC (incorporating 40 CFR 270.42 (b)(1)(iv)), requires the applicant to provide the applicable information required by 40 CFR 270.13 through 270.21, 270.62 and 270.63.**

The regulatory crosswalk describes those portions of the WIPP Permit that are affected by this PMR. Where applicable, regulatory citations in this modification reference Title 20, Chapter 4, Part 1, NMAC, revised March 9, 2009, incorporating 40 CFR Parts 264 and 270. 40 CFR §§270.16 through 270.21, 270.62, and 270.63 are not applicable at WIPP. They are not listed in the regulatory crosswalk table.

- 5. 20.4.1.900 NMAC (incorporating 40 CFR 270.11(d)(1) and 40 CFR 270.30(k)), requires that any person signing under paragraph a and b must certify the document in accordance with 20.4.1.900 NMAC.**

The transmittal letter for this PMR contains the signed certification statement in accordance with Permit Part 1, Section 1.9.

Regulatory Crosswalk

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the Permit or Permit	Yes	No
§270.13		Contents of Part A permit application	Attachment B, Part A		✓
§270.14(b)(1)		General facility description	Attachment A		✓
§270.14(b)(2)	§264.13(a)	Chemical and physical analyses	Attachment C		✓
§270.14(b)(3)	§264.13(b)	Development and implementation of waste analysis plan	Attachment C		✓
	§264.13(c)	Off-site waste analysis requirements	Attachment C		✓
§270.14(b)(4)	§264.14(a-c)	Security procedures and equipment	Part 2.6		✓
§270.14(b)(5)	§264.15(a-d)	General inspection requirements	Attachment E	✓	
	§264.174	Container inspections	Attachment E		✓
§270.23(a)(2)	§264.602	Miscellaneous units inspections	Attachment E	✓	
§270.14(b)(6)		Request for waiver from preparedness and prevention requirements of Part 264 Subpart C	NA		✓
§270.14(b)(7)	264 Subpart D	Contingency plan requirements	Attachment D	✓	
	§264.51	Contingency plan design and implementation	Attachment D	✓	
	§264.52 (a) & (c-f)	Contingency plan content	Attachment D	✓	
	§264.53	Contingency plan copies	Attachment D	✓	
	§264.54	Contingency plan amendment	Attachment D	✓	
	§264.55	Emergency coordinator	Attachment D	✓	
	§264.56	Emergency procedures	Attachment D	✓	
§270.14(b)(8)		Description of procedures, structures or equipment for:	Part 2.10		✓
§270.14(b)(8) (i)		Prevention of hazards in unloading operations (e.g., ramps and special forklifts)	Part 2.10		✓
§270.14(b)(8) (ii)		Runoff or flood prevention (e.g., berms, trenches, and dikes)	Part 2.10		✓
§270.14(b)(8) (iii)		Prevention of contamination of water supplies	Part 2.10		✓
§270.14(b)(8) (iv)		Mitigation of effects of equipment failure and power outages	Part 2.10		✓
§270.14(b)(8) (v)		Prevention of undue exposure of personnel (e.g., personal protective equipment)	Part 2.10		✓
§270.14(b)(8) (vi) §270.23(a)(2)	§264.601	Prevention of releases to the atmosphere	Part 4 Attachment A2 Attachment N		✓
	264 Subpart C	Preparedness and Prevention	Part 2.10		✓
	§264.31	Design and operation of facility	Part 2.10		✓

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the Permit or Permit	Yes	No
	§264.32	Required equipment	Part 2.10 Attachment D	✓	
	§264.33	Testing and maintenance of equipment	Attachment E	✓	
	§264.34	Access to communication/alarm system	Part 2.10		✓
	§264.35	Required aisle space	Part 2.10		✓
	§264.37	Arrangements with local authorities	Attachment D	✓	
§270.14(b)(9)	§264.17(a-c)	Prevention of accidental ignition or reaction of ignitable, reactive, or incompatible wastes	Part 2.10		✓
§270.14(b)(10)		Traffic pattern, volume, and controls, for example: Identification of turn lanes Identification of traffic/stacking lanes, if appropriate Description of access road surface Description of access road load-bearing capacity Identification of traffic controls	Attachment A4		✓
§270.14(b)(11)(i) and (ii)	§264.18(a)	Seismic standard applicability and requirements	Part B, Rev. 6 Chapter B		✓
§270.14(b)(11)(iii-v)	§264.18(b)	100-year floodplain standard	Part B, Rev. 6 Chapter B		✓
	§264.18(c)	Other location standards	Part B, Rev. 6 Chapter B		✓
§270.14(b)(12)	§264.16(a-e)	Personnel training program	Part 2 Attachment F	✓	
§270.14(b)(13)	264 Subpart G	Closure and post-closure plans	Attachment G & H		✓
§270.14(b)(13)	§264.111	Closure performance standard	Attachment G		✓
§270.14(b)(13)	§264.112(a), (b)	Written content of closure plan	Attachment G		✓
§270.14(b)(13)	§264.112(c)	Amendment of closure plan	Attachment G		✓
§270.14(b)(13)	§264.112(d)	Notification of partial and final closure	Attachment G		✓
§270.14(b)(13)	§264.112(e)	Removal of wastes and decontamination/dismantling of equipment	Attachment G		✓
§270.14(b)(13)	§264.113	Time allowed for closure	Attachment G		✓
§270.14(b)(13)	§264.114	Disposal/decontamination	Attachment G		✓
§270.14(b)(13)	§264.115	Certification of closure	Attachment G		✓
§270.14(b)(13)	§264.116	Survey plat	Attachment G		✓
§270.14(b)(13)	§264.117	Post-closure care and use of property	Attachment H		✓
§270.14(b)(13)	§264.118	Post-closure plan; amendment of plan	Attachment H		✓

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the Permit or Permit	Yes	No
§270.14(b)(13)	§264.178	Closure/ containers	Attachment G		✓
§270.14(b)(13)	§264.601	Environmental performance standards-Miscellaneous units	Attachment G		✓
§270.14(b)(13)	§264.603	Post-closure care	Attachment G		✓
§270.14(b)(14)	§264.119	Post-closure notices	Attachment H		✓
§270.14(b)(15)	§264.142	Closure cost estimate	NA		✓
	§264.143	Financial assurance	NA		✓
§270.14(b)(16)	§264.144	Post-closure cost estimate	NA		✓
	§264.145	Post-closure care financial assurance	NA		✓
§270.14(b)(17)	§264.147	Liability insurance	NA		✓
§270.14(b)(18)	§264.149-150	Proof of financial coverage	NA		✓
§270.14(b)(19)(i), (vi), (vii), and (x)		Topographic map requirements Map scale and date Map orientation Legal boundaries Buildings Treatment, storage, and disposal operations Run-on/run-off control systems Fire control facilities	Attachment B Part A		✓
§270.14(b)(19)(ii)	§264.18(b)	100-year floodplain	Attachment B Part A		✓
§270.14(b)(19)(iii)		Surface waters	Attachment B Part A		✓
§270.14(b)(19)(iv)		Surrounding Land use	Attachment B Part A		✓
§270.14(b)(19)(v)		Wind rose	Attachment B Part A		✓
§270.14(b)(19)(viii)	§264.14(b)	Access controls	Attachment B Part A		✓
§270.14(b)(19)(ix)		Injection and withdrawal wells	Attachment B Part A		✓
§270.14(b)(19)(xi)		Drainage on flood control barriers	Attachment B Part A		✓
§270.14(b)(19)(xii)		Location of operational units	Attachment B Part A		✓
§270.14(b)(20)		Other federal laws Wild and Scenic Rivers Act National Historic Preservation Act Endangered Species Act Coastal Zone Management Act Fish and Wildlife Coordination Act Executive Orders	Attachment B Part A		✓

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the Permit or Permit	Yes	No
§270.15	§264 Subpart I	Containers	Attachment A1		✓
	§264.171	Condition of containers	Attachment A1		✓
	§264.172	Compatibility of waste with containers	Attachment A1		✓
	§264.173	Management of containers	Attachment A1		✓
	§264.174	Inspections	Attachment E Attachment A1		✓
§270.15(a)	§264.175	Containment systems	Attachment A1		✓
§270.15(c)	§264.176	Special requirements for ignitable or reactive waste	Part 2		✓
§270.15(d)	§264.177	Special requirements for incompatible wastes	Part 2		✓
	§264.178	Closure	Attachment G		✓
§270.23	264 Subpart X	Miscellaneous units	Attachment A2		✓
§270.23(a)	§264.601	Detailed unit description	Attachment A2		✓
§270.23(b)	§264.601	Hydrologic, geologic, and meteorological assessments	Part 5 Attachment L		✓
§270.23(c)	§264.601	Potential exposure pathways	Part 4 Attachment A2 Attachment N		✓
§270.23(d)		Demonstration of treatment effectiveness	NA		✓
	§264.602	Monitoring, analysis, inspection, response, reporting, and corrective action	Part 2 Part 4 Part 5 Attachment A2 Attachment N		✓
	§264.603	Post-closure care	Attachment H Attachment H1		✓
	264 Subpart E	Manifest system, record keeping and reporting	Part 2 Attachment C		✓

Appendix A
Table of Changes

Table of Changes

Affected Permit Section	Explanation of Change
Part 2, Section 2.12.4	Changed "Table D-2" to "Table D-1"
Attachment D, Table of Contents	<p>Replaced the title "General Information" to "Scope and Applicability" for Section D-1.</p> <p>Deleted entries for Sections D-1a, D-1b, D-1c, D-1d, D-1e, D-1e(1), D-1e(2), D-1e(3), D-1f, and D-1g.</p> <p>Replaced the title "Response Personnel" to "Emergency Response Personnel and Training" for Section D-2.</p> <p>Added entries for Section D-2a and D-2b.</p> <p>Replaced the title "Implementation" with "Criteria for Implementation of the <i>RCRA Contingency Plan</i>" for Section D-3.</p> <p>Replaced the title "Notification" with "Immediate Notifications" for Section D-4a.</p> <p>Deleted entries for D-4a(3) and D-4a(4).</p> <p>Replaced the word "Hazardous" with "Released" and added "and Assessment of Extent of the Emergency" to the title for Section D-4b.</p> <p>Replaced "Nature and Extent of the Emergency" with "Potential Hazards" to the title for Section D-4c.</p> <p>Added entry for Section D-4d.</p> <p>Changed "d" to "e" and replaced title "Control, Containment, and Correction of the Emergency" with "Control and Containment of the Emergency" for Section D-4d.</p> <p>Deleted entry for Section D-4d(1).</p> <p>Changed "d(2)" to "e(1)" and added "s" to the word Fire for Section D-4d(2).</p> <p>Changed "d(3)" to "e(2)" and added "s" to the word Explosion for Section D-4d(3).</p> <p>Deleted entry for Section D-4d(4).</p> <p>Added entries for Sections D-4e(3) and D-4e(4).</p> <p>Deleted entries for Sections D-4d(5), D-4d(6), D-4d(7), D-4d(8), D-4d(9), D-4d(10), and D-4e,</p> <p>Added new title "Post-Emergency Activities" for Section D-4f.</p> <p>Replaced "Containment" with "Disposition" and deleted "and Waste" from title of Section D-4f and gave it a new section number D-4f(1).</p> <p>Added entries for Sections D-f4(2) and D-f4(3).</p> <p>Deleted entries for Sections D-4g, D-4h, D-4i, D-4j, and D-4k.</p> <p>Added entry for Section D-5.</p> <p>Replaced "5" with "6" for Section D-5.</p> <p>Replaced "6" with "7" and changed title from "Coordination Agreements" to "Agreements with Local Emergency Response Agencies" for Section D-6.</p> <p>Replaced "7" with "8" for Section D-7.</p> <p>Replaced "7" with "8" for Section D-7a.</p> <p>Replaced "7" with "8" for Section D-7b.</p> <p>Replaced "7" with "8" for Section D-7c.</p> <p>Replaced "7" with "8" for Section D-7d.</p> <p>Replaced "7" with "8" for Section D-7e.</p> <p>Deleted entry for Section D-8.</p> <p>Replaced "Contingency Plan" with "<i>RCRA Contingency Plan</i>" for Section D-9.</p> <p>Deleted entry for References.</p>
Attachment D, List of Tables	<p>Changed "2" to "1" for Table D-2.</p> <p>Changed "6" to "2" for Table D-6.</p> <p>Deleted entries for Tables D-1, D-3, D-4, D-5, D-7, D-8, and D-9.</p>

Affected Permit Section	Explanation of Change
Attachment D, List of Figures	<p>Deleted entries for Figures D-4, D-4a, D-5, D-7, D-10, D-10a, D-11, D-11a, and D-12.</p> <p>Added a new Figure D-4.</p> <p>Renumbered Figure D-6 to Figure D-5.</p> <p>Replaced “8” with “6” for Figure D-8. Changed title to “WIPP On-Site Assembly Areas and Off-Site Staging Areas.”</p> <p>Renumbered Figures D-8a, D-8b, and D-8c to Figures D-6a, D-6b, and D-6c.</p> <p>Replaced “9” with “7” for Figure D-9.</p> <p>Added a new Figure D-8.</p>
Attachment D, List of Drawings	Deleted entire List of Drawings.
Attachment D, Introduction	<p>Deleted text redundant to information found elsewhere in the Permit.</p> <p>Removed reference to 20.4.1.900 NMAC (incorporating 40 CFR §270.14(b)(7)) pertaining to contents of the Part B.</p> <p>Revised reference to 20.4.1.500 NMAC by changing “§264.50 to §264.56” to “Part 264, Subpart D”</p> <p>Revised text to be consistent with the revised scope of the plan.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-1	<p>Changed title of section from “General Information” to “Scope and Applicability.”</p> <p>Revised entire Section D-1 to remove redundant text and extraneous information that is not specifically required by 20.4.1.500 NMAC (incorporating 40 CFR 264, Subpart D).</p> <p>Added text to clearly explain the applicability of 40 CFR 264, Subpart D, to the WIPP facility.</p> <p>Narrowed the scope of the plan to align with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.51(a)).</p> <p>Clarified that the provisions of the plan apply to the HWDUs in the underground disposal panels; HWMUs in the WHB and Parking Area Units; the supporting TRU mixed waste handling areas; and the Hazardous Waste Accumulation Areas for site-generated hazardous waste.</p> <p>Clarified that the plan consists of emergency response descriptions specific to TRU mixed waste, site-derived waste, and site-generated hazardous waste handled at the WIPP facility.</p> <p>Removed references to Table D-1 and Table D-6.</p> <p>Clarified that the types of hazardous waste to be managed at the WIPP facility include site-generated hazardous waste, TRU mixed waste, and derived waste, and described how each type of hazardous waste will be managed.</p> <p>Added new paragraph, “Off-site waste managed and disposed at the WIPP facility is radioactive mixed waste, and as a result, response to emergencies must consider the dual hazard associated with this waste. In responding to emergencies involving TRU mixed waste, the actions necessary to protect human health and the environment from the effects of radioactivity are generally the same actions necessary to provide protection from hazardous waste and hazardous waste constituents. This <i>RCRA Contingency Plan</i> may require additional actions to be taken to mitigate the hazards associated with the hazardous component of the waste; however, these measures are not intended to supersede actions required to respond to radiological emergencies. In this manner, the <i>RCRA Contingency Plan</i> complements the radiological response activities.”</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-1a	Deleted section.
Attachment D, Section D-1b	Deleted section.

Affected Permit Section	Explanation of Change
Attachment D, Section D-1c	Deleted section.
Attachment D, Section D-1d	Deleted section.
Attachment D, Section D-1e	Deleted section.
Attachment D, Section D-1e(1)	Deleted section.
Attachment D, Section D-1e(2)	Deleted section.
Attachment D, Section D-1e(3)	Deleted section.
Attachment D, Section D-1f	Deleted section.
Attachment D, Section D-1g	Deleted section.
Attachment D, Section D-2,	<p>Changed title from “Response Personnel” to “Emergency Response Personnel and Training” for Section D-2.</p> <p>Moved information from Section D-2 into new subsection D-2a, “Emergency Response Personnel.”</p> <p>Added clarifying text to explain the primary responsibilities of the RCRA Emergency Coordinator.</p> <p>Removed references to the Facility Shift Manager as the designated RCRA Emergency Coordinator.</p> <p>Added text to clarify that qualified RCRA emergency coordinators are listed in new Table D-1 (old Table D-2) and are trained to the requirements found in Appendix F1.</p> <p>Added “WIPP Fire Department,” “Facility Shift Manager (FSM),” “Firefighter,” and “Incident Commander” to the list of emergency response personnel.</p> <p>Revised and updated emergency response job titles, descriptions, and functions to be consistent with the organization of the WIPP Fire Department.</p> <p>Removed references to Assistant Chief Office Warden, Chief Office Warden, Emergency Services Technician (EST)/Fire Protection Technician (FPT), Fire Brigade, First Line Initial Response Team (FLIRT), and Office Warden.</p> <p>Removed detail associated with the EOC staff and its operations.</p> <p>Removed reference to Figure D-4.</p> <p>Added a new subsection D-2b, “Emergency Response Training,” to discuss the training requirements for WIPP Fire Department personnel, the national standards upon which the training is based, and licensure requirements for EMS personnel.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-3	<p>Changed title from “Implementation” to “Criteria for Implementation of the <i>RCRA Contingency Plan</i>” for Section D-3.</p> <p>Revised implementation criteria to be consistent with the requirements of the Permit, Part 2, Section 2.12.1.</p> <p>Added paragraph “There may be situations which do not readily lend themselves to an immediate assessment of possible hazards to human health and the environment. In these cases, the RCRA Emergency Coordinator will implement this <i>RCRA Contingency Plan</i> as a precautionary measure, regardless of the emergency situation or occurrence, if the RCRA Emergency Coordinator has reason to believe that a fire, explosion, or release of hazardous waste or hazardous waste constituents has occurred that could threaten human health or the environment.” for clarification.</p> <p>Added text to direct the RCRA Emergency Coordinator to record details of the <i>RCRA Contingency Plan</i> implementation; to direct the Permittees immediately notify the secretary of the NMED upon implementation; and to direct the Permittees to submit a written report to the NMED within 15 days of the incident as specified in Section D-5.</p>

Affected Permit Section	Explanation of Change
Attachment D, Section D-4	Revised the listing of implementation methods to be consistent with changes to subsequent subsections.
Attachment D, Section D-4a	<p>Changed title from “Notification” to “Immediate Notifications” for Section D-4a.</p> <p>Removed reference to Figure D-4a.</p> <p>Added paragraph to state that, “Whenever an emergency situation occurs that warrants implementation of this <i>RCRA Contingency Plan</i>, as described in Section D-3, the Permittees will immediately notify the Secretary of the NMED.”</p>
Attachment D, Section D-4a(1)	<p>Revised to reduce the level of detailed information provided by the caller to the CMRO.</p> <p>Clarified that facility personnel are trained in the process for notifying the CMRO as part of GET.</p> <p>Revised text to clarify notification processes.</p> <p>Removed detail regarding communication methods.</p> <p>Clarified that the RCRA Emergency Coordinator has the authority to delegate incident command responsibilities to the Incident Commander.</p> <p>Added sentence to clarify that the RCRA Emergency Coordinator will notify appropriate State and local agencies if their help is needed.</p> <p>Deleted information related to the identification of released materials and the assessment of actual potential hazards, as this information is covered in subsequent sections.</p> <p>Removed reference to Figure D-4.</p> <p>Removed detail pertaining to the EOC and its activation since such detail is not required by the regulations.</p> <p>Removed redundant and extraneous information not required by the 20.4.1.500 NMAC (incorporating 40 CFR 264, Subpart D).</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4a(2)	<p>Revised text to indicate that notifications will be immediate.</p> <p>Removed footnote pertaining to the yelp tone.</p> <p>Removed specificity regarding the Site Notification System.</p> <p>Removed reference to Figure D-7b.</p> <p>Removed text pertaining to underground evacuation.</p> <p>Removed details pertaining to Contingency Evacuation Notification.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4a(3)	<p>Relocated section. A portion of this information has been moved to Section D-4a(1), and the remainder has been moved to the subsequent Section D-4d, “Post-Assessment Notifications.”</p> <p>Revised the list of appropriate local authorities to include the New Mexico Department of Homeland Security and Emergency Management; Eddy County via the Regional Emergency Dispatch Authority; and Lea County via the Emergency Communications Authority.</p> <p>Revised the list of regulatory and public safety agencies to include the NMED and the National Response Center.</p> <p>Revised the list of required information to be reported to the NMED Department of Public Safety and the National Response Center to remove extraneous detail and ensure consistency with the regulatory requirements.</p>
Attachment D, Section D-4a(4)	Deleted section.
Attachment D, Section D-4b	<p>Changed title from “Identification of Hazardous Materials” to “Identification of Released Materials and Assessment of the Extent of the Emergency” for Section D-4b.</p> <p>Revised text to incorporate information from Sections D-4a(1) and D-4c, where the</p>

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	<p>information was out of place.</p> <p>Removed extraneous information pertaining to the identification of release of hazardous substances.</p> <p>Removed reference to Table D-1.</p> <p>Removed redundant text.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4c	<p>Changed title from “Assessment of the Nature and Extent of the Emergency” to “Assessment of the Potential Hazards” for Section D-4c.</p> <p>Revised text to incorporate information from Section D-4a(1), where the information was out of place.</p> <p>Added new paragraph “If, upon completion of the hazards assessment, the RCRA Emergency Coordinator determines that there are no actual or potential hazards to human health or the environment present, this <i>RCRA Contingency Plan</i> may be terminated. The RCRA Emergency Coordinator will record the time, date, and details of the incident in the operating record, and the Permittees will ensure that the reporting requirements of Section D-5 are fulfilled.” for clarification.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4d (New)	<p>Added new section D-4d “Post –Assessment Notifications” to address required notifications.</p>
Attachment D, Section D-4d	<p>Renumbered section to Section D-4e.</p> <p>Changed the title from “Control, Containment, and Correction of the Emergency” to “Control and Containment of the Emergency” for Section D-4d.</p> <p>Added clarifying text regarding the duties of the RCRA Emergency Coordinator and Incident Commander and actions to be taken in the event of a release involving radiation.</p> <p>Revised or developed subsections to align with the implementing criteria in Section D-3.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4d(1)	<p>Deleted section and heading, and incorporated information into Section D-4e.</p> <p>Removed references to Tables D-4 and D-5.</p> <p>Removed extraneous detail pertaining to methods of mitigation not specifically required by the regulations.</p> <p>Added text to describe actions of the RCRA Emergency Coordinator that constitute termination of the emergency response activity.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4d(2)	<p>Renumbered section to Section D-4e(1).</p> <p>Changed the title from “Fire” to “Fires” for Section D-4d(2),</p> <p>Revised list of actions to be taken by the RCRA Emergency Coordinator and Incident Commander to remove extraneous detail and address actions taken in the case of an underground fire.</p> <p>Clarified that the list of actions is not all-inclusive.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4d(3)	<p>Renumbered section to Section D-4e(2).</p> <p>Changed the title from “Explosion” to “Explosions” for Section D-4d(3).</p> <p>Revised list of actions to be taken by the RCRA Emergency Coordinator and Incident Commander to remove extraneous detail.</p> <p>Clarified that the list of actions is not all-inclusive.</p> <p>Added references to Sections D-4e(1) and D-4e(4) for ensuing fires and underground structural emergencies, respectively.</p>

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	Made minor editorial changes.
Attachment D, Section D-4d(4)	<p>Renumbered section to Section D-4e(3).</p> <p>Changed the title from “Spills” to “Unplanned Sudden/Non-Sudden Releases” for Section D-4d(4).</p> <p>Added text to address both spills of site-generated hazardous waste and releases of TRU mixed waste.</p> <p>Revised list of actions to be taken by the RCRA Emergency Coordinator to remove extraneous detail and reference standard operating procedures.</p> <p>Clarified that the list of actions is not all-inclusive.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4e(4)	<p>Added new section title “Other Occurrences” to address natural phenomena and underground structural integrity emergencies.</p> <p>Portions of text were taken from Sections D-4d(7), D-4d(8), D-4d(9), and D-4e and incorporated into this new section.</p>
Attachment D, Section D-4d(5)	Deleted section.
Attachment D, Section D-4d(6)	Deleted section.
Attachment D, Section D-4d(7)	<p>Deleted section. Portions of this information have been moved to Section D-4e(4), “Other Occurrences.”</p> <p>Added Section D-4e(4) to address both natural phenomena and underground structural emergencies.</p> <p>Revised list of actions to be taken by the RCRA Emergency Coordinator to remove extraneous detail.</p> <p>Clarified that the list of actions is not all-inclusive.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4d(8)	<p>Deleted section. Portions of this information have been moved to Section D-4e(4), “Other Occurrences.”</p> <p>Added Section D-4e(4) to address both natural phenomena and underground structural emergencies.</p> <p>Revised list of actions to be taken by the RCRA Emergency Coordinator to remove extraneous detail.</p> <p>Clarified that the list of actions is not all-inclusive.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4d(9)	<p>Deleted section. Portions of this information have been moved to Section D-4e(4), “Other Occurrences.”</p> <p>Added Section D-4e(4) to address both natural phenomena and underground structural emergencies.</p> <p>Revised list of actions to be taken by the RCRA Emergency Coordinator to remove extraneous detail.</p> <p>Clarified that the list of actions is not all-inclusive.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4d(10)	<p>Deleted section. Moved applicable information to the Section D-4e and its subsections, as appropriate.</p> <p>Removed redundant information, as appropriate.</p>
Attachment D, Section D-4e	Deleted section. Moved applicable information to the Section D-4e and its subsections, as appropriate.
Attachment D, Section D-4f	<p>Added new title “Post-Emergency Activities” for Section D-4f.</p> <p>Added text to introduce three new subsections: Section D-4f(1), “Management and Disposition of Released Material,” Section D-4f(2), “Incompatible Waste,” (to</p>

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	<p>incorporate information from Section D-4g) and Section D-4f(3), "Cleaning and Restoration of Equipment" (to incorporate information from Section D-4h).</p> <p>Revised text to remove redundancy with other sections of the plan and extraneous detail.</p> <p>Added clarifying text to describe the priority given to actions to minimize radiological exposures and that the disposition of materials resulting from TRU mixed waste releases will be handled according to the RWP.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-4g	Deleted Section. Incorporated applicable information into the new Section D-4f(1).
Attachment D, Section D-4h	Deleted Section. Incorporated applicable information into the new Section D-4f(2). Moved information regarding reporting requirements to the new Section D-5, "Required Reporting."
Attachment D, Section D-4i	Deleted Section.
Attachment D, Section D-4j	Deleted Section.
Attachment D, Section D-4k	Deleted Section.
Attachment D, Section D-5 (New)	Added new section "D-5 Required Reading" to address reporting.
Attachment D, Section D-5	<p>Renumbered section to Section D-6.</p> <p>Added text to clarify that the equipment is available "in the surface HWMUs, the underground, HWDUs, and the WIPP facility in general."</p> <p>Renumbered Table D-6 to Table D-2.</p> <p>Added sentence "Table D-2 also includes the location and a physical description of each item on the list along with a brief outline of its capabilities. The fire-water distribution system map is show in Figure D-5."</p> <p>Removed references to Table D-7 and Figures D-6 and D-7.</p> <p>Added reference to emergency equipment inspections in Attachment E, Table E-1.</p>
Attachment D, Section D-6	<p>Renumbered section to Section D-7.</p> <p>Changed title of section from "Coordination Agreements" to "Agreements with Local Emergency Response Agencies"</p> <p>Revised and updated the list of agreements between the Permittees and local emergency response agencies. Included those which may be invoked by the RCRA Emergency Coordinator upon implementation of the <i>RCRA Contingency Plan</i>.</p>
Attachment D, Section D-7	<p>Renumbered section to Section D-8.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-7a	<p>Renumbered section to Section D-8a.</p> <p>Revised text to provide clarification and ensure consistency with standard operating procedures for personnel evacuation.</p> <p>Revised text to include general descriptions of individuals responsible for personnel accountability and remove references to Office Wardens.</p> <p>Changed reference to Figure D-8 to Figure D-6.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-7b	<p>Renumbered section to Section D-8b.</p> <p>Revised text to provide clarification and ensure consistency with standard operating procedures for personnel evacuation.</p> <p>Changed reference to Figure D-9 to Figure D-7.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-7c	Renumbered section to Section D-8c.

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	<p>Revised text to provide clarification and ensure consistency with standard operating procedures for personnel evacuation.</p> <p>Revised text to include general descriptions of individuals responsible for personnel accountability and remove references to Office Wardens.</p> <p>Removed references to the FSM and EST/FPT.</p> <p>Added references to Figures D-6a, D-6b, and D-6c. These were the old Figures D-8a, D-8b, and D-8c.</p>
Attachment D, Section D-7d	<p>Renumbered section to Section D-8d.</p> <p>Revised text to provide clarification and ensure consistency with standard operating procedures for personnel evacuation.</p> <p>Removed reference to the FLIRT.</p> <p>Changed reference to Figure D-5 to Figure D-4.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-7e	<p>Renumbered section to Section D-8e.</p> <p>Revised text to provide clarification and ensure consistency with standard operating procedures for personnel evacuation.</p> <p>Added reference to new Figure D-8.</p> <p>Made minor editorial changes.</p>
Attachment D, Section D-8	<p>Deleted Section. Incorporated information to the new Section D-5, "Required Reporting."</p> <p>Removed references to Tables D-8 and D-9 and Figure D-12.</p>
Attachment D, Section D-9	<p>Replaced "Contingency Plan" with "<i>RCRA Contingency Plan</i>" for title of Section D-9.</p> <p>Revised the list of local agencies to include only those that may be called upon to provide emergency services, consistent with the new Section D-7.</p> <p>Removed requirement for annual review.</p> <p>Made minor editorial changes.</p>
Attachment D, References	<p>Deleted entire section.</p>
Attachment D, Tables	<p>Deleted Tables D-1, D-3, D-4, D-5, D-7, D-8, and D-9.</p> <p>Renumbered Table D-2 to Table D-1 and made the following changes:</p> <p style="padding-left: 40px;">Deleted "(primary)" after each of the four individuals' names in the first column;</p> <p style="padding-left: 40px;">Moved Footnote indicator 1 to the title, and changed Footnote 1 to "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."</p> <p>Deleted Footnote 2.</p> <p>Renumbered Table D-6 to Table D-2 and made the following changes:</p> <p style="padding-left: 40px;">Replaced "Manual pull stations and automatic" with "Fire alarm panels, fire alarm transmitter, and audible alarm" and replaced "(sprinkler system flow, and smoke and thermal detectors) trigger fire alarm; locally visible and audible; visual display and alarm in Central Monitoring Room" with "(e.g., horns, bells, tones) that provide notification of fires; transmitted to the CMR" in second column of row with equipment name Building Fire Alarms.</p> <p style="padding-left: 40px;">Added "Water" before "Pumphouse," added "(Building 411)" after "Waste Handling Building," replaced "SH" with "Salt Handling (SH)," replaced "Guard Shack*" with "Entry Control Point," deleted "Core Storage Building," added "(Building 452)" after "Safety Building," replaced "Storage (non-TRU) Area (Facility 474)" with "Staging Areas (Buildings 474A and 474B)," and deleted "*local alarms; not connected to the CMR," in third column of row with equipment name Building Fire Alarms.</p> <p style="padding-left: 40px;">Replaced "Automatic/Manual; have priority over other paging channel signals"</p>

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	<p>but not override intercom channels; alarms sound in the general area of the control panel and are connected to the underground evacuation alarms; they also interface with the CMR." with "Fire alarm panels, fire alarm transmitter, and audible/visual alarm devices (e.g., horns, bells, strobes) that provide notification of fires; transmitted to the CMR" in second column of row with equipment name Underground Fire Alarms.</p> <p>Deleted "E-0/N-1200," in third column of row with equipment name Underground Fire Alarms.</p> <p>Replaced "Site-wide Evacuation Alarm" with "Surface Evacuation Signals; Underground Evacuation Warning System" in first column of row with equipment name Site-wide Evacuation Alarm.</p> <p>Added "For surface," to beginning of sentence; lowercased the "t" in transmitted; deleted ", overriding its normal use" after the word system; added "for underground," after evacuation; and deleted "produced by tone generator at 10 decibels above ambient noise level (or at least 75 decibels); flashing strobe lights; radios and/or pagers are used to notify facility personnel outside alarm range. Monthly test are performed on the PA, site notification alarms, and plectrons." in second column of row with equipment name Site-Wide Evacuation Alarm.</p> <p>Deleted entire row with equipment name Vehicle Siren.</p> <p>Deleted ", each with own amplifiers; multichannel, one for public address and pages, and others for independent party lines." in second column of row with equipment name Public Address System.</p> <p>Deleted entire row with equipment name Intraplant Phones.</p> <p>Deleted "EOC," and changed "EST Station" to "Fire Department workstation area" in third column of row with equipment name Mine Page Phones.</p> <p>Deleted entire row with equipment name Emergency Pagers.</p> <p>Deleted entire row with equipment name Plectrons.</p> <p>Replaced ", VHF-FM; linked to Eddy County Sheriff Department, NM State Police, and Otis Fire Department), and WIPP Channels 1-18 (Communication with the Lea County Sheriff's Department, the Hobbs Fire Department, Carlsbad Medical Center and Lea Regional Hospital is available via the Eddy County dispatcher) (Site Security, Site Operations and Site Emergency, maintenance, repeater to Carlsbad). Wireless communications such as cellular phones may be used to contact the Eddy County emergency responders." with "; transmits and monitors information to/from other transmitters" in second column of row with equipment name Plant Base Radios.</p> <p>Replaced "Various site locations" with "Building 452, Building 458, Building 451 (CMR, FSM desk)" in third column of row with equipment name Plant Base Radios.</p> <p>Replaced "WIPP Security and key" with "emergency response" and added ", as needed" in second column of row with equipment name Mobile Phones.</p> <p>Deleted ", " in third column of row with equipment name Mobile Phones.</p> <p>Added "Equipment and Materials" to heading row Spill Response.</p> <p>Added row after Spill Response with "HAZMAT Equipment" in first column, "Spill response equipment and supplies, PPE, and decontamination supplies stored and maintained in accordance with NFPA 1901 and as documented in WIPP facility files" in second column, and "Surface, in designated areas near Building 452" in third column.</p> <p>Added second row after Spill Response with "Absorbent Materials" in first column</p> <p>"Containment or cleanup of spills, including:</p> <p style="padding-left: 40px;">Pressurized spill-response gun;</p> <p style="padding-left: 40px;">Absorbent sheets and/or dikes for containment or cleanup of spills of oil, petroleum-based chemicals, and general liquids;</p>

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	<p>Spill-control material for solvents and neutralizing absorbents and for acids/caustics" in second column; and</p> <p>"Surface, in designated areas near Building 452" in third column.</p> <p>Deleted entire rows with equipment names SPILL-X-S Guns and Recharge Powder, Absorbent Sheets, Absorbents, Absorbent Material, Air Bag System, Air Chisel, Drum Transfer Pumps and Drum Opener, Floor Squeegee, Foam Concentrate, Gas Cylinder Leak Control Kit, Portable Generator, Hand Tools, Come-a-longs, Porta-power, Jugs, Pails, Portable Lighting, Patching Kit, and Scoops and Shovels.</p> <p>Deleted "#1" in first column with equipment name Ambulance #1.</p> <p>Replaced "Equipped as per Federal Specifications KKK-A-1822 and New Mexico Emergency Medical Services Act General Order 35; equipped with a radio to Carlsbad Medical Center, VHF radio, UHF medical frequency, cellular phone" with "A minimum of one ambulance, maintained and equipped in accordance with the New Mexico Ambulance Standard, 18.3.14 NMAC, and as documented in WIPP facility files" in second column with equipment name Ambulance #1.</p> <p>Replaced "Safety and Emergency Services Facility" with "Building 452" in third column with equipment name Ambulance #1.</p> <p>Replaced "Ambulance #2" with "Medical Cart" in first column with equipment name Ambulance #2.</p> <p>Replaced "Diesel and/or electric, ambulance" with "A minimum of one medical cart," and "with first aid kit, 2 stretchers, and other associated medical supplies" with "to provide basic life support operations, as documented in WIPP facility files." in second column with equipment name Ambulance #2.</p> <p>Deleted entire row with equipment name Ambulance #3^a.</p> <p>Deleted entire row with equipment name Rescue Truck #1.</p> <p>Added row after Rescue Truck #1 with "Miner's First Aid Station" in first column, "Equipped per 30 CFR 57.15001" in second column, and "Various Underground Locations" in third column.</p> <p>Replaced, "Ionization and photoelectric or fixed temperature/rate of rise detectors; visual display and alarm in CMR; manual pull stations. The underground has manual fire alarm pull stations located where personnel have access when evacuating. These are connected to the U/G evacuation alarm." With "Devices that trigger an alarm and/or fire suppression system" in second column with equipment name Building Smoke, Thermal Detectors, or Manual Pull Stations.</p> <p>Replaced "# 1" with "s" in first column of row with equipment name Fire Truck # 1.</p> <p>Replaced "Equipped per Class "A" fire truck per NFPA; capacity 750 gallons, with pump capacity of 1200 gallons per minute" with "A minimum of two fire trucks to assist in fighting fires; firefighter equipped in accordance with NFPA 1901 and/or 1906 and as documented in WIPP facility files" in second column of row with equipment name Fire Truck # 1.</p> <p>Replaced "Safety and Emergency Services Facility" with "Building 452" in third column of row with equipment name Fire Truck # 1.</p> <p>Deleted entire rows of equipment names Fire Truck #2, Rescue Truck # 2 (U/G), and Rescue Truck # 3 (U/G).</p> <p>Added row after Rescue Truck #3 with "Rescue Carts/Trucks" in first column, "A minimum of two special-purpose vehicles, one on the surface and one in the underground; light rescue units, equipped in accordance with the NFPA 1901 and as documented in WIPP facility files" in second column, and "Surface (Building 452) and Underground" in third column.</p> <p>Deleted "Underground" and footnote designator "a" and changed "Vehicles" to "Cart" in first column of row with equipment name Underground Fire</p>

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	<p>Suppression Vehicles.</p> <p>Replaced “(1) 125-pound dry chemical extinguisher (1) 33-gallon foam extinguisher” with “A minimum of one special-purpose electric cart to assist in fighting fires; equipped with a minimum of one fire extinguisher” in second column of row with equipment name Underground Fire Suppression Vehicles.</p> <p>Added “Fire” to first column of row with equipment name Extinguishers.</p> <p>Replaced “Individual” with “Hand-held,” replaced “extinguisher” with “extinguishers,” deleted “stations; various types” and replaced “conforming to NFPA 10” with “in accordance with NFPA 10” in second column of row with equipment name Extinguishers.</p> <p>Replaced “Buildings, underground, and underground vehicles” with “Surface and underground locations used for hazardous waste management, as documented in WIPP facility files” in third column of row with equipment name Extinguishers.</p> <p>Deleted “1,000-pound system (Dry Chemical);” in second column of row with equipment name Automatic Dry Chemical Extinguishing Systems.</p> <p>Replaced “Individual fire suppression systems are installed on liquid fueled vehicles” with “Individual automatic fire suppression systems installed on applicable liquid-fueled vehicles, as determined by a fire risk assessment performed in accordance with NFPA 122” in second column of row with equipment name Automatic Fire Suppression Systems on liquid fueled vehicles.</p> <p>Replaced “Underground and Surface” with “Surface and underground locations used for hazardous waste management, as documented in WIPP facility files” in third column of row with equipment name Automatic Fire Suppression Systems on liquid fueled vehicles.</p> <p>Replaced “Fire alarms activated by water flow” with “NFPA water-based fire suppression systems” in second column of row with equipment name Sprinkler Systems.</p> <p>Added “Water” before “Pumphouse,” deleted “Support Building,” replaced “contact-transuranic waste area only” with “Contact Handling, Remote Handling, and Overpack and Repair Areas,” deleted “Warehouse/Shops Building, Auxiliary Warehouse Building,” replaced “Facility” with “Building,” deleted “Training Facility, SH Shaft Hoisthouse,” and replaced “Engineering Building, and Safety Building” with “and Hazardous Waste Staging Areas (Buildings 474A and 474B)” in third column of row with equipment name Sprinkler Systems.</p> <p>Added “minimally” before “rated” and “jockey” before “pump” to second column of row with equipment name Fire Water Pumps.</p> <p>Replaced “; approximately 300” with “per 30 CFR 57.15030” in second column of row with equipment name Underground Self-Rescuer Units.</p> <p>Replaced “At least 60 minutes of oxygen available in the underground. Approximately 400 units cached throughout the underground” with “Air supply; a minimum of 12 caches in the underground; self-contained rescue units shall be adequate to protect an individual for one hour or longer or, alternatively, sufficient to allow the employee time to reach an additional self-contained self-rescue device in the underground per NMSA 69-8-16” in second column of row with equipment name Self-Contained Self-Rescuers.</p> <p>Added “Mine Rescue” to first column of row with equipment name Self-Contained Breathing Apparatus (SCBA).</p> <p>Added “closed-circuit” before the word units and replaced “; approximately 14 Mine Rescue Team Draeger units” with “consistent with 30 CFR 49.6; a minimum of 12 units, one for each Mine Rescue Team member” in second column of row with equipment name Self-Contained Breathing Apparatus (SCBA).</p> <p>Added row after equipment name Self-Contained Breathing Apparatus (SCBA) with “Fire Department Self-Contained Breathing Apparatus (SCBA)” in column one, “Air supply; a minimum of 12 units; SCBAs shall meet the minimum</p>

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	<p>requirements established per NFPA 1981” in second column, and “Surface (Building 452) and Underground” in third column.</p> <p>Deleted entire rows of equipment names Chemical and Chemical-Supported Gloves, Suit, Acid, and Suit, Fully Encapsulated.</p> <p>Deleted all rows under table subheading Emergency Medical Equipment.</p> <p>Replaced “Two” with “A minimum of two”; deleted “use limited to essential loads; manual or remote starting 1,100-kilowatt diesel generators with on-site fuel for 62% load for 3 days for selected loads; 30-minute battery capacity for essential loads” in second column of row with equipment name Backup Power Sources.</p> <p>Replaced “Safety and Emergency Services Building” with “Building 452” in third column of row with equipment name Backup Power Sources.</p> <p>Replaced “Hoists” with “Emergency Hoist” and deleted “Waste Shaft” and “SH Shaft” in second column of row with equipment name Hoists.</p> <p>Deleted “Waste Shaft” and “Air Intake Shaft” in third column of row with equipment name Hoists.</p> <p>Deleted entire row with equipment name Radiation Monitoring Equipment.</p> <p>Replaced “Emergency Shower” with “Emergency Showers” in first column of row with equipment name Emergency Shower.</p> <p>Replaced “Surface” with “Waste Handling Building and Hazardous Waste Staging Areas” in third column of row with equipment name Emergency Shower.</p> <p>Replaced “Eye Wash Fountains” with “Emergency Eyewash Equipment” in first column of row with equipment name Eye Wash Fountains.”</p> <p>Replaced “Various locations on surface and in the underground” with “Waste Handling Building (RH Bay, Site Derived Waste Area, Waste Shaft Collar, and Room 108 TRUPACT III only), TRUPACT Maintenance Building, Exhaust Shaft Filter Building, Hazardous Waste Staging Areas (Building 474A), and underground locations” in third column of row with equipment name Eye Wash Fountains.</p> <p>Deleted entire row with equipment name Decon Shower Equipment.</p> <p>Replaced “Overpack containers” with “Overpack containers for TRU Mixed Waste” in first column of row with equipment name Overpack containers.</p> <p>Deleted “14-,” “4-,” and “1-,” in the second column of row with equipment name Overpack containers.</p> <p>Deleted “Building 481 Building 481” in third column of row with equipment name Overpack containers.</p> <p>Deleted entire row with equipment name HEPA Vacuums.</p> <p>Deleted “100 lbs. of aquaset or cement,” capitalized the word “material,” and deleted “.” in second column of row with equipment name Aquaset or Cement.</p> <p>Replaced “Building 481” with “Surface Connex A, located south of Building 411” in third column of row with equipment name Aquaset or Cement.</p> <p>Deleted entire row with equipment name Paint or Fixative.</p> <p>Replaced “Building 481” with “Waste Handling Building (Building 411)” in third column of row with equipment name TDOP Upender.</p> <p>Deleted “4 - 1 gallon bottles” and capitalized the word “for” in second column of row with equipment name Non hazardous Decontaminating Agents.</p> <p>Replaced “Building 481” with “Waste Handling Building (Building 411); Surface Connex A, located south of Building 411” in row with equipment name Non hazardous Decontaminating Agents.</p> <p>Deleted footnote “a” in table footnote.</p>
Attachment D, Figures	Replaced Figure D-2, “Spatial View of the WIPP Facility” with identical figure with enhanced resolution.

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	<p>Deleted Figures D-4, D-4a, D-5.</p> <p>Added new Figure D-4 "Underground Escapeways/Evacuation Routes."</p> <p>Renumbered Figure D-6 to D-5.</p> <p>Deleted Figure D-7.</p> <p>Renumbered Figures D-8, D-8a, D-8b, and D-8c to Figures D-6, D-6a, D-6b, and D-6c. Changed title of Figure D-8a to "WIPP On-Site Assembly Areas and Off-Site Staging Areas."</p> <p>Renumbered Figure D-9 to Figure D-7.</p> <p>Added new Figure D-8 "WIPP Site Evacuation Routes."</p> <p>Deleted Figures D-10, D-10a, D-11, D-11a, and D-12.</p>
Attachment D, Drawings	Deleted the drawing.
Attachment E, Section E-1	<p>Added "Attachment D, Table D-2, <i>Emergency Equipment Maintained at the Waste Isolation Pilot Plant</i>, identifies the emergency equipment and corresponding locations to be inspected in accordance with Table E-1." to the end of the second paragraph.</p> <p>Replaced "tagged with those restrictions" with "operated in accordance with compensatory measures" in first sentence of the fifth paragraph.</p> <p>Deleted "tagged and locked to prevent their use. Tagged and locked items are listed on the Tagout/Lockout Index. Once a," from the fifth paragraph.</p> <p>Added "for" before "repair" in the fifth paragraph.</p> <p>Deleted "is accomplished," deleted "the," and deleted "procedures, the tag or lock is removed from the item in accordance with the equipment tagout/lockout" from the fifth paragraph.</p> <p>Added "In such cases, compensatory measures may be needed until the equipment is returned to service. These compensatory measures will provide an equivalent level of protection, be documented in WIPP facility files (e.g., equipment logbook), and include an appropriate inspection schedule, when applicable." to the fifth paragraph.</p> <p>Created a new paragraph before "Normally" in the fifth paragraph.</p> <p>Added "." after "scheduled" and replaced "on the Plan of the Day (POD). The POD is held" with "The schedule is discussed" in the new sixth paragraph.</p>
Attachment E, Table E-1	<p>Added footnote "h" to "Procedure Number and Inspection Criteria" column.</p> <p>Replaced "Ambulances" with "Ambulance," replaced "(Surface and Underground) and related emergency supplies and equipment" with "(Surface) and Medical Cart (Underground), and replaced "Emergency Services" with "Fire Department" in row with equipment name Ambulances.</p> <p>Replaced "Emergency Services" with "Fire Protection Engineering" and "List 11" with "List 12" in row with equipment name Fire Detection and Alarm System.</p> <p>Added "12-FP0028," and deleted "Deterioration^b," and "of indicator lights and, underground fuel station dry chemical suppression system." In row with equipment name Fire Detection and Alarm System.</p> <p>Replaced "Emergency Services" with "Fire Department" in rows with equipment names Fire Extinguishers and Fire Hoses.</p> <p>Replaced "Emergency Services" with "Fire Protection Engineering" and "List 11" with "List 12" in rows with equipment names Fire Hydrants, Fire Pumps, and Fire Sprinkler Systems.</p> <p>Replaced "Monthly/ quarterly" with "Monthly/quarterly/semi-annually/annually" in row with equipment name Fire Sprinkler Systems.</p> <p>Added "and" and removed "and removable strainers" in row with equipment name Fire Sprinkler Systems.</p> <p>Replaced "Trucks" with "Vehicles"; changed "Underground Fire Suppression Vehicles" to "Fire Suppression Cart"; changed "Underground Rescue Trucks" to "Rescue Carts/Trucks"; and replaced "Emergency Services" with "Fire Department" in row with equipment name Fire and Emergency Response Trucks.</p>

Affected Permit Section	Explanation of Change
	<p>Replaced "Emergency Services" with "Fire Protection Engineering" and "List 11" with "List 12" in row with equipment name Automatic on-board fire suppression systems.</p> <p>Replaced "Semi-Annually" with "Semi-annually" in row with equipment name Automatic on-board fire suppression systems.</p> <p>Replaced "Emergency Services" with "Fire Department" and "Weekly" with "Quarterly" in row with equipment name Hazardous Material Response Equipment.</p> <p>Added row after Hazardous Material Response Equipment with "Head Lamps" in first column, "Facility Personnel" in the second column, "Daily" in the third column, and "Head lamps are operated daily and are repaired upon failure" in the fourth column.</p> <p>Replaced "Emergency Services" with "Fire Department" in row with equipment name Miners First Aid Station.</p> <p>Added row after Miners First Aid Station with "Mobile Phones" in first column, "Facility Personnel" in the second column, "Daily" in the third column, and "Mobile Phones are operated daily and are repaired upon failure" in the fourth column.</p> <p>Deleted "PA and Underground Alarms and" from row with equipment name Mine Pager Phones.</p> <p>Added row after Perimeter Fence, Gates, Signs with "Mine Rescue Self-Contained Breathing Apparatus (SCBA)" in first column, "Mine Rescue Team" in second column, "30 days" and "See List 5" in third column, and "Inspecting for Deterioration^b and Pressure^g" in fourth column.</p> <p>Replaced "Personal Protective Equipment (not otherwise contained in emergency vehicles or issued to individuals):—" with "Fire Department"; deleted "Self-Contained Breathing Apparatus" and replaced with "SCBA"; and replaced "Emergency Services" with "Fire Department" and "Weekly" with "Weekly/monthly" in row with equipment name Personal Protective Equipment.</p> <p>Replaced "Public Address (and Intercom System)" with "Surface Evacuation Signals; Underground Evacuation Warning System" and deleted "and Mine Page Phones at essential locations Systems operated in test mode" in row with equipment name Public Address (and Intercom System).</p> <p>Replaced "Operations" with "Personnel" in row with equipment name Radio Equipment.</p> <p>Deleted row with equipment name Rescue Trucks (Surface and Underground).</p> <p>Deleted entire row with equipment name Vehicle Siren.</p> <p>Replaced "Water Tank Level" with "Water Tanks" in row with equipment name Water Tank Level.</p> <p>Added "PM 000032" to row with equipment name Explosion-Isolation Walls.</p> <p>Added "PM 000011" to row with equipment name Bulkhead in Filled Panels.</p> <p>Made the following changes to Inspection Schedule/Procedures Lists</p> <p style="padding-left: 40px;">Replaced "Emergency Services" with "Fire Department" for List 11.</p> <p style="padding-left: 40px;">Added "<u>List 12: Fire Protection Engineering</u>" above Fire Protection Technician.</p> <p style="padding-left: 40px;">Added "*" after "Fire Protection Technician"</p> <p>Replaced "In addition, the water tank levels are maintained by the CMR and level readouts are available at any time" with "Inspections are performed per manufacturer's maintenance instructions" in footnote "g" of table notes.</p> <p>Replaced "This organization is responsible for obtaining licenses for radios and frequency assignments. They do periodic checks of frequencies and handle repairs which are performed by a vendor" with "Inspections and PMs are not required for equipment that is out of service" in footnote "h" of table notes.</p> <p>Added "Head Lamps, Mobile Phones, and," replaced "operated daily and many are" with "typically," and deleted "Radios are used routinely by Emergency Services, Security, Environmental Monitoring, and Facility Operations." in footnote "i" of table notes.</p>

Affected Permit Section	Explanation of Change
	<p>Replaced “is paperless. Information is recorded into a database using barcodes. The database is then printed out” with “s are performed in accordance with NFPA 10” in footnote “j” of table notes.</p> <p>Added “or respond to emergencies involving” after “personnel do not manage” in the asterisked sentence of table notes.</p> <p>Made minor editorial changes.</p>
Attachment F, List of Figures	Deleted the List of Figures.
Attachment F, Section F-1	<p>Deleted “Members of the training staff are assigned to Technical Training. The organizational structure of the Human Resources Department and its relationship to the line organizations is shown in an abbreviated organizational chart in Figure F-1.” in first paragraph.</p> <p>Replaced “This chart also shows departments with” to “The list of job titles in Attachment F1 shows the personnel with” in first paragraph.</p> <p>Added “Resource Conservation and Recovery Act” before “RCRA,” added parentheses to “RCRA,” and bolded “RCRA” in fifth paragraph.</p> <p>Replaced “who” with “that” in fifth paragraph.</p> <p>Replaced “WIPP Contingency Plan” with “<i>RCRA Contingency Plan</i>” in first paragraph after last set of bullets.</p>
Attachment F, Section F-1a	<p>Added “and emergency response” in three places in first paragraph.</p> <p>Replaced “Shift Manager, Facility Operations” with “RCRA Emergency Coordinator” in the bulleted list.</p>
Attachment F, Section F-1b(1)	<p>Added comma after “employees” in first paragraph.</p> <p>Replaced “RCRA Contingency Plan” with “<i>RCRA Contingency Plan</i>” in fourth bullet.</p>
Attachment F, Section F-1d	<p>Deleted “A functional chart showing positions that received training related to hazardous waste management or emergency response is included as Figure F-1. This figure also shows the next level manager for these positions.” in the first paragraph.</p> <p>Replaced “are” with “is” in third paragraph.</p> <p>Deleted the entire last paragraph.</p>
Attachment F, Section F-1e	<p>Replaced “WIPP RCRA Contingency Plan” with “<i>RCRA Contingency Plan</i>” in first paragraph.</p> <p>Deleted “in emergency response procedures” and replaced “next” with “subsequent,” and added “s” to the word “paragraph” in the last sentence of the first paragraph.</p> <p>Added “The WIPP Fire Department Firefighters serve as first responders to surface and underground emergencies, including fires, medical emergencies, and releases of hazardous materials. Firefighters are trained in accordance with NFPA 1001, <i>Standard for Fire Fighting Professional Qualification</i>, and other NFPA qualification standards. This training is administered by qualified individuals/organizations in accordance with the <i>WIPP Fire Department Training Plan</i>” to second paragraph.</p> <p>Made the following changes to the second paragraph creating a new third paragraph:</p> <p style="padding-left: 40px;">Replaced “The Emergency Response Team (ERT), under the supervision of the Emergency Services Technician, has primary responsibility for above ground emergency response activities, and the First Line Initial Response Team (FLIRT) and the” with “The Emergency Response Team (ERT) is an Industrial Fire Brigade which supplements the capabilities of the WIPP Fire Department. Members of the ERT are trained to respond to surface and underground emergencies on site, including fires, medical emergencies, and releases of hazardous materials.” in second paragraph.</p> <p>Added “The” before Mine Rescue Team in second paragraph.</p>

Affected Permit Section	Explanation of Change
	<p>Replaced “are” with “is” in second paragraph.</p> <p>Replaced “underground emergency response activities” with “emergency rescue and recovery of trapped or missing personnel in the underground and underground fire suppression once the underground has been evacuated” in second paragraph.</p> <p>Replaced “these units” with “emergency response personnel and associated training” in second paragraph.</p> <p>Replaced “WIPP RCRA Contingency Plan” with “<i>RCRA Contingency Plan</i>” in second paragraph.</p> <p>Added “, Section D-2” after Attachment D in second paragraph.</p> <p>Deleted “Members of these teams are volunteers from the WIPP organization.” in second paragraph.</p> <p>Replaced “This training includes firefighting elements, such as fire behavior, ladders, fire hose, fire streams, and ventilation. The FLIRT includes current qualification for unescorted underground access, National Fire Protection Association (NFPA) 600 Industrial Fire Brigades requirements, and additional qualifications pertaining to the team. MRT training includes current qualification for unescorted underground access, at least one year of underground work, Mine Safety and Health Administration requirements for medical and mine rescue, and additional qualifications pertaining to the team. ERT training includes NFPA 600 Industrial Fire Brigade requirements, and additional training pertaining to the team. In addition, all teams receive lifesaving elements, such as rescue, cardiopulmonary resuscitation and first aid, and other specific elements, such as self-contained breathing apparatus.” with “The ERT members are trained to NFPA standards, including NFPA 1081, <i>Standard for Industrial Fire Brigade Member Professional Qualifications</i>, which addresses the training requirements established by NFPA 600, <i>Standard on Industrial Fire Brigades</i>. The MRT consists of personnel who have been trained to the applicable requirements of 30 CFR Part 49, <i>Mine Rescue Team</i>.” in second paragraph.</p> <p>Replaced “for these positions” with “and associated duties” in last sentence of second paragraph.</p> <p>Added “These training requirements must be met prior to an unsupervised individual serving in an associated emergency response function. Training records for these individuals are maintained in each individual’s training file in technical training located at the WIPP facility.” to the end of the second paragraph.</p> <p>Deleted the entire third paragraph.</p> <p>Deleted “Hazardous waste handling and” and capitalized the “E” in “emergency” in the beginning of the fourth paragraph.</p> <p>Added “, commensurate with their duties,” in the fourth paragraph.</p> <p>Added “, but not limited to” to the end of the fourth paragraph.</p> <p>Deleted “and monitoring” and added “,” to first bullet.</p> <p>Deleted second bullet.</p> <p>Added “; and” to third bullet.</p> <p>Added “.” to fourth bullet.</p> <p>Deleted the fifth bullet.</p> <p>Deleted “Course outlines for emergency response training courses are provided in Permit Attachment F2.” from paragraph after bullets.</p> <p>Replaced “RCRA Contingency Plan” with “<i>RCRA Contingency Plan</i>” in two places in next to last paragraph.</p> <p>Added “RCRA” before Contingency in two places in next to last paragraph and italicized text.</p> <p>Deleted “Office wardens receive Office Warden Training (SAF-632) and are required to take an annual refresher.” in next to last paragraph.</p>

Affected Permit Section	Explanation of Change
	Capitalized the word “operator” to “Operator” in two places in next to last paragraph. Added “, Section D-2” after the words Attachment D in next to last paragraph.
Attachment F, Section F-2	Replaced “authorization” with “qualification” in first paragraph. Deleted “These authorization cards record training that the individual team members have completed.” in first paragraph. Replaced “trained on” with “made aware of” in first paragraph. Replaced “RCRA Contingency Plan” with “ <i>RCRA Contingency Plan</i> ” in first paragraph. Added “and its intended purpose” after Plan in first paragraph. Replaced “their basic” with “general employee” in first paragraph. Added “, whose job positions are listed in Attachment F1,” after employees in first paragraph. Added “hazardous waste management or emergency response” after unsupervised in first paragraph. Added “and emergency response” after “Hazardous waste management” in the last sentence of the first paragraph. Replaced “located at the WIPP facility” with “as personally identifiable information” in last paragraph. Added “are located at the WIPP facility and” after records in the last paragraph. Deleted “all of the” before backup in last paragraph.
Attachment F, General	Added “References” section to include the <i>WIPP Training Program</i> and the <i>WIPP Fire Department Training Plan</i> .
Attachment F, Figures	Deleted Figure F-1 and the title pages for the figure.
Attachment F1, Table of Contents	Changed title of section to “RCRA Hazardous Waste Management and Emergency Response Job Title and Descriptions” Replaced “Emergency Services Technician” with “Firefighter” in Table of Contents. Added “Incident Commander” to Table of Contents. Deleted “Facility Shift Engineer” from Table of Contents. Replaced “Facility Shift Manager” with “RCRA Emergency Coordinator” in Table of Contents. Deleted Chief Office Warden, Assistant Chief Office Warden, First Line Initial Response Team member, and Fire Brigade from Table of Contents.
Attachment F1, RCRA Hazardous Management Job Titles	Changed title of section to “RCRA Hazardous Waste Management and Emergency Response Job Title and Descriptions” Replaced “Emergency Services Technician” with “Firefighter” in list. Added “Incident Commander” to list. Deleted “Facility Shift Engineer” from list. Replaced “Facility Shift Manager” with “RCRA Emergency Coordinator” in list. Deleted Chief Office Warden, Assistant Chief Office Warden, First Line Initial Response Team member, and Fire Brigade from list.
Attachment F1, RCRA Hazardous Waste Management Job Descriptions	Changed title of section to “RCRA Hazardous Waste Management and Emergency Response Job Title and Descriptions” for all job descriptions. Made the following changes to job description “Emergency Services Technician” Replaced “Emergency Services Technician” with “Firefighter” for Position Title. Replaced “hazardous waste spills in emergency situations” with “surface and underground emergencies, including fire alarms/fires, medical emergencies, and releases of hazardous materials, including hazardous waste or hazardous waste constituents” to first item under Duties. Deleted “Provides emergency fire response services” under Duties.

Affected Permit Section	Explanation of Change
	<p>Replaced “all” with “emergency” in third item under Duties.</p> <p>Added “Performs technical rescue operations” as fourth item to list under Duties.</p> <p>Replaced “Directs emergency teams to control hazardous situations” with “Operates emergency vehicles and equipment” to last item under Duties.</p> <p>Replaced “Requisite Skills, Experience, and Education” with “Requisite Skills, Qualifications, and Education*.”</p> <p>Replaced “plus additional training in emergency fire and medical response, or equivalent” with “required in addition to professional qualifications per the <i>WIPP Fire Department Training Plan</i>, which incorporates current National Fire Protection Association (NFPA) standards for training as follows:</p> <ul style="list-style-type: none"> • Firefighter I and II (NFPA 1001, Standard for Firefighter Professional Qualifications) • HAZMAT Operations (NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents) • Driver/Operator (NFPA 1002, Standard for Fire Apparatus Driver/Operator Professional Qualifications), if designated • Auto Extrication (NFPA 1006, Standard for Technical Rescuer Professional Qualifications) • State of New Mexico EMS licensure and an Associate’s Degree in an emergency services-related field are also preferred prior to employment.” under Requisite Skills, Experience and Education. <p>Added “The following site-specific training, relative to incidents involving hazardous waste, must be completed no later than six months after assignment to position of Firefighter at the WIPP facility. Prior to the completion of the following training, Firefighters shall be supervised when performing duties related to emergency response to incidents involving hazardous waste:” as introduction paragraph under Training.</p> <p>Deleted “EST Qualification Card (EST-01), Subject Matter Expert/On-The-Job Training (TRG-293/298), Firefighter I (SAF-621), and Introduction to the Incident Command System (IS-100) (Once)” under Training.</p> <p>Changed “NOTE” to read as follows: “*NOTE: The required requisite skills, qualifications, and education must be possessed prior to assignment to the position of Firefighter.”</p> <p>Added “Incident Commander” entire job description.</p> <p>Deleted “Facility Shift Engineer” job description.</p> <p>Made the following changes to job description “Facility Shift Manager”</p> <p>Replaced “Facility Shift Manager” with “RCRA Emergency Coordinator”</p> <p>Deleted “Serves as RCRA Emergency Coordinator” under Duties</p> <p>Replaced “Notifies emergency response personnel and on-call facility manager during emergency occurrences” with “Responsible for implementing the <i>RCRA Contingency Plan</i>, providing necessary notifications, coordinating emergency response measures, identifying released materials, assessing any hazards associated with released materials, control and containment of the emergency, management and disposition of released materials, and cleaning and restoration of equipment prior to resumption of operations.” under Duties.</p> <p>Deleted “and eight years of nuclear plant operating experience” and added “Must be thoroughly familiar with relevant aspects of the WIPP <i>RCRA Contingency Plan</i>, relevant operations and activities at the facility, the location and characteristics of the waste handled, the location of relevant records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources necessary to carry out the <i>RCRA Contingency Plan</i>.” under Requisite Skills, Experience and Education.</p>

Affected Permit Section	Explanation of Change
	<p>Deleted "Facility Operations Shift Engineer Qualification Card (FO-FOSE-3 or FO-FOSE-3R), Roving Watch Qualification (FO-RW-1), Central Monitoring Room Operator Qualification (FO-CMRO-2), Conduct of Shift Operations (OPS-115), Root Cause Analysis (TRG-296), and WIPP Occurrence Reporting for Facility managers (OPS-110)" under Training.</p> <p>Replaced "Materials Emergency Response (HMT-104)" with "Waste Responder (HWR-101/101A)" under Training.</p> <p>Replaced "WIPP" with "RCRA" and deleted "Procedure" from next to last bullet under Training.</p> <p>Added "/102" to Hazardous Waste Worker bullet.</p> <p>Deleted "NOTE: Full Qualification must be completed prior to the candidate operating any equipment or performing any operating evolutions without the direct supervision of a qualified operator."</p> <p>Deleted "Chief Office Warden" job description.</p> <p>Deleted "Assistant Chief Office Warden" job description.</p> <p>Made the following changes to job description "Mine Rescue Team Member"</p> <p>Deleted "Cooperate, participate, and comply with provisions of the WIPP Emergency Management Program (WP 12-9)" under Duties.</p> <p>Added "Part 49, <i>Mine Rescue Team</i>," after CFR and deleted "beyond that of the FLIRT" under Duties.</p> <p>Replaced "underground reentry and rescue after an evacuation" with "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" under Duties.</p> <p>Lowercased "School Diploma," deleted "(Authorization Card MRT-01)" after manager, and replaced "1) Initial examination and clearance by the Occupational Medical Director, 2) Examined and cleared annually by the Occupational Medical Director, 3) Additional tests: pulmonary function test, cardiac stress test every five years, drug screen, 4) Encouraged to maintain good medical and physical condition. Compliance with requirements of the SERP," with "and" under Requisite Skills, Experience and Education.</p> <p>Added "Part 49" after CFR" and replaced "work" with "experience" under Requisite Skills, Experience and Education.</p> <p>Replaced "SAF-630/SAF631D" with "SAF-630/631" in fourth bullet under Training.</p> <p>Uppercased the word "training" in sixth bullet under Training.</p> <p>Deleted "First Line Initial Response Team member" job description.</p> <p>Made the following changes to job description "Emergency Response Team"</p> <p>Replaced "Responding to hazardous waste incidents or releases due to fires, HAZMAT, and medical emergencies" with "Supplements the WIPP Fire Department response capabilities" under Duties.</p> <p>Replaced "Operating as part of the WIPP Supplemental Emergency Response Program" with "Responds to surface and underground emergencies, including fires, medical emergencies, and releases of hazardous materials, including hazardous waste or hazardous waste constituents" under Duties.</p> <p>Added "Operates emergency equipment" under Duties.</p> <p>Replaced "Requisite Skills, Experience, and Education" with "Requisite Skills, Qualifications, and Education.*"</p> <p>Lowercased "School Diploma," added "," after High School Diploma, and "and" before written under Requisite Skills, Experience, and Education.</p> <p>Under Requisite Skills, Experience, and Education replaced "(Qualification Card ERT-01), compliance with health and physical requirements: 1) Initial examination and clearance by the Occupational Medical Director 2) Examined</p>

Affected Permit Section	Explanation of Change
	<p>and cleared annual by the Occupational Medical Director 3) Additional tests: pulmonary function test, cardiac stress test every five years, drug screening.” with “required in addition to professional qualifications per the <i>WIPP Fire Department Training Plan</i>, which incorporates current NFPA standards for training as follows:</p> <ul style="list-style-type: none"> • Emergency Medical Services First Responder Qualified • Incipient Firefighter, Advanced Exterior Firefighter, and Advanced Interior Firefighter (NFPA 1081, <i>Standard for Industrial Fire Brigade Member Professional Qualifications</i>) • HAZMAT Awareness (NFPA 472, <i>Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents</i>) • Driver/Operator (NFPA 1002, <i>Standard for Fire Apparatus Driver/Operator Professional Qualifications</i>), if designated” <p>Added “The following site-specific training, relative to incidents involving hazardous waste, must be completed no later than six months after assignment to the position of Emergency Response Team Member at the WIPP facility. Prior to the completion of the following training, Emergency Response Team Members shall be supervised when performing duties related to emergency response to incidents involving hazardous waste.” as introduction under Training.</p> <p>Deleted “Confined Space Rescue (ERT-102/102A) (Annual)” under Training.</p> <p>Deleted “First Aid and CPR (MED-101/101A) (Annual)” under Training.</p> <p>Deleted “(Annual)” in six places under Training.</p> <p>Deleted “Confined Space/Heated Environment (SAF-515/515A) and “Emergency Response Team Member Qualification Card (ERT-01)” under Training.</p> <p>Deleted “SAF-501/502,” before Inexperienced and added “(SAF-501/502)” after the word Training under Training</p> <p>Deleted “Industrial Fire Brigade Advanced Interior/Exterior Certification” under Training.</p> <p>Added “NOTE: The required requisite skills, qualifications, and education must be possessed prior to assignment to the position of Emergency Response Team member.” to end of job description.</p> <p>Deleted “Fire Brigade” job description.</p> <p>Made the following changes to job description Fire Protection Technician:</p> <p>Deleted “Responds to hazardous waste spills in emergency situations, Provides emergency fire response service, Serves as incident commander, and Directs emergency teams to control hazardous situations” under Duties.</p> <p>Replaced “maintains all response equipment on site” with “testing of facility fire suppression and detection systems” under Duties</p> <p>Replaced “additional training in emergency fire and medical response, or equivalent” with “training per NFPA standards related to detection and suppression systems and equipment preferred prior to employment” under Requisite Skills, Experience, and Education.</p> <p>Deleted “Hazardous Waste Worker (HWW-101/102)” and “Hazardous Waste Responder (HWR-101/101A)” under Training.</p> <p>Replaced “SAF-631D” with “631” under Training.</p> <p>Replaced “(FTP-01)” with “(FPT-01)” under Training.</p>
Attachment F2, Table of Contents	<p>Deleted the following Course Outlines “TRG-296 – Root Cause Analysis,” “SAF-632 – Office Warden,” and “SAF-621 – Firefighter I” from the Table of Contents.</p> <p>Deleted “Emergency Coordinator (WIPP)” after RCRA and “Procedure)” after Plan in the Table of Contents under Course Outlines.</p>

Affected Permit Section	Explanation of Change
	Deleted the following Qualification Cards “EST-01 Emergency Services Technician” and “Facility Operations Shift Supervisor” from the Table of Contents.
Attachment F2, Courses	<p>Deleted “TRG-296 – Root Cause Analysis” Course.</p> <p>Made the following changes to Course “SAF-645 – RCRA Emergency Coordinator (WIPP Contingency Plan Procedure)”</p> <p>Deleted “Emergency Coordinator (WIPP” and “Procedure)” from course title.</p> <p>Capitalized the word “coordinator” from text for Scope.</p> <p>Replaced “RCRA Contingency Plan” with “<i>RCRA Contingency Plan</i>” in text for scope. Added “respective” before duties and deleted “of RCRA Emergency Coordinator” after duties from the Objectives.</p> <p>Replaced “RCRA Contingency Plan” with “<i>RCRA Contingency Plan</i>” line item 1 under Refresher.</p> <p>Replaced “the general” with “three primary” line item 2 under Refresher.</p> <p>Added “individuals and” after response, line item 3 under Refresher.</p> <p>Replaced “State when the Contingency Plan is to be implemented” with “Describe the criteria under which the <i>RCRA Contingency Plan</i> is immediately implemented” line item 4 under Refresher.</p> <p>Replaced “Describe the criteria for Incident Levels I, II, and III” with “Describe the implementation criteria for a release of hazardous waste or hazardous waste constituents” line item 5 under Refresher.</p> <p>Deleted line item 6 under Refresher.</p> <p>Renumbered all items after line item 6 to reflect deletions under Refresher.</p> <p>Added “and facility” to line item 7 (new 6) after response under Refresher.</p> <p>Replaced “hazardous” with “released” line item 11 (new 10) under Refresher.</p> <p>Deleted line item 12 under Refresher.</p> <p>Deleted “additional” before information and replaced “more thorough” with “hazards” line item 13 (new 11) under Refresher.</p> <p>Replaced “evacuated” with “evaluated” line item 14 (new 12) under Refresher.</p> <p>Replaced “,” with “and” after control and deleted “, and correction” after containment line item 16 (new 14) under Refresher.</p> <p>Replaced “spill” with “natural event” line item 20 (new 18) under Refresher.</p> <p>Added new line item 19 “Describe the actions to be taken in the event of an underground structural integrity emergency.” under Refresher.</p> <p>Replaced “container spills or leakage” with “a release of site-generated hazardous or TRU mixed waste” line item 21 (new 20) under Refresher.</p> <p>Deleted line items 23, 24, 25, and 26 under Refresher.</p> <p>Replaced “emergency termination” with “post-emergency” line item 27 (new 22) under Refresher.</p> <p>Replaced “Contingency Plan” with “<i>RCRA Contingency Plan</i>” line item 28 (new 23) under Refresher.</p> <p>Deleted “SAF-632 – Office Warden” Course.</p> <p>Deleted “SAF-621– Firefighter I” Course.</p>
Attachment F2, Qualification Card	<p>Deleted “EST-01 Emergency Services Technician” Qualification Card.</p> <p>Deleted “Facility Operations Shift Supervisor” Qualification Card.</p>

Appendix B
Proposed Revised Permit Text

Proposed Revised Permit Text:

PART 2 - GENERAL FACILITY CONDITIONS

2.12.4. Emergency Coordinator

An Emergency Coordinator as specified in Table D-~~12~~ of Permit Attachment D shall be available at all times in case of an emergency. The Emergency Coordinator shall be thoroughly familiar with the Contingency Plan and shall have the authority to commit the resources needed to implement the Contingency Plan, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.55). In the event of an imminent or actual emergency, the Emergency Coordinator shall implement the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.56).

ATTACHMENT D

RCRA CONTINGENCY PLAN

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ATTACHMENT D

RCRA CONTINGENCY PLAN

Introduction

The WIPP facility is owned and co-operated by the U.S. Department of Energy (**DOE**) and co-operated by its designated Management and Operating Contractor (**MOC**) (Permit Section 1.5.3).

This attachment contains the RCRA Contingency Plan was prepared in accordance with the Resource Conservation and Recovery Act (**RCRA**) requirements codified in 20.4.1.500 New Mexico Administrative Code (NMAC) (incorporating 40 CFR Part 264, Subpart D §264.50 to §264.56), “Contingency Plan and Emergency Procedures,” and submitted in compliance with 20.4.1.900 NMAC (incorporating 40 CFR §270.14(b)(7)). The purpose of this document is to define responsibilities, and to describe the coordination of activities necessary, and to minimize hazards to human health and the environment from fires, explosions, or any sudden or non-sudden release of hazardous waste, or hazardous waste constituents to air, soil, or surface water (20.4.1.500 NMAC (incorporating 40 CFR §264.51 [a])). This plan consists of descriptions of processes and emergency responses specific to hazardous substances, contact-handled (CH) and remote-handled (RH) transuranic (TRU) mixed waste and other site-generated hazardous waste handled at the WIPP facility.

D-1 General Information Scope and Applicability

The WIPP facility is located 26 miles (mi) (42 kilometers [km]) east of Carlsbad, in Eddy County in southeastern New Mexico, and includes an area of 10,240 acres (ac) (4,144 hectares [ha]). The facility is located in an area of low population density, with fewer than 30 permanent residents living within a 10 mi (16 km) radius of the facility. The area surrounding the facility is used primarily for grazing, potash mining, and mineral exploration. Resource development that would affect WIPP facility operations or the long term integrity of the facility is not allowed within the 10,240 ac (4,144 ha) that have been set aside for the WIPP Project.

The WIPP facility is designed to receive containers of TRU waste, which will be transported to the WIPP facility from the ten major and other minor DOE TRU mixed waste generator and/or storage sites. The waste will be emplaced in the bedded salt of the Salado Formation, 2,150 feet (ft) (655 meters [m]) below ground surface.

As a geologic facility for the management of TRU mixed waste, the WIPP repository is regulated as a “miscellaneous unit,” as defined under 20.4.1.500 NMAC (incorporating 40 CFR §264.601 to §264.603). The areas regulated units at the WIPP facility subject to this permit include the surface container storage areas the hazardous waste management units (HWMUs) including the Waste Handling Building (**WHB**) Container Storage Unit (i.e., WHB Unit) and the Parking Area Container Storage Unit (i.e., Parking Area Unit), located south of the WHB, and the areas below ground in which waste will be emplaced hazardous waste disposal units (HWDUs) in the underground disposal panels.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.51(b)), owners/operators of treatment, storage, and disposal facilities are required to have formal contingency plans in place that describe actions that facility personnel will take in response to any fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human

health or the environment. The contingency plan must meet the requirements of NMAC 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D). The provisions of the RCRA Contingency Plan apply to HWDUs in the underground waste disposal panels, HWMUs in the WHB Unit and the Parking Area Unit, the Waste Shaft, and supporting TRU mixed waste handling areas. These areas are shown in Figures D-1 through D-3.

The WIPP facility is a large quantity generator of hazardous waste pursuant to 20.4.1.300 NMAC (incorporating 40 CFR Part 262, "Standards for Generators of Hazardous Waste"). 20.4.1.300 NMAC (incorporating 40 CFR §262.34(a)(4), which references 40 CFR Part 265, Subpart D) requires that a contingency plan be in place that describes actions that facility personnel will take in response to any fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. The provisions of the RCRA Contingency Plan also apply to the Hazardous Waste Staging Areas for site-generated hazardous waste, which are located in Buildings 474A and 474B, as shown in Figure D-1. The WIPP facility includes other surface structures, shafts, and underground areas (Figures D-1, D-2, and D-3). Surface structures other than the WHB, that support TRU mixed waste management include:

~~Exhaust Filter Building—houses the filter banks to which the underground ventilation can be diverted in the unlikely event of an underground release of radionuclides.~~

~~Guard and Security Building—houses the facility security personnel and communications equipment necessary for them to perform their duties. Section D-4a specifies the duties of the security officers relative to contingency actions.~~

~~Safety and Emergency Services Building—houses the surface emergency response vehicles (fire truck, rescue truck, ambulance), Health Services (first aid), Emergency Operations Center, and the Dosimetry Laboratory. The Hazardous Material Response Trailer is staged at the WIPP facility in an area that is readily accessible to Emergency Services. Emergency Services is located in Building 452. Table D-6 describes emergency equipment and associated locations.~~

~~Support Building—houses the Central Monitoring Room (see section D-4a).~~

~~Transuranic Package Transporter II (TRUPACT-II) Maintenance Facility—is located west of the CH bay. No TRU mixed waste management activities will occur in this facility.~~

~~Surface facilities used for storage of support equipment are identified in Table D-6.~~

~~Building 452, Safety and Emergency Services Facility, houses the emergency response vehicles, emergency equipment, the mine rescue room, mine rescue team equipment, and the Emergency Operations Center (EOC). The Hazardous Material Response Trailer is staged at the WIPP facility in an area readily accessible to Emergency Services. Emergency Services is located in Building 452.~~

~~The RCRA permit addresses TRU mixed waste management activities in the WHB Unit, the Parking Area Unit, and the disposal units. The provisions of this Contingency Plan apply to hazardous waste disposal units (HWDU) in the underground waste disposal panels, storage in the WHB Unit and the Parking Area Unit, the Waste Shaft, and supporting TRU mixed waste handling areas. The remainder of the facility will not manage TRU mixed waste. This Contingency Plan has also been designed in accordance with 20.4.1.300 NMAC (incorporating~~

40 CFR § 262.34(a)(4) Standards for Generators of Hazardous Waste), and will be implemented whenever there is a fire, explosion, or release of hazardous waste which could threaten human health or the environment. Hazardous substances in the remainder of the facility are included as possible triggers of the Contingency Plan but are outside the scope of the regulations promulgated pursuant to RCRA. This allows WIPP to maintain one emergency response plan which is consistent with the National Response Teams Integrated Contingency Plan Guidance (Federal Register, Vol. 61, No. 109, June 5, 1996). Inclusion is based on their National Fire Protection Association (**NFPA**) ratings in addition to their storage quantities. The majority of hazardous substances on-site are not expected to trigger the Contingency Plan because they are present in the same form and concentration as the product packaged for distribution and use by the general public or are used in a laboratory under the direct supervision of a technically qualified individual. Superfund Amendments and Reauthorization Act (**SARA**) Title III excludes these from emergency planning reporting. The list of hazardous substances in large enough quantities to constitute a Level II incident (Section D-3) is provided in Table D-1. In addition to TRU mixed waste, these are the only hazardous substances currently on site which, if spilled, may be of sufficient impact to cause this Contingency Plan to be implemented. Magnesium Oxide (**MgO**) is stored on-site in large quantities. It is used as backfill in the waste emplacement rooms as a pH buffer. The pH buffer will limit the solubility of radionuclides after the underground rooms are filled and closed. MgO is not a hazardous substance, a release of MgO will not create hazardous waste and poses no threat to human health or the environment, and is therefore not addressed in the Contingency Plan.

Wastes may also be generated at the WIPP facility as a direct result of managing the TRU and TRU mixed wastes received from the off-site generators. Throughout the remainder of this plan, this waste is referred to as "derived waste." Derived waste will be placed in the rooms in HWDUs along with the TRU mixed waste for disposal. Every reasonable effort to minimize the amount of derived waste, while providing for the health and safety of personnel, will be made.

Wastes generated as a result of maintenance or emergency response actions will be categorized into one of three groups and disposed of accordingly. These are: 1) nonhazardous wastes to be disposed of in at an appropriate disposal facility (e.g., low-level waste facility or approved landfill), 2) hazardous nonradioactive wastes (site-generated hazardous waste) to be disposed of at an off-site RCRA permitted facility, and 3) TRU mixed derived waste to be disposed of in the underground HWDUs as TRU mixed waste. Disposal of TRU mixed waste in the WIPP facility is subject to regulation under 20.4.1.500 NMAC. As required by 20.4.1.500 NMAC (incorporating 40 CFR §264.601), the Permittees will demonstrate that the environmental performance standards for a miscellaneous unit, which are applied to the HWDUs in the underground, will be met. In addition, the technical requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.170 to §264.178) are applied to the operation of the container storage units in the WHB Unit and in the Parking Area Unit south of the WHB. Hazardous Liquid wastes that may be generated as a result of emergency response actions the fire fighting water or decontamination solutions will be managed as follows:

Non-Mixed - Hazardous waste Accumulated liquids contaminated only with hazardous constituents will be placed into containers and managed in accordance with 20.4.1.300 NMAC (incorporating 40 CFR §262.34) requirements. The waste will be shipped to an approved off-site treatment, storage, or disposal facility.

Mixed - Accumulated Liquid liquids contaminated with TRU mixed waste (inside the WHB Unit) will be solidified as they are placed into containers with cement, Aquaset, or absorbent

material in them. ~~and~~ The solidified materials will be disposed of in the underground WIPP repository as derived ~~TRU mixed~~ waste.

This chapter of the permit application describes the HWDUs, the TRU mixed waste management facilities and operations, compliance with the environmental performance standards, and with the applicable technical requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.170 to §264.178 and §264.601, respectively). The configuration of the WIPP facility consists of completed structures, including all buildings and systems for the operation of the facility.

D-1a — Disposal Phase Overview

The Disposal Phase will consist of receiving CH TRU mixed waste shipping containers, unloading and transporting the waste containers to the underground HWDUs, emplacing the waste in the underground HWDUs, and subsequently achieving closure of the underground HWDUs in compliance with applicable State and Federal regulations.

The TRU mixed waste that will be disposed at the WIPP facility results primarily from activities related to the reprocessing of plutonium-bearing reactor fuel and fabrication of plutonium-bearing weapons, as well as from research and development. This TRU mixed waste consists largely of such items as paper, cloth, and other organic material; laboratory glassware and utensils; tools; scrap metal; shielding; and solidified sludges from the treatment of wastewater. Much of this TRU mixed waste is also contaminated with substances that are defined as hazardous under 20.4.1.200 NMAC.

D-1b — Waste Description

Waste destined for WIPP are, or were, produced as a byproduct of weapons production and have been identified in terms of waste streams based on the processes that produced them. Each waste stream identified by generators is assigned to a Waste Summary Category to facilitate RCRA waste characterization, and reflect the final waste forms acceptable for WIPP disposal.

These Waste Summary Categories are:

S3000 — Homogeneous Solids

Solid process residues defined as solid materials, excluding soil, that do not meet the applicable regulatory criteria for classification as debris (20.4.1.800 NMAC (incorporating 40 CFR §268.2[g] and [h])). Included in solid process residues are inorganic process residues, inorganic sludges, salt waste, and pyrochemical salt waste. Other waste streams are included in this Waste Summary Category based on the specific waste stream types and final waste form. This category includes wastes that are at least 50 percent by volume solid process residues.

S4000 — Soils/Gravel

This waste summary category includes waste streams that are at least 50 percent by volume soil. Soils are further categorized by the amount of debris included in the matrix.

S5000 — Debris Wastes

This waste summary category includes waste that is at least 50 percent by volume materials that meet the criteria for classification as debris (20.4.1.800 NMAC (incorporating 40 CFR §268.2)). Debris is a material for which a specific treatment is not provided by 20.4.1.800 NMAC (incorporating 40 CFR §268 Subpart D), including process residuals such as smelter slag from the treatment of wastewater, sludges or emission residues.

Debris means solid material exceeding a 2.36 inch (60 millimeter) particle size that is intended for disposal and that is: 1) a manufactured object, 2) plant or animal matter, or 3) natural geologic material.

Included in the S5000 Waste Summary Category are metal debris, lead containing metal debris, inorganic nonmetal debris, asbestos debris, combustible debris, graphite debris, heterogeneous debris, and composite filters, as well as other minor waste streams. Particles smaller than 2.36 inches in size may be considered debris if the debris is a manufactured object and if it is not a particle of S3000 or S4000 material.

Examples of waste that might be included in the S5000 Waste Summary Category are asbestos-containing gloves, fire hoses, aprons, flooring tiles, pipe insulation, boiler jackets, and laboratory tabletops. Also included are combustible debris constructed of plastic, rubber, wood, paper, cloth, graphite, and biological materials. Examples of graphite waste that would be included are crucibles, graphite components, and pure graphite.

Wastes may be generated at the WIPP facility as a direct result of managing the TRU and TRU mixed wastes received from the off-site generators. Such generated waste may occur in either the WHB Unit or the Underground. For example, when TRU mixed wastes are received at the WHB Unit, the CH or RH Package shipping containers and the TRU mixed waste containers are checked for surface contamination. Under some circumstances,³ if contamination is detected, the shipping container and/or the TRU mixed waste containers will be decontaminated. In the underground, waste may be generated as a result of radiation control procedures used during monitoring activities. The waste generated from radiation control procedures will be assumed to be TRU and/or TRU mixed waste. Throughout the remainder of this plan, this waste is referred to as "derived waste." All such derived waste will be placed in the rooms in HWDUs along with the TRU mixed waste for disposal.

D-1c Containers

The waste containers that will be used at the WIPP facility qualify as "containers," in accordance with 20.4.1.101 NMAC (incorporating 40 CFR §260.10). That is, they are "portable devices in which a material is stored, transported, treated, disposed of, or otherwise handled."

TRU mixed waste containers, containing off-site waste, will not be opened at the WIPP facility. Derived waste containers are kept closed at all times unless waste is being added or removed.

Waste, including "derived waste," containing liquid in excess of treatment, storage, or disposal facility Waste Acceptance Criteria (TSDF-WAC) limits shall not be emplaced in the underground HWDUs WIPP (See Permit Attachment C, Section C-1c).

³ Typically contamination that is less than six square feet in area and less than 2000 disintegrations per minute (dpm) alpha or 20,000 dpm beta/gamma, may be decontaminated. Containers that exceed these thresholds will be returned to the point of origin for decontamination.

Off-site waste managed and disposed of at the WIPP facility is radioactive mixed waste, and as a result, response to emergencies must consider the dual hazard associated with this waste. In responding to emergencies involving TRU mixed waste, the actions necessary to protect human health and the environment from the effects of radioactivity are generally the same actions necessary to provide protection from hazardous waste and hazardous waste constituents. The RCRA Contingency Plan may require additional actions to be taken to mitigate the hazards associated with the hazardous component of the waste; however, these measures are not intended to supersede actions required to respond to radiological emergencies. In this manner, the RCRA Contingency Plan complements the radiological response activities. Special requirements for ignitable, reactive, and incompatible waste are addressed in 20.4.1.500 NMAC (incorporating 40 CFR §§264.176 and 177). The RCRA Permit Treatment, Storage, and Disposal Facility Waste Acceptance Criteria (**TSDF-WAC**) precludes ignitable, reactive, or incompatible TRU mixed waste from being placed into storage or disposed of at WIPP.

D-1d — Description of Containers

CH TRU mixed waste containers will be either 55-gallon (gal) (208-liter (L)) drums singly or arranged into seven (7) packs, 85-gal (322 L) drums (used as singly or arranged into four (4) packs, 100-gal (379 L) drums singly or arranged into three (3) packs, ten-drum overpacks (**TDOP**), 66.3 ft³ (1.88 m³) SWBs, or standard large box 2s (**SLB2**).

RH TRU mixed waste containers are either canisters or drums. Canisters will be loaded singly in an RH TRU 72-B cask and drums will be loaded in a CNS 10-160B cask. Drums in the CNS 10-160B cask will be arranged singly or in drum carriage units containing up to five drums each. Canisters and drums are described in Permit Attachment M1.

Remote-Handled TRU mixed waste may arrive in shielded containers with an internal capacity of 4.0 ft³ (0.11 m³). Shielded containers will be arranged as three packs.

D-1e — Description of Surface Hazardous Waste Management Units

The WHB is the surface facility where waste handling activities will take place. The WHB has a total area of approximately 84,000 square feet (ft²) (7,804 square meters [m²]) of which 49,710 ft² (4,618 m²) are designated as the WHB Unit for TRU mixed waste management. Within the WHB Unit, 32,307 ft² (3,001 m²) are designated for the waste handling and container storage of CH TRU mixed waste and 17,403 ft² (1,617 m²) are designated for the handling and storage of RH TRU mixed waste. These areas are being permitted as container storage units. The concrete floors within the WHB Unit are sealed with an impermeable coating that has excellent resistance to the chemicals in TRU mixed waste and, consequently, provide secondary containment for TRU mixed waste. In addition, a Parking Area Unit south of the WHB will be used for storage of waste in sealed shipping containers awaiting unloading. This area is also being permitted as a container storage unit. The sealed shipping containers provide secondary containment in this hazardous waste management unit (**HWMU**).

D-1e(1) — CH Bay Operations

Once unloaded from the Contact-Handled Package, CH TRU mixed waste containers (3-pack of shielded containers, 7-packs of 55-gal drums, 3-packs of 100-gal drums, 4-packs of 85-gal drums, SWBs, TDOPs, or one SLB2) are placed on the facility pallet. The waste containers are stacked on the facility pallets (one or two high, depending on weight considerations). The use of facility pallets will elevate the waste at least 6 inches (in.) (15 centimeters [cm]) from the floor

surface. Pallets of waste will then be stored in the CH bay. This storage area will be clearly marked to indicate the lateral limits of the storage area. This storage area will have a maximum capacity of thirteen facility pallets of waste during normal operations. These pallets will typically be in the CH Bay storage area for a period of up to five days.

In addition, four Contact Handled Packages, containing up to 640 ft³ of CH TRU waste in containers, may occupy positions at the TRUPACT II Unloading Docks (**TRUDOCK**).

Aisle space shall be maintained in all CH Bay waste storage areas. The aisle space shall be adequate to allow unobstructed movement of fire response personnel, spill-control equipment, and decontamination equipment that would be used in the event of an off-normal event. An aisle space between facility and containment pallets will be maintained in all CH TRU mixed waste storage areas.

D-1e(2) — RH Complex Operations

Loaded RH TRU casks are received in the RH Bay of the WHB. The RH Bay is served by an overhead bridge crane used for cask handling and maintenance operations. Storage in the RH Bay occurs in the RH-TRU 72-B or CNS 10-160B casks. A maximum of two loaded casks may be stored in the RH Bay and a maximum of one cask in the Cask Unloading Room may be stored at one time. A minimum of 44 inches (1.1 m) will be maintained between loaded casks in the RH Bay. The cask serves as secondary containment in the RH Bay for the RH TRU mixed waste payload container. In addition, the RH Bay has a concrete floor.

Single RH TRU mixed waste canisters are unloaded from the RH-TRU 72-B casks in the Transfer Cell of the RH Complex where they are transferred to facility casks. Drums of RH TRU mixed waste will be transferred remotely from the CNS 10-160B cask, into the Hot Cell, and loaded into a canister. Storage in the Hot Cell occurs in either drums or canisters. A maximum of 12 55-gallon drums of RH TRU mixed waste and one 55-gallon drum of derived waste (94.9 ft³ (2.7 m³)) may be stored in the Hot Cell. Except for the derived waste drum, individual 55-gallon drums may not be stored in the Hot Cell for more than 25 days. The Transfer Cell houses the Transfer Cell Shuttle Car, which is used to facilitate transferring the canister to the facility cask. Storage in this area typically occurs at the end of a shift or in an off-normal event that results in the suspension of waste handling. A maximum of one canister (31.4 ft³ (0.89 m³)) may be stored in the Transfer Cell in a shielded insert in the Transfer Cell Shuttle Car or in a RH-TRU 72-B cask.

The Facility Cask Loading Room provides for transfer of a canister to the facility cask for subsequent transfer to the waste shaft conveyance and to the Underground Hazardous Waste Disposal Unit. The Facility Cask Loading Room also functions as an air lock between the waste shaft and the Transfer Cell. Storage in this area typically occurs at the end of a shift or in an off-normal event that results in the suspension of waste handling. A maximum of one canister (31.4 ft³ (0.89 m³)) may be stored in the Facility Cask in the Facility Cask Loading Room.

Derived waste will be stored in the RH Bay and in the Hot Cell.

D-1e(3) — Parking Area Container Storage Unit (Parking Area Unit)

The area extending south from the WHB within the fenced enclosure identified as the Controlled Area on Figure A1-2 is defined as the Parking Area Container Storage Unit. This area provides storage for up to 6,734 ft³ (191 m³) of CH and/or RH TRU mixed waste contained in up to 40

~~loaded Contact Handled Packages and 8 Remote Handled Packages. Secondary containment and protection of the waste containers from standing rainwater are provided by the transportation containers. Up to 12 additional Contact Handled Packages and four additional Remote Handled Packages may be stored in the Parking Area Surge Area so long as the requirements of Permit Sections 3.1.2.3 and 3.1.2.4 are met. No more than 50 Contact Handled and 12 Remote Handled Packages may be stored in the Parking Area Storage Unit.~~

~~The safety criteria for Contact Handled and Remote Handled Packages require that they be opened and vented at a frequency of at least once every 60 days. During normal operations, Contact Handled and Remote Handled Packages will not require venting while located in the Parking Area Unit. Any off normal event which results in the need to store a waste container in the Parking Area Unit for a period of time approaching fifty-nine (59) days shall be mitigated by returning the shipment to the generator prior to the expiration of the 60 day NRC venting period or by moving the Contact Handled or Remote Handled Package inside the WHB Unit where the waste will be removed and placed in one of the permitted storage areas or in the underground hazardous waste disposal unit.~~

~~D-1f Off Normal Events~~

~~Off normal events could interrupt normal operations in the waste management process line. Shipments of waste from the generator sites will be stopped in any event which results in an interruption to normal waste handling operations that exceeds three days.~~

~~D-1g Containment~~

~~The WHB Unit has concrete floors, which are sealed with a coating designed to resist all but the strongest oxidizing agents. Such oxidizing agents do not meet the TSDLF WAC and will not be accepted in TRU mixed waste at the WIPP facility. Therefore, TRU mixed wastes pose no compatibility problems with respect to the WHB Unit floor.~~

~~During normal operations, the floor of the normal storage areas within the CH Bay and RH Complex shall be visually inspected on a weekly basis to verify that it is in good condition and free of obvious cracks and gaps. When a RH TRU mixed waste container is present in the RH Complex, inspections will be conducted visually and/or using closed circuit television cameras in order to manage worker dose and minimize radiation exposures. Manual inspections of the areas are performed at least annually during routine maintenance periods when waste is not present.~~

~~Floor areas of the WHB used during off normal events will be inspected prior to use and weekly while in use. Containers located in the permitted storage areas shall be elevated from the surface of the floor. Facility pallets provide at least 6 in (15 centimeters [cm]) of elevation from the surface of the floor. TRU mixed waste containers that have been removed from Contact-Handled or Remote Handled Packages shall be stored at a designated storage area inside the WHB so as to preclude exposure to the elements.~~

~~Secondary containment at permitted storage areas inside the WHB Unit shall be provided by the floor. The Parking Area Unit and TRUDOCK storage area of the WHB Unit do not require engineered secondary containment, since waste is not stored there unless it is protected by the Contact-Handled or Remote Handled Packaging. Floor drains, the fire suppression water collection sump, and portable dikes, if needed, will provide containment for liquids that may be generated by fire fighting. Sump capacities and locations are shown in Drawing 41-F-087-014.~~

~~Residual fire fighting liquids will be placed in containers and managed as described above. Secondary containment at storage locations inside the RH Bay, Cask Unloading Room, Transfer Cell, and Facility Cask Loading Room is provided by the cask or canisters that contain drums of RH TRU mixed waste. In the Hot Cell, secondary containment is provided by the Hot Cell subfloor. In addition, the RH Complex contains a 220-gallon (833-L) sump in the Hot Cell, a 11,400-gallon (43,152-L) sump in the RH Bay, and a 220-gallon (833-L) sump in the Transfer Cell to collect any liquids.~~

D-2 Emergency Response Personnel and Training

D-2a Emergency Response Personnel

~~Persons qualified to act as the RCRA Emergency Coordinator, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.55), are listed in Table D-2.~~

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-12 and are trained to the requirements found in Attachment F1, "RCRA Emergency Coordinator," where four individuals have been designated primary RCRA Emergency Coordinators. This is because the on-duty Facility Shift Manager (FSM) is designated as the RCRA Emergency Coordinator. The four individuals shown serve as FSM on a rotating shift basis.

~~Persons qualified to act as the RCRA Emergency Coordinator are thoroughly familiar with this Contingency Plan, the TRU mixed waste and hazardous waste operations and activities at the WIPP facility, the locations of TRU mixed waste and hazardous waste activities, the locations on the site where hazardous materials are stored and used, and the locations of waste staging and accumulation areas. They are familiar with the characteristics of hazardous substances, TRU mixed waste and hazardous waste handled at the WIPP facility, the location of TRU mixed waste and hazardous waste records within the WIPP facility, and the facility layout. 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. Figure D-4 outlines the RCRA Emergency Coordinator's position relative to other organizations that provide support.~~

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, ~~or groups,~~ and organizations have specified responsibilities during any WIPP facility emergency:

- ~~• Assistant Chief Office Warden (ACOW)—Persons assigned to take accountability for sections of the site, and then reporting the accountability to the Chief Office Warden.~~
- 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)—The ~~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. The facility log is maintained by the CMRO, and during emergencies, the CMRO supports the RCRA Emergency Coordinator.
- ~~• Chief Office Warden (COW)—A predesignated individual with responsibilities for complete surface accountability at staging areas in the event of an evacuation. The Chief Office Warden receives reports from the ACOWs.~~
- Emergency Response Team (ERT)—Supplemental group WIPP facility personnel who serve as an Industrial Fire Brigade and are trained to respond to surface and underground emergencies on site, to provide emergency first aid including fires, medical emergencies, and to respond to releases of hazardous waste or hazardous materials. The ERT members supplement WIPP Fire Department response capabilities are part of the WIPP Supplemental Emergency Response Program. 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.
- 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, for security-related incidents, the WIPP Protective Force.

- ~~Emergency Services Technician (EST)/Fire Protection Technician (FPT)~~—Regular employee whose job is that of full-time emergency responder. During non-emergency conditions, the EST/FPT inspects facility fire suppression systems and emergency equipment. The EST/FPT completes specific sections of the “WIPP Hazardous Material Incident Report.” Additional technical personnel complete identified sections of the report.
- ~~Fire Brigade~~—The fire brigade is a team of five personnel who respond to site emergencies. The team consists of an Incident Commander and four fire fighters. The fire fighters are trained in accordance with NFPA Standards for Industrial Fire Brigades (Fire Brigades that perform both advanced exterior and interior structural fire fighting).
- ~~First Line Initial Response Team (FLIRT)~~—Supplemental primary responders in the event of a general underground emergency for medical and hazardous material response. The FLIRT also provides backup support for the ERT in the event of a general surface facility emergency. FLIRT members are part of the WIPP Supplemental Emergency Response Program.
- 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. Supplemental group responsible for underground reentry and rescue after an emergency evacuation. The MRT responds in accordance with 30 CFR Part 49 requirements. MRT members are part of the WIPP Supplemental Emergency Response Program.
- ~~Office Warden~~—An individual assigned responsibility for assuring that personnel are evacuated from his/her assigned area or building during evacuations. Office Wardens maintain a list of all personnel in their specific area. This list is compared with the physical presence of personnel who assemble at the staging areas. The Office Wardens report area accountability to the AGOWs.
- Emergency Operations Center (EOC) Staff—The EOC consists of a minimum staff of three EOC management positions (the Crisis Manager, a Safety Representative and an Operations Representative) to activate the EOC. The full EOC Staff includes the Crisis Manager, the Deputy Crisis Manager, a Safety Representative, an Operations Representative and the EOC Coordinator. Additional technical and logistics personnel will provide support as necessary. The EOC is activated by the FSM. Upon activation, the EOC supports the RCRA Emergency Coordinator and Incident Commander with emergency management decision-making and associated notifications. Since EOC staff are performing performs duties similar to their normal job functions during an emergency response and providing provides support related to their area(s) of expertise, no specific RCRA training is required.

D-2b Emergency Response Training

The WIPP Fire Department personnel are trained in accordance with the WIPP Fire Department Training Plan, which is kept on file at the WIPP facility. The training plan incorporates current National Fire Protection Association (NFPA) standards for training Firefighters and ERT members.

Fire Department Incident Commanders are also trained in accordance with the WIPP Fire Department Training Plan, which incorporates the Federal Emergency Management Agency (FEMA), Incident Command System (ICS), and the National Incident Management System (NIMS) standards.

WIPP personnel who perform EMS duties are licensed through the State of New Mexico Emergency Medical Systems Bureau. Licensure requirements for training, continuing education, and skills maintenance are set forth through state requirements. Licenses are maintained by attending training seminars or conferences.

As described above, emergency response training is conducted in accordance with the WIPP Fire Department Training Plan, which is updated whenever the applicable standards are revised. In addition to the emergency response training, WIPP Fire Department personnel are required to complete applicable site-specific training, which is described in 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.

D-3 Implementation Criteria for Implementation of the RCRA Contingency Plan

The provisions of the RCRA Contingency Plan shall be implemented immediately whenever there is a fire, an explosion, or a release of hazardous wastes or hazardous waste constituents that could threaten human health or the environment, or whenever the potential for such an event exists as determined by the RCRA Emergency Coordinator, as required under 20.4.1.500 NMAC (incorporating 40 CFR §264.51(b)).

There may be situations which do not readily lend themselves to an immediate assessment of the possible hazards to human health and the environment. In these cases, the RCRA Emergency Coordinator will implement the RCRA Contingency Plan as a precautionary measure, regardless of the emergency situation or occurrence, if the RCRA Emergency Coordinator has reason to believe that a fire, explosion, or release of hazardous waste or hazardous waste constituents has occurred that could threaten human health or the environment.

The provisions of this Contingency Plan will be implemented immediately whenever there is an emergency event (e.g., a fire, an explosion, or a natural occurrence that involves or threatens hazardous or TRU mixed wastes or a release of hazardous substances, hazardous materials, or hazardous wastes) that could threaten human health or the environment, or whenever the potential for such an event exists as determined by the RCRA Emergency Coordinator, as required under 20.4.1.500 NMAC (incorporating 40 CFR §264.51(b)). The following information is utilized for categorization of events to determine implementation of the Contingency Plan in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(i)). The RCRA Emergency Coordinator, on behalf of the Permittees, will record the time, date, and details of the incident that required implementation of the RCRA Contingency Plan. The Secretary of the NMED will be immediately notified by the Permittees. Additionally, the Permittees shall submit a written report to the NMED within 15 days of the incident, as specified in Section D-5. The following emergency situations, as they pertain to TRU mixed waste and generated hazardous wastes, warrant immediate implementation of the RCRA Contingency Plan by the RCRA Emergency Coordinator in accordance with standard operating procedures on file at the WIPP facility:

- Fires

- If a fire involving TRU mixed waste or site-generated hazardous waste occurs
- If a fire (e.g., building, grass, nonhazardous waste fire) occurs within or near the Hazardous Waste Staging Areas that threatens to involve site-generated hazardous waste
- If a fire (e.g., building, grass, nonhazardous waste fire) occurs within or near the permitted HWMUs that threatens to involve TRU mixed waste
- If a fire occurs in underground that results in immediate personnel evacuation or prevents normal personnel access to the underground

For any fire which does not meet the above criteria, the RCRA Emergency Coordinator shall document the rationale for not implementing the *RCRA Contingency Plan* (e.g., there is no threat to human health or the environment).

- Explosions

- If an explosion involving TRU mixed waste or site-generated hazardous waste occurs
- If an explosion occurs within or near the Hazardous Waste Staging Areas which threatens to involve site-generated hazardous waste
- If an explosion occurs within or near the permitted HWMUs which threatens to involve TRU mixed waste
- If an explosion occurs in the underground that results in immediate personnel evacuation or prevents normal personnel access to the underground
- If there is an imminent danger of an explosion occurring (e.g., gas leak with an ignition source nearby) which could involve TRU mixed or site-generated hazardous waste

For any explosion which does not meet the above criteria, the RCRA Emergency Coordinator shall document the rationale for not implementing the *RCRA Contingency Plan* (e.g., there is no threat to human health or the environment).

- Unplanned Sudden/Non-Sudden Releases

- If, prior to waste emplacement, one or more containers of TRU mixed waste has spilled or been breached due to dropping, puncturing, container failure or degradation, or any other physical or chemical means, resulting in a release
- If, after waste emplacement, one or more containers of TRU mixed waste in an active room has been breached

- If a continuous air monitor confirms a release of radioactive particulates to the ambient atmosphere, indicating a possible release of TRU mixed waste constituents from the permitted facility
- If a spill of site-generated hazardous waste occurs in a Hazardous Waste Staging Area and cannot be contained with secondary containment methods or absorbents, thereby threatening a release to air, soil, or surface water
- If a site-generated hazardous waste spill occurs in a Hazardous Waste Staging Area and results in the release of potentially flammable material, thereby threatening to create a fire or explosion hazard
- If a site-generated hazardous waste spill occurs in a Hazardous Waste Staging Area and results in the release of potentially toxic fumes that would threaten human health

For any release of hazardous waste or hazardous waste constituents that does not meet the above criteria, the RCRA Emergency Coordinator shall document the rationale for not implementing the *RCRA Contingency Plan* (e.g., there is no threat to human health or the environment).

• Other Occurrences

- If a natural phenomenon (e.g., earthquake, flood, lightning strike, tornado) occurs that involves TRU mixed waste or site-generated hazardous waste or threatens to involve TRU mixed waste or site-generated hazardous waste
- If an underground structural integrity emergency (e.g., roof fall in an active room) occurs that involves TRU mixed waste, threatens to involve TRU mixed waste results in immediate personnel evacuation, or prevents normal personnel access to the underground

For any natural phenomenon or underground structural emergency that does not meet the above criteria, the RCRA Emergency Coordinator shall document the rationale for not implementing the *RCRA Contingency Plan* (e.g., there is no threat to human health or the environment).

~~1. Medical Emergencies (does not implement the Contingency Plan)~~

~~2. Non-emergency (does not implement the Contingency Plan)~~

~~a. Fire already out, did not involve any hazardous materials.~~

~~b. Spill or release involved materials excluded according to the SARA Title III, Statute 42 U.S.C. 11021 (e). Such as:~~

~~1) Any substance present in the same form and concentration as product packaged for distribution and use by the general public. (Example: Cleaning solutions)~~

~~2) Any substance to the extent it is used in a laboratory under the direct supervision of a technically qualified individual.~~

- ~~3) Petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance by Comprehensive Environmental Response, Compensation and Liability Act (**CERCLA**).~~
- ~~3. Incident Level I: According to the NFPA 471, Responding to Hazardous Materials Incidents (See Table D-3). If the product(s) involved in the fire, explosion, spill or leakage meets the following criteria, it will be classified as a Level I incident and does not implement the Contingency Plan.~~
 - ~~a. The product does not require a U.S. Department of Transportation (**DOT**) placard, is a NFPA listed 0 or 1 for all categories, or is Other Regulated Materials A, B, C, or D.~~
 - ~~b. The fire is under control and the reactivity rating of the material is less than a rating 2, indicating a low potential for subsequent explosion as the hazardous material can be considered normally stable.~~
 - ~~c. There was no release or the release can be confined with readily available resources.~~
 - ~~d. There is no life threatening situation.~~
 - ~~e. There is no potential environmental impact.~~
- ~~4. Incident Level II: According to NFPA 471, Responding to Hazardous Materials Incidents, (See Table D-3). If the product(s) involved in the fire, explosion, spill or leakage meets the following criteria, it will be classified as a Level II incident and the Contingency Plan will be implemented by the RCRA Emergency Coordinator.~~
 - ~~a. The product requires a DOT placard, is an NFPA 2 for any categories, or is Environmental Protection Agency (**EPA**) regulated waste (Site specific: Table D-1 and TRU mixed waste) AND~~
 - ~~b. The incident involves multiple packages.~~
 - ~~c. There is potential for the fire to spread since the hazardous material's flammability level (rating 2) is below 200 degrees Fahrenheit, or the reactivity (rating 2) indicates that violent chemical changes are possible and thus may be explosive.~~
 - ~~d. The release may not be controllable without special resources.~~
 - ~~e. The incident requires evacuation of a limited area for life safety.~~
 - ~~f. The potential for environmental impact is limited to soil and air within incident boundaries.~~
 - ~~g. The container is damaged but able to contain the contents to allow handling or transfer of product.~~
- ~~5. Incident Level III: According to NFPA 471, Responding to Hazardous Materials Incidents (See Table D-3). If the product(s) involved in the fire, explosion, spill or leakage meet the following criteria, it will be classified as a Level III incident and the Contingency Plan will be implemented by the RCRA Emergency Coordinator.~~

- a. ~~The product is a poison A (gas), an explosive A/B, organic peroxide, flammable solid, material that is dangerous when wet, chlorine, fluorine, anhydrous ammonia, NFPA 3 and 4 for any categories including special hazards, EPA extremely hazardous substances, and cryogenics.~~
- b. ~~The site specific container size for this incident level will be a tank truck.~~
- c. ~~There is potential for the fire to spread since the hazardous material's flammability level (rating 3 or 4) is below 100 degrees Fahrenheit, or the reactivity (rating 3 or 4) indicates that the material may explode.~~
- d. ~~The release may not be controlled even with special resources.~~
- e. ~~The incident requires mass evacuation of a large area for life safety.~~
- f. ~~Even though the NFPA guidelines for this incident level indicate that the potential for environmental impact is severe, due to the site engineering controls, the impact is contained within the HWMUs.~~
- g. ~~The container is damaged to such an extent that catastrophic rupture is possible.~~

~~The above categories include fire situations, weather conditions, natural phenomena, and explosions which will have to be evaluated to make an incident level determination. A Level II (potential threat to human health in localized area, potential for moderate on-site environmental impact) or Level III (potential threat to human health in a larger area, potential for severe environmental impact) incident by definition is considered to be a potential threat to human health or the environment and, therefore, is considered to be an emergency requiring activation of the Contingency Plan.~~

D-4 Emergency Response Method

Methods that describe implementation of how and when the WIPP Contingency Plan will be implemented RCRA Contingency Plan cover the following six implementation areas:

1. Immediate Notifications (Section D-4a)
2. Identification of hazardous Released mMaterials and Assessment of Extent of Emergency (Section D-4b)
3. Assessment of the nature and extent of the emergencyPotential Hazards (Section D-4c)
4. Post-Assessment Notifications (Section D-4d)
45. Control, and eContainment, and correction of the eEmergency (Section D-4ed)
56. Prevention of recurrence or spread of fires, explosions, or releasesPost-Emergency Activities (Section D-4fe)
6. Management and containment of released material and waste (Section D-4f)
7. Incompatible waste (Section D-4g)

8. ~~Post-emergency facility and equipment maintenance and reporting (Section D-4h)~~
9. ~~Container spills and leakage (Section D-4i)~~
10. ~~Tank spills and leakage (Section D-4j)~~
11. ~~Surface impoundment spills and leakage (Section D-4k)~~

D-4a **Immediate Notifications**

Notification requirements in the event of an emergency at a RCRA hazardous waste management facility implementation of the RCRA Contingency Plan are defined by 20.4.1.500 NMAC (incorporating 40 CFR §§264.56(a)) and (d)). Necessary notifications in case of an emergency at the WIPP facility are described in this section (Figure D-4a). Personnel at the WIPP facility are trained to respond to emergency notifications.

Whenever an emergency situation occurs that warrants implementation of this RCRA Contingency Plan, as described in Section D-3, the Permittees will immediately notify the Secretary of the NMED.

D-4a(1) Initial Emergency Response and Alerting the RCRA Emergency Coordinator

The first person to become aware of an incident shall immediately report the situation to the CMRO; and as requested by the CMRO, provide the following relevant information, ~~as appropriate:~~ Facility personnel are trained in the process for notifying the CMRO as part of General Employee Training (GET).

- ~~Name and telephone number of the caller~~
- ~~Location of the incident and the caller~~
- ~~Time and type of incident~~
- ~~Severity of the incident~~
- ~~Magnitude of the incident~~
- ~~Cause of the incident~~
- ~~Assistance needed to deal with or control the incident~~
- ~~Areas or personnel affected by the incident~~

In addition to receiving incident reports from facility personnel, the CMRO continuously monitors (24 hours a day) the status of mechanical, electrical, and/or radiological conditions at selected points on the site, both above and below ground. Alarms to indicate abnormal conditions are located throughout the WIPP facility. The alarm(s) (e.g., fire, radiation) may be the first notification of an emergency situation received by the CMRO. The CMRO monitors alarms, takes telephone calls and radio messages, and initiates outgoing calls to emergency staff, and outside agencies initiates emergency response procedures regarding evacuation, if needed.

Once the CMRO is notified of a fire, explosion, or a release anywhere in the facility (either by eyewitness notification or an alarm), the RCRA Emergency Coordinator is immediately notified. ~~Once notified, t~~ The RCRA Emergency Coordinator ensures that the emergency responders, including the WIPP Fire Department, the ERT, and the MRT, have been notified, as needed. Once incident command has been established, the RCRA Emergency Coordinator has the authority to delegate the responsibilities for mitigation of the incident to the Incident

Commander assumes responsibility for the management of activities related to the assessment, abatement, and/or cleanup of the incident.

A RCRA Emergency Coordinator is on-site at all times and, therefore, can be reached at any time via a two-way radio or over the public address (PA) and plectrons on-site. If the RCRA Emergency Coordinator is unavailable or unable to perform these duties, a qualified alternate RCRA Emergency Coordinator is available.

The EST/FPT is also notified in case of fire, explosion, or release. The RCRA Emergency Coordinator determines if supplemental emergency responders are necessary. Notification of the ERT (surface) is made by using the ERT pagers and/or the public announcement system and/or other equivalent communication devices (e.g., phone, pager, cellular phone). Notification of the FLIRT is by using the Mine Page Phone System. If the MRT is needed the RCRA Emergency Coordinator will instruct the CMRO to use the PA system or other communication devices (e.g., phone, pager, cellular phone) to make an announcement for the MRT to assemble in the Mine Rescue Room, located in a predetermined location.

Off-shift personnel may be notified using the on-call list, which is updated weekly by the Permittees. The FSM/CMRO, each individual on the on-call list, and WIPP Security receive copies of the on-call list. The CMRO may direct Security to make the notifications.

The response to an unplanned event will be performed in accordance with standard operating procedures and guides based on the applicable Federal, State, or local regulations and/or guidelines for that response. These include DOE Order 151.1C, Comprehensive Emergency Management System; the U.S. Mine Safety and Health Administration (MSHA); NMAC; Comprehensive Environmental Response, Compensation, and Liability Act; Chapter 74, Article 4B, New Mexico Statutes Annotated 1978; and the New Mexico Emergency Management Act; and agreements between the Permittees and local authorities (Section D-6) for emergencies throughout the WIPP facility.

If needed, the RCRA Emergency Coordinator will immediately notify the appropriate State and local agencies, listed in Section D-7, with designated response roles.

After notification by the CMRO, the EST/FPT shall immediately investigate to determine pertinent information relevant to the actual or potential threat posed to human health or the environment. The information will include the location of release, type, and quantity of spilled or released material (or potential for release due to fire, explosion, weather conditions, or other naturally occurring phenomena), source, areal extent, and date and time of release. The EST/FPT shall provide information for classification of the incident, according to the emergency response guidelines, to the RCRA Emergency Coordinator. The RCRA Emergency Coordinator then classifies the incident after evaluation of all pertinent information. This classification will consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

When the RCRA Emergency Coordinator determines that an Incident Level II or III has occurred, the Contingency Plan is implemented. Depending on the emergency, The RCRA Emergency Coordinator then may choose to activate the EOC may be activated for additional support (Figure D-4). If the RCRA Emergency Coordinator determines that due to extenuating circumstances the potential to upgrade to an incident Level II or III exists, the RCRA Emergency

~~Coordinator also may activate the EOC.~~ In the event that the EOC is activated, decision-making responsibilities related to emergency management and associated notifications may be delegated to the EOC by the RCRA Emergency Coordinator. The EOC will assist the RCRA Emergency Coordinator in the mitigation of the incident with the use of appropriate communications equipment and technical expertise from available resources ~~any WIPP organization (see Section D-4c).~~ During the emergency, the RCRA Emergency Coordinator will remain in contact with and advise the EOC of the known hazards.

The EOC staff ~~will assess~~ es opportunities for coordination and the use of mutual-aid agreements with local ~~outside~~ agencies making additional emergency personnel and equipment available (Section D-76), as well as the use of specialized response teams available through various State and Federal agencies. ~~As~~ Because the WIPP facility is a DOE-owned facility, the WIPP facility Permittees may also use the resources available from the National Response Framework Federal Response Plan, signed by 27 Federal departments and agencies in April 1987, and developed under the authorities of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7701 et seq.) and amended by the Stafford Disaster Relief Act of 1988. Most resources are available within 24 hours. The WIPP facility maintains its own emergency response capabilities on-site. In addition to the supplemental emergency responders, radiological control technicians, environmental sampling technicians, wildlife biologists, and various other technical experts are available for use on an as-needed basis.

D-4a(2) Communication of Emergency Conditions to Facility Employees

Procedures for immediately notifying facility personnel of emergencies ~~depend upon the type of emergency.~~ Methods of notification are as follows:

- Local Fire Alarms

The local fire alarms sound a bell an audible tone and may be activated automatically or manually in the event of a fire.

- Surface Evacuation Signal

The evacuation signal is a yelp² tone and is manually activated by the CMRO when needed. The CMRO ~~shall follow~~ s the evacuation signal with verbal instructions and ensure the Site Notification System (~~i.e., the plectron~~) has been activated.

- Underground Evacuation Warning System

The underground evacuation signal is a yelp tone and flashing strobe light. In the event of an evacuation signal, underground personnel will ~~proceed to the nearest egress hoist station (Section D-7b) to be apprised of the nature of the emergency and the evacuation route to take~~ follow escape routes to egress hoist stations. Underground personnel are trained to report to the underground assembly areas and await further instruction if all power fails or if ventilation stops. If evacuation of underground personnel is required, this will be done using the backup electric generators and in accordance with the applicable requirements of MSHA.

- ~~Contingency Evacuation Notification~~

~~If the primary warning system consisting of alarms and signals fails to operate when activated (as in a total power outage and failure of the back-up power systems), WIPP Security will be notified by the CMRO to initiate the contingency evacuation plan. In this event Security officers will alert personnel to evacuate the area and will check trailers, if possible, to ensure that personnel have been alerted/evacuated.~~

WIPP facility personnel are trained and given instruction during General Employee Training **GET** to recognize the various alarm signals and the significance of each alarm. WIPP facility employees and site visitors are required to comply with directions from emergency personnel and alarm system notifications and to follow instructions concerning emergency equipment, shutdown procedures, and emergency evacuation routes and exits.

D-4a(3) — Notification of Local, State, and Federal Authorities

~~If it is determined that the facility has had a fire, an explosion, a spill, or a release of hazardous waste or hazardous waste constituents (included in 20.4.1.200 NMAC (incorporating 40 CFR § 261)) in the miscellaneous unit or TRU mixed waste handling areas, or an emergency resulting in a release of a hazardous substance (included in 40 CFR §302.4 and §302.6 or the New Mexico Emergency Management Act, §74-4B-3 and §74-4B-5) that could threaten human health or the environment outside the facility, the RCRA Emergency Coordinator, after consultation with the DOE as the owner of the facility, will assure that local authorities are notified by telephone and/or radio, including:~~

- ~~• Carlsbad Police Department (telephone number: [575] 885-2111) (or 911)~~
- ~~• Carlsbad Fire Department (telephone number: [575] 885-2111) (or 911)~~
- ~~• Eddy County Sheriff (telephone number: [575] 887-7551)~~
- ~~• Hobbs Fire Department (telephone number: [575] 397-9265)~~

~~After local authorities are notified, the RCRA Emergency Coordinator will ensure notification of the following:~~

- ~~• New Mexico Environment Department (**NMED**)
Department of Public Safety
24 Hour Emergency Reporting Telephone Number: (505) 827-9329
FAX number: (505) 827-9368~~
- ~~• Department of Public Safety WIPP Coordinator
Telephone Number: (505) 827-9221
FAX number: (505) 829-3434~~
- ~~• Hazardous Materials Emergency Response, Chemical Safety Office, Department of Public Safety, State Emergency Response Commission
Telephone number: (505) 476-9681
FAX number: (505) 476-9695~~
- ~~• National Response Center
Telephone number: 1-800-424-8802
FAX number: (202) 479-7181~~

- ~~Local Emergency Planning Committee~~
Telephone number: (575) 885-3581
Fax number: (575) 628-3973

The first notification of public safety and regulatory agencies will include the following:

- ~~The name and address of the facility and the name and phone number of the reporter~~
- ~~The type of incident (fire, explosion, or release)~~
- ~~The date and time of the incident~~
- ~~The type and quantity of material(s) involved, to the extent known~~
- ~~The exact location of the incident~~
- ~~The source of the incident~~
- ~~The extent of injuries, if any~~
- ~~Possible hazards to human health and the environment (air, soil, water, wildlife, etc.) outside the facility~~
- ~~The name, address, and telephone number of the party in charge of or responsible for the facility or activity associated with the incident~~
- ~~The name and the phone number of the RCRA Emergency Coordinator~~
- ~~The identity of any surface and/or groundwater involved or threatened and the extent of actual and potential water pollution~~
- ~~The steps being taken or proposed to contain and clean up the material involved in the incident~~

The RCRA Emergency Coordinator will also be available to advise the appropriate local, State, or Federal officials on whether or not local areas should be evacuated.

D-4a(4) — Notification of the General Public

Immediate notification of the general public through the public safety and emergency agencies listed above will be made by, or under the direction of, the RCRA Emergency Coordinator following an evaluation to determine if local adjacent areas need to be evacuated. This evaluation will be made in consultation with the DOE who, as the owner of the facility, has management responsibility for the land withdrawal area. DOE policy is to provide accurate and timely information to the public by the most expeditious means possible concerning emergency situations at the WIPP site that may affect off-site personnel, public health and safety, and/or the environment. A DOE (**DOE**) Management representative is always on call. This person is available by pager or telephone 24 hours a day.

A Hazards Assessment was conducted, which indicated no need for protective actions or emergency action levels, as defined by the Permittees, for the facility. Therefore, no procedures

are in place for evacuation of the public. Procedures are in place for notification of the public by radio, television, and newspapers for news items which might include notification of on-site emergency situations. These procedures include a Public Affairs Coordinator in the EOC who writes and transmits press releases to the DOE office, where formal press conferences are conducted.

D-4b Identification of Hazardous Released Materials and Assessment of Extent of the Emergency

The identification of hazardous wastes or hazardous waste constituents involved in a fire, an explosion, or a release to the environment is a necessary part of the RCRA Emergency Coordinator's assessment of an incident, as described in 20.4.1.500 NMAC (incorporating 40 CFR §264.56(b)). Immediately after alarms have been activated and required notifications have been made, the RCRA Emergency Coordinator shall direct an investigation to determine pertinent information relevant to the actual or potential threat posed to human health or the environment. The information will include the character, exact source, amount, and areal extent of any released material. This may be done by observation or review of facility records or manifests and, if necessary, by chemical analysis.

The identification of the character and source of released materials at any location is enhanced because hazardous wastes are stored, managed, or disposed at specified locations throughout the WIPP facility. The identification of hazardous wastes, hazardous waste constituents, or hazardous materials involved in a fire, an explosion, or a release to the environment is a necessary part of the assessment of an incident, as described in 20.4.1.500 NMAC (incorporating 40 CFR §264.56(b)). RCRA hazardous waste and hazardous substances and materials listed in 40 CFR §302.4 and §302.6 or New Mexico Emergency Management Act, §74-4B-3 and §74-4B-5 and, involved in any release at the WIPP facility will be identified. The identification of likely hazardous materials at any location is enhanced because hazardous materials and hazardous waste are only stored or managed in specified locations throughout the WIPP facility. An attempt will be made to identify products involved by occupancy/location, container shape, markings/color, placards/labels, United Nations/North America/Product Identification Number, on-site technical experts, or field sampling. Further, the ES&H department maintains an updated inventory of hazardous materials/substances that are brought on-site, and a master MSDS listing in the Safety and Emergency Services Facility, Building 452.

Sources of information available to identify the hazardous wastes, substances, or materials involved in a fire, an explosion, or a release at the WIPP facility include operator/supervisor knowledge of their work areas, materials used, and work activities underway; the WIPP Waste Information System (**WWIS**), which identifies the location within the facility of emplaced TRU mixed waste, including emplaced derived waste; and waste manifests and other waste characterization information in the operating record. The WWIS also includes information on wastes that are in the waste handling process. Also available are Safety Data Sheets (MSDSs) for hazardous materials in the various user areas throughout the facility, waste acceptance records, and materials inventories for buildings and operating groups at the WIPP facility. Information or data from the derived waste accumulation areas, the Hazardous Waste Staging Areas, satellite staging areas, and nonregulated waste accumulation areas are included. It is anticipated that this information is sufficient for identifying the nature and extent of the released materials. The RCRA Emergency Coordinator has access to this information when needed.

The waste received at the WIPP facility must meet TSDF-WAC (e.g., no more than one percent liquid), which minimizes the possibility of waste container degradation and liquid spills. Should a spill or release occur from a container of site-generated hazardous or TRU mixed waste, following an initial assessment of the event, the RCRA Emergency Coordinator will ensure that the following actions are immediately taken, consistent with radiological control procedures, in compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.52(a) and §264.171):

- Assemble the required response equipment, such as protective clothing and gear, heavy equipment, empty drums, overpack drums, hand tools, and absorbent materials
- Transfer the released material to a container that is in good condition and patch or overpack the leaking container into another container that is in good condition
- Once the release has been contained, determine the areal extent of the release and proceed with appropriate cleanup action, such as chemical neutralization, vacuuming, or excavation

~~TRU mixed waste received by the WIPP facility during the Disposal Phase will be characterized for hazardous constituents prior to receipt, and acceptable knowledge will be used to characterize derived waste prior to emplacement.~~

~~Information required for identifying TRU mixed hazardous constituents in case of an incident is readily available through the WWIS and the waste acceptance records. Waste accepted at WIPP is already known to be compatible with all materials used to respond to an emergency. All non-TRU mixed waste materials received on site, other than those listed in Table D-1, are in such small quantities that no reaction could develop which would trigger an Incident Level II or III response.~~

~~The RCRA Emergency Coordinator will have access to the WWIS through Operations, or through the Facility Shift Manager's Office.~~

~~The RCRA Emergency Coordinator has access to the inventory lists and MSDSs in the Safety and Emergency Services Facility at all times.~~

~~D-4c~~ Assessment of the Nature and Extent of the EmergencyPotential Hazards

Concurrent with the actions described in Sections D-4a and D-4b, and in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(c)), the RCRA Emergency Coordinator shall assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment will consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions). The RCRA Emergency Coordinator will be responsible for identifying and responding to immediate and potential hazards, using the services of trained personnel.

~~Once the required notifications have been made, the RCRA Emergency Coordinator will ensure that the identity, exact source, amount, and areal extent of any released materials are determined, as required under 20.4.1.500 NMAC (incorporating 40 CFR §264.56(b)). The RCRA Emergency Coordinator will determine whether the occurrence constitutes an emergency based on knowledge of the area and access to the waste identification/characterization~~

information described in Section D-4b. An emergency will require response by only trained emergency response personnel. The RCRA Emergency Coordinator will be responsible for responding to immediate and potential hazards, using the services of trained personnel to determine: 1) the identity of hazardous wastes, hazardous waste constituents, and other hazardous materials involved in a release, as described in Section D-4b; 2) whether or not a release involved a reportable quantity of a hazardous substance; 3) the areal extent of a release; 4) the exact source of a release; and 5) the potential hazards to human health or to the environment.

After the materials involved in an emergency are identified, the specific information (e.g., on the associated hazards, appropriate personal protective equipment (PPE), decontamination), etc., will may be obtained from MSDSs and from appropriate chemical reference materials at the same location. These information sources ~~may be accessed by~~ are available to the RCRA Emergency Coordinator or may be accessed through several WIPP facility organizations.

If, upon completion of the hazards assessment, the RCRA Emergency Coordinator determines that there are no actual or potential hazards to human health or the environment present, this RCRA Contingency Plan may be terminated. The RCRA Emergency Coordinator will record the time, date, and details of the incident in the operating record, and the Permittees will ensure that the reporting requirements of Section D-5 are fulfilled.

~~The emergency assessment requires determination of hazards involving evaluation of several criteria, including:~~

- ~~• Exposure: magnitude of actual or potential exposure to employees, the general public, and the environment; duration of human and environmental exposure; pathways of exposure~~
- ~~• Toxicity: types of adverse health or environmental effects associated with exposures; the relationship between the magnitude of exposure and adverse effects~~
- ~~• Reactivity: hazardous materials or hazardous wastes, which are not TRU mixed wastes, involved in an incident will be assessed for reactivity through accessing the MSDSs for the affected material and the recommended method(s) for managing such waste~~
- ~~• Uncertainties: considerations for undeterminable or future exposures; uncertain or unknown health effects, including future health effects~~

D-4d Post-Assessment Notifications

Upon RCRA Contingency Plan implementation, post-assessment notifications may be necessary in order to satisfy 20.4.1.500 NMAC (incorporating 40 CFR §264.56(d)). If it has been determined that the facility has had a fire, an explosion, or a release of hazardous waste or hazardous waste constituents that could threaten human health or the environment outside the facility (i.e., outside the Land Withdrawal Boundary), the RCRA Emergency Coordinator, after consultation with the DOE as the owner of the facility, will ensure that the appropriate local authorities are immediately notified by telephone and/or radio in the event that evacuation is needed. The following notifications satisfy the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.56(d)(1)):

- New Mexico Department of Homeland Security and Emergency Management (telephone number: (505) 476-9635)
- Eddy County via the Regional Emergency Dispatch Authority (telephone number: (575) 616-7155)
- Lea County via the Regional Emergency Dispatch Authority (telephone number: (575) 397-9265)

The RCRA Emergency Coordinator must be available to help appropriate officials decide whether local areas should be evacuated.

After local authorities are notified, the RCRA Emergency Coordinator must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center. For the purposes of the *RCRA Contingency Plan*, the following notifications satisfy the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.56(d)(2)):

- New Mexico Environment Department (NMED)
Department of Public Safety
24-Hour Emergency Reporting Telephone Number: (505) 827-9329
FAX number: (505) 827-9368
- National Response Center
Telephone number: 1-800-424-8802
FAX number: (202) 479-7181

This notification shall include the following information:

- The name and phone number of the reporter
- The name and address of the facility
- The type of incident (fire, explosion, or release)
- The date and time of the incident
- The name and quantity of material(s) involved, to the extent known
- The extent of injuries, if any
- Possible hazards to human health and the environment (air, soil, water, wildlife, etc.) outside the facility

Communications beyond those required by the *RCRA Contingency Plan* are the responsibility of the Permittees in accordance with plans and policies on file at the WIPP facility.

~~D-4ed~~ Control, and Containment, and Correction of the Emergency

The ~~WIPP facility~~ RCRA Emergency Coordinator is required to ensure control of an emergency and to minimize the potential for the occurrence, recurrence, or spread of releases due to the

emergency situation, as described in 20.4.1.500 NMAC (incorporating 40 CFR §§264.56 (e) and (f)). The WIPP Emergency Response Standard operating procedures and guides utilize the incident mitigation guidelines in NFPA 471, Responding to Hazardous Materials Incidents, with are used to implement initial response measures with priority being on control of the emergency, and those actions necessary to ensure confinement and containment (the first line of defense) in the early, critical stages of a spill or leak. The RCRA Emergency Coordinator in conjunction with the Incident Commander, is responsible for ~~stopping~~ implementing the following measures:

- Stopping processes and operations
- Collecting and containing released wastes and materials
- Removing or isolating containers of hazardous waste posing a threat
- Ensuring that wastes managed during an emergency are handled, stored, or treated with due consideration for compatibility with other wastes and materials on site and with containers utilized (Section D-4f(2)).
- Restricting personnel not needed for response activities from the scene of the incident
- Evacuating the area
- Curtailing nonessential activities in the area
- Conducting preliminary inspections of adjacent facilities and equipment to assess damage
- Maintaining fire equipment on standby at the incident site in cases where ignitable liquids have been or may be released and ensuring that ignition sources are kept out of the area. Ignitable liquids will be segregated, contained, confined, diluted, or otherwise controlled to preclude inadvertent explosion or detonation.

~~processes and operations when necessary, and removing or isolating containers.~~ No operation that has been shut down in response to the incident will be restarted until authorized by the RCRA Emergency Coordinator. If a release occurs that involves radioactivity, the RCRA Emergency Coordinator actions will be consistent with radiation control policies and practices. ~~TRU mixed waste will remain within the WHB Unit, the Parking Area Unit, and the underground HWDU.~~

D-4d(1) All Emergencies

The WIPP Emergency Response standard operating procedures for emergency response may include, but are not limited to, the following actions appropriate for control of releases:

1. ~~Isolate~~ ing the area from unauthorized ~~person~~ entry by fences, barricades, warning signs, or other security and site control precautions. Isolation and evacuation distances vary, depending upon the chemical/product, fire, and weather situations.
2. ~~Identify the chemical/product according to Section D-4b.~~

- ~~32.~~ Establishing ~~D~~ drainage controls.
- ~~43.~~ Stabilizing ~~ation~~ of physical controls (such as dikes or impoundment[s]).
- ~~54.~~ Capping of contaminated soils to reduce migration.
- ~~65.~~ Using chemicals and other materials to retard the spread of the release or to mitigate its effects.
- ~~76.~~ Excavating ~~on~~, consolidating ~~on~~, or removing ~~al~~, or disposal of contaminated soils.
- ~~87.~~ Removing ~~al~~ of drums, barrels, or tanks where it will waste containers to reduce exposure risk during situations such as fires.

If the facility stops operations in response to a fire, explosion, or release, the RCRA Emergency Coordinator shall ensure continued monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever appropriate. ~~If operations continue, personnel normally assigned to these tasks will continue.~~

Both ~~n~~ Natural and or synthetic methods will be employed to limit the releases of hazardous materials waste or hazardous waste constituents so that effective recovery and treatment can be accomplished with minimal ~~um~~ additional risk to human health or the environment. ~~A combination of the above methods to achieve protection of human health and the environment, with emphasis on two basic methods for mitigation of hazardous materials incidents—Physical and Chemical (Tables D-4, D-5) mitigation, will be used.~~

Emergency response actions taken to mitigate releases may include, but are not limited to, the following:

1. Physical methods of control may involve any of several processes to reduce the area of the spill/leak, or other release mechanism (such as fire suppression).
 - aA. Absorption (e.g., absorbent sheets; spill control bucket materials specifically for solvents, neutralization, or acids/caustics; and absorbent socks for general liquids or oils) is the process in which materials hold liquids through the process of wetting. Absorption is accompanied by an increase in the volume of the sorbate/sorbent system through the process of swelling. Some of the materials utilized in response to Level I incidents or Level II incidents involving liquids ~~will be absorbent sheets of polyolefin-type fibers, spill control bucket materials (specifically for solvents, neutralization, or for acids/caustics), and absorbent socks for general liquids or oils.~~
 - ~~B.~~ Covering refers to a temporary form of mitigation for radioactive incidents that will be utilized in response to Level II or Level III incidents involving CH TRU mixed waste. These could include absorbent sheets, plastic, or actual ambulance blankets.
 - bC. Dikes or Diversions refer to the use of physical barriers to prevent or reduce the quantity of liquid flowing into the environment. Dikes may be soil or other barriers temporarily utilized to hold back the spill or leak. ~~Diversion refers to the methods~~

~~used to physically change the direction of the flow of the liquid. A (e.g., absorbent socks or earth) may be utilized as dikes or diversions for all levels of incidents.~~

~~cD. Overpacking is accomplished by the use of an oversized container. Overpack containers will be compatible with the hazards of the materials involved.~~

~~dE. Plug and Patch refers to the use of compatible plugs and patches to reduce or temporarily stop the flow of materials from small holes, rips, tears, or gashes in containers. A Series "A" hazardous response kit containing nonsparking equipment to control and plug leaks may be utilized for response to all levels of incidents.~~

~~eF. Transfers from leaking container to new container refers to the process of moving a liquid, gas, or some forms of solids, either manually or by pump, from a leaking or damaged container. Scoops, shovels, jugs, and pails as well as drum transfer pumps for chemical and petroleum transfer are utilized as needed in response to all levels of incidents.~~

~~fG. Vapor Suppression refers to the reduction or elimination of vapors emanating from a spilled or released material through the most efficient method or application of specially designed agents such as an (e.g., aqueous foam blanket).~~

2. Chemical M methods of M mitigation may include the following:

~~aA. Neutralization is the process of applying acids or bases to a spill to form a neutral salt. The application of solids for neutralizing can often result in confinement of the spilled material. This would include using the neutralizing adsorbents.~~

~~bB. Solidification is the process whereby a hazardous liquid is added to material such as an absorbent so that a solid material results.~~

Once the Incident Commander informs the RCRA Emergency Coordinator that the emergency scene is stable, the release has been stopped, any reactions have been controlled, the released hazardous materials have been contained within a localized area, and the area of contamination has been secured from unauthorized entry, the field emergency response activity can be terminated.

~~The established procedures are based upon the incident level and a graded approach for nonradioactive or CH TRU waste emergencies and initiated to:~~

- ~~1. Minimize contamination or contact (through PPE, etc.)~~
- ~~2. Limit migration of contaminants~~
- ~~3. Properly dispose of contaminated materials~~

~~For RH TRU mixed waste that is not managed in shielded containers, the detection of contamination on or damage to a RH TRU mixed waste canister or a facility canister may occur outside the Hot Cell during cask to cask transfer of the canister or during loading of the Shielded Insert in the Transfer Cell. When such contamination or damage is found, the Permittees have the option to decontaminate or return the canister to the generator/storage site or another site for remediation. In the case of a damaged facility canister, the Shielded Insert may be used as an overpack to facilitate further management. Contamination may also be detected within the~~

Hot Cell during the unloading of the CNS 10-160B shipping cask. In this case, the Permittees may decontaminate the 55-gallon drums or return them to the generator/storage site or another site for remediation. Spills or releases that occur within the RH Complex or the underground as the result of RH TRU mixed waste handling will be mitigated by using appropriate measures which may include the items above.

D-4e(1)d(2) Fires

In the event of a fire that involves or threatens TRU mixed waste or site-generated hazardous waste, emergency response actions may include, but are not limited to, the following: The incident level emergency response identified in Section D-3 includes fire/explosion potential. WIPP fire response includes incipient, exterior structure fires, and internal structure fires. The RCRA Emergency Coordinator can implement the Memoranda of Understanding (MOU) for additional support.

The first option in mine fire response will be to apply mechanical methods to stop fires (e.g., cut electrical power). The last option in mine fire response will be to reconfigure ventilation using control doors associated with the underground ventilation system. The following actions are implemented in the event of a fire:

1. All emergency response personnel at an incident will wear appropriate PPE.
2. Only fire extinguishing materials that are compatible with the materials involved in the fire will be used to extinguish fires. Compatibility with materials involved in a fire are determined by pre-fire plans, Emergency Response Guide Book (DOT, 1993), DOT labeling, and site-specific knowledge of the emergency response personnel. Water and dry chemical materials have been determined to be compatible with all components of the TRU mixed waste. Pre-fire plans for the WHB are included in Figures D-10 and D-11.

Fires in areas of the WHB Unit should not propagate, due to limited amount of combustibles, and the concrete and steel construction of the structures. Administrative controls, such as landlord inspections and EST/FPT inspections, help to insure good housekeeping is maintained. Combustible material and TRU mixed waste will be isolated, if possible. Firewater drain trenches collect the water and channel it into a sump. In areas not adjacent to the trenches, portable absorbent dikes (pigs) will be used to retain as much as possible, until it can be transferred to containers or sampled and analyzed for hazardous constituents.

3. If the fire spreads or increases in intensity, personnel will be directed to evacuate.
14. The RCRA Emergency Coordinator will remain in contact with and advise responding personnel the Incident Commander to advise them of the known hazards.
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.

3. Only fire extinguishing materials that are compatible with the materials involved in the fire will be used to extinguish fires. Water and dry chemical materials have been determined to be compatible with all components of the TRU mixed waste.

45. In order to ensure that storm drains and/or sewers do not receive potentially hazardous runoff, dikes will be built around storm drains to control discharge as needed. Collected waste will be sampled and analyzed for hazardous constituents and appropriately disposed, before being discharged to evaporation ponds. There are two ponds south of the security fence, opposite the WHB Unit, that will collect drainage from the parking area. The rest of the site, inside the security fence, drains to the large pond to the west. Samples will be taken from these ponds, after the emergency has been abated, to determine any cleanup requirements. NMED will approve any procedures associated with the sampling and analysis of the ponds.

~~6. The RCRA Emergency Coordinator maintains overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility.~~

57. The RCRA Emergency Coordinator will ensure that measures are taken to shut down operational units (e.g., process equipment and ventilation equipment) that have been affected directly or indirectly by the fire. ~~The RCRA Emergency Coordinator will be in overall control of WIPP facility emergency response efforts until the emergency is terminated.~~

~~8. Materials involved in a fire can be identified in the following ways:~~

- ~~• According to Section D-4b.~~
- ~~• If the contents of the waste container cannot be determined based on its location and the label is destroyed by fire, the material will be treated as an unknown, evaluated for radiological contamination, and analyzed according to methods in the EPA's "Test Methods for Evaluating Solid Waste Physical/Chemical Methods" (SW-846), Third Edition, after the fire has been extinguished.~~
- ~~• Airborne radioactivity samples may be obtained during a fire involving radioactive materials, using portable and fixed air samplers. Response personnel will be adequately protected from airborne radioactivity by their PPE required for fire response.~~

~~9. Only materials compatible with the waste may be used for fire response.~~

~~10. When cleanup has proceeded to the point of finding no radionuclide activity, then the "swipe" can be sent for analysis for hazardous constituents. The use of these confirmation analyses is as follows:~~

- ~~• For waste containers, once radiologically clean and free of any visible evidence of hazardous waste spills on the container, it will be placed in the underground without further action.~~

- ~~For area contamination, once the area is cleaned up and is shown to be radiologically clean, it will be sampled for the presence of hazardous waste residues (for further information see Section D-4d, Emergency Termination Procedures).~~

644. Fire suppression materials used in response to incidents will be retained on-scene, where an evaluation will be performed to determine appropriate recovery and disposal methods.

7. Upon underground evacuation due to a fire in the underground that involves or threatens to involve TRU mixed waste, a response plan will be developed depending on the status of the fire. The plan may include ventilation control, barrier erection, and waiting for the fire to self-extinguish or implement active ventilation.

D-4e(2)d(3) Explosions

In the event of an explosion that involves or threatens TRU mixed waste or site-generated hazardous waste, emergency response actions may include, but are not limited to, the following: The following actions will be implemented in the event that an explosion that involves or threatens hazardous or TRU mixed waste or hazardous materials has occurred:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards. ~~The area will be evacuated immediately.~~
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated. ~~The CMRO will immediately notify the appropriate emergency response personnel and the RCRA Emergency Coordinator about the explosion.~~
- ~~3. Injured personnel will be treated and transported as necessary.~~
- ~~4. The RCRA Emergency Coordinator will remain in contact with responding personnel to advise them of the known hazards involved and the degree and location of the explosion and associated fires.~~
- ~~5. As required by Permit Part 2, Section 2.12.4 and Attachment D, Section D-2, the RCRA Emergency Coordinator has the authority to commit the necessary resources to implement the RCRA Contingency Plan. The RCRA Emergency Coordinator may accept and evaluate the advice of WIPP facility personnel and emergency response organization members with regard to the selection of methods and tactics of response, but retains the overall responsibility to commit the resources necessary to implement the RCRA Contingency Plan.~~
- ~~6. The RCRA Emergency Coordinator will be in overall control of WIPP facility emergency response efforts until the emergency is terminated.~~
- ~~7. When cleanup has proceeded to the point of finding no radionuclide activity, then samples may be taken for chemical analysis if there is visible evidence to suspect additional hazardous waste residues. Chemical residues on floor surfaces resulting from a hazardous waste explosion will be evaluated, sampled, analyzed (if required),~~

~~isolated, and returned to appropriate containers, and surfaces will be cleaned using appropriate cleaners.~~

- ~~38. The RCRA Emergency Coordinator may~~will ensure that measures are taken to shut down operational units (e.g., process equipment and ventilation equipment) that have been affected directly or indirectly by the explosion.~~Once the areas have been determined safe for reentry, processes may be reactivated.~~

4. If, following an explosion, there is an ensuing fire, see Section D-4e(1).

5. If, following an explosion, there is an underground structural integrity emergency, see Section D-4e(4).

D-4d(4) — Spills

~~Protection of response personnel at a hazardous material incident is paramount. The primary methods to protect personnel are time, distance, and shielding. If a Level II or III incident exists, the RCRA Emergency Coordinator will implement the following actions:~~

- ~~1. The immediate area will be evacuated.~~
- ~~2. The RCRA Emergency Coordinator will review facility records to determine the identity and chemical nature of released material.~~
- ~~3. Entry team procedures will be utilized, with special attention to the following:~~
 - ~~• Buddy system~~
 - ~~• Appropriate PPE~~
 - ~~• Backup rescue team~~
 - ~~• Supplemental communication signals (hand signals and hand-light signals)~~
 - ~~• Monitoring equipment~~
 - ~~• Exposure time limitations~~
- ~~4. If possible, the source of the release will be secured.~~
- ~~5. A dike to contain runoff may be built.~~
- ~~6. Emergency responders will ensure that storm drains and/or sewers do not receive potentially hazardous runoff or spilled material. They may build dikes around storm drains to control discharge.~~
- ~~7. Released wastes may be collected and contained by stabilizing or neutralizing the spilled material, as appropriate, pouring an absorbent over the spilled material, and sweeping or shoveling the absorbed material into drums or other appropriate containers. The absorbents have been determined to be compatible with all components of the TRU mixed waste.~~

- ~~8. No TRU mixed waste that may be incompatible with the released material will be managed in the affected area until cleanup procedures are complete.~~
- ~~9. The RCRA Emergency Coordinator will direct spill control, decontamination, and termination procedures described below.~~

D-4e(3) ~~Unplanned Sudden/Non-Sudden Releases~~

Spills of Site-Generated Hazardous Waste

If a spill of site-generated hazardous waste has occurred, and 1) the spill cannot be contained with secondary containment methods or absorbents, 2) the spill causes a release of flammable material, or 3) the spill results in toxic fumes, the RCRA Emergency Coordinator will ensure implementation of measures that may include, but are not limited to, the following actions:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.
3. The immediate area will be evacuated.
4. The source of the release will be mitigated, if possible.
5. A dike to contain runoff will be built, if necessary.
6. Dikes around storm drains to control discharge will be built, as needed, to ensure that storm drains and/or sewers do not receive potentially hazardous runoff.
7. Fire equipment will be maintained on standby at the incident site in cases where ignitable liquids have been or may be released, and ignition sources will be kept out of the area of ignitable liquids.
8. Released waste and contaminated media will be collected and placed into drums or other appropriate containers.

Releases of TRU Mixed Waste

If a release of TRU mixed waste has occurred, the emergency will be managed as a potential radiological release, and radiological control measures will determine the activities that can be performed safely, which may include the following:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.

3. Prior to the re-entry following an event involving containers that are managed as TRU mixed waste, a Radiological Work Permit (RWP) will be prepared.
4. During the re-entry phase, the extent of radiological contamination will be determined. This information is used by the RCRA Emergency Coordinator to determine an appropriate course of action to recover the area.
5. During the recovery phase, the necessary resources to conduct decontamination and/or overpacking operations will be used as needed.
6. Prior to returning the affected area and/or equipment to normal activities, the RCRA Emergency Coordinator will determine if additional measures are required by the RCRA Contingency Plan (e.g., characterization and disposal of contaminated media).
7. The recovery phase will include activities (e.g., placing the waste material in another container, vacuuming the waste material, overpacking or plugging/patching the affected waste container(s), decontaminating or covering the affected area), as specified in the RWP, to minimize the spread of contamination to other areas.
8. The RWPs and other administrative controls will provide protective measures to help ensure that new hazardous constituents will not be added during decontamination activities.

D-4e(4) Other Occurrences

Natural Phenomena

In the event of a natural phenomenon (e.g., earthquake, flood, lightning strike, tornado) that involves hazardous waste or has threatened to cause a release of hazardous waste or hazardous waste constituents, emergency response actions may include, but are not limited to, the following:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.
3. Containers which have not been disposed will be inspected for signs of leakage or damage, and containment systems will be inspected for deterioration.
4. Affected equipment or areas associated with hazardous waste management activities will be inspected, and the operability of monitoring systems will be ensured.
5. Affected electrical equipment and lines will be inspected for damage.
6. Affected buildings and fencing directly related to hazardous waste management activities will be inspected for damage.

7. A general survey of the site will be conducted to check for signs of physical damage.
8. The RCRA Emergency Coordinator will ensure that measures are taken to shut down operational units (e.g., process equipment and ventilation equipment) that have been affected by the natural phenomenon.

Underground Structural Integrity Emergencies

In the event of an underground structural integrity emergency that involves or threatens TRU mixed waste (i.e., occurs in an active disposal room), the emergency will be managed as a potential radiological release, and radiological control measures will determine the activities that can be performed safely, and may include the following:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.
3. The RCRA Emergency Coordinator will ascertain whether the roof conditions allow for safe entry and if the waste container or containers in question are accessible.
4. The RCRA Emergency Coordinator may recommend closing the entire panel, or the affected room of waste containers, based on the location of the event and the stability of the roof and walls in the panel as a method to ensure that measures are taken to shut down affected operational units.
5. Access to the ventilation flow path downstream of the incident will be restricted, as appropriate.
6. Ventilation to the affected room will be restricted to ensure that there is no spread of contamination that may have been released, as appropriate.
7. Accessible containers will be inspected for signs of leakage or damage.
8. The spill area will be covered with material (e.g., plastic, fabric sheets) in a manner that safely isolates the contamination in the area.
9. The RCRA Emergency Coordinator will determine if the covered spill area safely allows for continued waste disposal operations or whether further action is required to reinitiate operations.

D-4d(5) — Decontamination of Personnel

~~Decontamination of personnel with radioactive contamination is the responsibility of the Radiological Control (RC) section. If a person is contaminated with radioactivity during a site evacuation to the staging areas, the contaminated area will be covered before the person can be moved (under escort by RC personnel) to the staging area. The RC personnel will ensure the contaminated person remains segregated from other site personnel while under RC supervision.~~

In the event of an emergency that requires immediate evacuation of the area, the contamination can be covered by any method warranted, given the circumstance (e.g., clean clothing wrapped around the area). If the size of the radioactive contamination on the body is small and localized, it can be covered with clothing (e.g., glove, shoe cover, coveralls). If the size of the radioactive contamination on the body is large, it may be covered by dressing the individual in a full set of Anti-Contamination clothing (coveralls, hood, gloves, shoe covers, etc.).

If time and location permit and the contamination is on the face, it will be decontaminated immediately using a cloth moistened with tepid water (and a mild detergent, if necessary). If the size of the radioactive contamination on the individual's body is small and localized, it will be decontaminated using the same method as for the face, but after the individual has been transferred to an area appropriate for conducting decontamination.

If the individual is transferred to the staging area prior to decontamination, he/she will be decontaminated at the staging area using site procedures for personnel decontamination and using decontamination supplies and equipment as appropriate for the extent and magnitude of the contamination.

D-4d(6) — Control of Spills or Leaking or Punctured Containers of CH and RH TRU Mixed Waste

In the event of spills or leaking or punctured containers of CH and RH TRU mixed waste, the WIPP responds to three distinct phases: 1) the event, 2) the re-entry, and 3) the recovery.

During the event, the following immediate actions are completed: 1) stop work, 2) warn others (notify CMR), 3) isolate the area, 4) minimize exposure, and 5) close off unfiltered ventilation. These actions can take place simultaneously, as long as they are completed before proceeding to the re-entry phase.

CH TRU Mixed Waste

Prior to the re-entry following an event involving containers that are managed as CH TRU mixed waste, a Radiological Work Permit (**RWP**) is written for personnel to enter with protective clothing to assess the conditions, take surveys and samples, and mitigate problems that could compound the hazards in the area (cover up spilled material with plastic material sheeting and or any approved fixatives such as paint, place equipment in a safe configuration, etc.). During the re-entry phase, smears and air sample filters are taken and counted. This information is used by cognizant managers, RC personnel, and As Low As Reasonably Achievable (**ALARA**) Committee representatives to determine an appropriate course of action to recover the area. A plan to decontaminate and recover affected areas and equipment will be approved with a separate RWP written to establish the radiological controls required for the recovery.

During the recovery phase, the plan will be executed to utilize the necessary resources to conduct decontamination and/or overpacking operations as needed. The completion of this phase will occur prior to returning the affected area and/or equipment to normal activities. The recovery phase will include activities to minimize the spread of contamination to other areas. These activities will involve placing the waste material in another container; vacuuming the waste material; overpacking or plugging/patching the spilled, leaking, or punctured waste container; and/or decontaminating the affected area(s). If an affected surface cannot be decontaminated to releasable levels, it may be covered with a fixative coating and established as a Fixed Contamination Area to prevent spread of contamination, or it may be removed using

heavy machinery and tools, packaged in approved waste containers, and emplaced in the underground. Every reasonable effort to minimize the amount of derived waste, while providing for the health and safety of personnel, will be made.

Should a breach of a CH TRU mixed waste container occur at the WIPP that results in removable contamination exceeding the small area "spot" decontamination levels, the affected container(s) (e.g., breached and contaminated) will be placed into an available overpack container (e.g., 85-gal drum, SWB, TDOP), except that TDOPs and SLB2s will be decontaminated, repaired/patched in accordance with 49 CFR §173 and §178 (e.g., 49 CFR §173.28), or returned to the generator. The decontamination of equipment and the overpacking of contaminated/damaged waste containers will be performed in the vicinity of the incident. For example, under normal operations CH TRU mixed waste will be handled only in the areas of the WHB Unit. Therefore, it is within these same areas that decontamination and/or overpacking operations would occur. By eliminating the transport of contaminated equipment to other areas for decontamination or overpacking, the risk of spreading contamination is reduced.

Equipment used during a spill cleanup or CH TRU mixed waste overpacking operation could include: cloths, brushes, scoops, absorbents, squeegees, tape, bags, pails, slings, hand tools, and others as needed for a given incident.

At the underground emplacement room, salt contaminated by a spill of CH TRU mixed waste would be either covered or cleaned up, depending on location, extent, and spilled material, due to potential radioactive contamination spread via the salt dust. The contaminated salt would be covered to isolate it from the workers, and the stacking of waste containers would resume or would be removed and packaged as site-derived waste using applicable site procedures for decontaminating surfaces.

The decontamination methods will initially involve wiping down structures, equipment, and other containers in the area with absorbent cloths moistened with tepid water. Surveys of these structures will take place and the need to continue decontamination activities will be established. If further decontamination is required, nonhazardous decontaminating agents, such as Liquinex[®], Simple Green[®], Windex[®], citric acid, Bartlett Strip Coat[®], and high-pressure CO₂ will be used to prevent generating CH TRU mixed waste.

RWPs and other administrative controls provide protective measures to help ensure that new hazardous constituents will not be added during decontamination activities.

Certain structures and/or equipment may be disassembled to facilitate decontamination or may be placed directly into a derived waste container. Items used in the spill cleanup and decontamination operations (e.g., swipes, tools, PPE, etc.) may also be placed into a derived waste container.

When decontamination is deemed by the recovery team to be complete, RC personnel will conduct one final, intensive radcon survey of the area and components in the area to release it for uncontrolled use. The free release criteria for items, equipment, and areas is < 20 dpm/100 cm² for alpha radioactivity and < 200 dpm/100 cm² for beta-gamma radioactivity. Personnel will then perform hazardous material sampling after decontamination efforts are complete to verify the removal of hazardous waste substances. After cleanup is complete, facility personnel will complete an inspection and include the details of the spill and cleanup in the log.

RH TRU Mixed Waste

For RH TRU mixed waste, the detection of contamination on or damage to a RH TRU mixed waste canister or a facility canister may occur outside the Hot Cell during cask to cask transfer of the canister or during loading of the Shielded Insert in the Transfer Cell. When such contamination or damage is found, the Permittees have the option to decontaminate or return the canister to the generator/storage site or another site for remediation. In the case of a damaged facility canister, the Shielded Insert may be used as an overpack to facilitate further management. Contamination may also be detected within the Hot Cell during the unloading of the CNS 10-160B shipping cask. In this case, the Permittees may decontaminate the 55-gallon drums or return them to the generator/storage site or another site for remediation. Spills or releases that occur within the RH Complex or the underground as the result of RH TRU mixed waste handling will be mitigated by using the following measures, as appropriate:

During the re-entry phase, an evaluation of the incident, including the nature of the release, amount, location, and other appropriate factors, will be performed. A RWP will be written and approved prior to personnel entering the Hot Cell with the appropriate PPE to further assess the situation, perform surveys and take samples, and, if possible, mitigate problems that could compound the hazards in the area. Based on the results of the evaluation, a determination will be made by the RCRA Emergency Coordinator, with input from the cognizant managers, radiological control personnel, and ALARA Committee representatives whether to implement the Contingency Plan and to determine the appropriate course of action to recover from the event. An action response plan to decontaminate and recover affected areas and equipment, together with an RWP establishing the radiological controls required for the recovery will be developed and approved.

Should a breach of a RH TRU mixed waste container occur in the Hot Cell that results in removable contamination exceeding the small area "spot" decontamination levels, the affected container(s) (e.g., breached and contaminated) will be placed into a canister and processed for disposal. The decontamination of equipment, cleanup of spilled material and the overpacking of contaminated/damaged waste containers will be performed in the vicinity of the incident. For example, under normal operations RH TRU mixed waste in 55-gallon drums will be handled only in the Hot Cell. Therefore, it is within this area that decontamination and/or overpacking operations would occur. By eliminating the transport of contaminated equipment to other areas for decontamination or overpacking, the risk of spreading contamination is reduced. Contaminated materials for the cleanup and overpacking of a breached RH TRU mixed waste container may be managed as CH TRU mixed waste, depending on the surface dose rate.

Equipment used during a spill cleanup or RH TRU mixed waste overpacking operation could include: cloths, brushes, scoops, absorbents, squeegees, tape, bags, pails, slings, hand tools, and other equipment as needed for a given incident.

The decontamination methods may initially involve wiping down structures, equipment, and other containers in the area with absorbent cloths moistened with tepid water. Surveys of these structures will take place and the need to continue decontamination activities will be established. If further decontamination is required, nonhazardous decontaminating agents, such as Liquinox[®], Simple Green[®], Windex[®], citric acid, Bartlett Strip Coat[®], and high pressure CO₂ will be used to prevent generating CH TRU mixed waste.

RWPs and other administrative controls provide protective measures to help ensure that new hazardous constituents will not be added during decontamination activities.

~~Certain structures and/or equipment within the Hot Cell may be disassembled to facilitate decontamination or may be placed directly into a derived waste container. Items used in the spill cleanup and decontamination operations (e.g., swipes, tools, PPE, etc.) may also be placed into a derived waste container.~~

~~When decontamination of the Hot Cell is deemed by the recovery team to be complete, RC personnel will conduct one final, intensive radcon survey of the area and components in the area to release it for continued use. The free release criteria for items and equipment that will be released for uncontrolled use are < 20 dpm/100 cm² for alpha radioactivity and < 200 dpm/100 cm² for beta gamma radioactivity. Personnel will then perform hazardous material sampling after decontamination efforts are complete to confirm the removal of hazardous waste substances. After cleanup is complete, facility personnel will complete an inspection and include the details of the spill and cleanup in the log. The recovery phase must be completed before the affected area and/or equipment are returned to service.~~

D-4d(7) Natural Emergencies

~~After a natural emergency (earthquake, flood, lightning strike, etc.) that involves hazardous waste or hazardous materials, the FSM will ensure the following actions are taken:~~

- ~~1. Inspect containers which have not been disposed and containment for signs of leakage or damage. Inspect areas where containers are stored looking for leaking containers and for deterioration of containers and the containment system.~~
- ~~2. Inspect affected equipment or areas associated with hazardous waste management activities for proper operating mode in accordance with site procedures and manually check to ensure automatic and alarmed features on the units are working.~~
- ~~3. Inspect affected equipment or areas within the HWMUs in accordance with site procedures for damage.~~
- ~~4. Inspect electrical boards and overhead electrical lines for damage.~~
- ~~5. Check container areas for signs of leakage or damage to drums and containers.~~
- ~~6. Check affected buildings and fencing directly related to hazardous waste management activities for damage.~~
- ~~7. Conduct a general survey of the site looking for signs of land movement, etc.~~
- ~~8. Take any necessary corrective measures, however temporary, to rectify potential or real problems.~~
- ~~9. Record inspection results.~~

D-4d(8) Roof Fall

~~Roof fall is not expected to affect RH TRU mixed waste because it is emplaced in the rib of the disposal room and not subject to impact from a roof fall. The following incident description and mitigation apply to CH TRU mixed waste.~~

The WIPP underground is routinely evaluated for stability and safety of the underground openings. These evaluations can be as simple as the MSHA required visual checks by personnel working in the area or as extensive as the expert review of the roof support system for Room 1 Panel 1 conducted in 1991. An in-depth evaluation of all of the accessible underground is performed on an annual basis as part of the formal ground control operating plans. Weekly visual and sounding inspections are performed by the Permittees. More frequent inspections and evaluations are performed in areas where roof or ribs are in need of evaluations, based on visual observations, analysis of rock deformation data, excavation effects program data acquired from observation holes, and support system performance.

This process applies not only to the waste disposal rooms but to the entire WIPP underground. Prior to waste emplacement, stability of each room will be evaluated. This evaluation will concentrate on the age and current performance of the installed support systems (if any) and the rate of roof beam expansion based on data from installed instrumentation. The roof support system's performance and surety, to provide the support necessary for the required time will be addressed. Criteria used will include design parameters such as the amount of load, the deformation of the installed system, and the number and type of component failures observed, if any. Geotechnical criteria will include parameters such as the type and quantity of fracturing, roof beam expansion rates, and future ground performance based on a predictive model.

Should the evaluation results indicate that remedial actions are necessary prior to placement of waste, experiences at the WIPP indicate that rebolting or installing supplemental support can extend the safe life of a room for several years.

After waste emplacement commences, geomechanical monitoring will continue with monitors that are tied into a computer network program. The readings obtained will provide information needed for the roof beam stability assessment. Visual observations of the ground and the support systems will also continue in all accessible areas. Based on the experiences from the Site and Preliminary Design Validation test rooms, it has been proven that any developing instability will be detected through monitoring. Multiple measures to deal with the observed conditions can be implemented months before an event to mitigate any risk associated with a roof fall in the storage room or any affected area within the mine. At a minimum, the affected area will be isolated and withdrawn from ventilation flow. Isolation operations will utilize current available methods, materials, and equipment.

Ground control conditions which could result in a fall can be divided into two scenarios: The first consists of spalling (falling) of individual small and localized rock falling on waste containers.

By definition, they can be considered insignificant as no damage to the drums can occur. The second consists of an entire section of roof falling on multiple stacks of waste containers. Each of these scenarios is discussed below.

Spalling-of-Ground Scenario

The maximum distance between the room roof and a container of waste is 10 ft. Waste containers are designed to withstand impact loads of at least 1,000 pounds (lbs) dropped from a height of 6 ft. flat or 450 lbs dropped on a circumferential edge from a height of 4 ft. Both of which correspond to an allowable impact stress of 25,450 pounds per square inch (psi). Rocks from spalling are small and would not be of sufficient weight when striking a drum from a 10 ft vertical height to cause an impact stress of more than 25,450 psi. Taking

~~into account the falling distance, average weight, and the typical shape of the salt rock, the conclusion is that puncturing a drum by spalling is non-credible.~~

Fall of Ground Scenario

~~Fall of ground occurs when a large section of roof beam falls onto the waste containers. As previously discussed, the possibility of this occurring in an active room is remote, due to continuous monitoring and engineered roof support systems.~~

~~The following actions have been developed and will be taken by the RCRA Emergency Coordinator should a rock fall occur in an active waste emplacement area of the repository:~~

Spalling of Ground Actions

- ~~1. Determine whether the roof conditions allow for safe entry and if the waste container or containers in question are accessible.~~

~~The process used to determine if a roof condition of a room will allow for safe entry is the same as the ground control inspection process used for inspection of the ground conditions and roof bolt integrity. The inspection will begin at a safe and sound roof starting point and consist of visual inspections of roof bolts, roof, and rib areas for missing or damaged bolts; deformed roof bolt plates; or roof and rib cracks, fractures, or separations. If during the visual inspection suspicious roof bolts, roof, or ribs are found, then operators will proceed with sounding the area in question with a scaling bar for loose roof bolts, bad roof, or ribs (loose roof bolts will not ring when sounded). Bad roof or ribs will have a drummy, hollow, or un-solid sound when struck with the scaling bar. When this operation is performed, a safe avenue for retreat is always maintained. Also maintained is a position such that an unexpected event will not place personnel in a position where the scaling bar or material being scaled could fall on personnel. If the inspection reveals ground that cannot be safely scaled manually or with the available mining equipment, the affected area, up to and including the entire room, will be barricaded and removed from ventilation flow.~~

~~The criteria used to determine whether a waste container is accessible is based on the location of the container, the amount of waste in the room, and the expense of reaching the waste container safely versus the expense of abandonment of the room. For example, if the room is 95% filled and spalling of ground punctured a waste container at or near the exit of the room, the decision to isolate the room and move waste emplacement activities to the next room would be prudent.~~

- ~~2. Restrict access in ventilation flow path downstream of the incident.~~
- ~~3. Restrict ventilation to the affected room to ensure that there is no spread of contamination that may have been released. Survey for contamination and establish the boundaries.~~
- ~~4. Inspect accessible and affected containers and containment for signs of leakage or damage.~~
- ~~5. Cover the spill area with material such as plastic or fabric sheets or paint, in a way that would safely isolate the area.~~

- ~~6. Determine if the covered spill area safely allows for continued waste disposal operations or whether further cleanup is required. If further cleanup is required, provide with cleanup methods described below. Note: Cleaning may not be required since this is the permitted disposal area.~~
- ~~7. Inspect any affected equipment (vehicles, handling equipment, and communication and alarm equipment) for proper function.~~
- ~~8. Repackage spilled waste and repackage, plug, or patch breached waste containers into 55 or 85-gallon drums, SWBs, or TDOPs, depending on volume. Temporarily locate overpack waste containers in an adjacent room. Remove only those intact waste containers necessary to clear the area for decontamination.~~
- ~~9. At the underground emplacement room, salt contaminated by a spill of TRU mixed waste will be covered with materials such as salt, plastic or fabric sheets or PVA to isolate it from the workers or removed and packaged as site derived waste in accordance with site procedures for decontaminating surfaces.~~
- ~~10. Manage the radioactive debris as derived waste.~~
- ~~11. Characterize containers of waste based on the waste containers that were damaged.~~
- ~~12. Replace the removed and derived waste containers into the waste stack as appropriate and update the WWIS.~~
- ~~13. Document activities and record results.~~

Fall of Ground Actions

- ~~1. Restrict access in ventilation flow path downstream of the incident.~~
- ~~2. Restrict the room from ventilation flow by closing bulkhead regulators.~~
- ~~3. Survey for radiological contamination and establish the boundary for a Radiological Buffer Area.~~
- ~~4. Install barricade devices to remove access.~~
- ~~5. At the underground emplacement room, salt contaminated by a spill of TRU mixed waste will be covered with materials such as salt, plastic or fabric sheets, or PVA to isolate it from the worker or removed and packaged as site derived waste using damp rags, hand tools, and HEPA filtered vacuums.~~

~~The criteria used to determine whether to close the entire panel or just the affected room of waste containers would include the location of the roof fall and the stability of the unaffected roof area in the panel. Techniques to determine the stability would be the same as previously described in this section.~~

D-4d(9) — Structural Integrity Emergencies

In the event of a WIPP facility emergency involving underground structural integrity, the situation will be handled as a natural emergency. Monitoring and inspection procedures ensure the safety and integrity of the WIPP facility underground.

D-4d(10) — Emergency Termination Procedures

For the transition from emergency phase to cleanup phase, the following items will be complete:

- Emergency scene will be stable
- Release of hazardous substance will be stopped
- Reaction of hazardous substance will be controlled
- The released hazardous substance will be contained within a localized and manageable area
- The area of contamination will be adequately secure from unauthorized entry

At every incident involving hazardous materials, there is a possibility that response personnel and their equipment will become contaminated. Emergency response personnel have procedures to minimize contamination or contact, and to properly dispose of contaminated materials.

For nonemergencies and Incident Level I emergencies, the following methods of decontamination are available for personnel, environment, and/or equipment according to emergency response procedures:

- Absorption
- Adsorption
- Chemical degradation
- Dilution
- Disposal
- Isolation
- Neutralization
- Solidification

Any necessary verification of air, soil, or water samples will be directed by the RCRA Emergency Coordinator. Immediately after an emergency, the RCRA Emergency Coordinator will provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility in accordance with standard operating procedures.

For Level II and III incidents after the emergency itself is controlled and contained, the RCRA Emergency Coordinator will be responsible for the development and implementation of an incident-specific decontamination plan.

PPE will be decontaminated or disposed according to procedure before it is returned to its storage location.

~~As part of the facility's defense in depth approach, equipment will be assumed to be contaminated after each hazardous material response and a thorough check for radioactive contamination will be conducted. If contamination is found, a technically sound decontamination process will be followed. Many types of equipment are difficult to decontaminate and may have to be discarded as hazardous or derived waste. Whenever possible, pieces of equipment will be disposable or made of nonporous material.~~

~~If radioactive contamination is detected on equipment or on structures, it will be assumed that hazardous constituents may also be present. Radiological surveys to determine whether a potential release of hazardous constituents has occurred (Permit Attachment G3) will be used along with other techniques as a detection method to determine when decontamination is required. Radiological cleanup standards will be used to determine the effectiveness of decontamination efforts. To provide verification of the effectiveness of the removal of hazardous waste constituents, once a contaminated surface is demonstrated to be radiologically clean, the "swipe" can be sent for analysis for hazardous constituents. The use of these confirmation analyses is as follows:~~

~~For waste containers, the analyses become documentation of the condition of the container at the time of emplacement. These containers will be placed in the underground without further action, once the radiological contamination is removed, unless there is visible evidence of hazardous waste spills or hazardous waste on the container and this contamination is considered likely to be released prior to emplacement in the underground. In no case shall these containers contain a total liquid content equal to, or which exceeds, one volume percent of the container.~~

~~For area contamination, once the area is cleaned up and is shown to be radiologically clean, it will be sampled for the presence of hazardous waste residues. If the area is large, a sampling plan will be developed. The sampling plan will be approved by the NMED before it is implemented. If the area is small, swipes will be used. If the results of the analysis show that residual contamination remains, a decision will be made whether further cleaning will be beneficial or whether final clean up will be deferred until closure. Appropriate notations will be entered into the operating record to assure proper consideration of formerly contaminated areas at the time of closure. Furthermore, measures such as covering, barricading, and/or placarding will be used as needed to mark areas that remain contaminated.~~

~~For all Contingency Plan emergency responses, the RCRA Emergency Coordinator will ensure, in keeping with standard operating procedures, that, in the affected area(s) of the facility:~~

- ~~• No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed~~
- ~~• All emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use, or replaced before operations are resumed~~

D-4e Prevention of Recurrence or Spread of Fires, Explosions, or Releases

During an emergency, the RCRA Emergency Coordinator will ensure that reasonable measures are taken so that fires, explosions, and releases do not occur, recur, or spread to TRU mixed waste or other hazardous materials at the facility, as required under 20.4.1.500 NMAC (incorporating 40 CFR §§264.56(e) and (f)). These measures include:

- Stopping processes and operations.
- Collecting and containing released wastes and materials.
- Removing or isolating containers of waste or hazardous substances posing a threat.
- Ensuring that wastes managed during an emergency are handled, stored, or treated with due consideration for compatibility with other wastes and materials on site and with containers utilized (Section D-4h).
- Restricting personnel not needed for response activities from the scene of the incident.
- Evacuating the area.
- Curtailing nonessential activities in the area.
- Conducting preliminary inspections of adjacent facilities and equipment to assess damage.
- Overpacking and/or removing damaged containers/drums from affected areas. Damaged equipment and facilities will be repaired as appropriate.
- Constructing, monitoring, and reinforcing temporary dikes as needed.
- Maintaining fire equipment on standby at the incident site in cases where ignitable liquids have been or may be released and ensuring that all ignition sources are kept out of the area. Ignitable liquids will be segregated, contained, confined, diluted, or otherwise controlled to preclude inadvertent explosion or detonation.

No operation that has been shut down in response to the incident will be restarted until authorized by the RCRA Emergency Coordinator. Sections D-4g, Incompatible Waste, and D-4h, Post-Emergency Facility and Equipment Maintenance and Reporting, address specific issues related to decreasing the possibility of a recurrence or spread of a release, a fire, or an explosion.

After resolution of the incident, a Root Cause Analysis will be conducted to review all Level II and Level III incidents for determination of cause, and the corrective action plan to prevent recurrence.

D-4f **Post-Emergency Activities**

Immediately after the emergency, and once initial release or spill control and containment have been completed, the RCRA Emergency Coordinator will ensure that necessary decontamination occurs and that recovered hazardous waste is properly managed, stored, and/or disposed, as

required by 20.4.1.500 NMAC (incorporating 40 CFR §264.56(g)). As required by 20.4.1.500 NMAC (incorporating 40 CFR §264.56(h)), the RCRA Emergency Coordinator will ensure that incompatibility of waste and restoration of emergency equipment are addressed.

D-4f(1) Management and ContainmentDisposition of Released Material and Waste

Once initial release or spill containment has been completed, the RCRA Emergency Coordinator will ensure that recovered hazardous materials and waste are properly stored and/or disposed, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.56(g)). For spills of liquid, the perimeter of the spill will be diked with an absorbent material that is compatible with the material(s) released. Free-standing liquid will be transferred to a marked compatible container. The remaining liquid will be absorbed with an absorbent material and swept or scooped into a marked compatible container. Spill residue will be removed. Spills of dry material will be swept or shoveled into a labeled compatible recovery container. Material recovered from the spill will be transferred to clean containers or tanks or to containers or tanks that have held a compatible material. All containers will meet DOT specifications for shipping the wastes, and materials will be recovered.

When a release of TRU mixed waste has occurred, priority is given to actions required to minimize radiological exposure to workers and the public. In most cases, these actions are sufficient to mitigate any health effects associated with contamination by hazardous waste or hazardous waste constituents.

If a release of site-generated hazardous waste occurs, the contaminated surface will be cleaned, and decontamination materials will be placed in containers and dispositioned appropriately. If the release is TRU mixed waste, decontamination and disposition will be in accordance with the RWP.

If radioactive contamination is detected on equipment or on structures, radiological cleanup standards will be used to determine the effectiveness of decontamination efforts and/or the final disposition of the equipment or structures. Many types of equipment are difficult to decontaminate and may have to be discarded as derived waste. Fixatives (e.g., paint) may be used on contaminated structures if the contamination cannot be safely removed.

Following decontamination, the RCRA Emergency Coordinator will ensure that nonradioactive hazardous waste resulting from the cleanup of a fire, an explosion, or a release involving a nonradioactive hazardous waste or hazardous substance at the WIPP facility will be contained and managed as a hazardous waste until such time as the waste is disposed of, or determined to be nonhazardous, as defined in 20.4.1.200 NMAC (incorporating 40 CFR §Part 261, Subparts C and D). In most cases, hazardous knowledge of the materials inventories for the various buildings and areas at the facility will allow a determination of the hazardous materials present in any waste determination for the materials resulting from the cleanup of a release or of the residues from an emergency condition (The quantities of such spills are so small, it is not likely to trigger an Incident Level II or III). When necessary, knowledge of the material inventories is not sufficient, samples of the waste will be collected and analyzed using U.S. Environmental Protection Agency (EPA)-approved methods to determine the presence of any hazardous characteristics and/or hazardous waste constituents; this information is needed to evaluate disposal options. EPA-approved sampling and analytical methods will be utilized. Hazardous wastes will be transferred to the Hazardous Waste Staging Area. The staging area is used to store hazardous waste awaiting transfer to an off-site treatment or disposal facility in accordance with applicable regulations (e.g., 20.4.1 NMAC and DOT regulations). The

Hazardous Waste Staging Area for nonradioactive hazardous waste is Buildings 474A and 474B, as shown in Figure D-1. Nonradioactive hazardous wastes will be shipped off-site for disposal at a RCRA-permitted disposal facility.

D-4f(2) Incompatible Waste

The RCRA Emergency Coordinator will ensure, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(h)(1)), that in the affected area(s) of the facility, no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup has been completed. The RCRA Emergency Coordinator will not allow hazardous or TRU mixed waste operations to resume in a building or area in which incompatible materials have been released prior to completion of necessary post-emergency cleanup operations to remove potentially incompatible materials. In making the determination of compatibility, the RCRA Emergency Coordinator will have available the resources and information described in Section D-4b, *Identification of Released Materials and Assessment of the Extent of the Emergency*.

D-4f(3) Cleaning and Restoration of Equipment

The RCRA Emergency Coordinator will take measures to ensure, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(h)(2)), that in the affected area(s) of the facility, emergency equipment listed in the *RCRA Contingency Plan*, and used in the emergency response, is cleaned and fit for its intended use or replaced before operations are resumed.

Any equipment that cannot be decontaminated will be discarded as waste (e.g., hazardous, mixed, solid), as appropriate. After the equipment has been cleaned, repaired, or replaced, a post-emergency facility and equipment inspection will be performed, and the results will be documented.

Under normal operations, administrative controls will be implemented to ensure that hazardous materials and incompatible materials will not be introduced to the radioactive materials area during TRU mixed waste handling operations. Examples of administrative controls include restricting the waste received in the TRU mixed waste management area(s) to TRU mixed waste properly manifested from the generator sites and ensuring that materials used in these area(s) are restricted to only those that have previously been determined to be compatible with the TRU mixed waste. The RCRA Emergency Coordinator will have access to building design information and information on specific equipment used within an area upon which to base a determination of the compatibility of materials with the area. If necessary, the RCRA Emergency Coordinator will use EPA-600/2-80-076, "A Method for Determining the Compatibility of Hazardous Waste," (EPA, 1980) for making compatibility determinations. Waste resulting from the cleanup of a fire, explosion, or release in the miscellaneous unit, the CH TRU mixed waste handling areas, or the RH Complex will be considered derived from the received TRU mixed waste and may be treated and managed as CH TRU mixed waste depending on the surface dose rate.

In the event of a prolonged cessation of TRU mixed waste handling operations, TRU mixed waste can be placed in areas of the WHB Unit that are available for such contingencies. These areas and the TRU mixed waste containers in them would be located so that adequate aisle space would be maintained for unobstructed movement of personnel and equipment in an emergency. Permit Attachments A1 and A2 describe the HWMUs in detail, including the facility description, support structures and equipment, security, waste handling areas, ventilation, and fire protection.

The contaminated area will be decontaminated. If a release is to a permeable surface, such as soil, asphalt, concrete, or other surface, the surface material will be removed and placed in containers meeting applicable DOT requirements. Contaminated soil, asphalt, concrete, or other surface material, as well as materials used in the cleanup (e.g., rags and absorbent material) will be contained and disposed of in the same manner as dictated for the contaminant. Clean soil, new asphalt, or new concrete will be emplaced at the spill location.

If a spill occurs on an impermeable surface, the surface will be decontaminated with water and/or a detergent. In the event that the spilled material is water reactive, a compatible nonhazardous cleaning solution will be used. Contaminated wash water or cleaning solution will be transferred to an appropriate container, marked, and managed as described above for nonradioactive or radioactive liquid wastes.

In the event of a hazardous material or hazardous waste release, the RCRA Emergency Coordinator will ensure that no wastes will be received or disposed of in the affected areas until cleanup operations have been completed. This is to ensure that incompatible waste will not be present in the vicinity of the release.

Because of the restrictions which the WIPP facility places on generators, and because of control of WIPP operations, TRU mixed wastes and derived wastes will not contain any incompatible wastes. However, the areas established for the temporary holding of nonradioactive waste routinely generated at the WIPP facility is divided into bays to accommodate the management of wastes that may be incompatible. If waste is generated as the result of a spill or release of hazardous materials or nonradioactive hazardous waste, the waste generated as a result of abatement and cleanup will be evaluated to determine its compatibility with other wastes being managed in the temporary holding areas. The evaluation will be by identifying the material or waste that was spilled or released and determining its characteristics (e.g., ignitable, reactive, corrosive, or toxic). The waste generated by the abatement and cleanup activities will be stored in that part of the temporary holding area that has been established to manage wastes with which it is compatible.

For small nonemergency liquid spills (e.g., a detergent solution leaking out of the pump handle during decontamination, a spill of hydraulic fluid while servicing a vehicle), spill control procedures will be used to contain and absorb free-standing liquid. The contaminated absorbent will be swept or shoveled into a compatible container and managed as described above. No notifications will be required, but site procedures require documentation of the incident.

D-4g Incompatible Waste

Implementation of the TSDF-WAC for the WIPP ensures that incompatible TRU mixed waste will not be shipped to the WIPP facility. Nonradioactive waste at the WIPP facility will be carefully segregated during handling and holding and will be transported within and off the facility. The RCRA Emergency Coordinator will not allow hazardous or TRU mixed waste operations to resume in a building or area in which incompatible materials have been released prior to completion of necessary post-emergency cleanup operations to remove potentially incompatible materials. In making the determination of compatibility, the RCRA Emergency Coordinator will have available the resources and information described in Section D-4b, Identification of Hazardous Materials. In addition, ES&H department personnel will be available for consultation. Finally, the RCRA Emergency Coordinator may use EPA-600/2-80-076, (EPA, 1980).

D-4h — Post-Emergency Facility and Equipment Maintenance and Reporting

The RCRA Emergency Coordinator will ensure that emergency equipment that is located or used in the affected area(s) of the facility and listed in the Contingency Plan is cleaned and ready for its intended use before operations are resumed, as specified in 20.4.1.500 NMAC (incorporating 40 CFR §264.56(h)(2)). Any equipment that cannot be decontaminated will be discarded as waste (e.g., hazardous, mixed, solid), as appropriate. The WIPP facility is committed to replacing any needed equipment or supplies that cannot be reused following an emergency. After the equipment has been cleaned, repaired, or replaced, a post-emergency facility and equipment inspection will be performed, and the results will be documented.

Cleaning and decontaminating equipment will be accomplished by physically removing gross or solid residue; rinsing with water or another suitable liquid, if required; and/or washing with detergent and water. Decontamination and cleaning will be conducted in a confined area, such as a wash pad or building equipped with a floor drain and sump isolated from the environment. Care will be taken to prevent wind dispersion of particles and spray. Liquid or particulate resulting from cleaning and decontamination of equipment will be placed in clean, compatible containers. Waste produced in an emergency cleanup in the TRU mixed waste handling areas is derived waste and will be emplaced in the underground derived waste emplacement area. Waste resulting from decontamination operations elsewhere in the WIPP facility will be analyzed for hazardous waste constituents and/or hazardous waste characteristics to ensure proper management.

D-4i — Container Spills and Leakage

The waste received at the WIPP facility will meet stringent TSDF WAC (e.g., no more than one percent liquid), which will minimize the possibility of waste container degradation and liquid spills. Should a spill or release occur from a container, following an initial assessment of the event, the WIPP facility will immediately take the following actions, in compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.52(a) and §264.171):

- Assemble the required response equipment, such as protective clothing and gear, heavy equipment, empty drums, overpack drums, and hand tools
- Transfer the released material to a container that is in good condition or overpack the leaking container into another container that is in good condition
- Once the release has been contained, determine the areal extent of migration of the release and proceed with appropriate cleanup action, such as chemical neutralization, vacuuming, or excavation

D-4j — Tank Spills and Leakage

The TRU mixed waste handling areas at the WIPP facility do not include tank storage or treatment of hazardous waste, as defined in 20.4.1.101 NMAC (incorporating 40 CFR §260.10), and as regulated under 20.4.1.500 NMAC (incorporating 40 CFR §264) Subpart J. At the WIPP facility, tanks are used to store water and petroleum fuels only. The petroleum tanks store diesel and unleaded gasoline.

D-4k Surface Impoundment Spills and Leakage

The WIPP facility does not manage hazardous or TRU mixed waste using a surface impoundment, as defined in 20.4.1.101 NMAC (incorporating 40 CFR §260.10), and as regulated under 20.4.1.500 NMAC (incorporating 40 CFR, §264) Subpart K. Surface impoundment regulations are not applicable to the WIPP facility.

D-5 Required Reporting

The RCRA Emergency Coordinator, on behalf of the Permittees, will note in the operating record the time, date, and details of the incident that required implementation of the RCRA Contingency Plan. In compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(i)), within 15 days after the incident, the Permittees will ensure that a written report on the incident will be submitted to the Secretary of the NMED and the EPA Region VI Administrator. The report will include:

- The name, address, and telephone number of the Owner/Operator
- The name, address, and telephone number of the facility
- The date, time, and type of incident (e.g., fire, explosion, or release)
- The name and quantity of material(s) involved
- The extent of injuries, if any
- An assessment of actual or potential hazards to human health or the environment, where this is applicable
- The estimated quantity and disposition of recovered material that resulted from the incident

D-65 Emergency Equipment

A variety of equipment is available at the facility for emergency response, containment, and cleanup operations in both the surface HWMUs, the underground HWDUs, and the WIPP facility in general. This includes equipment for spill control, fire control, personnel protection, monitoring, first aid and medical attention, communications, and alarms. This equipment is immediately available to emergency response personnel. A listing of major emergency equipment available at the WIPP facility, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.52(e)), is shown in Table D-26. Table D-2 also includes the location and a physical description of each item on the list along with a brief outline of its capabilities. The fire-water distribution system map is shown in Figure D-5. Equipment specified at the locations listed in Table D-2 are inspected in accordance with the inspection schedule specified in Attachment E, Table E-1, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.52(e)). ~~Table D-7 identifies the locations where fire suppression systems are provided. Locations of the underground emergency equipment are shown in Figure D-5. The firewater distribution system map is shown in Figure D-6. The underground fuel area fire-protection system is shown in Figure D-7.~~

D-76 Coordination Agreements with Local Emergency Response Agencies

The Permittees have established MOUs agreements with off-site local emergency response agencies for firefighting, medical assistance, hazardous materials response, and law enforcement. In the event that on-site response resources are unable to provide all the needed response actions during either a medical, fire, hazardous materials, or security emergency, the RCRA Emergency Coordinator will notify appropriate off-site response agencies and request assistance. Once on site, off-site local emergency response agency personnel will be perform emergency response activities under the direction of the Incident Commander RCRA Emergency Coordinator.

The MOUs agreement with off-site cooperating local agencies for emergency response capabilities are available from the Permittees on file at the WIPP facility. Additional agreements may be established when needed. A listing and description of the MOUs agreements with sState and local agencies and mining operations in the vicinity of the WIPP facility, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.37 and §264.52(c)), are includes, but is not limited to, the following:

- An Agreements with local mining companies, including among the Permittees, Intrepid Potash NM LLC, and Mosaic Potash Carlsbad Inc., provides for the mutual aid and assistance, in the form of MRTs, in the event of a mine disaster or other circumstance at either of the two facilities. This provision ensures that the WIPP MOC will have two MRTs available at all times when miners are underground.
- A memorandum of agreement between the City of Carlsbad, New Mexico, and the WIPP MOC for ambulance service assistance provides that, upon notification by the WIPP MOC, the Carlsbad Fire Department/Ambulance Service will be dispatched from Carlsbad toward the WIPP site by a designated route and will accept the transfer of patient(s) being transported by the WIPP facility ambulance at the point both ambulances meet. If the patient(s) is not transferrable, the Carlsbad Fire Department/Ambulance Service will provide equipment and personnel to the WIPP facility ambulance, as necessary.
- A MOU between the DOE and the Carlsbad Medical Center provides for the treatment of radiologically contaminated personnel who have incurred injuries beyond the treatment capabilities at the WIPP facility. The DOE will provide transport of the patient(s) to the Carlsbad Medical Center for decontamination and medical treatment.
- A MOU between the DOE and the Lea Regional Medical Center provides for the treatment of radiologically contaminated personnel who have incurred injuries beyond the treatment capabilities at the WIPP facility. The DOE will provide transport of the patient(s) to the Lea Regional Medical Center for decontamination and medical treatment.
- A MOU between the DOE and An agreement with the U.S. Department of Interior (DOI), represented by the Bureau of Land Management (BLM), Roswell District, provides for a fire management program that will ensure a timely, well-coordinated, and cost-effective response to suppress wild fire within the withdrawal area using the WIPP incident commander for fire management activities. The DOI will provide for wildland firefighting support within the WIPP Land Withdrawal Area, if requested. In addition, the MOU

provides for responsibilities concerning cultural resources, grazing, wildlife, mining, gas and oil production, realty/lands/rights of way, and reclamation.

- Agreements for mutual-aid firefighting agreement between the ~~with~~ Eddy County, ~~the City of Hobbs, and the City of Carlsbad~~ Commission and the DOE provides for the assistance of the Otis and Joel Fire Departments (a volunteer fire district created under the Eddy County Commission and the New Mexico State Fire Marshall's Office), including equipment and personnel, at any location within the WIPP Fire Protection Area upon request by an authorized representative of the WIPP Project. These responsibilities are reciprocal.
- A mutual-aid Agreements between with the City of Hobbs and the City of Carlsbad DOE provides for mutual ambulance, medical, fire, rescue, and hazardous material response services; provides for joint annual exercises; provides for use of WIPP facility radio frequencies by the City of Hobbs during emergencies; and provides for mutual security and law enforcement services, within the appropriate jurisdiction limits of each party.
- ~~A mutual-aid agreement between the City of Carlsbad and the DOE provides for mutual ambulance, medical, fire, rescue, and hazardous material response services; provides for joint annual exercises; provides for use of WIPP facility radio frequencies by the City of Carlsbad during emergencies; and provides for mutual security and law enforcement services, within the appropriate jurisdiction limits of each party.~~
- ~~A MOU between the DOE and the New Mexico Department of Public Safety (DPS) concerning Mutual Assistance and Emergency Management applies to any actual or potential emergency or incident that: 1) involves a significant threat to employees of the Permittees or general public; 2) involves property under the control or jurisdiction of either the DOE or the State; 3) involves a threat to the environment which is reportable to an off-site agency; 4) requires the combined resources of the DOE and the state; 5) requires a resource that the DOE has which the State does not have, or a resource the State has which DOE does not have; or 6) involves any other incident for which a joint determination has been made by the DOE and the State that the provisions of this MOU will apply. The MOU provides that the DPS shall permit qualified and security cleared DOE Emergency Management members into the State EOC for the purpose of: a) coordinating communications functions; b) evaluating and maintaining communications capabilities; c) participating in exercises; d) link the State's High Frequency radio communications network with the DOE; and e) assisting the State during radioactive materials accidents that require joint operations or the use of the DOE Radiological Assistance Program team. The DOE shall permit qualified and security cleared members the State Emergency Management community into the DOE's EOCs for the purposes of coordinating communications and activities. Additional duties for each participant are specified for assistance in incidents or emergencies.~~
- Agreements with the Lea Regional Medical Center and the Carlsbad Medical Center for the treatment of persons with radiological contamination who have incurred injuries beyond the treatment capabilities at the WIPP site. The WIPP facility provides transport of the patient(s) to the medical center.
- Agreements with the Sheriff of Eddy County and the Sheriff of Lea County for mutual law enforcement services support.

- An agreement with the New Mexico Department of Homeland Security and Emergency Management for mutual emergency management support, access to state law enforcement, public works, and transportation assets.

D-87 Evacuation Plan

If it becomes necessary to evacuate all or part of the WIPP facility, the assigned on-site assembly and off-site staging areas have been established. The off-site staging areas are outside the security fence. The WIPP facility has Permittees have plans and implementation procedures for both surface and underground evacuations. Drills are performed on these procedures at the WIPP facility at least ~~once~~ annually. The following sections describe the evacuation plan for the WIPP facility, as required under 20.4.1.500 NMAC (incorporating 40 CFR §264.52(f)).

D-78a Surface Evacuation On-site and Off-site Staging Areas

Figure D-68 shows the surface assembly and staging areas. Security officers remain at the primary staging area gate 24 hours a day, and the vehicle trap is opened for personnel during emergency evacuations. The north gate has a single-person gate and a large gate which can be opened, similar to the main gates for the primary staging area. The east gate is a turnstile gate. Upon notification, security personnel will respond, open gates, and facilitate egress for evacuation. ~~Personnel report to their Office Wardens at designated staging areas where accountability is conducted.~~

If building or area evacuation is necessary, the RCRA Emergency Coordinator, in conjunction with the Incident Commander, will determine which assembly area is to be used and will communicate the selection to facility personnel. The preferred evacuation route is determined based on the nature of the event, prevailing weather conditions, and actual or potential radiological release. If site evacuation is necessary, the RCRA Emergency Coordinator, in conjunction with the Incident Commander, will decide which staging areas ~~are~~ is to be used and will advise Office Wardens of the selections. The RCRA Emergency Coordinator will communicate the selection to facility personnel locations to Office Wardens via office warden pager, radio, electron, WIPP Security, or telephone, as appropriate. The WIPP site evacuation routes are shown on Figure D-8. The surface evacuation alarm and public address system are used to direct personnel evacuation. ~~Office Wardens~~ Persons responsible for surface accountability will direct personnel to the selected staging area outside the security fence.

Personnel report to the designated assembly or staging area where accountability is conducted (Figure D-6). Personnel who are working in a contaminated area when site evacuation is announced, will assemble at specific staging areas for potentially contaminated personnel in order to minimize contact with other personnel during the evacuation (Figure D-8).

~~Office Wardens conduct accountability of personnel assigned to their specific areas. For complete surface accountability, the Office Wardens report to their ACOW, who reports to the COW. When the COW has reports from all ACOWs, surface accountability is reported to the CMRO, who then notifies the RCRA Emergency Coordinator of the accountability.~~

The COW and all ACOWs communicate between themselves and the CMRO using devices (e.g., telephones, radios, pagers, the public address system, email, Internet). The Office Wardens, Assistant Office Wardens, ACOWs, and COW are notified by a public address announcement (or other devices) in accordance with emergency response procedures for

evacuation or sheltering in place. At the staging areas Office Wardens report directly to their ACOW.

There are three off-site staging areas identified on Figure D-8. The RCRA Emergency Coordinator determines which staging area will be used. Security officers remain at the primary staging area gate 24 hours a day, and the vehicle trap is opened for personnel during emergency evacuations. The north gate has a single person gate and large gate which can be opened, similar to the main gates for the primary staging area. The east gate is a turnstile gate. Upon notification by the RCRA Emergency Coordinator, Security will respond, open gates, and facilitate egress for evacuation.

The on-site staging areas are identified in Figure D-8. These are used for building or area evacuations as determined by the RCRA Emergency Coordinator.

D-78b Underground Assembly Areas and Egress Hoist Stations

In the event of an underground or surface event, the RCRA Emergency Coordinator can call for underground personnel to report to assembly areas (Figure D-9). Depending upon the type of emergency and level of response, it may be necessary for personnel in the underground to shelter in place, report to designated assembly areas (Figure D-7), or to evacuate the underground. Underground personnel are also trained to immediately report to assembly areas under specific circumstances (i.e., loss of underground power or ventilation). If accountability is required, Underground accountability is taken when the underground will be sheltered in place or evacuated. The Underground Controller is responsible for underground accountability by comparing the brass numbers with the brass tags signed out in the lamproom. Each assembly area contains a Mine Page Phone, miner's aid station, and evacuation maps.

In accordance with 30 CFR §57.11050, the mine maintains two escapeways. These escapeways are designated as Egress Hoist Stations. When the need for an underground evacuation is called for has been determined, all-underground personnel report to the Egress Hoist Stations.

Decontamination of underground personnel will be conducted the same way as described for surface decontamination. Contaminated personnel are trained to remain segregated from other personnel until RC radiological contamination control personnel can respond to the incident at the underground location.

D-78c Plan for Surface Evacuation

Surface evacuation notification is initiated by the CMRO, as directed by the RCRA Emergency Coordinator, directing the CMRO to via sound-ing of the surface evacuation alarm and providing incident information via the public address system. The Office Wardens persons responsible for surface accountability assist personnel in evacuation from their areas. Egress routes from buildings and site Evacuation routes and instructions are posted in designated areas throughout the site. Egress routes from the WHB Unit are shown in Figures D-6a, D-6b, and D-6c.

If the FSM/CMRO notifies the ERT members have been notified by a communication device (e.g., pager) to respond to an identified area, these members will not depart the site during an evacuation, but will report to the FSM Incident Commander for instructions and accountability.

The EST/FPT notifies the COW of response members present. These personnel ERT members will not evacuate until released by the RCRA Emergency Coordinator Incident Commander.

D-78d Plan for Underground Evacuation

Notification for underground evacuation will be made using the underground evacuation alarm and strobe light signals.

Personnel will evacuate to the nearest eEgress hHoist sStation. Primary underground evacuation escape routes (identified by green reflectors on the rib) will be used, if possible. Secondary underground evacuation escape routes (identified by red reflectors on the rib) will be used if necessary (Figure D-45). Detailed descriptions of escapeways and an underground escape map are included in the Underground Escape and Evacuation Plan on file at the WIPP facility, as required by 30 CFR §57.11053. ~~Brass tags will be collected from personnel at the hoist collar on the surface, and taken to t~~The Underground Controller, who functions as an Office Warden. When all brass tags are accounted for, underground is responsible for underground personnel accountability and reporting ~~accountability is reported to the RCRA Emergency Coordinator.~~

Upon reaching the surface, personnel will report to their on-site surface assembly or off-site staging area, as directed, to receive further instructions.

Members of the FLIRT and the WIPP Fire Department and the MRT who may be underground, will assist in the evacuate~~evacuate~~ evacuation of the underground when an underground evacuation is called for. A reentry by the MRT will be performed according to 30 CFR Part 49 and MSHA regulations for reentry into a mine. The two MRTs are trained in compliance with 30 CFR Part 49 in mine mapping, mine gases, ventilation, exploration, mine fires, rescue, and recovery.

D-78e Further Site Evacuation

In the event of an evacuation involving the need to transport employees, the following transportation will be available:

- Buses/vans—WIPP facility buses/vans will be available for evacuation of personnel. The buses/vans are stationed in the employee parking lot.
- Privately Owned Vehicles—Because many employees drive to work in their own vehicles, these vehicles may be utilized~~utilized~~ used in an emergency. Personnel ~~may be directed as to~~will be provided routes to be taken when leaving the facility.

These vehicles may be used to transport personnel who have been released from the site by the RCRA Emergency Coordinator.

The primary evacuation routes for the WIPP facility are the main DOE north/south access road, which connects to U.S. Highways 62/180 (north) and State Highway 128 (south). Alternate evacuation routes from the facility are provided at the south side and the east side of the facility (Figure D-8).

D-8 Required Reports

The RCRA Emergency Coordinator, on behalf of the Permittees, will note in the operating record the time, date, and details of any incident that requires implementing this Contingency Plan. This notation will be in the facility log maintained by the CMRO. In compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(j)), within 15 days after the incident, the Permittees will ensure that a written report on the incident will be submitted to the EPA Region VI Administrator and to the Secretary of the NMED. The report will include:

- The name, address, and telephone number of the Owner/Operator
- The name, address, and telephone number of the facility
- The date, time, and type of incident (e.g., fire, explosion or release)
- The name and quantity of material(s) involved
- The extent of injuries, if any
- An assessment of actual or potential hazards to human health or the environment, where this is applicable
- The estimated quantity and disposition of recovered material that resulted from the incident

In addition to the above report, the Permittees will ensure that the ES&H Manager, or designee, submits reports to the appropriate agencies as listed in Tables D-8 and D-9.

The WIPP requires the EST/FPT to initiate the "WIPP Hazardous Materials Incident Report" if the Contingency Plan is implemented. A form is attached as Figure D-12. The form is initiated by the EST/FPT. The RCRA Emergency Coordinator, CMRO, and Environmental Compliance representatives complete their respective sections.

D-9 Location of the RCRA Contingency Plan Contingency Plan and Plan Revision

In accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.53(a)), the owner/operator of the WIPP facility will ensure that copies of this RCRA Contingency Plan Contingency Plan are maintained at the WIPP facility and are available to all the emergency personnel and organizations described in Section D-2. When the RCRA Contingency Plan Contingency Plan is revised, updated copies are manually distributed (electronically or via site mail) or hand delivered to applicable WIPP Facility emergency personnel and alternate Emergency Operations Centers and Joint Information Center. In addition, the owner/operator Permittees will make copies available to the following outside State and local agencies, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.53(b)):

- Intrepid Potash New Mexico LLC and
- Mosaic Potash Carlsbad Inc.
- Carlsbad Fire Department, City of Carlsbad
- Carlsbad Medical Center, Carlsbad
- Lea Regional Medical Center, Hobbs
- Otis Fire Department, Otis

- Hobbs Fire Department, City of Hobbs
- ~~Joel Fire Department, Carlsbad~~
- BLM, Carlsbad
- New Mexico State Police
- New Mexico Department of Homeland Security and Emergency Management
- Eddy County Commission
- Sheriff of Eddy County
- Sheriff of Lea County

In accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.54), ~~The owner/operator of the WIPP facility~~ Permittees will ensure that this plan is reviewed ~~annually~~ and amended whenever:

- ~~Applicable regulations are revised~~
- The RCRA Part B permit for the WIPP facility is revised in any way that would affect the RCRA Contingency Plan ~~Contingency Plan~~.
- This plan fails in an emergency.
- The WIPP facility design, construction, operation, maintenance, or other circumstances change in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous constituents or change the response necessary in an emergency.
- The list of RCRA Emergency Coordinators change: or
- The list of WIPP facility emergency equipment changes.

References

U.S. Environmental Protection Agency, "A Method for Determining the Compatibility of Hazardous Waste," EPA 600/2-80-076, 1980.

U.S. Department of Transportation, Emergency Response Guidebook, U.S. Government Printing Office, 1993.

Westinghouse Electric Corporation, 1994, "Quality Assurance Project Plan for WIPP Site Effluent and Hazardous Materials Sampling," WP-02-EM1, Westinghouse Electric Corporation, Carlsbad, New Mexico.

U. S. Department of Energy, "WIPP Safety Analysis Report," DOE/WIPP-95-2065, Rev. 2

U. S. Department of Energy, "WP-12-5, WIPP Radiation Safety Manual".

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TABLES

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Table D-1
Hazardous Substances in Large Enough Quantities to Constitute a Level II Incident

Chemical Description	Building Location	Hazard Category
Ethylene Glycol Solution—35%	Buildings 411; 412; 451; 452; 486; 463; 474C; FAC 414	Immediate (acute) Delayed (chronic)
Gasoline, Unleaded GASC0001	FAC 480	Fire Immediate (acute) Delayed (chronic)
No. 1 Diesel Fuel Oil GASC0210	U/G Fuel Station; Oil Depot U/G; FACs 480, 255.1 & 255.2; Transport Tank; Building 456	Fire Immediate (acute) Delayed (chronic)
Multiple containers of TRU Waste as described in Permit Section 3.3.4	WHB Waste Shaft U/G	Delayed (chronic)
Hazardous materials in quantities that exceed 5 times the Reportable Quantity (Per DOE O 151.1) values as defined in 40 CFR 302	It should be noted that WIPP is not expected to possess such quantities.	Fire Immediate (acute) Delayed (chronic)

Table D-~~12~~¹
Resource Conservation and Recovery Act Emergency Coordinators¹

Name	Address*	Office Phone	Personal Phone*
R. C. (Russ) Stroble (primary) ⁺		234-8276 or 234-8554	
J. E. (Joseph) Bealler ²		234-8276 or 234-8916	
M. G. (Mike) Proctor ²		234-8276 or 234-8143	
G. L. (Gary) Kessler ²		234-8326	
A. E. (Alvy) Williams ⁺ (primary)		234-8276 or 234-8216	
P. J. (Paul) Paneral ⁺ (primary)		234-8498	
J. B. (James) Wheeler ²		234-8273	
M. L. (Mark) Long ⁺ (primary)		234-8170	
A. C. (Andy) Cooper ²		234-8197	

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

¹ ~~The on-duty Facility Shift Manager is the primary RCRA Emergency Coordinator pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.52), and is designated to serve as the RCRA Emergency Coordinator.~~ 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.

² ~~The on-duty Facility Operations Engineer is the alternate RCRA Emergency Coordinator and is available as needed.~~

Table D-3
Planning Guide for Determining Incident Levels and Response

Incident Condition	Incident Level		
	I	II *	III *
Product identifications	Placard not required, NFPA 0 or 1 all categories, all Other Regulated Materials A, B, C, and D.	DOT placarded, NFPA 2 for any categories, PCBs without fire, EPA regulated waste. SITE SPECIFIC: Table D-1 and TRU mixed waste AND	Poison A (gas), explosive A/B, organic peroxide, flammable, solid, materials dangerous when wet, chlorine, fluorine, anhydrous ammonia, radioactive materials, NFPA 3 and 4 for any categories including special hazards, PCBs and fire including special hazards, PCBs and fire DOT inhalation hazard, EPA extremely hazardous substances, and cryogenics.
Container size	Container size does not impact this incident level.	Involves multiple packages.	Tank truck.
Fire/explosion potential	Under control.	May spread/may be explosive.	May spread/may be explosive.
Leak severity	No release or small release contained or confined with readily available resources.	Release may not be controllable without special resources.	Release may not be controllable even with special resources.
Life safety	No life threatening situation from materials involved.	Localized area, limited evacuation area.	Localized area, limited evacuation area.
Environmental impact (Potential)	None.	Limited to incident boundaries	Contained within the Hazardous waste Management Units.
Container integrity	Not damaged.	Damaged but able to contain the contents to allow handling or transfer of product.	Damaged to such an extent that catastrophic rupture is possible.

* Contingency Plan is implemented

Table D-4
Physical Methods of Mitigation

Method	Chemical		Radiological	
	Liquid	Solid	Liquid	Solid
Absorption	Yes	No	Yes	No
Covering	Yes	Yes	Yes	Yes
Dikes, diversions	Yes	Yes	Yes	Yes
Overpack	Yes	Yes	Yes	Yes
Plug/patch	Yes	Yes	Yes	Yes
Transfer	Yes	Yes	Yes	Yes
Vapor suppression	Yes	Yes	No	No

Table D-5
Chemical Methods of Mitigation

Method	Chemical		Radiological	
	Liquid	Solid	Liquid	Solid
Neutralization	Yes	Yes ⁽¹⁾	No	No
Solidification	Yes	No	Yes ⁽²⁾	No

(1) ~~When solid neutralizing agents are used, they will be used simultaneously with water.~~

(2) ~~This method could be utilized for mitigation of firewater involving TRU waste.~~

Table D-62
Emergency Equipment Maintained at the Waste Isolation Pilot Plant

Equipment	Description and Capabilities	Location
Communications		
Building Fire Alarms	Manual pull stations and automatic <u>Fire alarm panels, fire alarm transmitter, and audible alarm devices (e.g., horns, bells, tones) that provide notification of fires; transmitted to the CMR</u> (sprinkler system flow, and smoke and thermal detectors) trigger fire alarm; locally visible and audible; visual display and alarm in Central Monitoring Room (CMR)	Guard and Security Building, <u>Water</u> Pumphouse, Warehouse/Shops, Exhaust Filter Building, Support Building, CMR/Computer Room, Waste Handling Building (<u>Building 411</u>), TRUPACT Maintenance Facility, <u>Salt Handling (SH)</u> Hoisthouse, Maintenance Shops, <u>Guard Shack*</u> <u>Entry Control Point</u> , Auxiliary Warehouse, <u>Core Storage Building</u> , Engineering Building, Training Facility, Safety Building (<u>Building 452</u>), Maintenance Shop, Hazardous Waste <u>Storage Staging</u> (non-TRU) Areas (<u>Facility 474 Buildings 474A and 474B</u>) *local alarms; not connected to the CMR
Underground Fire Alarms	<u>Fire alarm panels, fire alarm transmitter, and audible/visual alarm devices (e.g., horns, bells, strobes) that provide notification of fires; transmitted to the CMR</u> Automatic/Manual; have priority over other paging channel signals but not override intercom channels; alarms sound in the general area of the control panel and are connected to the underground evacuation alarms; they also interface with the CMR.	Fire detection and control panel locations: Waste Shaft Underground Station, SH Shaft Underground Station, Between E-140 and E-300 in S-2180 Drift, E-0/N-1200, Fuel Station
Site-wide Evacuation Alarm <u>Surface Evacuation Signals;</u> <u>Underground Evacuation Warning System</u>	Transmitted over paging channel of the public address system, overriding its normal use; manually initiated according to procedures requiring evacuation; for <u>For surface,</u> audible alarm produced by tone generator at 10 decibels above ambient noise level (or at least 75 decibels); flashing strobe lights; radios and/or pagers are used to notify facility personnel outside alarm range. Monthly test are performed on the PA, site notification alarms, and plectrons.	Site-wide
Vehicle Siren	Manual; oscillating; emergency services/surface response vehicles, is mechanical and electronic.	WIPP surface emergency vehicles
Public Address System	Includes intercom phones; handset stations and loudspeaker assemblies, each with own amplifiers; multichannel, one for public address and pages, and others for independent party lines.	Surface and underground
Intraplant Phones	Private automatic branch exchange; direct dial; provide communication link between surface and underground operations	Throughout surface and underground

Equipment	Description and Capabilities	Location
Mine Page Phones	Battery-operated paging system	CMR, Mine Rescue Room, EOC, lamproom, underground at S550/W30, S1000/W30, S1950/E140, SH Shaft Collar and Underground Station, Waste Shaft Collar and Underground Station, FSM desk, <u>EST Station Fire Department workstation area</u>
Emergency Pagers	Manual; , intermittent alarm signals	Issued to appropriate emergency personnel
Electrons	Tone-alert radio receivers placed in areas not accessible by the public address system	Site-wide
Portable Radios	Two-way, portable; transmits and monitors information to/from other transmitters	Issued to individuals
Plant Base Radios	Two-way, stationary; <u>transmits and monitors information to/from other transmitters</u> , VHF-FM; linked to Eddy County Sheriff Department, NM State Police, and Otis Fire Department), and WIPP Channels 1-18 (Communication with the Lea County Sheriff's Department, the Hobbs Fire Department, Carlsbad Medical Center and Lea Regional Hospital is available via the Eddy County dispatcher) (Site Security, Site Operations and Site Emergency, maintenance, repeater to Carlsbad). Wireless communications such as cellular phones may be used to contact the Eddy County emergency responders.	<u>Various site locations Building 452, Building 458, Building 451 (CMR, FSM desk)</u>
Mobile Phones	Provide communications link between WIPP Security and key <u>emergency response</u> personnel, <u>as needed</u>	Issued to individuals plus emergency vehicles;
Spill Response <u>Equipment and Materials</u>		
<u>HAZMAT Equipment</u>	<u>Spill response equipment and supplies, PPE, and decontamination supplies stored and maintained in accordance with NFPA 1901 and as documented in WIPP facility files</u>	<u>Surface, in designated areas near Building 452</u>
<u>Absorbent Materials</u>	<u>Containment or cleanup of spills, including:</u> <u>Pressurized spill-response gun;</u> <u>Absorbent sheets and/or dikes for containment or cleanup of spills of oil, petroleum-based chemicals, and general liquids;</u> <u>Spill-control material for solvents and neutralizing absorbents and for acids/caustics</u>	<u>Surface, in designated areas near Building 452</u>
SPILL-X-S Guns and Recharge Powder	Containment; (1)SPILL X model SC-30-C(Gun) (1)SPILL X model XC-30-S(Gun) (1)SPILL X model SC-30-A(Gun); (1)-A-Acid, 5-gallon bucket (Recharge Powder) (1)-S-Solvent, 5-gallon bucket (Recharge Powder) (1)-C-Caustic, 5-gallon bucket (Recharge Powder)	HAZMAT trailer
Absorbent Sheets	Containment or cleanup; (1)-3' x 100' Sheet	HAZMAT trailer

Equipment	Description and Capabilities	Location
Absorbents	Grab and Go container; spill control bucket; (1) for solvents and neutralizing absorbents; 5 gallon bucket (1) for acids/caustics; 5 gallon bucket	HAZMAT trailer
Absorbent Material	Containment or cleanup; (1) 100 ft. rolled or equivalent socks "Pig" for general liquid (1) 100 ft. rolled or equivalent socks "Pig" for oil	HAZMAT trailer
Air Bag System	Extrication, Stabilization, Cribbing (1) bag system with tank kit and the following bag sizes: (1) 12 ton; (1) 21.8 ton; (1) 17 ton	Surface rescue truck
Air Chisel	Extrication (1) Capable of cutting 3/16" steel	Surface rescue truck
Drum Transfer Pumps and Drum Opener	Containment or cleanup; (1) unit for chemical transfer (1) hand operated pump for petroleum transfer (1) drum opener	HAZMAT trailer
Floor Squeegee	Containment or cleanup; (1) straight rubber blade, nonwood handle	HAZMAT trailer
Foam Concentrate	AFFF 6% (4) 5 gallon pail	Fire truck # 1
Gas Cylinder Leak Control Kit	(1) Series A Hazardous Material Response Kit; contains nonsparking equipment to control and plug leaks	HAZMAT trailer
Portable Generator	(1) Backup power; 5,000 watt; 120 or 240 volt	Surface rescue truck

Equipment	Description and Capabilities	Location
Hand Tools	<p>Containment and cleanup; Underground rescue truck:</p> <p>(1)12# Sledge Hammer (1)3/8" Drive Socket Set (1)1/2" Drive Socket Set (1)3/4" Drive Socket Set (1)25' 1/2" Chain (1)6' Wrecking Bar (1)Bottle Jack (1)4# Hammer (1)18" Crescent Wrench (1)5' Pry Bar (1)2' Pry Bar (1)100' Extension Cord (1)4' Nylon Sling (1)6' Nylon Sling (1)10' Nylon Sling These tools are located in the HAZMAT Trailer. They are non-sparking. (1)14" L adjustable pipe wrench (1)15" multi opening bung wrench (1)hammer/crate opener (1)8" pipe pliers (1)8" blade Phillips (1)#2 screwdriver (1)6" blade standard screwdriver (1)Claw Hammer</p>	Underground rescue truck, HAZMAT trailer
Come-a-longs	(1) 4 ton; cable type Ratchet lever tool designed specifically for lifting, lowering and pulling applications including jobs requiring rigging, positioning, and stretching. Used in rescue for extrication.	Surface rescue truck and underground rescue truck
Porta-power	(1) 10-ton hydraulic, hand-powered jaws used for extrication during rescues.	Surface rescue truck
Jugs	Containment or cleanup; (4) 1-gallon plastic	HAZMAT trailer
Pails	Containment or cleanup; (3) 5-gallon plastic with lid	HAZMAT trailer
Portable Lighting	(1) Emergency lighting system; 120-volts; 500-watt bulbs, suitable for wet location	Underground rescue truck
Patching Kit	Series A Hazardous Response Kit; Class A; contains nonsparking equipment to control and plug leaks.	HAZMAT trailer
Scoops and Shovels	Cleanup; plastic; various sizes; nonsparking; nonwood handles (1) Scoop (3) Shovels	HAZMAT trailer

Equipment	Description and Capabilities	Location
Medical Resources		
Ambulance #1	<u>A minimum of one ambulance, maintained and equipped in accordance with the New Mexico Ambulance Standard, 18.3.14 NMAC, and as documented in WIPP facility files</u> Equipped as per Federal Specifications KKK-A-1822 and New Mexico Emergency Medical Services Act General Order 35; equipped with a radio to Carlsbad Medical Center, VHF radio, UHF medical frequency, cellular phone	Surface (Safety and Emergency Services Facility <u>Building 452</u>)
Ambulance #2 <u>Medical Cart</u>	<u>A minimum of one medical cart</u> , Diesel and/or electric ambulance equipped <u>to provide basic life support operations, as documented in WIPP facility files</u> with first aid kit, 2 stretchers, and other associated medical supplies	Underground
Ambulance #3 ^a	Diesel and/or electric ambulance equipped with first aid kit, rescue basket, oxygen, cardiac monitor and other associated medical supplies	Underground
Rescue Truck #1	Special purpose vehicle; light and heavy duty rescue equipment; transports 1 litter patient, medical oxygen and supplies for mass casualties, fire suppression support equipment (rescue tool, air bag, K-12 Rescue Saw, 5,000-watt generator, self-contained breathing apparatus (SCBA), and much more equipment	Surface (Safety and Emergency Services Facility)
<u>Miner's First Aid Station</u>	<u>Equipped per 30 CFR 57.15001</u>	<u>Various Underground Locations</u>
Fire Detection and Fire Suppression Equipment		
Building Smoke, Thermal Detectors, or Manual Pull Stations	<u>Devices that trigger an alarm and/or fire suppression system</u> Ionization and photoelectric or fixed temperature/rate of rise detectors; visual display and alarm in CMR; manual pull stations. The underground has manual fire alarm pull stations located where personnel have access when evacuating. These are connected to the U/G evacuation alarm.	Guard and Security Building, Warehouse/Shops, Support Building, CMR/Computer Room, Waste Handling Building, TRUPACT Maintenance Facility, Waste Shaft Collar, Underground Fuel Station, SH Hoisthouse, Engineering Building, Industrial Safety Building, Training Facility
Fire Trucks #4	<u>A minimum of two fire trucks to assist in fighting fires; firefighter equipped in accordance with NFPA 1901 and/or 1906 and as documented in WIPP facility files</u> Equipped per Class "A" fire truck per NFPA; capacity 750 gallons, with pump capacity of 1200 gallons per minute	Surface (Safety and Emergency Services Facility <u>Building 452</u>)
Fire Truck #2	Equipped per Class "A" fire truck per NFPA; capacity 1500 gallons, with pump capacity rated for 1250 gallons per minute.	Surface (Safety and Emergency Services Facility)
Rescue Truck #2 (U/G)	(1) 125-pound dry chemical extinguisher (1) 150-pound foam extinguisher	Underground
Rescue Truck #3 ^a (U/G)	(1) 125-pound dry chemical extinguisher (1) 33-gallon foam extinguisher	Underground
<u>Rescue Carts/Trucks</u>	<u>A minimum of two special-purpose vehicles, one on the surface and one in the underground; light rescue units, equipped in accordance with the NFPA 1901 and as documented in WIPP facility files</u>	<u>Surface (Building 452) and Underground</u>

Equipment	Description and Capabilities	Location
Underground Fire- Suppression Cart Vehicles	<u>A minimum of one special-purpose electric cart to assist in fighting fires; equipped with a minimum of one fire extinguisher</u> (1) 125-pound dry-chemical extinguisher (1) 33-gallon foam extinguisher	Underground
<u>Fire</u> Extinguishers	Individual <u>Hand-held</u> fire extinguishers; various types located throughout the facility, conforming to NFPA 10 in accordance with NFPA 10-	Buildings, underground, and underground vehicles <u>Surface and underground locations used for hazardous waste management, as documented in WIPP facility files</u>
Automatic Dry Chemical Extinguishing Systems	Automatic; 1,000-pound system (Dry Chemical); actuated by thermal detectors or by manual pull stations	Underground fuel station
Automatic Fire Suppression Systems on liquid fueled vehicles	Individual fire suppression systems are installed on liquid fueled vehicles <u>Individual automatic fire suppression systems installed on applicable liquid-fueled vehicles, as determined by a fire risk assessment performed in accordance with NFPA 122</u>	Underground and Surface <u>Surface and underground locations used for hazardous waste management, as documented in WIPP facility files</u>
Sprinkler Systems	Fire alarms activated by water flow <u>NFPA water-based fire suppression systems</u>	<u>Water</u> Pumphouse, Guard and Security Building, Support Building, Waste Handling Building (<u>Contact Handling, Remote Handling, and Overpack and Repair Areas</u> contact transuranic waste area only), Warehouse/Shops Building, Auxiliary Warehouse Building, TRUPACT Maintenance <u>Building</u> Facility, Training Facility, SH Shaft Hoisthouse, Exhaust Filter Building, <u>and Hazardous Waste Staging Areas (Buildings 474A and 474B)</u> Engineering Building, and Safety Building
Water Tanks, Hydrants	Fire suppression water supply; one 180,000-gallon capacity tank, plus a second tank with 100,000 gallon reserve	Tanks are at southwestern edge of WIPP facility; pipelines and hydrants are throughout the surface
Fire Water Pumps	Fire suppression water supply; pumps are <u>minimally</u> rated at 125 pounds per square inch, 1,500 gallons per minute centrifugal pump, one with electric motor drive, the other with diesel engine; pressure maintenance <u>jockey</u> pump	<u>Water</u> Pumphouse
Personal Protection Equipment		
Headlamps	Mounted on hard hat; battery operated	Each person underground
Underground Self-Rescuer Units	Short-term rebreathers <u>per 30 CFR 57.15030</u> ; approximately 300	Each person underground

Equipment	Description and Capabilities	Location
Self-Contained Self-Rescuer	<u>Air supply; a minimum of 12 caches in the underground; self-contained rescue units shall be adequate to protect an individual for one hour or longer or, alternatively, sufficient to allow the employee time to reach an additional self-contained self-rescue device in the underground per NMSA 69-8-16</u> At least 60 minutes of oxygen available. Approximately 400 units cached throughout the underground	Cached throughout the underground
<u>Mine Rescue</u> Self-Contained Breathing Apparatus (SCBA)	Oxygen supply; 4-hour <u>closed-circuit</u> units <u>consistent with 30 CFR 49.6; a minimum of 12 units, one for each Mine Rescue Team member</u> ; approximately 14 Mine Rescue Team Draeger units	Mine Rescue Training Room
<u>Fire Department Self-Contained Breathing Apparatus (SCBA)</u>	<u>Air supply; a minimum of 12 units; SCBAs shall meet the minimum requirements established per NFPA 1981</u>	<u>Surface (Building 452)</u>
Chemical and Chemical-Supported Gloves	Body protection; (12 pair) inner cloth; (12 pair) outer pvc; (5 pair) outer viton	HAZMAT trailer
Suit, Acid	Body protection; (4) acid	HAZMAT trailer
Suit, Fully Encapsulated	Body protection; used with SCBAs; full outerboot; (4) Level A; (4) Level B	HAZMAT trailer
Emergency Medical Equipment		
Antishock Trousers	Shock treatment; (2) inflatable, one on each ambulance	Ambulance # 1 and # 2
Heart Monitor and Defibrillator	Heart Monitor/defibrillator	Ambulance # 1 and # 2
Oxygen	Patient care; Size D: (2) Ambulance #1 (1) Underground Ambulance (1) Health Services Size E: (1) Rescue Truck (2) Underground Ambulance Size M: (1) Ambulance #1	Ambulance # 1 and # 2; surface rescue truck
Resuscitators (Bag)	Disposable bag resuscitation Ambulance #1: (2) adult size (1) child size Underground Ambulance: (2) adult size	Ambulance # 1; Ambulance # 2

Equipment	Description and Capabilities	Location
Splints	<p>Immobilize limbs;</p> <p>(1) Adult traction splint, lower extremity, with limb supporting slings, padded ankle hitch and traction device per ambulance.</p> <p>(2) Rigid splinting devices or equivalents, suitable for immobilization of upper extremities per ambulance.</p> <p>(2) Rigid splinting devices or equivalents, suitable for the immobilization of lower extremities.</p> <p>(1) Set of Airsplints:</p> <p>6 assorted splints; hand/wrist, half arm, full arm, foot/ankle, half leg, and full leg per miner's aid stations.</p>	Ambulance # 1 and # 2, Miner's Aid Stations
Stretchers	<p>Patient transport;</p> <p>(2) Spine Boards, one short and one long, with nylon straps per ambulance. (also used to perform cardiopulmonary resuscitation)</p> <p>(2) Emergency Stretchers or scoops, or combination per ambulance</p> <p>(1) All purpose multi level ambulance stretch (gurney), with 3 safety straps and locking mechanism per ambulance.</p> <p>(1) Stretcher in each miner's aid station.</p>	Various combinations in Ambulance # 1 and # 2, Miner's Aid Station
Suctions	<p>For medical emergencies:</p> <p>Portable</p> <p>(1) Suction unit, capable of delivering at least 300 mm. HG on each ambulance.</p>	Ambulances #1 and #2
Trauma Kits	<p>(1) adult blood pressure cuff and stethoscope</p> <p>(4) soft roller bandages</p> <p>(3) triangular bandages</p> <p>(1) pkg. band-aids</p> <p>(2) trauma dressings</p> <p>(25) 4X4 sponges</p> <p>(1) roll adhesive tape</p> <p>(1) bite stick</p> <p>(1) penlight</p> <p>(1) sterile burn sheet</p> <p>(1) oropharyngeal airway</p> <p>(1) glucose substance</p> <p>(2) sterile gauze dressings</p>	(1) kit in each: Ambulances #1 and #2, surface rescue truck

Equipment	Description and Capabilities	Location
Miner's Aid Station	For First Aid Stations in the Underground (1) Stretcher—as referenced above per station (1) Set of airsplints—as referenced above per station (1) Blanket per station (1) Box of latex gloves (50) per station (5) Pathogen Wipes per station (1) First Aid Kit (24) per station; includes, (3) Band Aid Combo Paks (2) Swabs, PVP (1) Antibiotic Ointment (1) Sting Kill Swab (2) Dressing, compresses (2) Roller Bandages (2) Tape (2) Triangle Bandage (1) Eyedressing Pak (1) Burn Dressing (1) Ammonia Inhalants (1) User Log Sheet	Miner's Aid Stations—Various Underground Locations
First Aid Supplies	According to General Order #35 (12) bandages, soft roller, self adhering type 4" or 6" x 5 yards. (6) triangular bandages, 40" (1) box band-aids (1) 1 pair bandage shears (6) Trauma dressings, 30" x 10" (6) Trauma dressings, 5" x 7" (50) 4" x 4" sponges, individually wrapped and sterile (2) rolls adhesive tape (1) penlight (2) sterile burn sheets (2) oropharyngeal airways—adult (2) oropharyngeal airways—child (Ambulance #1 only) (2) oropharyngeal airways—infant (Ambulance #1 only) (1) Glucose substance (3) Occlusive dressings (1) Roll aluminum foil (6) Rigid cervical collars—2 each small, medium and large sizes (4) Cold packs (4) Heat packs (2) Bite sticks	Ambulance #1
First Aid Supplies	(2) Transfer sheets (2) Blankets	Ambulances #1 and #2

Equipment	Description and Capabilities	Location
First Aid Supplies	(2) #16g angiosets (2) #18g angiosets (2) #20g angiosets (1) 1000cc LR IV fluid (1) 500cc NS IV fluid	Ambulances #1 and #2, surface rescue truck
General Plant Emergency Equipment		
Emergency Lighting	For employee rescue and evacuation, and fire/spill containment; linked to main power supply, and selectively linked to back up diesel power supply and/or battery-backed power supply	Surface and underground
Backup Power Sources	Two <u>A minimum of two</u> diesel generators, and battery-powered uninterruptible power supply (UPS); use limited to essential loads; manual or remote starting 1,100 kilowatt diesel generators with on-site fuel for 62% load for 3 days for selected loads; 30-minute battery capacity for essential loads	Generators are east of Safety and Emergency Services Building <u>Building 452</u> ; UPS is located at the essential loads
<u>Emergency</u> Hoists	Hoists in Waste Shaft, Air Intake Shaft, and SH Shaft	Waste Shaft, Air Intake Shaft, SH Shaft
Radiation Monitoring Equipment	(5) Portable alpha and beta survey meters, portable air samplers, and portable continuous air monitors	Building 412
Emergency Showers	For emergency flushing of chemical contact or injury	Surface <u>Waste Handling Building and Hazardous Waste Staging Areas</u>
<u>Emergency Eyewash Equipment</u> Eye Wash Fountains	For emergency flushing of affected eyes	Various locations on surface and in the underground <u>Waste Handling Building (RH Bay, Site Derived Waste Area, Waste Shaft Collar, and Room 108 TRUPACT III only), TRUPACT Maintenance Building, Exhaust Shaft Filter Building, Hazardous Waste Staging Areas (Building 474A), and underground locations</u>
Decon Shower Equipment	Self-contained decon shower trailer, portable decon shower unit	Surface
Overpack containers <u>for TRU Mixed Waste</u>	44-85 Gallon drums 4-SWBs 4-TDOP	Building 481 Building 484 Building 484
HEPA Vacuums	2 HEPA Vacuums to be utilized for removal of contamination.	Building 484
Aquaset or Cement	400 lbs. of aquaset or cement m Material for solidification of liquid waste generated as a result of fire fighting water or decontamination solutions-	Building 484 <u>Surface Connex A, located south of Building 411</u>
Paint or Fixative	1-5 gallon bucket of approved fixative to be used during recovery.	Building 484
TDOP Upender	Upender facilitates overpacking standard waste boxes	Building 484 <u>Waste Handling Building (Building 411)</u>

Equipment	Description and Capabilities	Location
Non hazardous Decontaminating Agents	4 1 Gallon bottles for decontamination of surfaces, equipment, and personnel	Building 484 <u>Waste Handling Building (Building 411): Surface Connex A, located south of Building 411</u>

^a ~~The NMED will be notified when new equipment is brought on line in calendar year 2015.~~

Table D-7
Types of Fire Suppression Systems by Location

Location	AS	AD	MPS	PFE
Waste Handling Building	*		*	*
Support Building	*		*	*
Exhaust Filter Building	*		*	*
Water Pumphouse	*		*	*
Underground Support Areas (also has rescue truck) (as illustrated in Figure D-5)		*	*	*
Station A Effluent Monitoring Shed			*	*
Station B Effluent Monitoring Shed			*	*

(1) Symbols for WIPP fire protection systems:

AS — Automatic Wet Pipe Sprinkler System

AD — Automatic Dry Chemical Extinguishing System

MPS — Manual Pull Stations

PFE — Portable Fire Extinguishers

(2) The Waste Handling Building and the Support Building contain the following:

- Automatic wet pipe sprinklers
- Fire detection in the heating, ventilation, and air conditioning instrumentation (Support Building, only)
- Manual pull stations
- Portable fire extinguishers
- Automatic detectors

The Safety and Emergency Services Building contains the following:

- Automatic wet pipe sprinklers
- Manual pull stations
- Portable fire extinguishers
- Automatic detectors

The Core Storage Building contains the following:

- Automatic wet pipe sprinklers
- Portable fire extinguishers

(3) The Exhaust Filter Building, Underground Facilities, Warehouse/Shops Building, Water Pumphouse, and Salt Handling Hoist house also have portable fire extinguishers, manual pull stations, and automatic detectors.

**Table D-8
Hazardous Release Reporting, Federal**

Statute	Chemical Releases Covered	To Whom Report Will Be Made	What Will Be Reported	
			Immediately (Oral)	Subsequently (Written)
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)/Superfund Amendments and Reauthorization Act (SARA) (40 CFR Part 302)	"Reportable quantities" of CERCLA/SARA "hazardous substances."	National Response Center: (800) 424-8802, State Emergency Response Commission (SERC); and the State of New Mexico Homeland Security and Emergency Management via the District 3, DPS Dispatch Center (575) 622-7200 Eddy County Emergency Manager via the Eddy County Regional Dispatch Authority (575) 616-7155 Lea County Emergency Manager via the Lea County Emergency Communications Authority (575) 397-9265	1) Chemical identification; 2) what hazardous substance; 3) quantity released; 4) time, location and duration of release; 5) media of release; 6) health risks and medical advice; 7) proper precautions (e.g., evacuation); and 8) name and phone number of reporter and facility.	As soon as practicable, update of oral notice and response action taken. Send report to: New Mexico State Emergency Response Commission, Department of Homeland Security and Emergency Management, P.O. Box 2711, Santa Fe, New Mexico, 87502, and Eddy County Emergency Manager, 324 S. Canyon Street, Suite B, Carlsbad, New Mexico 88220 and Lea County Emergency Manager, 1923 Dal Paso, Suite A, Hobbs New Mexico, 88240. National Response Center will contact the U.S. Environmental Protection Agency (EPA). EPA may request a written report.
Emergency Planning and Community Right to Know Act (SARA Title III) (40 CFR Parts 302 and 355)	SARA Title III "extremely hazardous substances."	National Response Center: (800) 424-8802, State Emergency Response Commission; and the State of New Mexico Homeland Security and Emergency Management via the District 3, DPS Dispatch Center (575) 622-7200 Eddy County Emergency Manager via the Eddy County Regional Dispatch Authority (575) 616-7155 Lea County Emergency Manager via the Lea County Emergency Communications Authority (575) 397-9265	1) Chemical identification; 2) what extremely hazardous substance; 3) quantity released; 4) time, location and duration of release; 5) media of release; 6) health risks and medical advice; 7) proper precautions (e.g. evacuation); and 8) name and phone number of reporter and facility.	As soon as practicable, update of oral notice and response action taken. Send report to: New Mexico State Emergency Response Commission, Department of Homeland Security and Emergency Management, P.O. Box 2711, Santa Fe, New Mexico, 87502, and Eddy County Emergency Manager, 324 S. Canyon Street, Suite B, Carlsbad, New Mexico 88220 and Lea County Emergency Manager, 1923 Dal Paso, Suite A, Hobbs New Mexico, 88240. National Response Center will contact the U.S. Environmental Protection Agency (EPA) for an address if a written report is requested by EPA.

Statute	Chemical Releases Covered	To Whom Report Will Be Made	What Will Be Reported	
			Immediately (Oral)	Subsequently (Written)
Resource Conservation and Recovery Act (RCRA), 40 CFR §§264.56(a) and 265.56(a)	Any imminent or actual emergency situation.	State or local agencies with designated response roles, if their help is needed: State of New Mexico Homeland Security and Emergency Management via the District 3, DPS Dispatch Center (575) 622-7200 Eddy County Regional Dispatch Authority (575) 616-7155 City of Carlsbad Emergency Dispatch Center (575) 885-2111 Lea County Emergency Communications Authority (575) 397-9265	What assistance is required.	Not Applicable (NA)
RCRA, 40 CFR §§264.56(d), 264.56(i), 265.56(d), and 265.56(i)	RCRA "hazardous waste" release, fire, or explosion, which could threaten human health or environment outside the facility.	National Response Center: (800) 424-8802. State Emergency Response Commission and the State of New Mexico Homeland Security and Emergency Management via the District 3, DPS Dispatch Center (575) 622-7200	(1) Name and telephone number of reporter; (2) name and telephone number of facility; (3) time and type of incident; (4) name and quantity of materials involved; (5) extent of injuries, if any; and (6) possible health or environmental hazards outside the facility.	Prior to resumption of operations, notify that: (1) no waste that may be incompatible with released material is treated, stored, or disposed of until cleanup is complete, and (2) all emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use. Send to Secretary, New Mexico Environment Department, P.O. Box 26110, Santa Fe, New Mexico, 87502.

Statute	Chemical Releases Covered	To Whom Report Will Be Made	What Will Be Reported	
			Immediately (Oral)	Subsequently (Written)
RCRA, 40 CFR §§264.56(i), 264.56(j), 265.56(i), and 265.56(j)	Any incident which triggers implementation of Contingency Plan.	New Mexico Environment Department, Emergency Response Office, 24 hour telephone: (505) 827-9329 (emergencies); for non-emergencies contact (866) 428-6535 (24 hour voice mail) or Monday to Friday, 8 am to 5 pm: (505) 476-6000.	NA	Within 15 days: 1) name, address and telephone number of owner/operator; 2) name, address and telephone number of facility; 3) date, time and type of incident (e.g. fire, explosion); 4) name and quantity of materials involved; 5) extent of injuries, if any; 6) possible hazards to human health or the environment; 7) estimated quantity of material that resulted from the incident. Prior to resumption of operations, notify that: 1) no waste that may be incompatible with released material is treated, stored, or disposed of until cleanup is complete, and 2) all emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use. Send to Secretary, New Mexico Environment Department, P.O. Box 26110, Santa Fe, New Mexico, 87502.

**Table D-9
Hazardous Release Reporting, State of New Mexico**

Regulations	Chemical Releases Covered	To Whom Report Will Be Made	What Will Be Reported	
			Immediately (Oral)	Subsequently (Written)
20.4.1.500 and 600 NMAC	RCRA "hazardous waste" releases, fire, or explosion, which could threaten human health or environment outside the facility.	National Response Center: (800) 424-8802, State Emergency Response Commission; and the State of New Mexico Homeland Security and Emergency Management via the District 3, DPS Dispatch Center (575) 622-7200	1) Name and telephone number of reporter; 2) name and telephone number of facility; 3) time and type of incident; 4) name and quantity of material involved; 5) extent of injuries, if any; and 6) possible health or environmental hazards outside the facility.	Prior to resumption of operations, notify that: 1) no waste that may be incompatible with released material is treated, stored, or disposed of until cleanup is complete, and 2) all emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use. Send to Secretary, New Mexico Environment Department, P.O. Box 26110, Santa Fe, New Mexico, 87502.
20.4.1.500 and 600 NMAC	Any incident which triggers implementation of Contingency Plan.	New Mexico Environment Department, Emergency Response Office, 24 hour telephone: (505) 827-9329 (emergencies); for non-emergencies contact (866) 428-6535 (24 hour voice mail) or Monday to Friday, 8 am to 5 pm: (505) 476-6000.	1) Name and telephone number of reporter; 2) name and address of facility; 3) name and quantity of materials involved, to extent known; 4) extent of injuries, if any; and 5) possible hazards to human health or the environment, outside the facility.	Within 15 days: 1) name, address and telephone number of owner/operator; 2) name, address and telephone number of facility; 3) date, time and type of incident (e.g., fire, explosion); 4) name and quantity of materials involved; 5) extent of injuries, if any; 6) possible hazards to human health or the environment; and 7) estimated quantity of material that resulted from the incident. Prior to resumption of operations, notify that: 1) no waste that may be incompatible with released material is treated, stored or disposed of until cleanup is complete, and 2) all emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use. Send to Secretary, New Mexico Environment Department, P.O. Box 26110, Santa Fe, New Mexico, 87502.

Regulations	Chemical Releases Covered	To Whom Report Will Be Made	What Will Be Reported	
			Immediately (Oral)	Subsequently (Written)
New Mexico Emergency Management Act, Section 74-4B-5	Any accident (spill) involving hazardous materials (including hazardous substances, radioactive substances, or a combination thereof) which may endanger human health or the environment.	New Mexico Environment Department, Monday to Friday 8 am to 5 pm: (505) 476-6000, after business hours call: (505) 827-9329, State Emergency Response Commission; and the State of New Mexico Homeland Security and Emergency Management via the District 3, DPS Dispatch Center (575) 622-7200 Eddy County Emergency Manager via the Eddy County Regional Dispatch Authority (575) 616-7155 Lea County Emergency Manager: (575) 605-6561, and New Mexico Department of Public Safety (505) 554-7565.	1) Name, address and telephone number of owner or operator; 2) name, address and telephone number of facility; 3) date, time and type of incident; 4) name and quantity of material(s) involved; 5) extent of any injuries; 6) assessment of actual or potential threat to environment or human health; and 7) estimated quantity and disposition of recovered material.	Written submission within one week of time permittees become aware of discharge. Same as oral and description of noncompliance and its cause, the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence. Send reports to New Mexico Environment Department, Chief, Ground Water Quality Bureau, P.O. Box 26110, Santa Fe, New Mexico, 87502, New Mexico State Emergency Response Commission, Homeland Security and Emergency Management, P.O. Box 27111, Santa Fe, New Mexico, 87502, and Eddy County Emergency Manager, 324 S. Canyon Street, Suite B, Carlsbad, New Mexico 88220 and Lea County Emergency Manager, 1923 Dal Paso, Suite A, Hobbs New Mexico, 88240.
New Mexico Water Quality Control Commission, Part 1, Section 203	Any discharge from any facility of oil or any other water contaminant in such quantities as may, with reasonable probability, injure or be detrimental to human health, animal or plant life, or property.	Chief, Ground Water Quality Bureau, New Mexico Environment Department, or his counterpart in any constituent agency delegated responsibility for enforcement of the rules as to any facility subject to such delegation (505) 827-2919.	Within 24 hours: 1) the name, address, and telephone number of the person or persons in charge of the facility; 2) the name, address, and telephone number of the owner/operator of the facility; 3) the date, time, location, and duration of the discharge; 4) the source and cause of the discharge; 5) a description of the discharge, including its chemical composition; and 6) the estimated volume of discharge, and immediate damage from the discharge.	Submit within seven days: verification of the prior oral notification, also provide any appropriate additions or corrections to the information contained in the prior oral notification. Within 15 days: submit a written report describing any corrective actions taken and/or to be taken relative to the discharge. Send reports to Chief, Ground Water Quality Bureau, New Mexico Environment Department, P.O. Box 26110, Santa Fe, New Mexico, 87502.

Regulations	Chemical Releases Covered	To Whom Report Will Be Made	What Will Be Reported	
			Immediately (Oral)	Subsequently (Written)
New Mexico Underground Storage Tank Regulations-2	Any known or suspected release from an Underground Storage Tank (UST) system, any spill or any other emergency situation.	New Mexico Environment Department Petroleum Storage Tank Bureau (505) 476-4397.	Within 24 hours: 1) the name, address, and telephone number of the agent in charge of the site at which the UST system is located, as well as the owner/operator of the system; 2) the name and address of the site and the location of the UST system on that site; 3) the date, time, location, and duration of the spill, release, or suspected release; 4) the source and cause of the spill, release, or suspected release; 5) a description of the spill, release, or suspected release, including its chemical composition; 6) the estimated volume of the spill, release, or suspected release; and 7) action taken to mitigate immediate damage from the spill, release, or suspected release.	Mail or deliver within seven days of the incident, a written notice describing the spill, release, or suspected release and any investigation or follow-up action taken or to be taken. Send reports to Petroleum Storage Tank Bureau, New Mexico Environment Department, 2044 Galisteo Street, Santa Fe, New Mexico, 87504.

FIGURES

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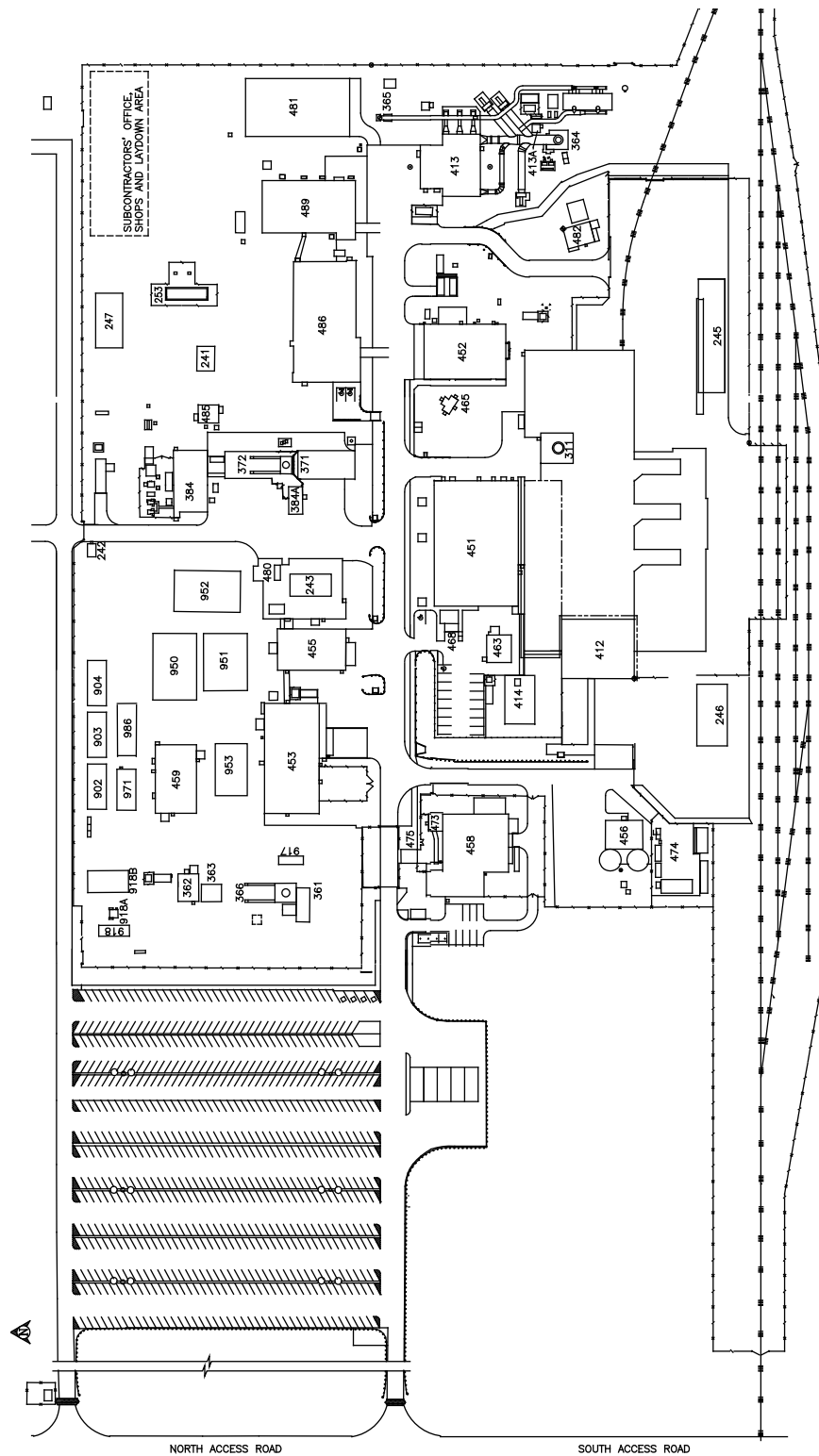


Figure D-1
WIPP Surface Structures

BLDG./ FAC. #	DESCRIPTION	BLDG./ FAC. #	DESCRIPTION	BLDG./ FAC. #	DESCRIPTION
#241	EQUIPMENT SHED	#384	SALT HANDLING SHAFT HOISTHOUSE	#480	VEHICLE FUEL STATION
#242	GUARDSHACK	#384A	MINING OPERATIONS	#481	WAREHOUSE ANNEX
#243	SALT HAULING TRUCKS SHELTER	#411	WASTE HANDLING BUILDING	#482	EXHAUST SHAFT HOIST EQUIP. WAREHOUSE
#245	TRUPAC TRAILER SHELTER	#412	TRUPACT MAINTENANCE BUILDING	#485	SULLAIR COMPRESSOR BUILDING
#246	MgO STORAGE SHELTER	#413	EXHAUST SHAFT FILTER BUILDING	#486	ENGINEERING BUILDING
#247	NORTH MAINTENANCE SHOP	#413A	MONITORING STATION A	#489	TRAINING BUILDING
#253	13.8 KV SWITCHGEAR 25P-SWG15/1	#413B	MONITORING STATION B	#H-16	SANDIA TEST WELL
#254.1	AREA SUBSTATION NO.1 25P-SW15. 1	#414	WATER CHILLER FACILITY & BLDG	#902	TRAILER
#254.2	AREA SUBSTATION NO.2 25P-SW15.2	#451	SUPPORT BUILDING	#903	TRAILER
#254.3	AREA SUBSTATION NO.3 25P-SW15.3	#452	SAFETY & EMERGENCY SERVICES FACILITY	#904	TRAILER
#254.4	AREA SUBSTATION NO.4 25P-SW15.4	#453	WAREHOUSE/SHOPS BUILDING	#917	AIS MONITORING
#254.5	AREA SUBSTATION NO.5 25P-SW15.5	#455	AUXILLIARY WAREHOUSE BUILDING	#918	VOC TRAILER
#254.6	AREA SUBSTATION NO.6 25P-SW15.6	#456	WATER PUMPHOUSE	#918A	VOC AIR MONITORING STATION
#254.7	AREA SUBSTATION NO.7 25P-SW15.7	#457	WATER TANK 25-D-001A	#918B	VOC LAB TRAILER
#254.8	AREA SUBSTATION NO.8 25P-SW15.8	#457	WATER TANK 25-D-001B	#950	WORK CONTROL TRAILER
#254.9	480V SWITCHGEAR (25P-SWG04/9)	#458	GUARD AND SECURITY BUILDING	#951	PROCUREMENT/PURCHASING
#255.1	BACK-UP DIESEL GENERATOR #1 25-PE 503	#459	CORE STORAGE BUILDING	#952	TRAILER
#255.2	BACK-UP DIESEL GENERATOR #2 25-PE 504	#463	COMPRESSOR BUILDING	#953	OFFICE COMPLEX 953
#256.4	SWITCHBOARD #4 (25P-SBD04/4)	#465	AUXILIARY AIR INTAKE	#971	HUMAN RESOURCES TRAILER
#311	WASTE SHAFT	#468	TELEPHONE HUT	#986	PUBLICATIONS & PROCEDURES TRAILER
#351	EXHAUST SHAFT	#473	ARMORY BUILDING	SWR NO.6	SWITCHRACK NO. 6
#361	AIR INTAKE SHAFT	#474	HAZARDOUS WASTE STORAGE FACILITY	SWR NO.7,7A,7B	SWITCHRACK NO. 7, 7A, 7B
#362	AIR INTAKE SHAFT/HOIST HOUSE	#474A	HAZARDOUS WASTE STORAGE BUILDING	SWR NO.7C	SWITCHRACK NO. 7C
#363	AIR INTAKE SHAFT/WINCH HOUSE	#474B	HAZARDOUS WASTE STORAGE BUILDING	SWR NO.10	SWITCH RACK NO. 10
#364	EFFLUENT MONITORING INSTRUMENT SHED A	#474C	OIL & GREASE STORAGE BUILDING	SWR NO.11	SWITCH RACK NO. 11
#365	EFFLUENT MONITORING INSTRUMENT SHED B	#474D	GAS BODLE STORAGE BUILDING	SWR NO.12	SWITCH RACK NO. 12
#366	AIR INTAKE SHAFT HEADFRAME	#474E	HAZARD MATERIAL STORAGE BUILDING	SWR NO.16	SWITCH RACK NO. 16
#371	SALT HANDLING SHAFT	#474F	WASTE OIL RETAINER	COMPACTOR	25-H-010
#372	SALT HANDLING SHAFT HEADFRAME	#475	GATEHOUSE	BALER	25-H-011

Figure D-1a
Legend to Figure D-1

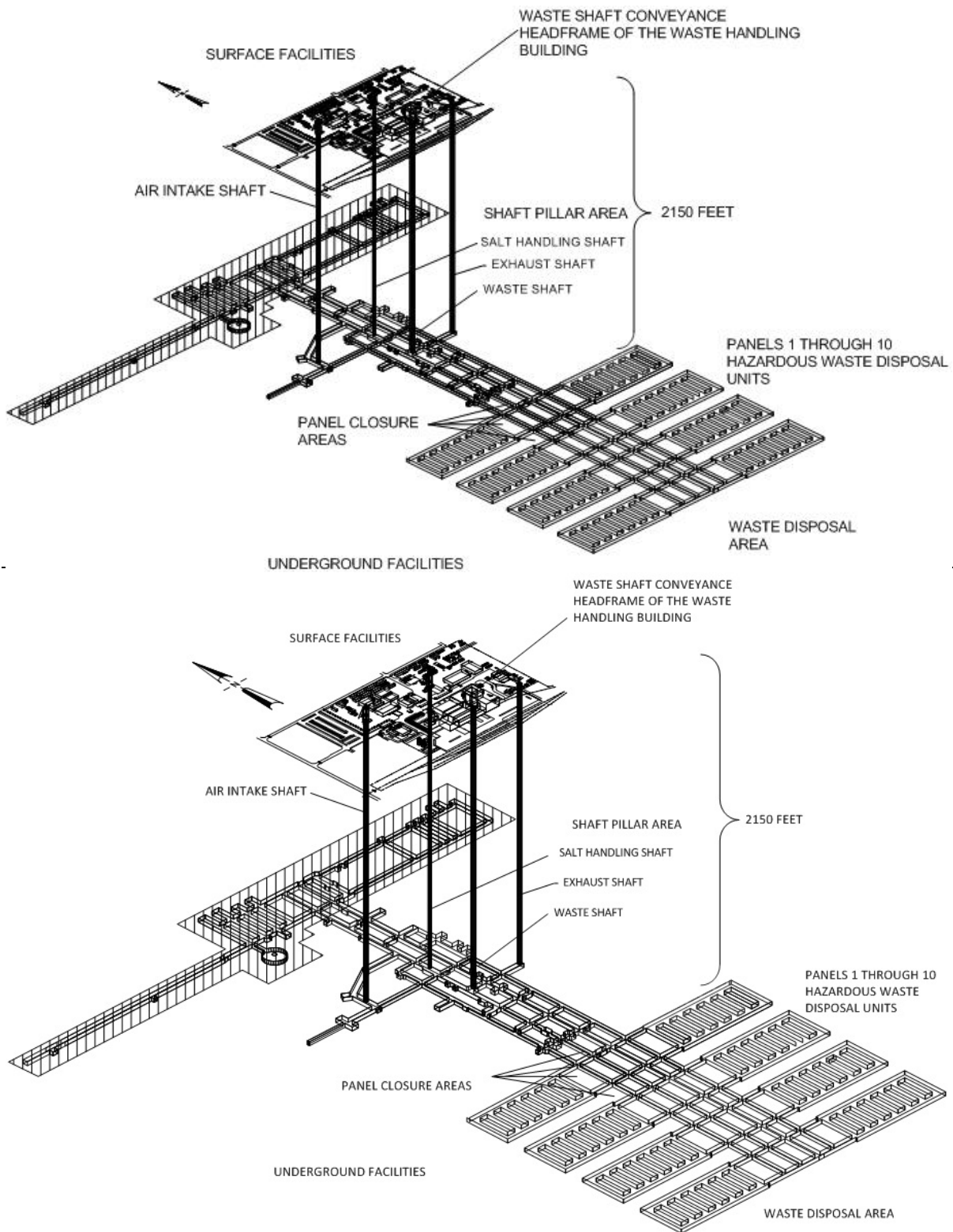


Figure D-2
Spatial View of the WIPP Facility

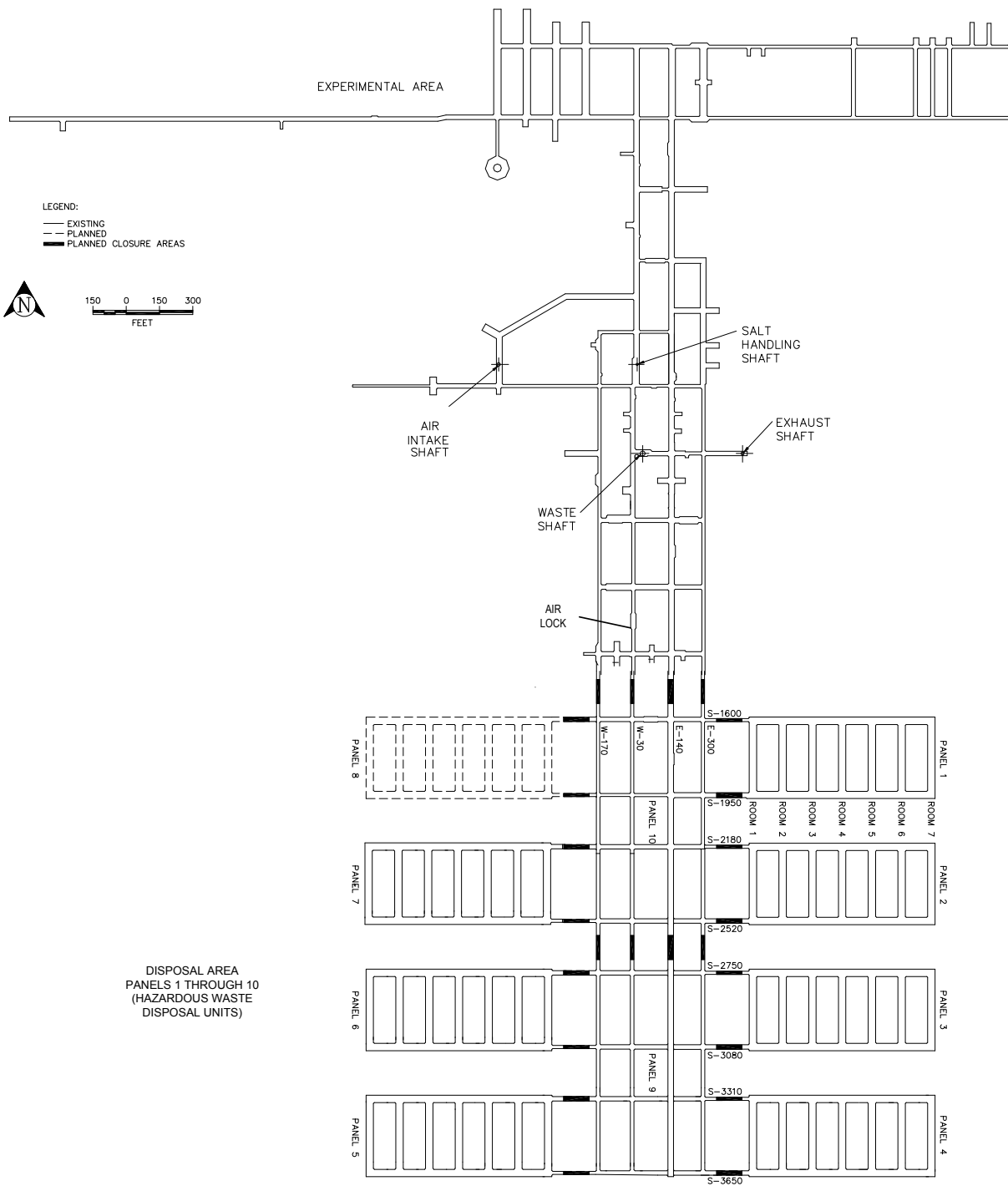


Figure D-3
WIPP Underground Facilities

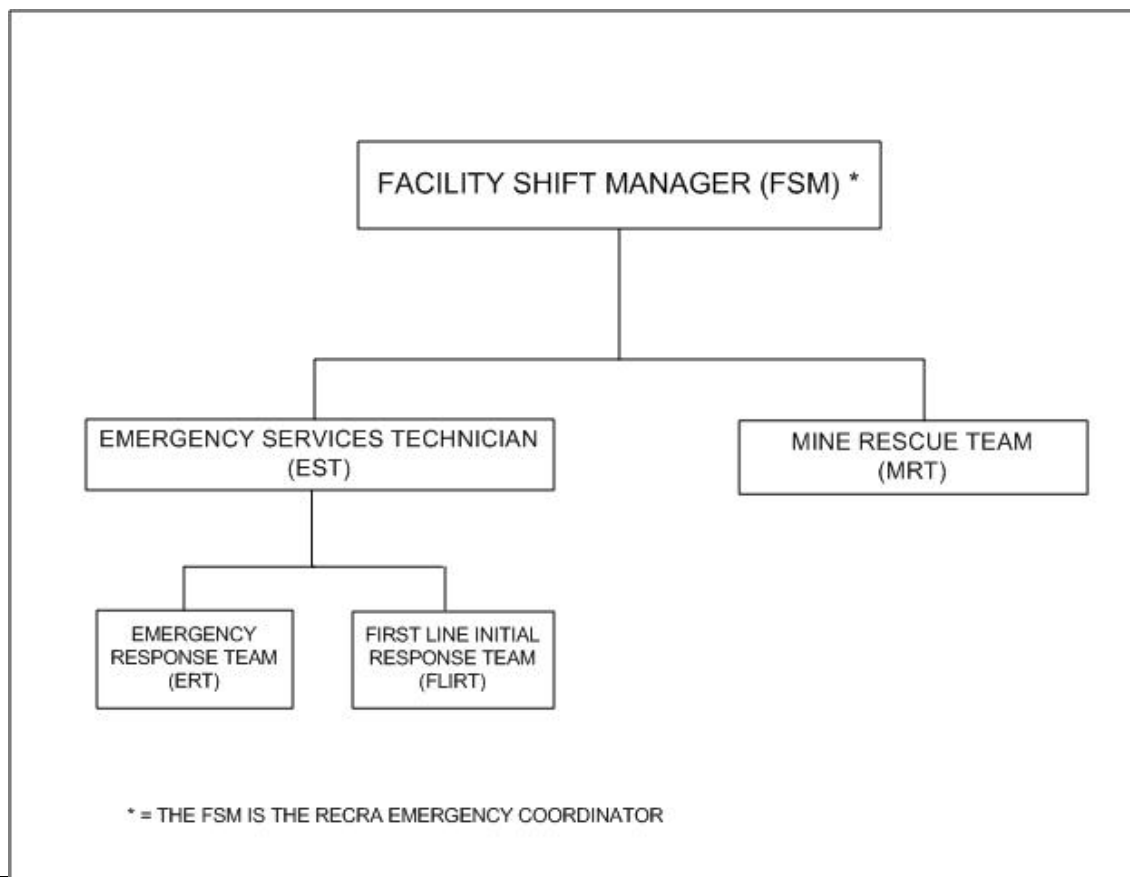


Figure D-4
Direction and Control Under Emergency Conditions in Which the Plan Has Been Implemented

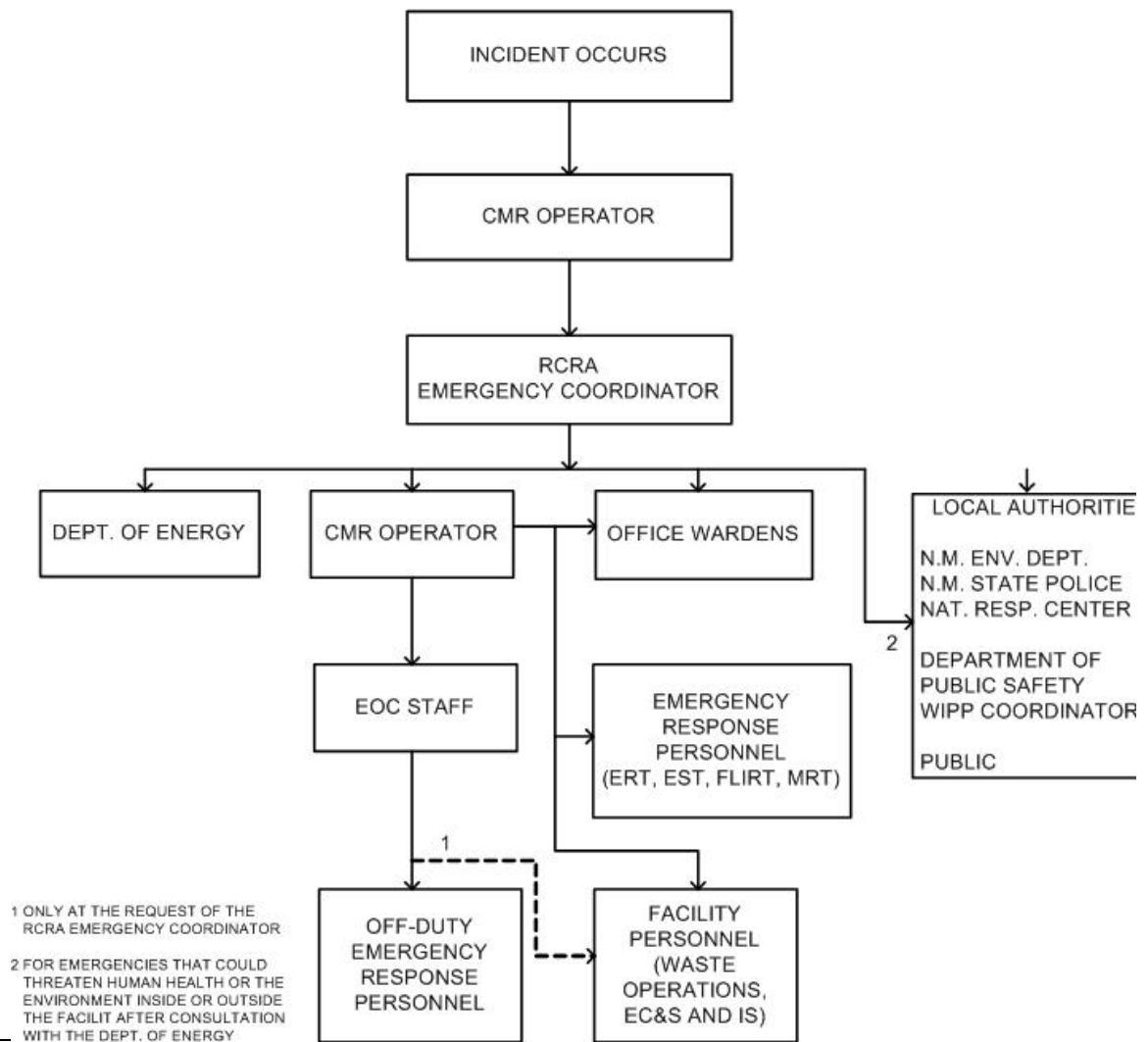


Figure D-4a
WIPP Facility Emergency Notifications



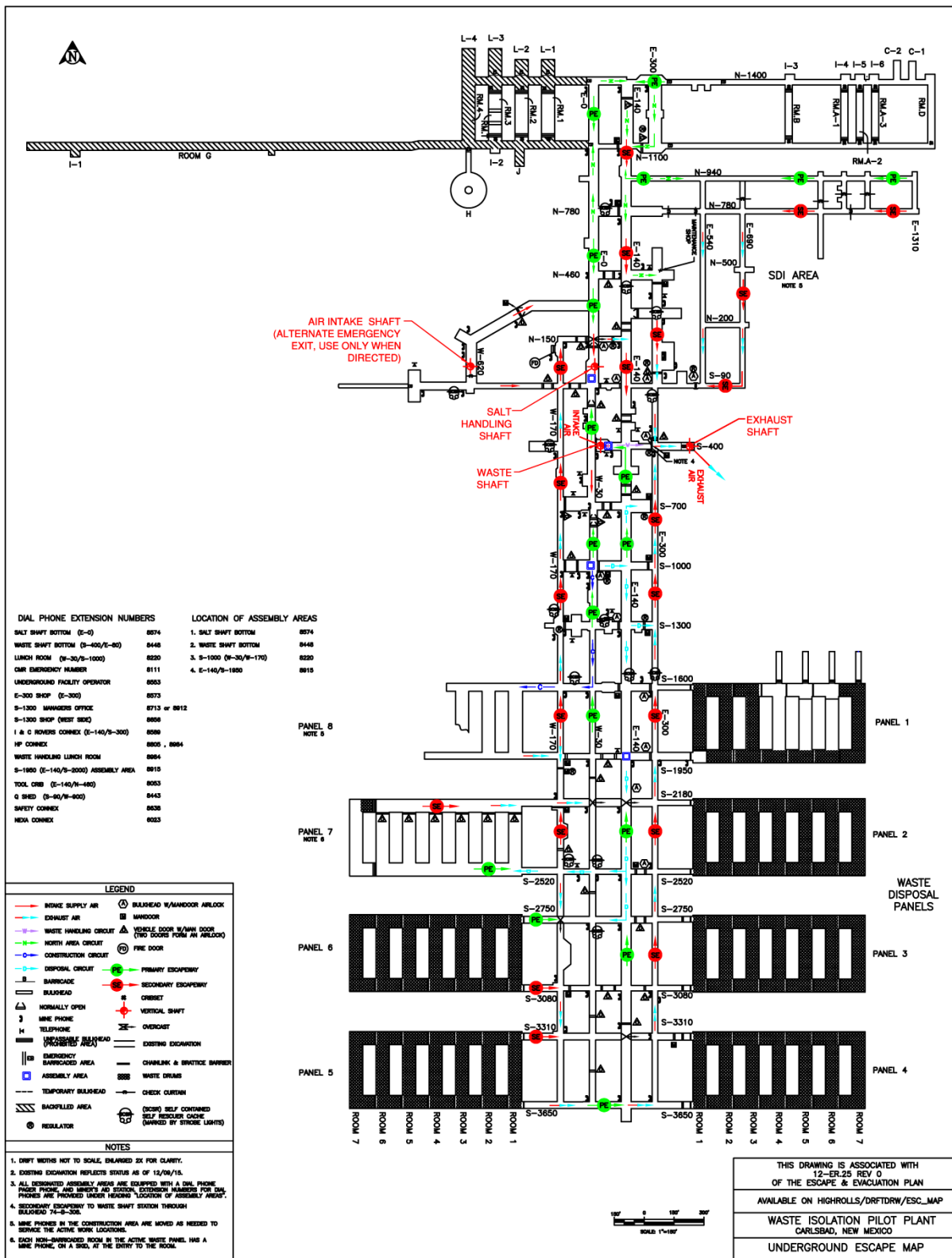


Figure D-4
Underground Escapeways/Evacuation Routes





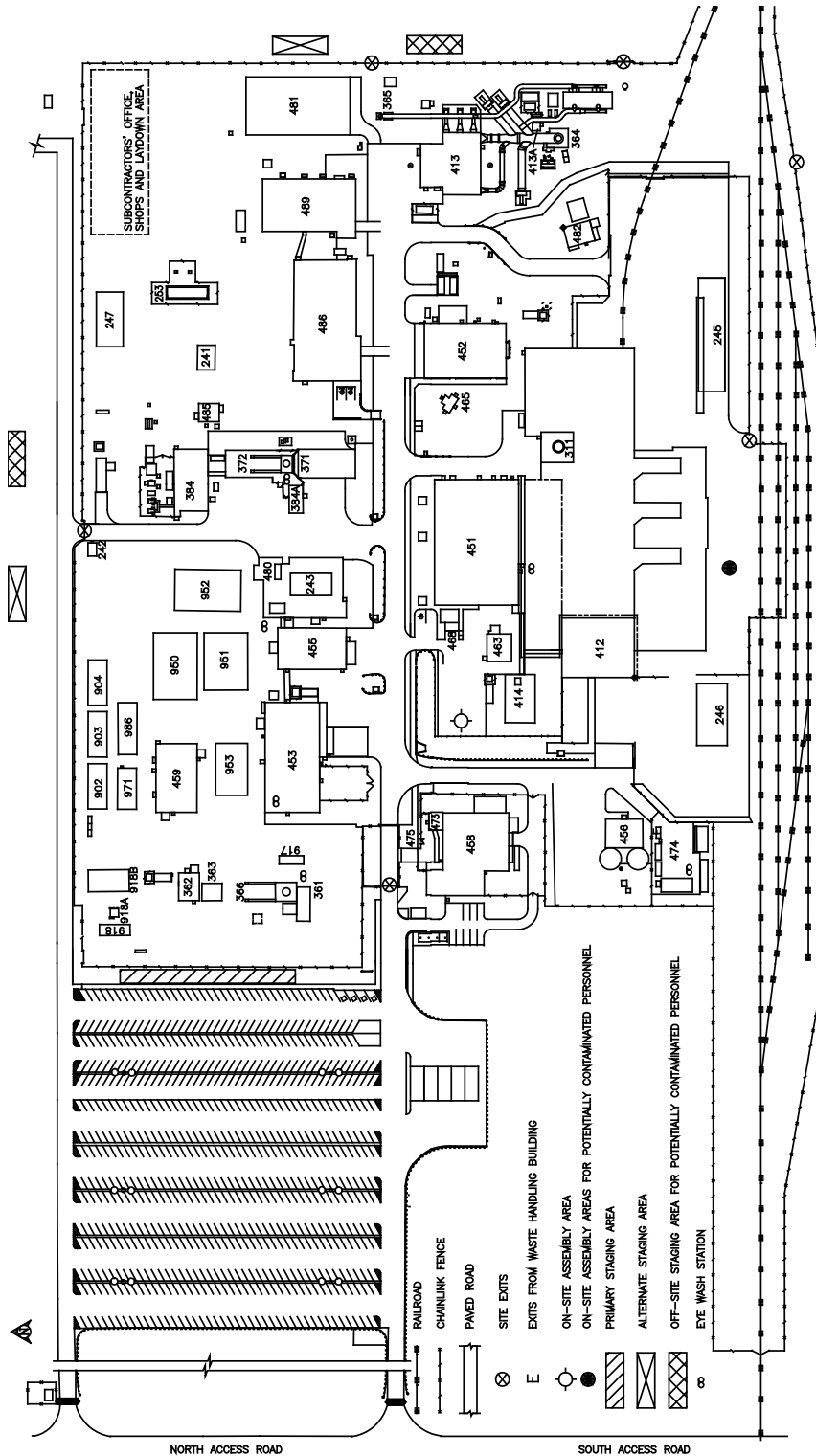


Figure D-68
WIPP On-Site Assembly Areas and WIPP Off-Site Staging Areas

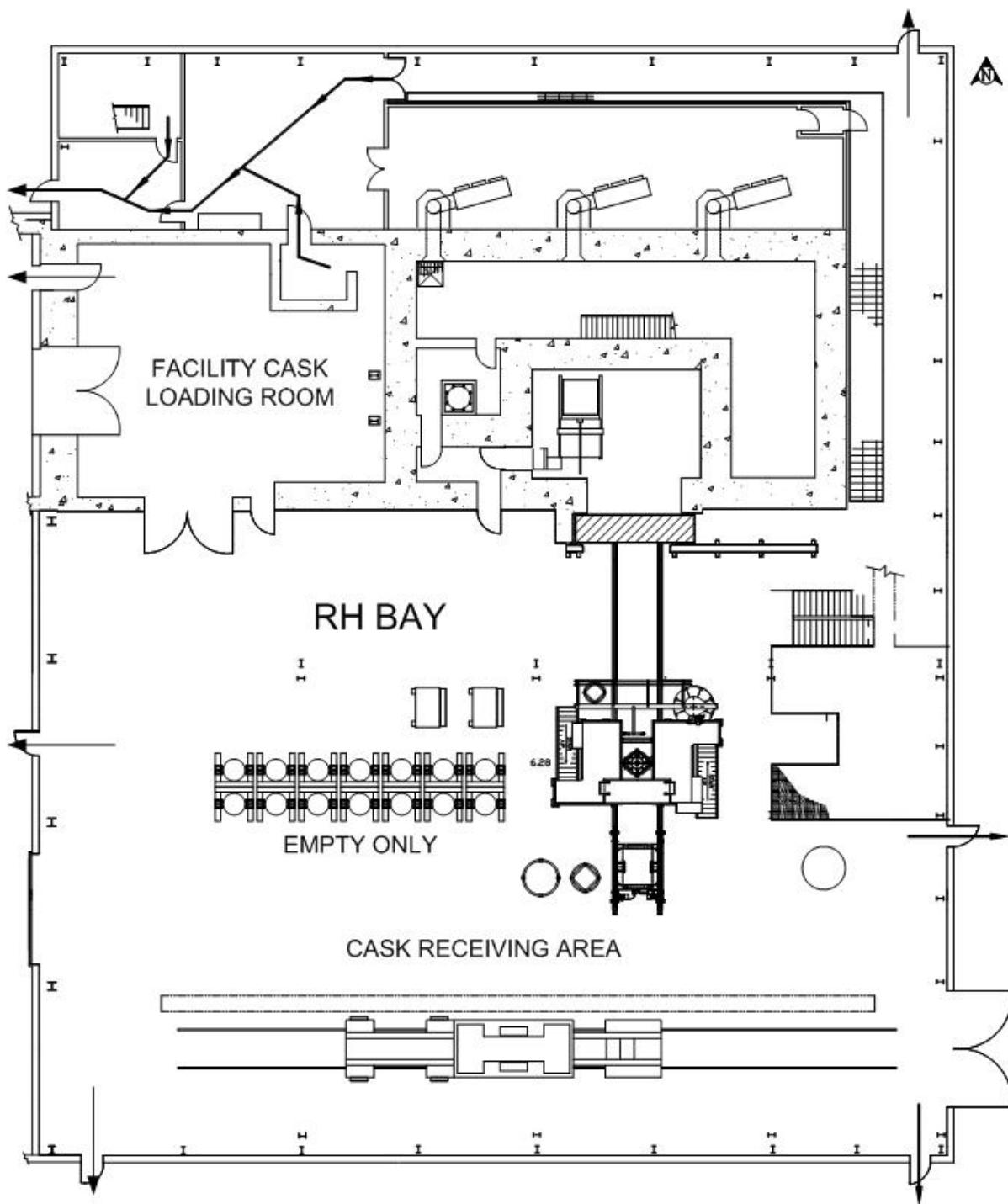


Figure D-68a
RH Bay Evacuation Routes

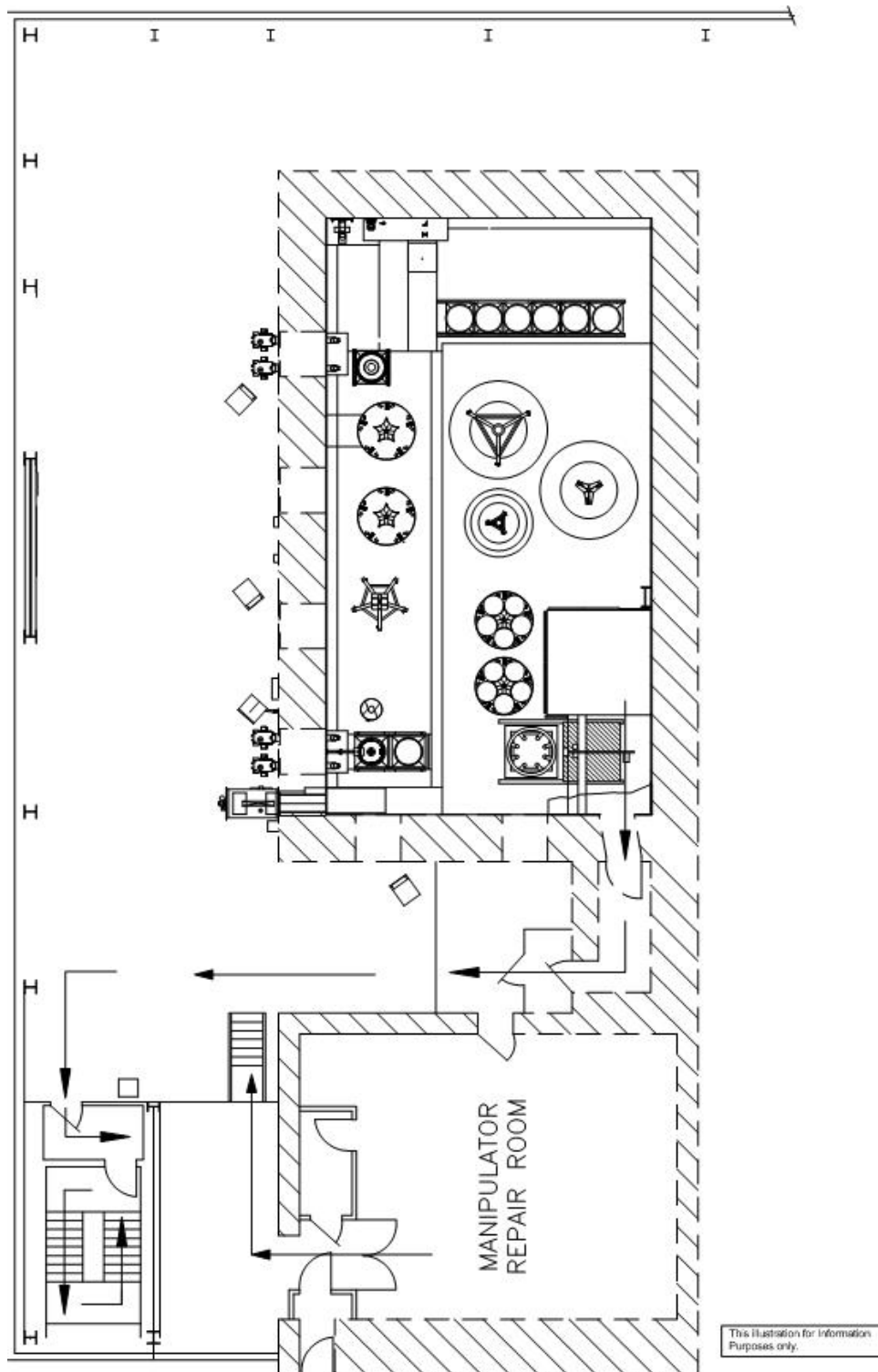


Figure D-86b
RH Bay Hot Cell Evacuation Route

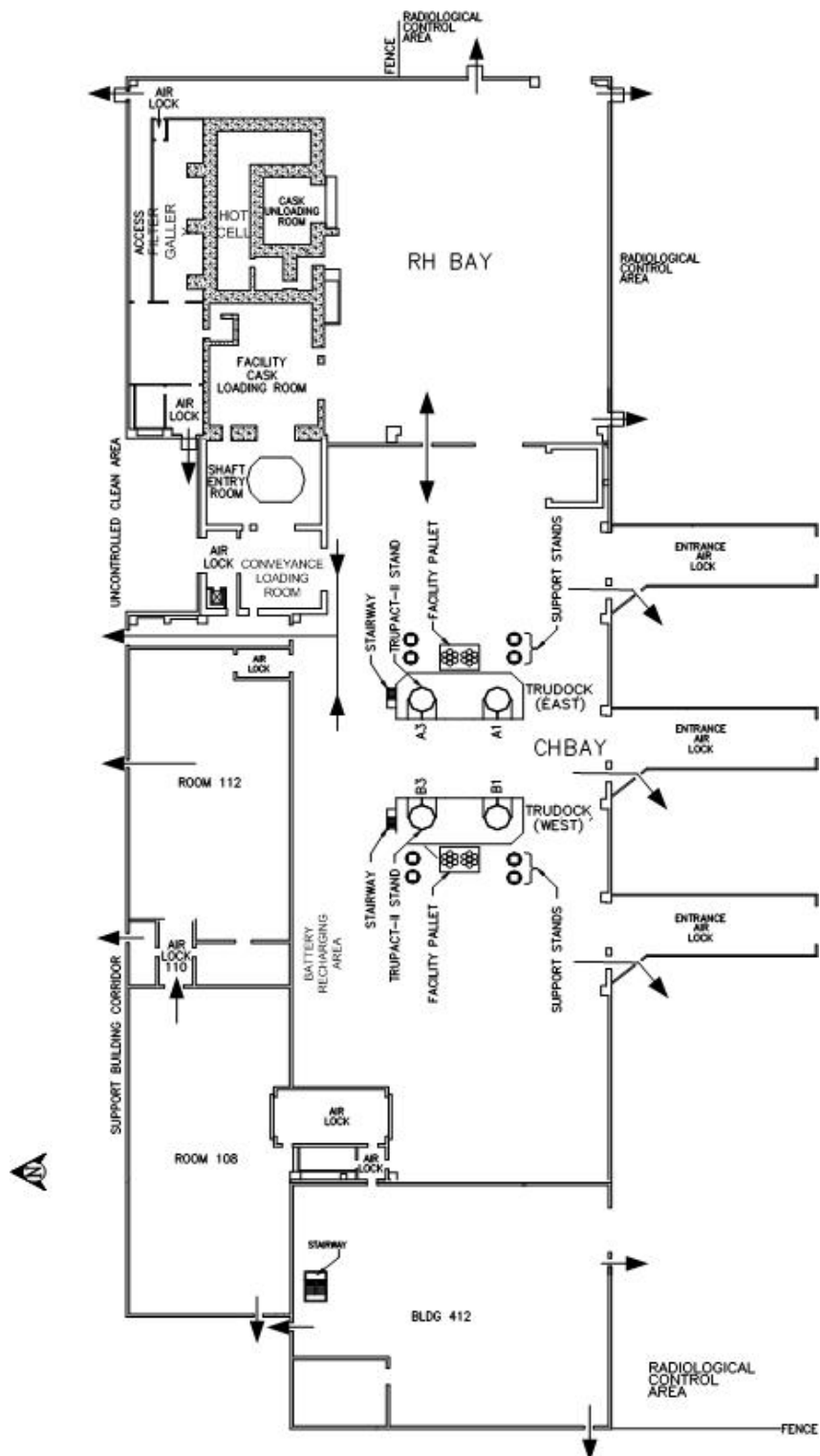


Figure D-86c
Evacuation Routes in the Waste Handling Building

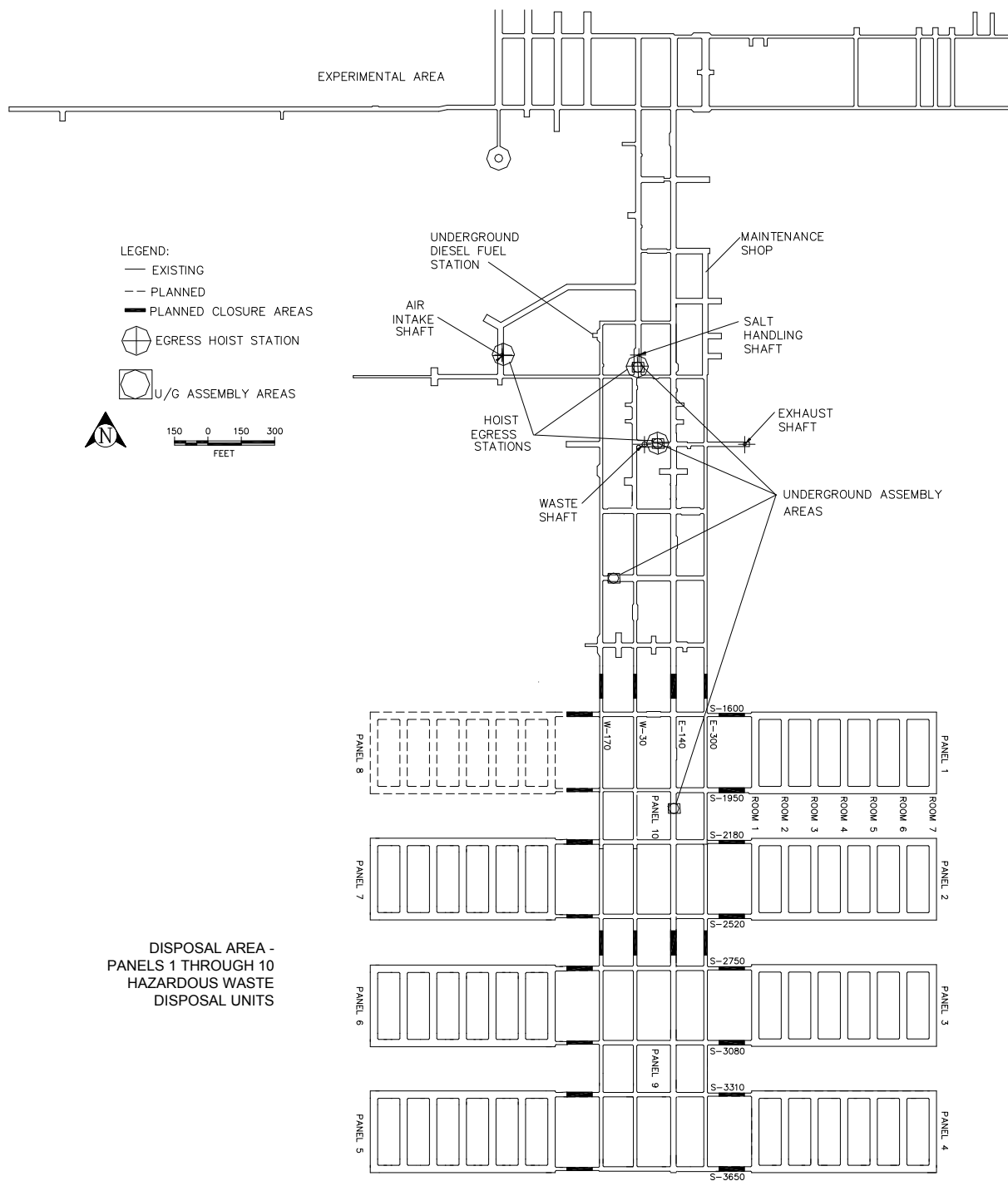


Figure D-79
Designated Underground Assembly Areas

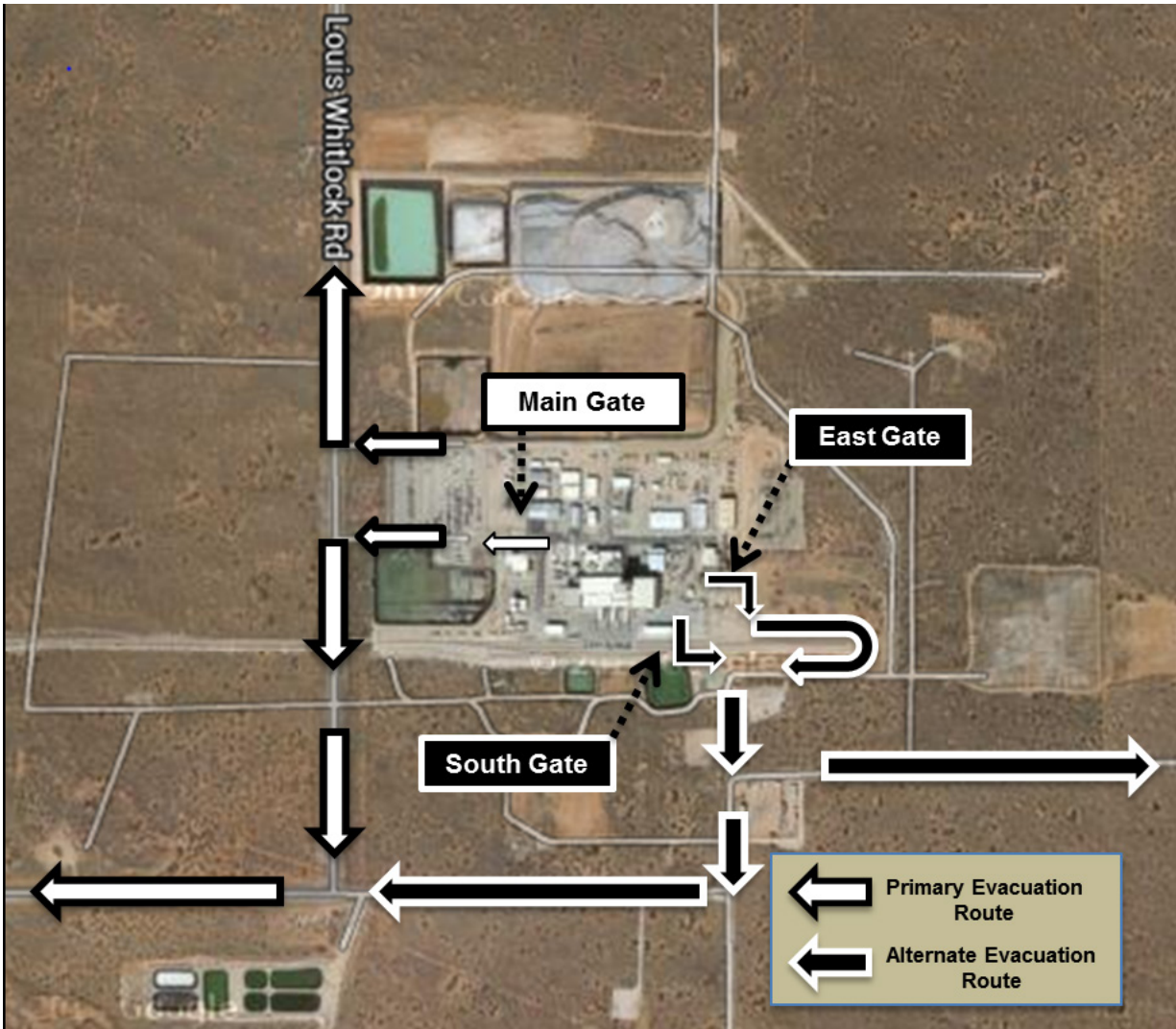


Figure D-8
WIPP Site Evacuation Routes

Pre-Fire Survey

<ol style="list-style-type: none"> 1. Bldg. Name: <u>WASTE HANDLING BUILDING</u> 2. Address: <u>411 SITE</u> 3. Occ. Type: <u>MAINTENANCE AND OPERATIONS PERSONNEL</u> 4. Map #: <u>411-1</u> 5. Roof Const.: <u>METAL</u> 6. Floor Const.: <u>CONCRETE</u> 7. Date: <u>07/27/95</u> 8. Revision Date: <u>02/10/97</u> 9. Surrounding Bldgs.: <u>412, 451, 452, 463</u> 10. Fire Hydrants: <u>FH-#8 N. FH-#11 E. FH-#12 S. FH-#13 S. FH-#3</u> 	
--	--

LEGEND

- ELECTRICAL PANEL
- FLAMMABLE CABINET
- TD THERMAL DETECTOR
- NON-SPRINKLERED AREA
- LADDER WITH OVERHEAD WALKWAY
- FP FIRE CONTROL PANEL
- SD SMOKE DETECTOR
- SPRINKLER RISER WITH F.D. CONNECTION
- COMP. GAS CYL.
- FENCE

411

WASTE HANDLING BUILDING
1ST FLOOR

11. Comments: WATER SHUT-OFF AT PIV #8, PIV #17, PIV #19, PIV #39

Figure D-10
Waste Handling Building Pre-Fire Survey (First Floor)

Pre-Fire Survey Cont.

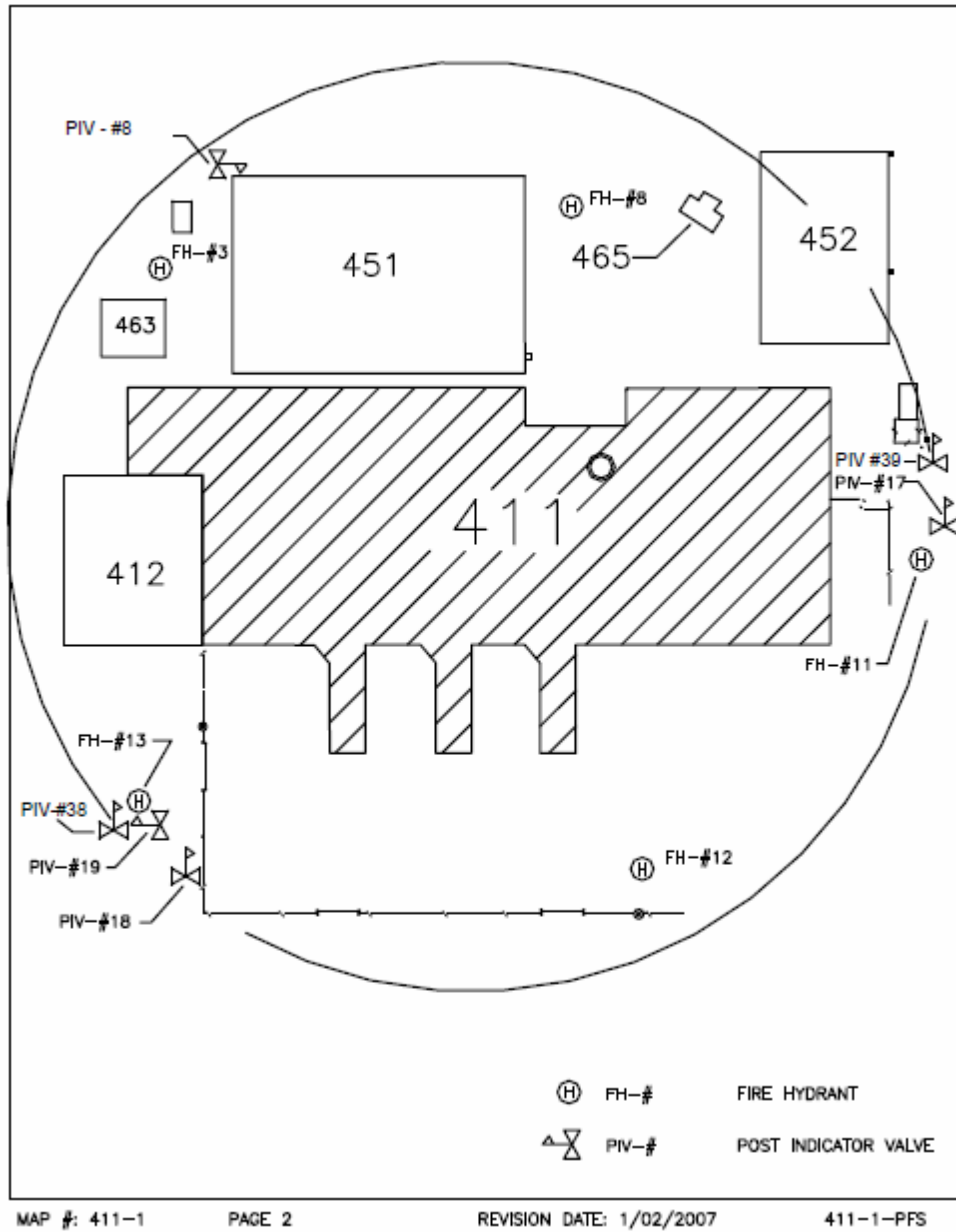


Figure D-10a
Waste Handling Building Pre-Fire Survey
(First Floor - Fire Hydrant/Post Indicator Location)

Pre-Fire Survey	
<ol style="list-style-type: none"> 1. Bldg. Name: <u>WASTE HANDLING BUILDING</u> 2. Address: <u>411 SITE</u> 3. Occ. Type: <u>MAINTENANCE AND OPERATIONS PERSONNEL</u> 4. Map #: <u>411-2</u> 5. Roof Const.: <u>METAL</u> 6. Floor Const.: <u>CONCRETE</u> 7. Date: <u>07/27/95</u> 8. Revision Date: <u>02/11/97</u> 9. Surrounding Bldgs.: <u>412, 451, 452, 463</u> 10. Fire Hydrants: <u>FH#8 N, FH#11 E, FH#12 S, FH#13 S, FH#3</u> 	
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; text-align: center;"> 411 WASTE HANDLING BUILDING (2ND FLOOR) </div> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">LEGEND</p> <div style="display: flex; justify-content: space-between; margin: 5px 0;"> <div style="width: 20px; height: 10px; background-color: black; border: 1px solid black;"></div> ELECTRICAL PANEL </div> <div style="display: flex; justify-content: space-between; margin: 5px 0;"> <div style="width: 20px; height: 10px; background-color: black; border: 1px solid black;"></div> FLAMMABLE CABINET </div> <div style="display: flex; justify-content: space-between; margin: 5px 0;"> <div style="width: 20px; height: 10px; border: 1px solid black; text-align: center; line-height: 10px;">TD</div> THERMAL DETECTOR </div> <div style="display: flex; justify-content: space-between; margin: 5px 0;"> <div style="width: 20px; height: 10px; border: 1px solid black; text-align: center; line-height: 10px;">◇</div> NONSPRINKLERED AREA </div> <div style="display: flex; justify-content: space-between; margin: 5px 0;"> <div style="width: 20px; height: 10px; border: 1px solid black; text-align: center; line-height: 10px;">L V V V V</div> LADDER & WALKWAY </div> <div style="display: flex; justify-content: space-between; margin: 5px 0;"> <div style="width: 20px; height: 10px; border: 1px solid black; text-align: center; line-height: 10px;">DSD</div> INDUCT SMOKE DETECTOR </div> </div> </div> <div style="width: 50%;"> </div> </div> <div style="margin-top: 20px;"> </div>	
<p>11. Comments: <u>WATER SHUT-OFF AT PIV #8, PIV #17, PIV #19, PIV #39</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	

Figure D-11
Waste Handling Building Pre-Fire Survey (Second Floor)

Pre-Fire Survey Cont.

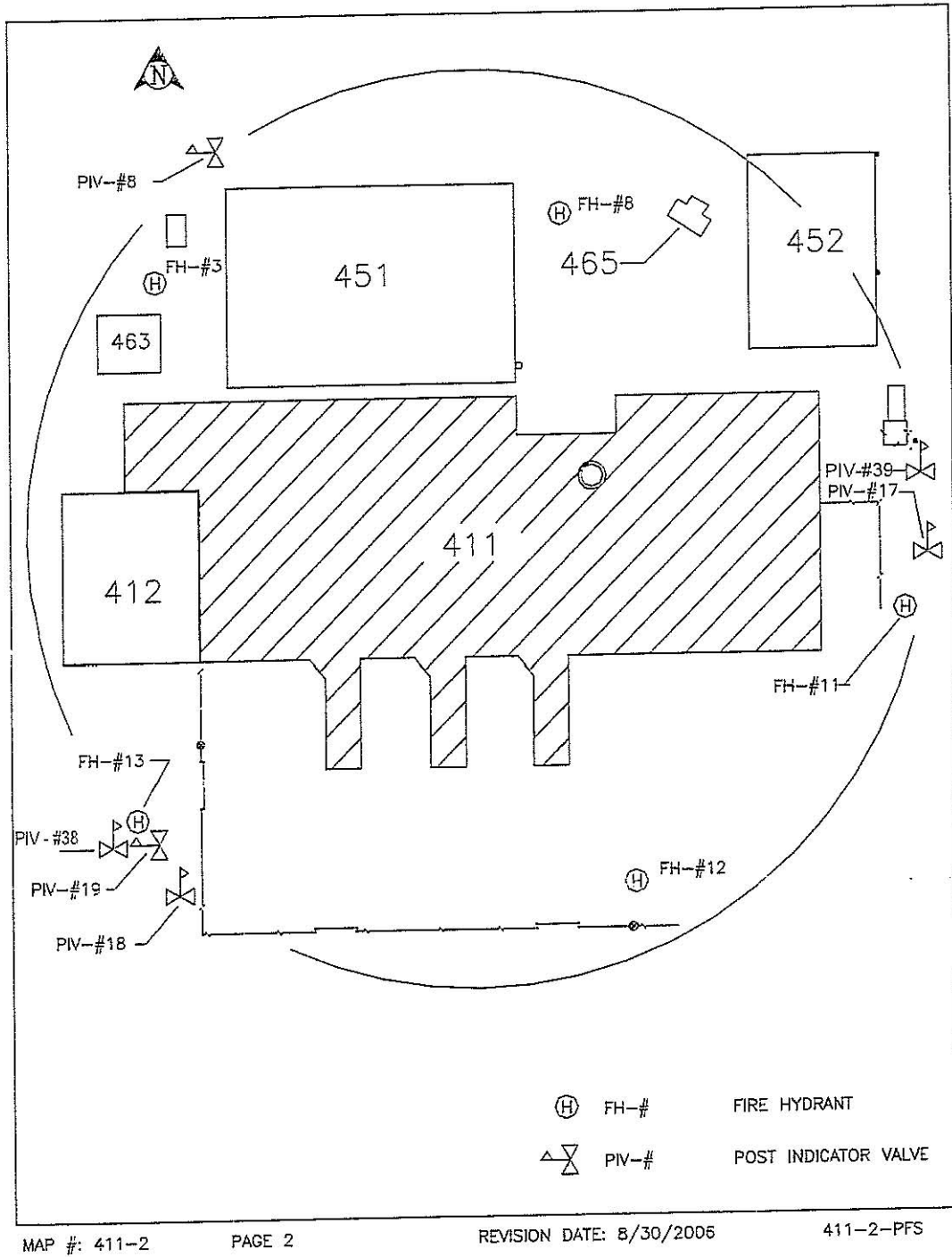


Figure D-11a
Waste Handling Building Pre-Fire Survey
(Second Floor—Fire Hydrant/Post Indicator Location)

WIPP HAZARDOUS MATERIAL INCIDENT REPORT				
Date: _____		Location: _____		
I. INITIAL INFORMATION DATE: _____ TIME: _____ EST: _____ REPORTED LOCATION: _____ REPORTED BY: _____ DEPT.: _____ INITIALLY REPORTED TO: _____ DEPT.: _____ RESPONSIBLE MANAGER: _____ DEPT.: _____				
II. WEATHER CONDITIONS WIND DIRECTION _____ WIND SPEED: _____ mph TEMP.: _____ F CONDITIONS (i.e., icy, snowing, raining, cloudy, sunny): _____				
III. TYPE OF INCIDENT (SPILL, LEAK, ETC.): _____ Fire involved: [] YES [] NO (If fire is involved attach a copy of the fire report)				
<u>MATERIALS INVOLVED</u>	<u>UN/NA NO.</u>	<u>QUANTITY</u>	<u>HAZARD CLASS</u>	<u>NFPA CLASS</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
IV. PERSONNEL INVOLVED IN CLEAN-UP ACTIVITIES				
<u>PERSONNEL/DEPT</u>	<u>DECON METHOD/MEDICAL TREATMENT</u>			
_____	_____			
_____	_____			
_____	_____			
_____	_____			
_____	_____			
_____	_____			
_____	_____			
_____	_____			
_____	_____			
_____	_____			
V. PERSONNEL CONTAMINATED NOT INVOLVED IN THE CLEANUP ACTIVITIES				
<u>PERSONNEL/DEPT.</u>	<u>MATERIAL CONTACTED</u>	<u>DECON/MEDICAL TREATMENT</u>		
_____	_____	_____		
_____	_____	_____		
_____	_____	_____		

Figure D-12
WIPP Hazardous Materials Incident Report, Page 1 of 3

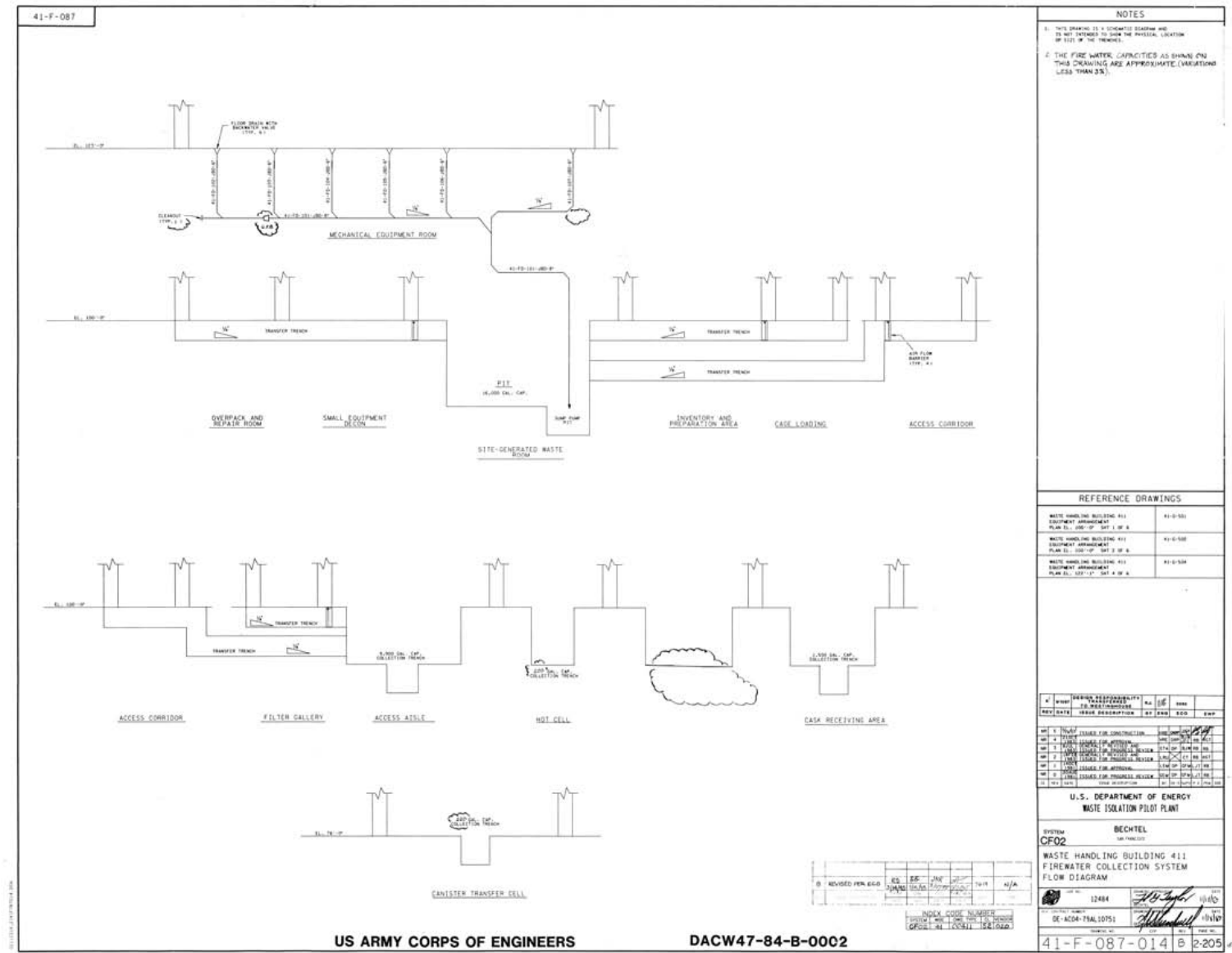
WIPP HAZARDOUS MATERIAL INCIDENT REPORT			
Date: _____		Location: _____	
IX. INITIAL NOTIFICATION BY CMRO			
<u>DEPARTMENT</u>	<u>PERSON CONTACTED</u>	<u>TIME</u>	<u>NOTIFIED BY</u>
Facility Ops (FSM)	_____	_____	_____
Emerg. Mgmt (EST)	_____	_____	_____
EC	_____	_____	_____
Industrial Safety	_____	_____	_____
Facility Ops. (FM/FMD)	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
CMRO: _____			
Print name	Signature	Date	
FSM: _____			
Print name	Signature	Date	
X. CONTINGENCY PLAN IMPLEMENTATION			
Contingency Plan implemented [] YES [] NO			
FSM: _____			
Print name	Signature	Date	
XI. REVIEWS			
Report submitted by: _____			
Print name	Signature	Date	
Emergency Management Manger: _____			
Print name	Signature	Date	
EC Manager: _____			
Print name	Signature	Date	
COMMENTS: _____			

Figure D-12 (Continued)
WIPP Hazardous Materials Incident Report, Page 3 of 3

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DRAWINGS

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ATTACHMENT E

INSPECTION SCHEDULE, PROCESS AND FORMS

E-1 Inspection Schedule

Equipment instrumental in preventing, detecting, or responding to environmental or human health hazards, such as monitoring equipment, safety and emergency equipment, security devices, and operating or structural equipment are inspected. The equipment will be inspected for malfunctions, deterioration, potential for operator errors, and discharges which could lead to a release of hazardous waste constituents to the environment or pose a threat to human health.

The WIPP facility has developed and will maintain a series of written procedures that include all the detailed inspection procedures and forms necessary to comply with 20.4.1.500 NMAC (incorporating 40 CFR §264.15(b)), during the Disposal Phase. Tables E-1 and E-1a list each item or system requiring inspection under these regulations, the inspection frequency, the organization responsible for the inspection, the applicable inspection procedure, and what to look for during the inspection. 20.4.1.500 NMAC (incorporating 40 CFR §§264.15(b), 264.174, and 264.602) list requirements that are applicable to the WIPP facility. Attachment D, Table D-2, Emergency Equipment Maintained at the Waste Isolation Pilot Plant, identifies the emergency equipment and corresponding locations to be inspected in accordance with Table E-1.

Operational procedures detailing the inspections required under 20.4.1.500 NMAC (incorporating 40 CFR §§264.15(a) and (b)), are maintained in electronic format on the WIPP computer network, in the Operating Record and, as appropriate, in controlled document locations at the WIPP facility. Frequency of inspections is discussed in detail in Section E-1a(2). Inspections are conducted often enough to identify problems in time to correct them before they pose a threat to human health or the environment and are based on regulatory requirements. The operational procedures assign responsibility for conducting the inspection, the frequency of each inspection, the types of problems to be watched for, what to do if items fail inspection, directions on record keeping, and inspector signature, date, and time. The operational procedures are maintained at the WIPP facility. Tables E-1 and E-1a summarize inspections, frequencies, responsible organizations, personnel making the inspection (by job title), and the types of anticipated problems as well as the references for the operational procedures. Inspection records are maintained at the WIPP site for three years. Beginning with the effective date of this Permit, records that are over the three year retention period are either maintained at the WIPP site or transferred to the WIPP Records Archive located in Carlsbad, NM until closure. The records maintained at the WIPP Records Archive are stored in facilities that are temperature and humidity controlled especially for the long term storage of records and readily retrievable and available for inspection.

Waste handling equipment and area inspections are typically controlled through established procedures and the results are recorded in logbooks or on data sheets. Operators are trained to consult the logbook to identify the status of any piece of waste handling equipment prior to its use. Once a piece of equipment is identified to be operable, a preoperational inspection is initiated in accordance with the appropriate inspection procedure in Tables E-1, E-1a, or in operational procedures. Inspection results as described below are entered in the applicable logbook.

Inspections include identifying malfunctions or deteriorating equipment and structures. Inspection results and data, including deficiencies, discrepancies, or needed repairs are

recorded. A negative inspection result does not necessarily lead to a repair. A deficiency, such as low fluid level, may be corrected by the inspector immediately. A discrepancy, such as an increasing trend of a data point, may necessitate additional inspection prior to the next scheduled frequency. The actions taken (corrected, additional inspection, or Action Request (AR) for repair submitted) are recorded on the inspection form, the WIPP automated Maintenance Management tracking program (**CHAMPS**) work order sheet, or the equipment logbook, whichever is applicable.

Items that are operational with restrictions are ~~tagged with those restrictions~~ operated in accordance with applicable compensatory measures. Items that are not operational are tagged and locked to prevent their use. Tagged and locked items are listed on the Tagout/Lockout Index. Once a scheduled for repair or replacement is accomplished in accordance with the work authorization procedures, the tag or lock is removed from the item in accordance with the equipment tagout/lockout procedures. In such cases, compensatory measures may be needed until the equipment is returned to service. These compensatory measures will provide an equivalent level of protection, be documented in WIPP facility files (e.g., equipment logbook), and include an appropriate inspection schedule, when applicable.

Normally, the individual inspecting the equipment/system is not qualified to make repairs and consequently, prepares an AR if repairs are needed. The AR is tracked by the CHAMPS system through the work control process. When parts are received and work instructions are completed, the work order can be scheduled on the Plan of the Day (POD). The POD is held The schedule is discussed daily to ensure facility configuration can support scheduled work items and to allocate and coordinate the resources necessary to complete the items.

Work orders are released for work by the responsible organization. When repairs are complete the responsible organization tests the equipment to ensure the repairs corrected the problem, then closes out the work order, to return the equipment to an operational status for normal operations to resume. Implementation of these procedures constitutes compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.15(c)).

Requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.15(d)), are met by the inspections for each item or system included in Tables E-1 and E-1a. Beginning with the effective date of this Permit, the results of the inspections are maintained in the operating record for three years and are then transferred to the WIPP Records Archive where they are maintained until closure. The inspection logs or summary records include the date and time of inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. Major pieces of waste handling equipment are inspected using proceduralized inspections. Current copies of inspection forms are maintained in the Operating Record. Non-administrative changes (i.e., changes that affect the frequency or content of inspections) to inspection forms must be submitted to the NMED in accordance with the appropriate portions of 20 NMAC 4.1.900 (incorporating 40 CFR §270.42). The status of these pieces of equipment is maintained in an equipment logbook that is separate from the checklist. The logbook contains information regarding the condition of the equipment. Equipment operators are required, by the inspection checklist, to consult the logbook as the first activity in the inspection procedure. This logbook is maintained in the operating record. CH transuranic (**TRU**) mixed waste equipment that is controlled by a logbook includes the waste handling forklifts, all waste handling cranes, the adjustable center of gravity lift fixture, the CH TRU underground transporter, the facility transfer vehicle, the trailer jockey, and the push-pull attachment. RH TRU mixed waste equipment that is controlled by a logbook includes the 140/25-ton RH Bay overhead bridge crane, cask transfer cars, 25-ton cask unloading room

crane, transfer cell shuttle car, RH Bay cask lifting yoke, facility grapple, 6.2-ton overhead hoist, facility cask rotating device, hot cell overhead powered manipulator, 15-ton hot cell crane, facility cask transfer car, 41-ton forklift, facility cask, and emplacement equipment. Inspections of the Cask Unloading Room, Hot Cell, Transfer Cell, Facility Cask Loading Room, RH Bay and radiation monitoring equipment will be recorded on data sheets. In addition to the inspections listed in Tables E-1 and E-1a, many pieces of equipment are subject to regular preventive maintenance. This includes more in-depth inspections of mechanical systems, load testing of lifting systems, calibration of measurement equipment and other actions as recommended by the equipment manufacturer or as required by DOE Orders. These preventive maintenance activities along with the inspections in Tables E-1 and E-1a make mechanical failure of waste handling equipment unlikely. The WIPP Safety Analysis Report (DOE, 1999) and the WIPP Remote-Handled Waste Preliminary Safety Analysis Report (RH PSAR) (DOE, 2000) contain the results of a systematic analysis of waste handling equipment and the hazards associated with potential mechanical failures. Equipment subject to failures that cannot practically be mitigated is retained for analysis and is the basis for contingency planning. The inspection procedures maintained in the Operating Record for operational and preventive maintenance are implemented to assure the equipment is maintained. An example equipment inspection checklist and a typical logbook form are shown as Figures E-1 and E-2. Actual checklists or forms are maintained within the Operating Record.

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

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria^a
Air Intake Shaft Hoist	Underground Operations	Preoperational ^c See Lists 1b and c	WP 04-HO1004 Inspecting for Deterioration ^b , Safety Equipment, Communication Systems, and Mechanical Operability ^m in accordance with Mine Safety and Health Administration (MSHA) requirements
Ambulances <u>(Surface) and Medical Cart (Underground)</u> (Surface and Underground) and related emergency supplies and equipment	Emergency Services <u>Fire Department</u>	Weekly See List 11	12-FP0030 Inspecting for Mechanical Operability ^m , Deterioration ^b , and Required Equipment ⁿ
Adjustable Center of Gravity Lift Fixture	Waste Handling	Preoperational See List 8	WP 05-WH1410 Inspecting for Mechanical Operability ^m and Deterioration ^b
Backup Power Supply Diesel Generators	Facility Operations	Monthly See List 3	WP 04-ED1301 Inspecting for Mechanical Operability ^m 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 ^b
Central Monitoring Systems (CMS)	Facility Operations	Continuous See List 3	Automatic Self-Checking
Contact-Handled (CH) TRU Underground Transporter	Waste Handling	Preoperational See List 8	WP 05-WH1603 Inspecting for Leaks/Spills, Mechanical Operability ^m , Deterioration ^b , and area around transporter clear of obstacles
Conveyance Loading Car	Waste Handling	Preoperational See List 8	WP 05-WH1406 Inspecting for Mechanical Operability ^m , Deterioration ^b , path clear of obstacles, and guards in the proper place
Facility Transfer Vehicle	Waste Handling	Preoperational See List 8	WP 05-WH1204 Inspecting for Mechanical Operability ^m , Deterioration ^b , path clear of obstacles, and guards in the proper place

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria ⁿ
Exhaust Shaft	Underground Operations	Quarterly See List 1a	PM041099 Inspecting for Deterioration ^b and Leaks/Spills
Eye Wash and Shower Equipment	Equipment Custodian	Weekly See List 5	WP 12-IS1832 Inspecting for Deterioration ^b
		Semi-annually See List 2a	WP 12-IS1832 Inspecting for Deterioration ^b and Fluid Levels—Replace as Required
Fire Detection and Alarm System	Emergency Services <u>Fire Protection Engineering</u>	Semiannually See List 12 44	12-FP0027 <u>12-FP0028</u> Inspecting for Deterioration ^b , Operability of indicator lights and, underground fuel station dry chemical suppression system. Inspection is per NFPA 17
Fire Extinguishers ^j	Emergency Services <u>Fire Department</u>	Monthly See List 11	12-FP0036 Inspecting for Deterioration ^b , Leaks/Spills, Expiration, seals, fullness, and pressure
Fire Hoses	Emergency Services <u>Fire Department</u>	Annually (minimum) See List 11	12-FP0031 Inspecting for Deterioration ^b and Leaks/Spills
Fire Hydrants	Emergency Services <u>Fire Protection Engineering</u>	Semi-annual/ annually See List 12 44	12-FP0034 Inspecting for Deterioration ^b and Leaks/Spills
Fire Pumps	Emergency Services <u>Fire Protection Engineering</u>	Weekly/ annually See List 12 44	WP 12-FP0026 Inspecting for Deterioration ^b , Leaks/Spills, valves, and panel lights
Fire Sprinkler Systems	Emergency Services <u>Fire Protection Engineering</u>	Monthly/ quarterly/ <u>semi-annually/annually</u> See List 12 44	WP 12-FP0025 Inspecting for Deterioration ^b , Leaks/Spills, <u>and</u> static pressures, and removable strainers
Fire and Emergency Response Trucks/Vehicles (Fire Trucks, Underground Fire Suppression <u>Cart</u> Vehicles and Underground-Rescue <u>Carts</u> /Trucks)	Emergency Services <u>Fire Department</u>	Weekly See List 11	12-FP0033 Inspecting for Mechanical Operability ^m , Deterioration ^b , Leaks/Spills, and Required Equipment ⁿ

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria ⁿ
Forklifts Used for Waste Handling (Electric and Diesel forklifts, Push-Pull Attachment)	Waste Handling	Preoperational 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 ^m , Deterioration ^b , and On board fire suppression system
Automatic on-board fire suppression systems	Emergency Services <u>Fire Protection Engineering</u>	Semi- a <u>Annually</u> See List 12 <u>14</u>	WP 12-FP0060 Inspecting for Mechanical Operability ^m and Deterioration ^b
Hazardous Material Response Equipment	Emergency Services <u>Fire Department</u>	Weekly <u>Quarterly</u> See List 11	12-FP0033 Inspecting for Mechanical Operability^m , Deterioration ^b , and Required Equipment ⁿ
<u>Head Lamps</u>	<u>Facility Personnel</u>	<u>Daily^j</u>	<u>Head lamps are operated daily and are repaired upon failure</u>
Miners First Aid Station	Emergency Services <u>Fire Department</u>	Quarterly See List 11	12-FP0035 Inspecting for Required Equipment ⁿ
<u>Mobile Phones</u>	<u>Facility Personnel</u>	<u>Daily^j</u>	<u>Mobile Phones are operated daily and are repaired upon failure</u>
Mine Pager Phones (between surface and underground)	Facility Operations	Monthly ^o See List 3	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations
MSHA Air Quality Monitor	Maintenance/ Underground Operations	Daily ^j 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	PFO-008 Inspecting for Deterioration ^b and Posted Warnings
<u>Mine Rescue Self-Contained Breathing Apparatus (SCBA)</u>	<u>Mine Rescue Team</u>	<u>30 days</u> <u>See List 5</u>	<u>Inspection for Deterioration^b and Pressure⁹</u>
Personal Protective Equipment (not otherwise contained in emergency vehicles or issued to individuals): — <u>Fire Department SCBA</u> <u>Self-Contained Breathing Apparatus</u>	Emergency Services <u>Fire Department</u>	Weekly/ <u>monthly</u> See List 11	12-FP0029 Inspecting for Deterioration ^b and Pressure

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteriaⁿ
Public Address (and Intercom System) <u>Surface Evacuation Signals;</u> <u>Underground Evacuation Warning System</u>	Facility Operations	Monthly See List 3	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations <u>Systems operated in test mode</u>
Radio Equipment	Facility Operations <u>Personnel</u>	Daily ^j See List 3	Radios are operated daily and are repaired upon failure
Rescue Trucks (Surface and Underground)	Emergency Services	Weekly See List 11	12-FP0030 and 12-FP0033 <u>Inspecting for Mechanical Operability^m, Deterioration^b, Leaks/Spills, and Required Equipmentⁿ</u>
Salt Handling Shaft Hoist	Underground Operations	Preoperational See List 1b and c	WP 04-HO1002 Inspecting for Deterioration ^b , Safety Equipment, Communication Systems, and Mechanical Operability ^m in accordance with MSHA requirements
Self-Rescuers	Underground Operations	Quarterly See List 1c	WP 04-AU1026 Inspecting for Deterioration ^b and Functionality in accordance with MSHA requirements
Surface TRU Mixed Waste Handling Area ^k	Waste Handling	Preoperational or Weekly ^e See List 8	WP 05-WH1101 Inspecting for Deterioration ^b , 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 ⁿ
Underground Openings—Roof Bolts and Travelways	Underground Operations	Weekly See List 1a	WP 04-AU1007 Inspecting for Deterioration ^b
Underground—Geomechanical Instrumentation System (GIS)	Geotechnical Engineering	Monthly See List 9	WP 07-EU1301 Inspecting for Deterioration ^b
Underground TRU Mixed Waste Disposal Area	Waste Handling	Preoperational See List 8	WP 05-WH1810 Inspecting for Deterioration ^b , Leaks/Spills, mine pager phones, equipment, unobstructed access, signs, debris, and ventilation

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria^a
Uninterruptible Power Supply (Central UPS)	Facility Operations	Daily See List 3	WP 04-ED1542 Inspecting for Mechanical Operability ^m and Deterioration ^b with no malfunction alarms. Results of this inspection are logged in accordance with WP 04-AD3008.
TDOP Upender	Waste Handling	Preoperational See List 8	WP 05-WH1010 Inspecting for Mechanical Operability ^m and Deterioration ^b
Vehicle Siren	Emergency Services	Weekly See List 11	Functional Test included with inspection of the Ambulances, Fire Trucks, and Rescue Trucks
Ventilation Exhaust	Maintenance Operations	Quarterly See List 10	IC041098 Check for Deterioration ^b and Calibration of Mine Ventilation Rate Monitoring Equipment
Waste Handling Cranes	Waste Handling	Preoperational See List 8	WP 05-WH1407 Inspecting for Mechanical Operability ^m , Deterioration ^b , and Leaks/Spills
Waste Hoist	Underground Operations	Preoperational See List 1b and c	WP 04-HO1003 Inspecting for Deterioration ^b , Safety Equipment, Communication Systems, and Mechanical Operability ^m , Leaks/Spills, in accordance with MSHA requirements
Water Tank Level	Facility Operations	Daily See List 3	SDD-WD00 Inspecting for Deterioration ^b , and water levels. Results of this inspection are logged in accordance with WP 04-AD3008.
Push-Pull Attachment	Waste Handling	Preoperational See List 8	WP 05-WH1401 Inspecting for Damage and Deterioration ^b
Trailer Jockey	Waste Handling	Preoperational See List 8	WP 05-WH1405 Inspecting for Leaks/Spills Mechanical Operability ^m and Deterioration ^b
Explosion-Isolation Walls	Underground Operations	Quarterly See List 1	<u>PM 000032</u> Integrity and Deterioration ^b of Accessible Areas
Bulkhead in Filled Panels	Underground Operations	Monthly See List 1	<u>PM 000011</u> Integrity and Deterioration ^b of Accessible Areas

System/Equipment Name	Responsible Organization	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria^a
Bolting Robot	Waste Handling	Preoperational See List 8	WP 05-WH1203 Mechanical Operability ^m
Yard Transfer Vehicle	Waste Handling	Preoperational See List 8	WP 05-WH1205 Mechanical Operability ^m , Deterioration ^b , Path clear of obstacles and Guards in proper place
Payload Transfer Station	Waste Handling	Preoperational See List 8	WP 05-WH1208 Mechanical Operability ^m , Deterioration ^b , and Guards in proper place
Monorail Hoist	Waste Handling	Preoperational See List 8	WP 05-WH1202 Mechanical Operability ^m , Deterioration ^b , and Leaks/Spills
Bolting Station	Waste Handling	Preoperational See List 8	WP 05-WH1203 Mechanical Operability ^m , Deterioration ^b , 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 *
- 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: ~~Emergency Services~~ [Fire Department](#)

- Qualified ~~Emergency Services~~ [Fire Department](#) Personnel

List 12: [Fire Protection Engineering](#)

- Fire Protection Technician*

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 ~~In addition, the water tank levels are maintained by the CMR and level readouts are available at any time.~~ Inspections are performed per manufacturer's maintenance instructions.
- h ~~This organization is responsible for obtaining licenses for radios and frequency assignments. They do periodic checks of frequencies and handle repairs which are performed by a vendor.~~ Inspections and PM's are not required for equipment that is out of service.
- i Head Lamps, Mobile Phones, and Radios are not routinely "inspected." They are ~~operated daily and many are typically~~ used in day-to-day operations. They are used until they fail, at which time they are replaced and repaired. ~~Radios are used routinely by Emergency Services, Security, Environmental Monitoring, and Facility Operations.~~
- j Fire extinguisher inspections are performed in accordance with NFPA 10. ~~is paperless. Information is recorded into a database using barcodes. The database is then printed out.~~
- 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-6 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 F

PERSONNEL TRAINING

LIST OF FIGURES

Figure	Title
Figure F-1	Organizational Location of Training, Waste Handling, and Emergency Response Functions

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. ~~Members of the training staff are assigned to Technical Training. The organizational structure of Technical Training and its relationship to the line organizations is shown in an abbreviated organizational chart in Figure F-1. This chart also shows departments.~~ 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, “Training Program Handbook: A Systematic Approach to Training (DOE-HDBK-1078-94),” to direct all program analysis, design, development, implementation, or evaluation. Further details of these processes may be derived by reviewing this manual.

Technical Training ensures that required Resource Conservation and Recovery Act (RCRA)-related training is conducted by qualified instructors. On-the-job training is conducted by Level I instructors. Level I instructors are subject matter experts; members of line organizations who have qualified on the related equipment and have attended the on-the-job training course. Classroom instruction is provided by Level II and Level III instructors. Level II instructors are members of Technical Training and line organizations ~~that~~who are qualified to conduct limited classroom training in their technical area of expertise. Level III instructors are members of Technical Training who are qualified to conduct classroom training, skills evaluation, and needs assessment. Level II and III instructors are required to attend a train-the-trainer course and periodic refresher training.

Cognizant line managers provide significant input on training requirements for the WIPP facility to qualified instructors who develop the following, as required:

- Classroom Instruction

- Objectives
- Lesson Plans
- Student Materials
- Examinations

- On-the-Job Training

- Qualification Cards

Technical training materials are approved by the Technical Training Manager and the cognizant line manager.

Following technical training, trainees must successfully complete written examinations or oral examinations conducted by boards made up of cognizant personnel (referred to as “oral boards”) to demonstrate competency. The records of oral examinations are called “oral board sheets”. These examinations are based on objectives and/or competency statements. Oral boards are based on knowledge learned in the on-the-job training process. Trainees also provide feedback on the content and quality of instruction, at this time, in the form of course critiques and verbal input.

Technical training documentation is maintained by the Technical Training located at the WIPP facility. These technical training records include:

- Course Attendance
- Completed Qualification Cards
- Off-Site Training Documentation
- Oral Board Sheets

A database is maintained which records training qualifications, and course attendance. The database is used to identify course refresher and requalification dates. Training records on current personnel are kept in the Technical Training files. Technical training records on former employees are kept by Technical Training for at least three years from the date of employment termination from the WIPP facility. Training documentation for emergency response training received by personnel called out in the ~~WIPP Contingency Plan~~ RCRA Contingency Plan (Permit Attachment D) is maintained by Technical Training. The documents which define the process by which these training activities are managed are maintained by Technical Training and are part of the Operating Record.

To ensure the safe and efficient operation of the WIPP facility, certain positions require formal qualification. Department managers identify these positions based upon safety, complexity, and involvement with hazardous waste handling operations. A document known as a “qualification card” is prepared to identify required training for each designated position. In the case of equipment and system/procedure qualification, a “qualification card” is prepared that specifies the required knowledge and practical skills needed in such areas as equipment maintenance and safety. Individual participation in the qualification card system is varied and is dependent on an incumbent’s specific job duties. A complete listing of active qualifications, as they apply to

any individual position, may be determined by review of the WIPP Training Database. The list of active WIPP Qualification cards is maintained at the WIPP facility.

When the qualification card is completed, that particular qualification is recorded. Successful completion of formal classroom training is documented on the individual's qualification card. When requirements are met, both for classroom instruction and on-the-job training, and oral board, if applicable, the qualification card is signed by the manager certifying that the employee is fully competent to perform all aspects of the associated qualification. Qualification cards are included in the training records maintained by Technical Training. Qualification cards are living documents subject to change as the scope and content of training changes to meet new and revised regulatory requirements and modifications in job scope.

The hazardous waste management training program described in Section F-1b consists of a series of courses designed to ensure that hazardous waste management employees at the WIPP facility receive initial and continuing training relevant to their positions. These courses include instruction on the RCRA and Occupational Safety and Health Administration regulations, emergency procedures, and procedures for handling both site-generated hazardous waste and TRU mixed waste. Visitors, temporary personnel, and contractors are trained commensurate with the nature of their visit or duties. For visitors, this includes basic site safety and emergency notification procedures. Visitors who require unescorted access are also required to take an examination covering the material in the training they are given. Visitor records are maintained by security. Temporary or subcontract personnel, if hired to fill a hazardous waste management position, are required to complete the same training as permanent personnel. Record of this training is maintained by Technical Training.

F-1a Job Title/Job Description

Employees at the WIPP facility who are involved in hazardous waste management and emergency response activities receive the same core training. A list of hazardous waste management and emergency response job titles and position descriptions are provided in Permit Attachment F1. An up-to-date list of personnel assigned to these positions is maintained by the Permittees in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.16). These core hazardous waste management training courses are described briefly in Section F-1(b)(1) and outlines of the core classes, as well as other job specific training classes, are included in Permit Attachment F2. Any changes to the training plan that decrease the type or amount of training that is given to employees will be handled as a Class 2 modification, as specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.42). Other changes to the training plan will be handled as Class 1 modifications. In accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.16(d)(2)), the job descriptions include hazardous and TRU mixed waste management and emergency response job duties, required skills, qualifications, and experience, as well as educational requirements. These job descriptions are approved by the cognizant staff managers. Included in the appendices are management and supervisory positions that are considered to be critical from the standpoint of hazardous waste management or emergency response. These include the following positions:

- ~~Shift Manager, Facility Operations~~ RCRA Emergency Coordinator
- Manager, Hoisting Operations
- Manager, Radiation Control
- Manager, Waste Handling
- Team Leader, Inspection Services
- Manager, Environmental Compliance

- Manager, Technical Training

F-1b(1) Training Content

WIPP facility employees, who will be on site longer than 30 days, including personnel in management and supervisory positions and personnel not directly involved with hazardous waste management, receive facility-specific training in the following areas:

- General Employee Training (**GET**) Overview (procedures and policies)
- WIPP Facility Description
- Radiation Safety
- Emergency Preparedness (including ~~RCRA Contingency Plan~~ RCRA Contingency Plan implementation)
- Security
- Fire Protection
- Quality Assurance
- Occurrence Reporting
- Industrial Safety
- RCRA
- Hazard Communication

F-1d Relevance of Training to Job Position

The WIPP facility training program provides employees and their supervisors with training relevant to their positions. ~~A functional chart showing positions that receive training related to hazardous waste management or emergency response is included as Figure F-1. This figure also shows the next level manager for these positions.~~ The SAT process mentioned in Section F-1 is a systematic method for determining the proper training for each hazardous waste management position. It compels managers and training staff to look critically at each position and determine the necessary training program for each employee to fully develop their necessary expertise.

Several training courses are determined to be so basic to the WIPP Project mission that they are considered relevant for all WIPP facility employees. The basic philosophy at the WIPP facility is that, as a RCRA-regulated facility, employees must understand the basic regulatory requirements under which the WIPP facility must operate. Therefore, all WIPP facility employees receive an introduction to the RCRA during their introductory training.

Beyond these core courses, training is designed and implemented relevant to the specific job functions being performed. For example, employees who operate key pieces of equipment necessary to manage contact-handled (**CH**) or remote-handled (**RH**) TRU mixed waste (such as forklifts, hoists, bridge cranes, cask transfer cars, etc.) must be trained to operate and inspect equipment and to recognize maintenance problems before a specific job function is performed. These employees must receive on-the-job training and demonstrate the ability to operate the equipment, as appropriate, before being qualified. This process is controlled and documented by the qualification process described in Section F-1. A complete listing of active qualification cards, along with descriptions of training courses, ~~are~~ is on file at the WIPP facility. Summaries of qualification cards and other job specific training courses are included in Permit Attachment F2. Waste handling personnel performing CH or RH TRU mixed waste handling tasks will be

qualified to the applicable specific equipment or system qualification card on file at the WIPP facility.

Managers who have direct responsibility for supervising hazardous waste management personnel receive hazardous waste management training relevant to their positions. This training will include GET-19X/GET-20X/GET-21X and its refresher GET-19XA/GET-20XA/GET-21XA, which is required for all employees, and the Hazardous Waste Worker Supervisor course HWS-101 and its refresher HWS-101A. In addition, a manager may also take HWW-101 and its refresher HWW-102 if these courses are determined to be useful for his/her position. These course descriptions are included in Permit Attachment F2. Managers who do not have direct hazardous waste management supervisory responsibilities receive training sufficient to ensure their awareness of hazardous waste management requirements and procedures; however, they do not perform hazardous waste management duties and their positions are not included in the appendices. As is the case with all WIPP facility employees, all managers receive RCRA overview training in GET-19X/GET-20X/GET-21X.

~~Security personnel are an important element of the safe and secure operations at the WIPP facility; however, they do not perform hazardous waste management functions during normal operations at the WIPP facility. Security personnel who serve as members of a Fire Support Team (see Section F-1e) receive emergency response training required of that team.~~

F-1e Training for Emergency Response

The WIPP facility training program ensures that personnel are able to respond appropriately and effectively to emergency situations. WIPP facility employees receive GET-19X/GET-20X/GET-21X, which includes instruction on hazard awareness, emergency preparedness, spill control, and the WIPP RCRA Contingency Plan RCRA Contingency Plan (Permit Attachment D). This training ensures that every employee understands how to recognize real or potential emergencies and how to report such incidents to the proper WIPP facility officials. It also ensures that employees will not endanger themselves or others by taking actions beyond their ability. Emergency response personnel receive more extensive training in emergency response procedures as described in the next subsequent paragraph~~s~~.

The WIPP facility emergency response organization is capable of providing emergency response services both above ground and underground. The WIPP Fire Department Firefighters serve as first responders to surface and underground emergencies, including fires, medical emergencies, and releases of hazardous materials. Firefighters are trained in accordance with NEPA 1001, Standard for Fire Fighting Professional Qualification, and other NEPA qualification standards. This training is administered by qualified individuals/organizations in accordance with the WIPP Fire Department Training Plan.

The Emergency Response Team (ERT) is an Industrial Fire Brigade which supplements the capabilities of the WIPP Fire Department. Members of the ERT are trained to respond to surface and underground emergencies on site, including fires, medical emergencies, and releases of hazardous materials. The Emergency Response Team (ERT), under the supervision of the Emergency Services Technician, has primary responsibility for above ground emergency response activities, and the First Line Initial Response Team (FLIRT) and the The Mine Rescue Team (MRT) are is responsible for emergency rescue and recovery of trapped or missing personnel in the underground and underground fire suppression once the underground has been evacuated underground emergency response activities. The responsibilities of emergency response personnel and associated training these units are described in the WIPP RCRA

Contingency Plan RCRA Contingency Plan, Permit Attachment D, Section D-2. Members of these teams are volunteers from the WIPP organization. These teams receive thorough emergency response training before they are called upon to perform in real emergencies. The ERT members are trained to NFPA standards, including NFPA 1081, Standard for Industrial Fire Brigade Member Professional Qualifications, which addresses the training requirements established by NFPA 600, Standard on Industrial Fire Brigades. The MRT consists of personnel who have been trained to the applicable requirements of 30 CFR Part 49, Mine Rescue Team. This training includes firefighting elements, such as fire behavior, ladders, fire hose, fire streams, and ventilation. The FLIRT includes current qualification for unescorted underground access, National Fire Protection Association (NFPA) 600 Industrial Fire Brigades requirements, and additional qualifications pertaining to the team. MRT training includes current qualification for unescorted underground access, at least one year of underground work, Mine Safety and Health Administration requirements for medical and mine rescue, and additional qualifications pertaining to the team. ERT training includes NFPA 600 Industrial Fire Brigade requirements, and additional training pertaining to the team. In addition, all teams receive lifesaving elements, such as rescue, cardiopulmonary resuscitation and first aid, and other specific elements, such as self-contained breathing apparatus. A list of required training for these positions and associated duties is included in each job position description in Permit Attachment F1. These training requirements must be met prior to an unsupervised individual serving in an associated emergency response function. Training records for these individuals are maintained in each individual's training file in Technical Training located at the WIPP facility.

Because these response teams are used for unusual occurrences and not routine hazardous waste handling, a RCRA position title is not included. A duty description is included which summarizes basic anticipated duties of these positions. Training records for these individuals are maintained in each individual's training file in Technical Training located at the WIPP site. These training requirements must be met prior to an individual serving in an emergency response function

Hazardous waste handling and eEmergency response personnel receive training, commensurate with their duties, that ensures their familiarity with emergency procedures, emergency equipment, and emergency systems including, but not limited to:

- Procedures for using and inspecting facility emergency and monitoring equipment;
- Repairing and replacing facility emergency and monitoring equipment (RADCON only)
- Communications and alarm systems; and
- Response to fires or explosions;
- Shutdown of operations.

Course outlines for emergency response training courses are provided in Permit Attachment F2.

The RCRA Emergency Coordinator receives training relevant to the RCRA Contingency Plan RCRA Contingency Plan and must be familiar with the contents of the RCRA Contingency Plan RCRA Contingency Plan prior to serving as RCRA Emergency Coordinator. Documentation of this training is maintained in the RCRA Emergency Coordinator's training file. All individuals qualified to serve as RCRA Emergency Coordinators are required to complete RCRA Contingency Plan Contingency Plan training (SAF-645). The RCRA Emergency Coordinator is provided with updated copies of the RCRA Contingency Plan Contingency Plan in accordance with permit Attachment D, Section D-9, whenever changes are made. Office wardens receive Office Warden Training (SAF-632) and are required to take an annual refresher. In addition, the training requirements of the Central Monitoring Room (CMR) eOperator are included in Permit

Attachment F1. The CMR eOperator is listed in Permit Attachment D, Section D-2, as an emergency response related position.

As there are no automatic waste feed systems at the WIPP facility, training on parameters for waste feed cut-off systems is not required. Similarly, as there is no potential for groundwater contamination incidents at the WIPP facility, training for responding to such incidents is not required.

F-2 Implementation of Training Program

The WIPP facility training program has been implemented to ensure that hazardous waste management and emergency response personnel employed at the WIPP facility receive the training indicated within the respective authorization/qualification cards. ~~These authorization cards record training that the individual team members have completed.~~ Personnel are trained on made aware of the RCRA Contingency Plan RCRA Contingency Plan and its intended purpose through their basic general employee training. Newly hired employees, whose job positions are listed in Attachment F1, receive the indicated training within six months of their date of hire or their transfer to a new position. Personnel do not work in unsupervised hazardous waste management or emergency response positions until they successfully complete the indicated training requirements. Hazardous waste management and emergency response personnel attend annual refresher courses that review the initial training received and document knowledge transfer.

Records relating to the WIPP facility training program for hazardous waste management and emergency response personnel are maintained by WIPP Technical Training as personally identifiable information ~~located at the WIPP facility~~. These records are located at the WIPP facility and include a roster of employees in hazardous waste management positions; a list of courses required for each position; course descriptions; documentation when each employee has received and completed appropriate training; and ~~all of the~~ backup information regarding qualification and examination. Training records of current personnel are kept by Technical Training until closure of the WIPP facility. Records of former employees are kept by Technical Training for at least three years from the date the employee last worked at the facility.

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.

FIGURES

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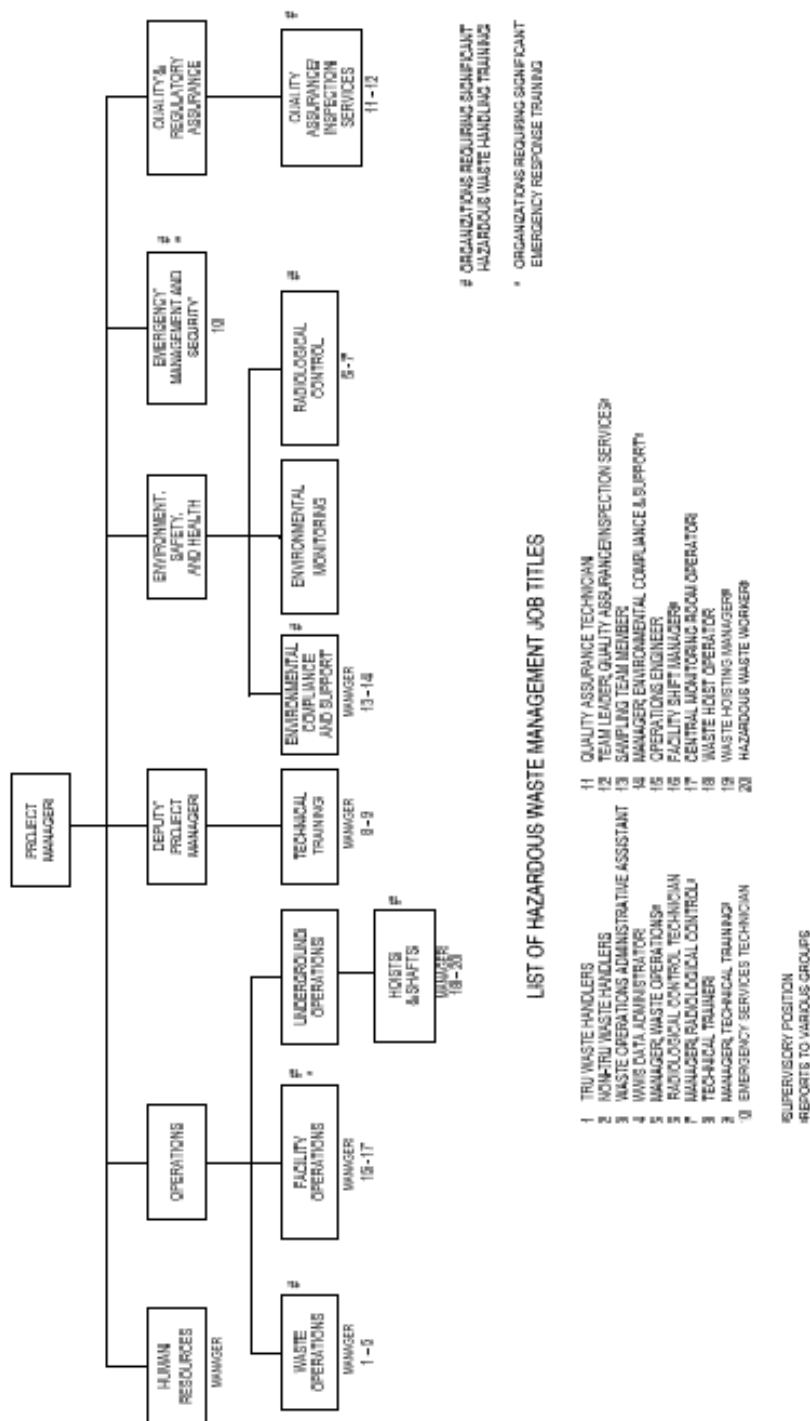


Figure F-1
Organizational Location of Training, Waste Handling, and Emergency Response Functions

ATTACHMENT F1

RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB TITLES AND DESCRIPTIONS

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ATTACHMENT F1

RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB TITLES AND DESCRIPTIONS

RCRA Hazardous Management Job Titles	
	Hazardous Waste Worker TRU Mixed Waste Handlers Underground Hazardous Waste Worker Site-Generated Waste Handlers Transportation Engineer WWIS Data Administrator Manager, Waste Handling Manager, Shipping Coordination
	Radiological Control Technician Manager, Radiation Control
	Technical Trainer Manager, Technical Training
	Emergency Services Technician <u>Firefighter</u> <u>Incident Commander</u>
	Quality Assurance Technician Team Leader, Inspection Services Facility Inspection, Repair, and Service Team (FIRST) Leader Facility Inspection, Repair, and Service Team (FIRST)
	Sampling Team Member Sampling Team Assistant Manager, Environmental Compliance
	Facility Shift Engineer Facility Shift Manager <u>RCRA Emergency Coordinator</u> Central Monitoring Room Operator
	Waste Hoist Operator Waste Hoist Shaft Tender Waste Hoisting Manager
	Chief Office Warden Assistant Chief Office Warden
	Mine Rescue Team Member First Line Initial Response Team member Emergency Response Team Fire Brigade Fire Protection Technician
	Radiographer (Radiography Independent Technical Reviewer) Visual Examination Operator/Expert (VE Independent Technical Reviewer) DOE Management Representative

RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB DESCRIPTIONS

Position Title: ~~Emergency Services Technician~~ Firefighter

Duties:

- Responds to surface and underground emergencies, including fire alarms/fires, medical emergencies, and releases of hazardous materials, including hazardous waste or hazardous waste constituents ~~hazardous waste spills in emergency situations~~
- ~~— Provides emergency fire response services~~
- Conducts routine inspections and maintains all emergency response equipment on site
- ~~-~~ Performs technical rescue operations
- ~~Directs emergency teams to control hazardous situations~~ Operates emergency vehicles and equipment

Requisite Skills, Experience Qualifications, and Education:*

Vocational or commercial high school graduate, or equivalent, ~~plus additional training in emergency fire and medical response, or equivalent.~~ required in addition to professional qualifications per the WIPP Fire Department Training Plan, which incorporates current National Fire Protection Association (NFPA) standards for training as follows:

- Firefighter I and II (NFPA 1001, Standard for Firefighter Professional Qualifications)
- HAZMAT Operations (NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents)
- Driver/Operator (NFPA 1002, Standard for Fire Apparatus Driver/Operator Professional Qualifications), if designated
- Auto Extrication (NFPA 1006, Standard for Technical Rescuer Professional Qualifications)
- State of New Mexico EMS licensure and an Associate's Degree in an emergency services-related field are also preferred prior to employment.

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 Firefighter at the WIPP facility. Prior to the completion of the following training, Firefighters 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)
- ~~• EST Qualification Card (EST-01)~~
- ~~• Subject Matter Expert/On The Job Training (TRG-293/298)~~
- Hazardous Waste Worker (HWW-101/102)
- Respiratory Protection (SAF-630/ 631)

- ~~Firefighter I (SAF 621)~~
- Hazardous Waste Responder (HWR-101/101A)
- ~~Introduction to the Incident Command System (IS 100) (Once)~~
- Radiological Worker II (RAD 201) (Annual)
- 40-Hour Inexperienced Miner (SAF 501/502) (Annual)
- Heated Environment/Confined Space (SAF 515/515A) (Annual)
- Compressed Gas Cylinder Safety (SAF 619) (Once)

***NOTE:** The required requisite skills, qualifications, and education must be possessed prior to assignment to the position of Firefighter. ~~The trainee may perform duties prior to qualification only for those evolutions and/or operations for which training has been completed.~~

RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB DESCRIPTIONS

Position Title: 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, 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.

RCRA HAZARDOUS WASTE MANAGEMENT JOB DESCRIPTIONS

Position Title: Facility Shift Engineer

Duties:

- ~~— Notifies emergency response personnel and on-call facility manager during emergency occurrences~~
- ~~— Serves as backup RCRA Emergency Coordinator~~

Requisite Skills, Experience and Education:

~~Associate degree in engineering or scientific discipline, or equivalent, and five years related practical experience, or equivalent.~~

Training (Type/Amount):

- ~~• General Employee Training (GET-19X/GET-20X/GET-21X)~~
- ~~• General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA)~~
- ~~• Facility Operations Shift Supervisor Qualification Card (FO-FOSE-3 or FO-FOSE-3R)~~
- ~~• Roving Watch Qualification (FO-RW-1)~~
- ~~• Central Monitoring Room Operator Qualification (FO-CMRO-2)~~
- ~~• Conduct of Shift Operations (OPS-115)~~
- ~~• Hazardous Materials Emergency Response (HMT-104)~~
- ~~• Root Cause Analysis (TRG-296)~~
- ~~• WIPP Occurrence Reporting for Facility Managers (OPS-110)~~
- ~~• WIPP Contingency Plan Procedure (SAF-645)~~
- ~~• Hazardous Waste Worker (HWW-101)~~

NOTE: ~~Full Qualification must be completed prior to the candidate operating any equipment or performing any operating evolutions without the direct supervision of a qualified operator.~~

RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB DESCRIPTIONS

Position Title: ~~Facility Shift Manager~~ RCRA Emergency Coordinator

Duties:

- Serves as RCRA Emergency Coordinator
- Notifies emergency response personnel and on-call facility manager during emergency occurrences Responsible for implementing the RCRA Contingency Plan, providing necessary notifications, coordinating emergency response measures, identifying released materials, assessing any hazards associated with released materials, control and containment of the emergency, management and disposition of released materials, and cleaning and restoration of equipment prior to resumption of operations.

Requisite Skills, Experience and Education:

Academic or vocational high school (mechanical/electrical) graduate ~~and eight years of nuclear plant operating experience, or equivalent.~~ Must be thoroughly familiar with relevant aspects of the WIPP RCRA Contingency Plan, relevant operations and activities at the facility, the location and characteristics of the waste handled, the location of relevant records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources necessary to carry out the RCRA Contingency Plan.

Training (Type/Amount):

- General Employee Training (GET-19X/GET-20X/GET-21X)
- General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA)
- ~~Facility Operations Shift Engineer Qualification Card (FO-FOSE-3 or FO-FOSE-3R)~~
- ~~Roving Watch Qualification (FO-RW-1)~~
- ~~Central Monitoring Room Operator Qualification (FO-CMRO-2)~~
- ~~Conduct of Shift Operations (OPS-115)~~
- Hazardous Waste Responder (HWR-101/101A) ~~Materials Emergency Response (HMT-104)~~
- ~~Root Cause Analysis (TRG-296)~~
- ~~WIPP Occurrence Reporting for Facility Managers (OPS-110)~~
- ~~WIPP~~ RCRA Contingency Plan Procedure (SAF-645)
- Hazardous Waste Worker (HWW-101/102)

NOTE: ~~Full Qualification must be completed prior to the candidate operating any equipment or performing any operating evolutions without the direct supervision of a qualified operator.~~

RCRA HAZARDOUS WASTE MANAGEMENT JOB DESCRIPTIONS

Position Title: Chief Office Warden

Duties:

- Cooperate, participate, and comply with the provisions of WIPP Emergency Plan
- Primary function is to coordinate personnel accountability in the event of an evacuation
- Responsible for surface accountability at staging areas in the event of an evacuation

Requisite Skills, Experience and Education:

High School Diploma or equivalent, approval from employee's manager, compliance with the requirements of the WIPP Emergency Plan, and current knowledge of emergency evacuations, staging and assembly areas, and the site notification system.

Training (Type/Amount):

- General Employee Training (GET 19X/GET 20X/GET 21X)
- General Employee Training Refresher (GET 19XA/GET 20XA/GET 21XA)
- Office Warden Training (SAF-632)

RCRA HAZARDOUS WASTE MANAGEMENT JOB DESCRIPTIONS

Position Title: Assistant Chief Office Warden

Duties:

- Cooperate, participate, and comply with the provisions of WIPP Emergency Plan
- Primary function is to coordinate personnel accountability in the event of an evacuation
- Responsible for surface accountability at staging areas in the event of an evacuation

Requisite Skills, Experience and Education:

High School Diploma or equivalent, approval from employee's manager, compliance with the requirements of the WIPP Emergency Plan, and current knowledge of emergency evacuations, staging and assembly areas, and the site notification system.

Training (Type/Amount):

- General Employee Training (GET-19X/GET-20X/GET-21X)
- General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA)
- Office Warden Training (SAF-632)

RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB DESCRIPTIONS

Position Title: Mine Rescue Team Member

Duties:

- ~~Cooperate, participate, and comply with provisions of the WIPP Emergency Management Program (WP 12-9)~~
- Trained in accordance with 30 CFR Part 49, Mine Rescue Team, to respond to mine emergencies ~~beyond that of the FLIRT~~
- 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 ~~underground reentry and rescue after an underground evacuation~~

Requisite Skills, Experience and Education:

High ~~S~~school ~~D~~diploma or equivalent, written approval from employee's manager (Authorization Card MRT-01), compliance with health and physical requirements, ~~1) Initial examination and clearance by the Occupational Medical Director, 2) Examined and cleared annually by the Occupational Medical Director, 3) Additional tests: pulmonary function test, cardiac stress test every five years, drug screen, 4) Encouraged to maintain good medical and physical condition, Compliance with requirements of the SERP, and current knowledge regarding rescue and recovery of personnel involved in mine emergencies according to 30 CFR Part 49. At least one year verifiable underground experiencework.~~

Training (Type/Amount):

- General Employee Training (GET-19X/GET-20X/GET-21X)
- General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA)
- First Aid and CPR (MED-101)
- Respiratory Protection (SAF-630/SAF-631-D)
- Radiological Worker II (RAD-201)
- Mine Rescue Team Initial ~~t~~raining (EOC-101)
- Inexperienced Miner Training (SAF-501/502)
- Compressed Gas Cylinder Safety (SAF 619) (Once)

RCRA HAZARDOUS WASTE MANAGEMENT JOB DESCRIPTIONS

Position Title: First Line Initial Response Team member

Duties:

- Cooperate, participate, and comply with provisions of the Supplemental Emergency Response Program Plan (SERP)
- Primary function is to provide medical and hazardous material response to the WIPP underground

Requisite Skills, Experience, and Education:

High School Diploma or equivalent, written approval from employee's manager (Authorization Card FLIRT-01), compliance with health and physical requirements, 1) Initial examination and clearance by the Occupational Medical Director, 2) Examined and cleared annually by the Occupational Medical Director, 3) Additional tests: pulmonary function test, cardiac stress test every five years, drug screen, 4) Encouraged to maintain good medical and physical condition, compliance with requirements of the SERP, current knowledge regarding medical response and hazardous materials response.

Training (Type/Amount):

The following training must be completed and current prior to participation during an emergency response:

- General Employee Training (GET-19X/GET-20X/GET-21X)
- General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA)
- Inexperienced miner (SAF-501/502)
- Confined Space Training (SAF-515)
- Hazardous Waste Worker (HWW-101)
- Respiratory Protection (SAF-630 and SAF-631 D)
- First Aid and CPR (MED-101)
- Radiological Worker II (RAD-201)
- Confined Space Rescue (ERT-102/102A) (Annual)
- Industrial Fire Brigade Advanced Interior/Exterior Certification
- Eight hours of training quarterly
- Hazardous Waste Responder (HWR-101/101A)(Annual)

RCRA HAZARDOUS WASTE MANAGEMENT AND EMERGENCY RESPONSE JOB DESCRIPTIONS

Position Title: Emergency Response Team

Duties:

- Supplements the WIPP Fire Department response capabilities Responding to hazardous waste incidents or releases due to fires, HAZMAT, and medical emergencies
- Responds to surface and underground emergencies, including fires, medical emergencies, and releases of hazardous materials, including hazardous waste or hazardous waste constituents Operating as part of the WIPP Supplemental Emergency Response Program
- Operates emergency equipment

Requisite Skills, ExperienceQualifications, and Education:*

High School Diploma, or equivalent, and written approval from employee's manager required in addition to professional qualifications per the WIPP Fire Department Training Plan, which incorporates current NFPA standards for training as follows (Qualification Card ERT-01), compliance with health and physical requirements:

- 1) Initial examination and clearance by the Occupational Medical Director
- 2) Examined and cleared annually by the Occupational Medical Director
- 3) Additional tests: pulmonary function test, cardiac stress test every five years, drug screening.

- Emergency Medical Services First Responder Qualified
- Incipient Firefighter, Advanced Exterior Firefighter, and Advanced Interior Firefighter (NFPA 1081, Standard for Industrial Fire Brigade Member Professional Qualifications)
- HAZMAT Awareness (NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents)
- Driver/Operator (NFPA 1002, Standard for Fire Apparatus Driver/Operator Professional Qualifications), if designated

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 Emergency Response Team member at the WIPP facility. Prior to the completion of the following training, Emergency Response Team members shall be supervised when performing duties related to emergency response to incidents involving hazardous waste:

- ~~Confined Space Rescue (ERT-102/102A) (Annual)~~
- General Employee Training (GET-19X/GET-20X/GET-21X)
- General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA) ~~(Annual)~~
- Hazardous Waste Worker (HWW-101/102) ~~(Annual)~~
- Hazardous Waste Responder (HWR-101/101A) ~~(Annual)~~
- Respiratory Protection (SAF-630/SAF-631C/SAF-631-D) ~~(Annual)~~
- ~~First Aid and CPR (MED-101/101A) (Annual)~~

- Radiological Worker (RAD-201/202) (Annual)
- ~~Confined Space/Heated Environment (SAF-515/515A)~~
- ~~Emergency Response Team Member Qualification Card (ERT-01)~~
- SAF-501/502, Inexperienced Miner Training (SAF-501/502)
- ~~Industrial Fire Brigade Advanced Interior/Exterior Certification~~

***NOTE:** The required requisite skills, qualifications, and education must be possessed prior to assignment to the position of Emergency Response Team member.

RCRA HAZARDOUS WASTE MANAGEMENT JOB DESCRIPTIONS

Position Title: Fire Brigade

Duties:

— Fight fires

Requisite Skills, Experience, and Education:

High School Diploma or equivalent, fire fighting training, compliance with health and physical requirements:

- 1) Initial examination and clearance by the Occupational Medical Director.
- 2) Examined and cleared annually by the Occupational Medical Director.
- 3) Encouraged to maintain good medical and physical condition.

Training (Type/Amount):

- — General Employee Training (GET-19X/GET-20X/GET-21X)
- — General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA) (Annual)
- — Hazardous Waste Worker (HWW-101/102) (Annual)
- — Hazardous Waste Responder (HWR-101/101A) (Annual)
- — Radiological Worker (RAD-201/202) (Annual)
- — Respiratory Protection (SAF-630/ SAF-631D) (Annual)

RCRA HAZARDOUS WASTE MANAGEMENT JOB DESCRIPTIONS

Position Title: Fire Protection Technician

Duties:

- ~~— Responds to hazardous waste spills in emergency situations~~
- ~~— Provides emergency fire response service~~
- Conducts routine inspections and testing of facility fire suppression and detection systems maintains all response equipment on site
- ~~— Serves as incident commander~~
- ~~— Directs emergency teams to control hazardous situations~~

Requisite Skills, Experience, and Education:

Vocational or commercial high school graduate, or equivalent, plus training per NFPA standards related to detection and suppression systems and equipment preferred prior to employment~~additional training in emergency fire and medical response, or equivalent.~~

Training (Type/Amount):

- General Employee Training (GET-19X/GET-20X/GET-21X)
- General Employee Training Refresher (GET-19XA/GET-20XA/GET-21XA) (Annual)
- ~~• Hazardous Waste Worker (HWW-101/102)~~
- ~~• Hazardous Waste Responder (HWR-101/101A)~~
- Radiological Worker (RAD-201/202)
- Respiratory Protection (SAF-630/SAF-631D)
- Fire Protection Technician Qualification Card (~~FTP~~FPT-01)

ATTACHMENT F2

TRAINING COURSE AND QUALIFICATION CARD OUTLINES

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COURSE: TRG-296—Root Cause Analysis

DURATION: ≈8 hours

PREREQUISITES: None

SCOPE: The instructor will provide personnel with the knowledge and skills necessary to identify the root cause of unplanned plant events, in accordance with DOE standards. Students will analyze incidents to identify corrective action necessary to prevent the incidents from recurring. This training is recommended for all operators, technicians, supervisors, and managers.

TYPE: Classroom And Practical

OBJECTIVES: Upon completion of this course, the student will be able to perform root cause analysis in accordance with DOE Order 232.1.

Mastery of the terminal objective will be demonstrated by scoring 80 percent or higher on the course examination and satisfactory performance on the practical examination.

REFRESHER: None

COURSE DESCRIPTION (by lesson)

1. Introduction to Root Cause Analysis
≈2 hours
 - a. Case study
 - b. Root cause
 - c. Other causes
 - d. Event
 - e. Event/cause relationship
 - f. Root cause analysis
 - g. Reason for root cause analysis
 1. Overview
 2. Specifics
 3. Concern—employees
 4. Concern—facility
 5. Concern—company permanent image
 6. Concern—public and environment
 7. Concern—economic
 8. Concern—legal

2. ~~Root Cause Analysis Process~~
~~≈4 hours~~

- a. ~~Phases and sub-phases~~
 - 1. ~~Collect data~~
 - 2. ~~Correct~~
 - 3. ~~Inform~~
 - 4. ~~Follow up~~
- b. ~~Phase one—collect data~~
 - 1. ~~What to collect~~
 - 2. ~~How to collect~~
 - 3. ~~Data review~~
- c. ~~Phase two—assess~~
 - 1. ~~Purpose~~
 - 2. ~~Methods~~
 - 3. ~~Use, advantages, and disadvantages~~
 - 4. ~~Event and casual factor charting~~
 - 5. ~~Consists of two phases~~
 - 6. ~~Cause and effect~~
 - 7. ~~Cause and effect charting~~
- d. ~~Phase three—correct~~
- e. ~~Phase four—communications~~
 - 1. ~~Internal~~
 - 2. ~~External~~
- f. ~~Phase five—follow up~~

3. ~~Root Cause Analysis at the WIPP~~
~~≈1 hour~~

- a. ~~Investigations~~
- b. ~~Reportable and non-reportable events~~
- c. ~~Root cause analysis team report~~
- d. ~~Reportable events~~
- e. ~~Non-reportable events~~
- f. ~~Follow up~~

4. ~~Summary~~
~~≈1 hour~~

5. ~~Homework~~

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

COURSE: SAF-645 - RCRA Emergency Coordinator (WIPP Contingency Plan Procedure)

DURATION: N/A

PREREQUISITES: None

SCOPE: This self-paced lesson describes the responsibilities and actions to be taken by the RCRA Emergency Coordinator and other emergency response personnel whenever the WIPP Contingency Plan RCRA Contingency Plan is implemented.

TYPE: Self-paced

OBJECTIVES: Upon completion of this course, the student will be able to perform the respective duties of RCRA Emergency Coordinator in accordance with established requirements.

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

REFRESHER: None

1. State the purpose of the RCRA Contingency Plan RCRA Contingency Plan.
2. Describe three primary the general responsibilities of the RCRA Emergency Coordinator.
3. Identify the emergency response individuals and groups and their responsibilities.
4. Describe the criteria under which the RCRA Contingency Plan is immediately implemented State when the Contingency Plan is to be implemented.
5. Describe the implementation criteria for a release of hazardous waste or hazardous waste constituents Describe the criteria for Incident Levels I, II, and III.
6. Describe the types of events that do not implement the Contingency Plan.
67. Describe the activities regarding initial response and notification of emergency response and facility personnel.
78. Describe the actions to be taken when a surface evacuation is declared.
89. Describe the action to be taken when an underground evacuation is declared.
910. State the information that is included in notifications to public safety and regulatory safety agencies.
1011. Describe the various means of identifying released hazardous materials.

- ~~12. Describe the information that is initially provided to the Emergency Coordinator by the EST.~~
- ~~11~~13. Describe the ~~additional~~ information that is collected to conduct a hazards ~~more thorough~~ assessment.
- ~~12~~14. Define the 4 criteria that are ~~evacuated~~ evaluated in the assessment stage of an incident.
- ~~13~~15. State when the RCRA Emergency Coordinator would request assistance from off-site agencies.
- ~~14~~16. Describe the actions involved in the control, and containment, ~~and correction~~ of an incident.
- ~~15~~17. Describe physical and chemical methods of mitigation.
- ~~16~~18. Describe the actions that are implemented in the event of a fire.
- ~~17~~19. Describe the actions to be taken in the event of an explosion.
- ~~18~~20. Describe the actions to be taken in the event of a natural event ~~spill~~.
- ~~19.~~ Describe the actions to be taken in the event of an underground structural integrity emergency.
- ~~20~~21. Describe the actions to be taken in the event of a release of site-generated hazardous or TRU mixed waste ~~container spills or leakage~~.
- ~~21~~22. State who is responsible for the radiological decontamination of personnel.
- ~~23. Describe the response actions to spills, or leaking, or punctured CH and RH TRU mixed waste containers.~~
- ~~24. Describe the actions to be taken in the event of a natural emergency (earthquake, lightning strike, etc.) involving hazardous waste or materials.~~
- ~~25. Describe the response efforts in the event of spalling of ground in the underground.~~
- ~~26. Describe the response efforts in the event of a roof fall in the underground.~~
- ~~22~~27. Describe the events to be completed during the emergency termination post-emergency phase.
- ~~23~~28. Describe the reporting requirements in the event the RCRA Contingency Plan ~~Contingency Plan~~ is implemented.

COURSE: SAF 632—Office Warden

DURATION: ≈ 2 Hours

PREREQUISITES: None

SCOPE:

TYPE: Classroom

OBJECTIVES: Upon completion of this course, the student will be able to state the responsibilities and duties of the Office Warden, in accordance with established guidelines, policies, and regulations.

REFRESHER: SAF 632 annually

1. Objectives
≈ 10 minutes
 - a. Define role of Office Warden
 - b. List responsibilities
 - c. Describe emergency notification system
 - d. Describe purpose of assembly/staging areas
2. Presentation
≈ 90 minutes
 - a. Role of Office Warden
 - b. Office Warden responsibilities
 1. Day to day
 2. Emergency situations
 3. Bomb threats
 4. Inclement weather
 5. Personnel accountability w/no assembly
 - c. Emergency Notification System
 1. Different evacuation notifications
 2. Reporting emergencies
 - d. Assembly/staging areas
 1. Purpose
 2. Locations
3. Review and Exam
≈ 20 minutes

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

COURSE: SAF 621 Firefighter I

DURATION: ≈40 hours

PREREQUISITES: None

SCOPE: This class prepares the student to respond to fires. This class is taught by the New Mexico Fire Academy

OBJECTIVES:

REFRESHER: Training is conducted 8 hours quarterly

COURSE DESCRIPTION (by lesson)

1. Inspection
≈.5 hour classroom
 - a. Common causes of fires and their prevention
 - b. Fire protection procedures
 - c. Define importance of public relations
 - d. Define dwelling inspection procedures
2. Sprinklers
≈.5 hour classroom
 - a. Identify a fire department sprinkler connection and water motor alarm
 - b. Connect hose lines to a fire department connection of a sprinkler or standpipe system
 - c. Define how automatic sprinkler heads open and release water
 - d. Temporarily stop flow of water from a sprinkler head
3. Overhaul
≈2 hours classroom
 - a. Demonstrate searching for hidden fires
 - b. Demonstrate exposure of hidden fires by opening ceilings, walls, floors, and pulling apart burned material
 - c. Demonstrate how to separate and remove charred materials from unburned material
 - d. Define duties of fire fighters left at the scene for fire and security surveillance
 - e. Identify the purpose of overhaul
4. Salvage
≈1.5 hours classroom
≈.5 hours practical
 - a. Identify the purpose of salvage and its value
 - b. Demonstrate folds and rolls of salvage covers
 - c. Demonstrate salvage cover throws
 - d. Demonstrate the techniques of inspection, cleaning, and maintaining salvage equipment

- | | |
|---|--|
| <p>5. Fire Streams
≈1.5 hours classroom
≈2.5 hours practical</p> | <ul style="list-style-type: none">a. Define a fire streamb. Manipulate a nozzle so as to attack Class A and Class B firesc. Define water hammer and at least one method for its preventiond. Demonstrate how to open and close a nozzle |
| <p>6. Fire Hoses, Nozzles, and Appliances
≈2.5 hours classroom
≈3.5 hours practical</p> | <ul style="list-style-type: none">a. Identify the sizes, types, amounts, and uses of hose carried on a pumperb. Demonstrate the use of nozzles, hose adapters, and hose appliances carried on a pumperc. Advance dry hose lines of two different sizes from a pumper:<ul style="list-style-type: none">1. Into a structure2. Up a ladder into an upper floor window3. Up an inside stairway to an upper floor4. Up an outside stairway to an upper floor5. Down an inside stairway to a lower floor6. Down an outside stairway to a lower floor7. To an upper floor by hoistingd. Advance charged hose lines of two different sizes from a pumper<ul style="list-style-type: none">1. Into a structure2. Up a ladder into an upper floor window3. Up an inside stairway to an upper floor4. Up an outside stairway to an upper floor5. Down an inside stairway to a lower floor6. Down an outside stairway to a lower floor7. To an upper floor by hoisting |

7. ~~Forcible Entry~~
~~≈3 hours classroom~~
~~≈1 hour practical~~

- ~~e. Demonstrate the techniques for cleaning fire hose, couplings, and nozzles and inspecting for damage~~
- ~~f. Connect a fire hose to a hydrant and fully open and close the hydrant~~
- ~~g. Demonstrate the loading of fire hose on a fire apparatus and identify the purpose of at least three types of hose loads and finishes~~
- ~~h. Demonstrate three types of hose rolls~~
- ~~i. Demonstrate two types of hose carries~~
- ~~j. Demonstrate coupling and uncoupling of the fire hose~~
- ~~k. Work from a ladder with a charged attack line which shall be 1.5" or larger~~
- ~~l. Demonstrate carrying hose into a building to be connected to a standpipe~~
- ~~m. Demonstrate the methods for extending a hose line~~
- ~~n. Demonstrate replacing a burst section of hose line~~
- ~~a. Identify and demonstrate each type of manual forcible entry tool~~
- ~~b. Identify the method and procedure of properly cleaning, maintaining, and inspecting each type of forcible entry tool and equipment~~

8. Ladders
~~≈1.5 hours classroom~~
~~≈2.5 hours practical~~

- ~~a. Identify each type of ladder and its intended use~~
- ~~b. Demonstrate the following ladder carries:~~
 - ~~1. One person carry~~
 - ~~2. Two person carry~~
 - ~~3. Three person carry~~
 - ~~4. Four person carry~~
 - ~~5. Five person carry~~
 - ~~6. Six person carry~~
- ~~c. Raise each type and size of ground ladder~~
- ~~d. Climb the full length of every type~~
- ~~e. Climb the full length of each type of ground and aerial ladder carrying fire fighting tools or equipment while ascending and descending~~
- ~~f. Climb down the full length of a ground and aerial ladder carrying an injured person~~
- ~~g. Demonstrate the techniques of working from ground and aerial ladders with tools and appliances~~
- ~~h. Demonstrate the techniques of cleaning ladders~~

9. Rescue—
~~≈5 hour classroom~~
~~≈1.25 hours practical~~

- ~~a. Demonstrate the removal of injured persons from immediate hazards practical by use of carries, drags, and stretchers~~
- ~~b. Demonstrate searching for victims in burning, smokefilled buildings, or other hostile environments~~
- ~~c. Define the use of a life belt~~
- ~~d. Define safety procedures as they apply to rescue~~

- | | | |
|-----|--|--|
| 10. | Self-Contained Breathing Apparatus
≈2 hours classroom
≈2 hours practical | <ul style="list-style-type: none">a. Identify at least four hazardous respiratory environments encountered in fire fightingb. Demonstrate the use of all types of self-contained breathing apparatus in a dense smoke environmentc. Identify the physical requirements of the wearer, the limitations of the self-contained breathing apparatus, and the safety features of all types of self-contained breathing apparatusd. Demonstrate donning self-contained breathing apparatus while wearing protective clothinge. Demonstrate that the self-contained breathing apparatus is in a safe condition for safe usef. Identify the procedure for cleaning and sanitizing the self-contained breathing apparatus for future use |
| 11. | Ropes
≈2 hours class room and practical | <ul style="list-style-type: none">a. Identify and describe the purpose for specific knotsb. Identify the construction characteristics and appropriate uses of natural and synthetic fiber ropec. Demonstrate tying a bowline knot, a clove hitch, rescue knot, figure of eight knot, a becket or sheep bend, and an overhand safety knotd. Demonstrate the bight, loop, round turn, and half hitch as used in tying knots and hitchese. Using an overhand knot, hoist any selected forcible entry tool, ground ladder, or appliance to a height of 20 feetf. Demonstrate the techniques of inspecting, cleaning, maintaining, and storing rope |

- | | |
|---------------------------------------|--|
| 12. Ventilation
≈5 hours classroom | <ul style="list-style-type: none">a. Define the principals of ventilation, and identify the advantages and effects of ventilationb. Identify the dangers present and precautions to be taken when performing ventilationc. Demonstrate opening various types of windows from inside and outside, with and without toolsd. Demonstrate breaking window and door glass and its removale. Using an ax, demonstrate the ventilation of a room and a floorf. Define the theory of a back draft explosion |
| 13. Safety
≈1 hour classroom | <ul style="list-style-type: none">a. Identify dangerous building conditions created by fireb. Demonstrate techniques for action when trapped or disoriented in a fire situationc. Define procedures to be used in electrical emergenciesd. Define fire service lighting equipmente. Identify safety procedures when using fire services lighting equipmentf. Demonstrate the use of portable power plants, lights, cords, and connectorsg. Define safety procedures as they apply to emergency operations, specifically:<ul style="list-style-type: none">1. Protective equipment2. Team concept3. Portable tools and equipment4. Riding and apparatus5. Hazardous materials incidents |

14. Fire Behavior
≈3 hours

- a. Define fire
- b. Define the fire triangle and fire tetrahedron
- c. Identify two chemical, mechanical, and electrical energy sources
- d. Define the following stages of fire:
 - 1. Incipient
 - 2. Flame spread
 - 3. Hot smoldering
 - 4. Flash over
 - 5. Steady state
 - 6. Clear burning
- e. Define the three methods of heat transfer
- f. Define the three physical stages of matter in which fuels are commonly found
- g. Define the hazard of finely divided fuels as they relate to the combustion process
- h. Define flash point, fire point, and ignition temperature
- i. Define concentrations in air as it affects combustion
- j. Identify three products of combustion found in structural fires which create a life hazard

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

<u>QUALIFICATION CARD:</u>	EST-01 Emergency Services Technician
<u>DURATION:</u>	2 Years
<u>PREREQUISITES:</u>	The candidate must be current in CPR and possess an EMT-I License.
<u>CLASSROOM TRAINING:</u>	Additional classroom training courses are required prior to completion of this qualification card.
<u>SCOPE:</u>	<p>This qualification card must be completed by all candidates prior to standing a watch unsupervised. Qualification is a six month process. The individual may perform duties without direct supervision only for those evolutions and/or operations for which training has been completed.</p> <p>All signatures must be made by an approved Subject Matter Expert. The signatures indicate that the trainee has demonstrated satisfactory knowledge and performance of the task(s) indicated.</p>
<u>REFERENCES:</u>	<p>Emergency Services Technician Qualification Card Guide Book (EST-01G)</p> <p>WIPP Emergency Management Program (WP-12-9)</p> <p>Emergency Fire Pump (WP-04-FP2202)</p> <p>Inspection and Testing of Sprinkler Systems</p> <ol style="list-style-type: none"> 1. Wet Pipe Fire Sprinkler System Testing (WP-12-FP0025) 2. NFPA 13, Installation of Sprinkler Systems

QUALIFICATION CARD DESCRIPTION (by category)

1. Knowledge Requirements

Demonstrate basic knowledge of emergency management procedures and protocols such as:

- The purpose and types of dry chemicals utilized in large and portable dry chemical systems.
- Inspection and testing principles of sprinkler systems, buildings, pull boxes, and fire detection systems.
- The general operation and hazards of fixed halon systems.
- Principles and procedures for operation of various fire and rescue apparatus.
- Selection and use of personal protective equipment.
- Selection and use of hazardous material equipment and supplies for control and mitigation.

2. Practical Requirements

Demonstrate competency in the following areas:

- Use of fire suppression apparatus and equipment.
- Use of rescue apparatus and equipment.
- Inspection and testing techniques and completion of corresponding forms.
- Operation of ambulance and operation and application of all ambulance equipment and supplies.
- Application of all hazardous materials equipment and supplies for control and mitigation.

<u>QUALIFICATION CARD:</u>	Facility Operations Shift Supervisor
<u>DURATION:</u>	Three to five months
<u>CLASSROOM TRAINING:</u>	Various classroom courses are utilized to reinforce the training received as part of the qualification card. The candidate is required to complete the classroom training courses, satisfactorily, prior to completion of the qualification card
<u>SCOPE:</u>	The Facility Operations Shift Engineer Qualification (FO-FOSE-3) is the final qualification developed from the Central Monitoring Room Operator Qualification and Roving Watch Qualification. This qualification is used by Facility Operations personnel, Facility Operations Engineer, and Facility Shift Manager. The candidate must be recommended by the Facility Operations Manager to perform this qualification. All of the requirements of the applicable qualifications must be completed by the candidate prior to operating any equipment or performing any operating evolutions without direct supervision of a qualified operator. Qualifications are valid for two years.
<u>REFERENCES:</u>	Facility Operations Shift Engineer (FO-FOSE-3) WIPP Operations Watchstation Qualification Card Guide Book (FO-GUIDE-1)

QUALIFICATION CARD DESCRIPTION (by category)

1. System Knowledge

Completed qualification through Central Monitoring Room Operator Qualification and Roving Watch Qualification

2. System Operation Practical Evaluation

Completed qualification through Central Monitoring Room Operator Qualification and Roving Watch Qualification

3. Integrated Plant Knowledge

~~Discuss the site work authorization process and the role of the FSM.~~

~~Discuss the use of operator aids.~~

~~Discuss the responsibilities of the FSM.~~

~~Discuss the use of shift instructions.~~

~~Discuss the role of the FSM in facility emergencies and the actions that are to be taken by the FSM.~~

~~Discuss the role of the Quality Assurance and Safety programs on the site.~~

~~Discuss the Contingency Plan and its implementation.~~

~~Discuss site regulatory compliance as it applies to hazardous waste and hazardous materials.~~

4. Integrated Plant Knowledge Evaluation

~~Complete the required documentation for a lockout/tagout.~~

~~Complete the proper documentation relating to temporary plant modifications.~~

~~Perform various work authorization actions.~~

~~Demonstrate a review of the Facility Operations logs.~~

~~Demonstrate the response required for various facility emergencies.~~

~~Demonstrate ability to stand watch as FSM during different shifts.~~

5. Oral Qualification Exam

~~This final portion of the qualification consists of an oral board exam conducted by board members who are knowledgeable in the qualification program areas.~~

Appendix C
Proposed Attachment D *RCRA Contingency Plan*

ATTACHMENT D

RCRA CONTINGENCY PLAN

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ATTACHMENT D

RCRA CONTINGENCY PLAN

Introduction

This attachment contains the *RCRA Contingency Plan* prepared in accordance with the Resource Conservation and Recovery Act (**RCRA**) requirements codified in 20.4.1.500 New Mexico Administrative Code (**NMAC**) (incorporating 40 CFR Part 264, Subpart D), “Contingency Plan and Emergency Procedures.” The purpose of this document is to define responsibilities and to describe the coordination of activities necessary to minimize hazards to human health and the environment from fires, explosions, or any sudden or non-sudden release of hazardous waste, or hazardous waste constituents to air, soil, or surface water (20.4.1.500 NMAC (incorporating 40 CFR §264.51 [a])). This plan consists of descriptions of emergency responses specific to contact-handled (**CH**) and remote-handled (**RH**) transuranic (**TRU**) mixed waste and site-generated hazardous waste handled at the WIPP facility.

D-1 Scope and Applicability

The regulated units at the WIPP facility subject to this permit include the hazardous waste management units (**HWMUs**) including the Waste Handling Building (**WHB**) Container Storage Unit (i.e., **WHB Unit**) and the Parking Area Container Storage Unit (i.e., **Parking Area Unit**), and the hazardous waste disposal units (**HWDUs**) in the underground disposal panels.

Pursuant to 20.4.1.500 NMAC (incorporating 40 CFR §264.51(b)), owners/operators of treatment, storage, and disposal facilities are required to have formal contingency plans in place that describe actions that facility personnel will take in response to any fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. The contingency plan must meet the requirements of NMAC 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Subpart D). The provisions of the *RCRA Contingency Plan* apply to HWDUs in the underground waste disposal panels, HWMUs in the WHB Unit and the Parking Area Unit, the Waste Shaft, and supporting TRU mixed waste handling areas. These areas are shown in Figures D-1 through D-3.

The WIPP facility is a large quantity generator of hazardous waste pursuant to 20.4.1.300 NMAC (incorporating 40 CFR Part 262, “Standards for Generators of Hazardous Waste”). 20.4.1.300 NMAC (incorporating 40 CFR §262.34(a)(4), which references 40 CFR Part 265, Subpart D) requires that a contingency plan be in place that describes actions that facility personnel will take in response to any fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. The provisions of the *RCRA Contingency Plan* also apply to the Hazardous Waste Staging Areas for site-generated hazardous waste, which are located in Buildings 474A and 474B, as shown in Figure D-1.

Wastes may also be generated at the WIPP facility as a direct result of managing the TRU and TRU mixed wastes received from the off-site generators. Throughout the remainder of this plan, this waste is referred to as “derived waste.” Derived waste will be placed in the rooms in HWDUs along with the TRU mixed waste for disposal. Every reasonable effort to minimize the amount of derived waste, while providing for the health and safety of personnel, will be made.

Wastes generated as a result of emergency response actions will be categorized into one of three groups and disposed of accordingly. These are: 1) nonhazardous wastes to be disposed of at an appropriate disposal facility (e.g., low-level waste facility or approved landfill), 2) hazardous nonradioactive wastes (site-generated hazardous waste) to be disposed of at an off-site RCRA permitted facility, and 3) derived waste to be disposed of in the underground HWDUs as TRU mixed waste. Hazardous liquid wastes that may be generated as a result of emergency response actions will be managed as follows:

Non-Mixed - Accumulated liquids contaminated only with hazardous constituents will be placed into containers and managed in accordance with 20.4.1.300 NMAC (incorporating 40 CFR §262.34) requirements. The waste will be shipped to an approved off-site treatment, storage, or disposal facility.

Mixed - Accumulated liquids contaminated with TRU mixed waste will be solidified and the solidified materials will be disposed of in the underground WIPP repository as TRU mixed waste.

Waste containing liquid in excess of treatment, storage, or disposal facility Waste Acceptance Criteria (**TSDF-WAC**) limits shall not be emplaced in the underground HWDUs (See Permit Attachment C, Section C-1c).

Off-site waste managed and disposed of at the WIPP facility is radioactive mixed waste, and as a result, response to emergencies must consider the dual hazard associated with this waste. In responding to emergencies involving TRU mixed waste, the actions necessary to protect human health and the environment from the effects of radioactivity are generally the same actions necessary to provide protection from hazardous waste and hazardous waste constituents. The *RCRA Contingency Plan* may require additional actions to be taken to mitigate the hazards associated with the hazardous component of the waste; however, these measures are not intended to supersede actions required to respond to radiological emergencies. In this manner, the *RCRA Contingency Plan* complements the radiological response activities.

D-2 Emergency Response Personnel and Training

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, "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.
- 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, for security-related incidents, 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.

D-2b Emergency Response Training

The WIPP Fire Department personnel are trained in accordance with the *WIPP Fire Department Training Plan*, which is kept on file at the WIPP facility. The training plan incorporates current National Fire Protection Association (**NFPA**) standards for training Firefighters and ERT members.

Fire Department Incident Commanders are also trained in accordance with the *WIPP Fire Department Training Plan*, which incorporates the Federal Emergency Management Agency (**FEMA**), Incident Command System (**ICS**), and the National Incident Management System (**NIMS**) standards.

WIPP personnel who perform EMS duties are licensed through the State of New Mexico Emergency Medical Systems Bureau. Licensure requirements for training, continuing education, and skills maintenance are set forth through state requirements. Licenses are maintained by attending training seminars or conferences.

As described above, emergency response training is conducted in accordance with the *WIPP Fire Department Training Plan*, which is updated whenever the applicable standards are revised. In addition to the emergency response training, WIPP Fire Department personnel are required to complete applicable site-specific training, which is described in 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*.

D-3 Criteria for Implementation of the RCRA Contingency Plan

The provisions of the *RCRA Contingency Plan* shall be implemented immediately whenever there is a fire, an explosion, or a release of hazardous wastes or hazardous waste constituents that could threaten human health or the environment, or whenever the potential for such an event exists as determined by the RCRA Emergency Coordinator, as required under 20.4.1.500 NMAC (incorporating 40 CFR §264.51(b)).

There may be situations which do not readily lend themselves to an immediate assessment of the possible hazards to human health and the environment. In these cases, the RCRA Emergency Coordinator will implement the *RCRA Contingency Plan* as a precautionary measure, regardless of the emergency situation or occurrence, if the RCRA Emergency Coordinator has reason to believe that a fire, explosion, or release of hazardous waste or hazardous waste constituents has occurred that could threaten human health or the environment.

In accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(i)), the RCRA Emergency Coordinator, on behalf of the Permittees, will record the time, date, and details of the incident that required implementation of the *RCRA Contingency Plan*. The Secretary of the NMED will be immediately notified by the Permittees. Additionally, the Permittees shall submit a written report to the NMED within 15 days of the incident, as specified in Section D-5. The following emergency situations, as they pertain to TRU mixed waste and generated hazardous wastes, warrant immediate implementation of the *RCRA Contingency Plan* by the RCRA Emergency Coordinator in accordance with standard operating procedures on file at the WIPP facility:

- Fires
 - If a fire involving TRU mixed waste or site-generated hazardous waste occurs
 - If a fire (e.g., building, grass, nonhazardous waste fire) occurs within or near the Hazardous Waste Staging Areas that threatens to involve site-generated hazardous waste
 - If a fire (e.g., building, grass, nonhazardous waste fire) occurs within or near the permitted HWMUs that threatens to involve TRU mixed waste
 - If a fire occurs in underground that results in immediate personnel evacuation or prevents normal personnel access to the underground

For any fire which does not meet the above criteria, the RCRA Emergency Coordinator shall document the rationale for not implementing the *RCRA Contingency Plan* (e.g., there is no threat to human health or the environment).

- Explosions
 - If an explosion involving TRU mixed waste or site-generated hazardous waste occurs
 - If an explosion occurs within or near the Hazardous Waste Staging Areas which threatens to involve site-generated hazardous waste
 - If an explosion occurs within or near the permitted HWMUs which threatens to involve TRU mixed waste
 - If an explosion occurs in the underground that results in immediate personnel evacuation or prevents normal personnel access to the underground
 - If there is an imminent danger of an explosion occurring (e.g., gas leak with an ignition source nearby) which could involve TRU mixed or site-generated hazardous waste

For any explosion which does not meet the above criteria, the RCRA Emergency Coordinator shall document the rationale for not implementing the *RCRA Contingency Plan* (e.g., there is no threat to human health or the environment).

- Unplanned Sudden/Non-Sudden Releases

- If, prior to waste emplacement, one or more containers of TRU mixed waste has spilled or been breached due to dropping, puncturing, container failure or degradation, or any other physical or chemical means, resulting in a release
- If, after waste emplacement, one or more containers of TRU mixed waste in an active room has been breached
- If a continuous air monitor confirms a release of radioactive particulates to the ambient atmosphere, indicating a possible release of TRU mixed waste constituents from the permitted facility
- If a spill of site-generated hazardous waste occurs in a Hazardous Waste Staging Area and cannot be contained with secondary containment methods or absorbents, thereby threatening a release to air, soil, or surface water
- If a site-generated hazardous waste spill occurs in a Hazardous Waste Staging Area and results in the release of potentially flammable material, thereby threatening to create a fire or explosion hazard
- If a site-generated hazardous waste spill occurs in a Hazardous Waste Staging Area and results in the release of potentially toxic fumes that would threaten human health

For any release of hazardous waste or hazardous waste constituents that does not meet the above criteria, the RCRA Emergency Coordinator shall document the rationale for not implementing the *RCRA Contingency Plan* (e.g., there is no threat to human health or the environment).

- Other Occurrences

- If a natural phenomenon (e.g., earthquake, flood, lightning strike, tornado) occurs that involves TRU mixed waste or site-generated hazardous waste or threatens to involve TRU mixed waste or site-generated hazardous waste
- If an underground structural integrity emergency (e.g., roof fall in an active room) occurs that involves TRU mixed waste, threatens to involve TRU mixed waste results in immediate personnel evacuation, or prevents normal personnel access to the underground

For any natural phenomenon or underground structural emergency that does not meet the above criteria, the RCRA Emergency Coordinator shall document the rationale for not implementing the *RCRA Contingency Plan* (e.g., there is no threat to human health or the environment).

D-4 Emergency Response Method

Methods that describe implementation of the *RCRA Contingency Plan* cover the following six areas:

1. *Immediate Notifications* (Section D-4a)
2. *Identification of Released Materials and Assessment of Extent of Emergency* (Section D-4b)
3. *Assessment of the Potential Hazards* (Section D-4c)
4. *Post-Assessment Notifications* (Section D-4d)
5. *Control and Containment of the Emergency* (Section D-4e)
6. *Post-Emergency Activities* (Section D-4f)

D-4a Immediate Notifications

Notification requirements in the event of implementation of the *RCRA Contingency Plan* are defined by 20.4.1.500 NMAC (incorporating 40 CFR §264.56(a)). Personnel at the WIPP facility are trained to respond to emergency notifications.

Whenever an emergency situation occurs that warrants implementation of this *RCRA Contingency Plan*, as described in Section D-3, the Permittees will immediately notify the Secretary of the NMED.

D-4a(1) Initial Emergency Response and Alerting the RCRA Emergency Coordinator

The first person to become aware of an incident shall immediately report the situation to the CMRO and, as requested by the CMRO, provide the relevant information. Facility personnel are trained in the process for notifying the CMRO as part of General Employee Training (**GET**)

In addition to receiving incident reports from facility personnel, the CMRO continuously monitors (24 hours a day) the status of alarms, takes telephone calls and radio messages, initiates calls to emergency staff, and initiates emergency response procedures regarding evacuation, if needed.

Once the CMRO is notified of a fire, explosion, or a release anywhere in the facility (either by eyewitness notification or an alarm), the RCRA Emergency Coordinator is immediately notified. The RCRA Emergency Coordinator ensures that the emergency responders, including the WIPP Fire Department, the ERT, and the MRT, have been notified, as needed. Once incident command has been established, the RCRA Emergency Coordinator has the authority to delegate the responsibilities for mitigation of the incident to the Incident Commander.

The response to an unplanned event will be performed in accordance with standard operating procedures and guides based on the applicable Federal, State, or local regulations and/or guidelines for that response. These include DOE Order 151.1C, *Comprehensive Emergency Management System*; the U.S. Mine Safety and Health Administration (**MSHA**); NMAC;

Comprehensive Environmental Response, Compensation, and Liability Act; Chapter 74, Article 4B, New Mexico Statutes Annotated 1978; and the New Mexico Emergency Management Act.

If needed, the RCRA Emergency Coordinator will immediately notify the appropriate State and local agencies, listed in Section D-7, with designated response roles.

Depending on the emergency, the EOC may be activated for additional support. In the event that the EOC is activated, decision-making responsibilities related to emergency management and associated notifications may be delegated to the EOC by the RCRA Emergency Coordinator. The EOC will assist in the mitigation of the incident with the use of appropriate communications equipment and technical expertise from available resources. During the emergency, the RCRA Emergency Coordinator will remain in contact with and advise the EOC of the known hazards.

The EOC staff assesses opportunities for coordination and the use of mutual-aid agreements with local agencies making additional emergency personnel and equipment available (Section D-7), as well as the use of specialized response teams available through various State and Federal agencies. Because the WIPP facility is a DOE-owned facility, the Permittees may also use the resources available from the *National Response Framework*.

D-4a(2) Communication of Emergency Conditions to Facility Employees

Procedures for immediately notifying facility personnel of emergencies are as follows:

- Local Fire Alarms

The local fire alarms sound an audible tone and may be activated automatically or manually in the event of a fire.

- Surface Evacuation Signal

The evacuation signal is a yelp tone and is manually activated by the CMRO when needed. The CMRO follows the evacuation signal with verbal instructions and ensure the Site Notification System has been activated.

- Underground Evacuation Warning System

The underground evacuation signal is a yelp tone and flashing strobe light. In the event of an evacuation signal, underground personnel will follow escape routes to egress hoist stations. Underground personnel are trained to report to the underground assembly areas and await further instruction if all power fails or if ventilation stops. If evacuation of underground personnel is required, this will be done using the backup electric generators and in accordance with the applicable requirements of MSHA.

WIPP facility personnel are trained and given instruction during GET to recognize the various alarm signals and the significance of each alarm. WIPP facility employees and site visitors are required to comply with directions from emergency personnel and alarm system notifications and to follow instructions concerning emergency equipment, shutdown procedures, and emergency evacuation routes and exits.

D-4b Identification of Released Materials and Assessment of Extent of the Emergency

The identification of hazardous wastes or hazardous waste constituents involved in a fire, an explosion, or a release to the environment is a necessary part of the RCRA Emergency Coordinator's assessment of an incident, as described in 20.4.1.500 NMAC (incorporating 40 CFR §264.56(b)). Immediately after alarms have been activated and required notifications have been made, the RCRA Emergency Coordinator shall direct an investigation to determine pertinent information relevant to the actual or potential threat posed to human health or the environment. The information will include the character, exact source, amount, and areal extent of any released material. This may be done by observation or review of facility records or manifests and, if necessary, by chemical analysis.

The identification of the character and source of released materials at any location is enhanced because hazardous wastes are stored, managed, or disposed at specified locations throughout the WIPP facility.

Sources of information available to identify the hazardous wastes involved in a fire, an explosion, or a release at the WIPP facility include operator/supervisor knowledge of their work areas, materials used, and work activities underway; the WIPP Waste Information System (**WWIS**), which identifies the location within the facility of emplaced TRU mixed waste, including emplaced derived waste; and waste manifests and other waste characterization information in the operating record. The WWIS also includes information on wastes that are in the waste handling process. Also available are Safety Data Sheets (**SDSs**) for hazardous materials in the various user areas throughout the facility, waste acceptance records, and materials inventories for buildings and operating groups at the WIPP facility. Information or data from the derived waste accumulation areas, the Hazardous Waste Staging Areas, satellite staging areas, and nonregulated waste accumulation areas are included. It is anticipated that this information is sufficient for identifying the nature and extent of the released materials. The RCRA Emergency Coordinator has access to this information when needed.

The waste received at the WIPP facility must meet TSDF-WAC (e.g., no more than one percent liquid), which minimizes the possibility of waste container degradation and liquid spills. Should a spill or release occur from a container of site-generated hazardous or TRU mixed waste, following an initial assessment of the event, the RCRA Emergency Coordinator will ensure that the following actions are immediately taken, consistent with radiological control procedures, in compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.52(a) and §264.171):

- Assemble the required response equipment, such as protective clothing and gear, heavy equipment, empty drums, overpack drums, hand tools, and absorbent materials
- Transfer the released material to a container that is in good condition and patch or overpack the leaking container into another container that is in good condition
- Once the release has been contained, determine the areal extent of the release and proceed with appropriate cleanup action, such as chemical neutralization, vacuuming, or excavation

D-4c Assessment of the Potential Hazards

Concurrent with the actions described in Sections D-4a and D-4b, and in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(c)), the RCRA Emergency Coordinator shall

assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment will consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions). The RCRA Emergency Coordinator will be responsible for identifying and responding to immediate and potential hazards, using the services of trained personnel.

After the materials involved in an emergency are identified, the specific information (e.g., associated hazards, appropriate personal protective equipment (**PPE**), decontamination) may be obtained from SDSs and from appropriate chemical reference materials at the same location. These information sources are available to the RCRA Emergency Coordinator or may be accessed through several WIPP facility organizations.

If, upon completion of the hazards assessment, the RCRA Emergency Coordinator determines that there are no actual or potential hazards to human health or the environment present, this RCRA Contingency Plan may be terminated. The RCRA Emergency Coordinator will record the time, date, and details of the incident in the operating record, and the Permittees will ensure that the reporting requirements of Section D-5 are fulfilled.

D-4d Post-Assessment Notifications

Upon *RCRA Contingency Plan* implementation, post-assessment notifications may be necessary in order to satisfy 20.4.1.500 NMAC (incorporating 40 CFR §264.56(d)). If it has been determined that the facility has had a fire, an explosion, or a release of hazardous waste or hazardous waste constituents that could threaten human health or the environment outside the facility (i.e., outside the Land Withdrawal Boundary), the RCRA Emergency Coordinator, after consultation with the DOE as the owner of the facility, will ensure that the appropriate local authorities are immediately notified by telephone and/or radio in the event that evacuation is needed. The following notifications satisfy the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.56(d)(1)):

- New Mexico Department of Homeland Security and Emergency Management (telephone number: (505) 476-9635)
- Eddy County via the Regional Emergency Dispatch Authority (telephone number: (575) 616-7155)
- Lea County via the Regional Emergency Dispatch Authority (telephone number: (575) 397-9265)

The RCRA Emergency Coordinator must be available to help appropriate officials decide whether local areas should be evacuated.

After local authorities are notified, the RCRA Emergency Coordinator must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center. For the purposes of the *RCRA Contingency Plan*, the following notifications satisfy the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.56(d)(2)):

- New Mexico Environment Department (NMED)
Department of Public Safety
24-Hour Emergency Reporting Telephone Number: (505) 827-9329
FAX number: (505) 827-9368
- National Response Center
Telephone number: 1-800-424-8802
FAX number: (202) 479-7181

This notification shall include the following information:

- The name and phone number of the reporter
- The name and address of the facility
- The type of incident (fire, explosion, or release)
- The date and time of the incident
- The name and quantity of material(s) involved, to the extent known
- The extent of injuries, if any
- Possible hazards to human health and the environment (air, soil, water, wildlife, etc.) outside the facility

Communications beyond those required by the *RCRA Contingency Plan* are the responsibility of the Permittees in accordance with plans and policies on file at the WIPP facility.

D-4e Control and Containment of the Emergency

The RCRA Emergency Coordinator is required to ensure control of an emergency and to minimize the potential for the occurrence, recurrence, or spread of releases due to the emergency situation, as described in 20.4.1.500 NMAC (incorporating 40 CFR §§264.56 (e) and (f)). Standard operating procedures and guides are used to implement initial response measures with priority being control of the emergency, and those actions necessary to ensure confinement and containment in the early, critical stages of a spill or leak. The RCRA Emergency Coordinator, in conjunction with the Incident Commander, is responsible for implementing the following measures:

- Stopping processes and operations
- Collecting and containing released wastes and materials
- Removing or isolating containers of hazardous waste posing a threat

- Ensuring that wastes managed during an emergency are handled, stored, or treated with due consideration for compatibility with other wastes and materials on site and with containers utilized (Section D-4f(2)).
- Restricting personnel not needed for response activities from the scene of the incident
- Evacuating the area
- Curtailing nonessential activities in the area
- Conducting preliminary inspections of adjacent facilities and equipment to assess damage
- Maintaining fire equipment on standby at the incident site in cases where ignitable liquids have been or may be released and ensuring that ignition sources are kept out of the area. Ignitable liquids will be segregated, contained, confined, diluted, or otherwise controlled to preclude inadvertent explosion or detonation.

No operation that has been shut down in response to the incident will be restarted until authorized by the RCRA Emergency Coordinator. If a release occurs that involves radioactivity, the RCRA Emergency Coordinator actions will be consistent with radiation control policies and practices.

The standard operating procedures for emergency response may include, but are not limited to, the following actions appropriate for control of releases:

1. Isolating the area from unauthorized entry by fences, barricades, warning signs, or other security and site control precautions. Isolation and evacuation distances vary, depending upon the chemical/product, fire, and weather situations.
2. Establishing drainage controls.
3. Stabilizing physical controls (such as dikes or impoundment[s]).
4. Capping contaminated soils to reduce migration.
5. Using chemicals and other materials to retard the spread of the release or to mitigate its effects.
6. Excavating, consolidating, or removing contaminated soils.
7. Removing waste containers to reduce exposure risk during situations such as fires.

If the facility stops operations in response to a fire, explosion, or release, the RCRA Emergency Coordinator shall ensure continued monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever appropriate.

Natural and/or synthetic methods will be employed to limit the releases of hazardous waste or hazardous waste constituents so that effective recovery and treatment can be accomplished with minimal additional risk to human health or the environment.

Emergency response actions taken to mitigate releases may include, but are not limited to, the following:

1. Physical methods of control may involve any of several processes to reduce the area of the spill/leak, or other release mechanism (such as fire suppression).
 - a. Absorption (e.g., absorbent sheets; spill control bucket materials specifically for solvents, neutralization, or acids/caustics; and absorbent socks for general liquids or oils)
 - b. Dikes or Diversions (e.g., absorbent socks or earth)
 - c. Overpacking
 - d. Plug and Patch
 - e. Transfers from leaking container to new container
 - f. Vapor Suppression (e.g., aqueous foam blanket)
2. Chemical methods of mitigation may include the following:
 - a. Neutralization
 - b. Solidification

Once the Incident Commander informs the RCRA Emergency Coordinator that the emergency scene is stable, the release has been stopped, any reactions have been controlled, the released hazardous materials have been contained within a localized area, and the area of contamination has been secured from unauthorized entry, the field emergency response activity can be terminated.

D-4e(1) Fires

In the event of a fire that involves or threatens TRU mixed waste or site-generated hazardous waste, emergency response actions may include, but are not limited to, the following:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.
3. Only fire extinguishing materials that are compatible with the materials involved in the fire will be used to extinguish fires. Water and dry chemical materials have been determined to be compatible with all components of the TRU mixed waste.
4. In order to ensure that storm drains and/or sewers do not receive potentially hazardous runoff, dikes will be built around storm drains to control discharge as

needed. Collected waste will be sampled and analyzed for hazardous constituents and appropriately disposed.

5. The RCRA Emergency Coordinator will ensure that measures are taken to shut down operational units (e.g., process equipment and ventilation equipment) that have been affected directly or indirectly by the fire.
6. Fire suppression materials used in response to incidents will be retained on-scene, where an evaluation will be performed to determine appropriate recovery and disposal methods.
7. Upon underground evacuation due to a fire in the underground that involves or threatens to involve TRU mixed waste, a response plan will be developed depending on the status of the fire. The plan may include ventilation control, barrier erection, and waiting for the fire to self-extinguish or implement active ventilation.

D-4e(2) Explosions

In the event of an explosion that involves or threatens TRU mixed waste or site-generated hazardous waste, emergency response actions may include, but are not limited to, the following:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.
3. The RCRA Emergency Coordinator will ensure that measures are taken to shut down operational units (e.g., process equipment and ventilation equipment) that have been affected directly or indirectly by the explosion.
4. If, following an explosion, there is an ensuing fire, see Section D-4e(1).
5. If, following an explosion, there is an underground structural integrity emergency, see Section D-4e(4).

D-4e(3) Unplanned Sudden/Non-Sudden Releases

Spills of Site-Generated Hazardous Waste

If a spill of site-generated hazardous waste has occurred, and 1) the spill cannot be contained with secondary containment methods or absorbents, 2) the spill causes a release of flammable material, or 3) the spill results in toxic fumes, the RCRA Emergency Coordinator will ensure implementation of measures that may include, but are not limited to, the following actions:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.

2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.
3. The immediate area will be evacuated.
4. The source of the release will be mitigated, if possible.
5. A dike to contain runoff will be built, if necessary.
6. Dikes around storm drains to control discharge will be built, as needed, to ensure that storm drains and/or sewers do not receive potentially hazardous runoff.
7. Fire equipment will be maintained on standby at the incident site in cases where ignitable liquids have been or may be released, and ignition sources will be kept out of the area of ignitable liquids.
8. Released waste and contaminated media will be collected and placed into drums or other appropriate containers.

Releases of TRU Mixed Waste

If a release of TRU mixed waste has occurred, the emergency will be managed as a potential radiological release, and radiological control measures will determine the activities that can be performed safely, which may include the following:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.
3. Prior to the re-entry following an event involving containers that are managed as TRU mixed waste, a Radiological Work Permit (**RWP**) will be prepared.
4. During the re-entry phase, the extent of radiological contamination will be determined. This information is used by the RCRA Emergency Coordinator to determine an appropriate course of action to recover the area.
5. During the recovery phase, the necessary resources to conduct decontamination and/or overpacking operations will be used as needed.
6. Prior to returning the affected area and/or equipment to normal activities, the RCRA Emergency Coordinator will determine if additional measures are required by the *RCRA Contingency Plan* (e.g., characterization and disposal of contaminated media).
7. The recovery phase will include activities (e.g., placing the waste material in another container, vacuuming the waste material, overpacking or plugging/patching the

affected waste container(s), decontaminating or covering the affected area), as specified in the RWP, to minimize the spread of contamination to other areas.

8. The RWPs and other administrative controls will provide protective measures to help ensure that new hazardous constituents will not be added during decontamination activities.

D-4e(4) Other Occurrences

Natural Phenomena

In the event of a natural phenomenon (e.g., earthquake, flood, lightning strike, tornado) that involves hazardous waste or has threatened to cause a release of hazardous waste or hazardous waste constituents, emergency response actions may include, but are not limited to, the following:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.
2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.
3. Containers which have not been disposed will be inspected for signs of leakage or damage, and containment systems will be inspected for deterioration.
4. Affected equipment or areas associated with hazardous waste management activities will be inspected, and the operability of monitoring systems will be ensured.
5. Affected electrical equipment and lines will be inspected for damage.
6. Affected buildings and fencing directly related to hazardous waste management activities will be inspected for damage.
7. A general survey of the site will be conducted to check for signs of physical damage.
8. The RCRA Emergency Coordinator will ensure that measures are taken to shut down operational units (e.g., process equipment and ventilation equipment) that have been affected by the natural phenomenon.

Underground Structural Integrity Emergencies

In the event of an underground structural integrity emergency that involves or threatens TRU mixed waste (i.e., occurs in an active disposal room), the emergency will be managed as a potential radiological release, and radiological control measures will determine the activities that can be performed safely, and may include the following:

1. The RCRA Emergency Coordinator will remain in contact with and advise the Incident Commander of the known hazards.

2. The Incident Commander will maintain overall control of the emergency and may accept and evaluate the advice of WIPP facility personnel and emergency response organization members, but retains overall responsibility until the emergency is terminated.
3. The RCRA Emergency Coordinator will ascertain whether the roof conditions allow for safe entry and if the waste container or containers in question are accessible.
4. The RCRA Emergency Coordinator may recommend closing the entire panel, or the affected room of waste containers, based on the location of the event and the stability of the roof and walls in the panel as a method to ensure that measures are taken to shut down affected operational units.
5. Access to the ventilation flow path downstream of the incident will be restricted, as appropriate.
6. Ventilation to the affected room will be restricted to ensure that there is no spread of contamination that may have been released, as appropriate.
7. Accessible containers will be inspected for signs of leakage or damage.
8. The spill area will be covered with material (e.g., plastic, fabric sheets) in a manner that safely isolates the contamination in the area.
9. The RCRA Emergency Coordinator will determine if the covered spill area safely allows for continued waste disposal operations or whether further action is required to reinitiate operations.

D-4f Post-Emergency Activities

Immediately after the emergency, and once initial release or spill control and containment have been completed, the RCRA Emergency Coordinator will ensure that necessary decontamination occurs and that recovered hazardous waste is properly managed, stored, and/or disposed, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.56(g)). As required by 20.4.1.500 NMAC (incorporating 40 CFR §264.56(h)), the RCRA Emergency Coordinator will ensure that incompatibility of waste and restoration of emergency equipment are addressed.

D-4f(1) Management and Disposition of Released Material

When a release of TRU mixed waste has occurred, priority is given to actions required to minimize radiological exposure to workers and the public. In most cases, these actions are sufficient to mitigate any health effects associated with contamination by hazardous waste or hazardous waste constituents.

If a release of site-generated hazardous waste occurs, the contaminated surface will be cleaned, and decontamination materials will be placed in containers and dispositioned appropriately. If the release is TRU mixed waste, decontamination and disposition will be in accordance with the RWP.

If radioactive contamination is detected on equipment or on structures, radiological cleanup standards will be used to determine the effectiveness of decontamination efforts and/or the final

disposition of the equipment or structures. Many types of equipment are difficult to decontaminate and may have to be discarded as derived waste. Fixatives (e.g., paint) may be used on contaminated structures if the contamination cannot be safely removed.

Following decontamination, the RCRA Emergency Coordinator will ensure that nonradioactive hazardous waste resulting from the cleanup of a fire, an explosion, or a release involving a nonradioactive hazardous waste at the WIPP facility will be contained and managed as a hazardous waste until such time as the waste is disposed of, or determined to be nonhazardous, as defined in 20.4.1.200 NMAC (incorporating 40 CFR Part 261, Subparts C and D). In most cases, knowledge of the material inventories for the various buildings and areas at the facility will allow a hazardous waste determination for the materials resulting from the cleanup of a release. When knowledge of the material inventories is not sufficient, samples of the waste will be collected and analyzed using U.S. Environmental Protection Agency (EPA)-approved methods to determine the presence of any hazardous characteristics and/or hazardous waste constituents.

D-4f(2) Incompatible Waste

The RCRA Emergency Coordinator will ensure, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(h)(1)), that in the affected area(s) of the facility, no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup has been completed. The RCRA Emergency Coordinator will not allow hazardous or TRU mixed waste operations to resume in a building or area in which incompatible materials have been released prior to completion of necessary post-emergency cleanup operations to remove potentially incompatible materials. In making the determination of compatibility, the RCRA Emergency Coordinator will have available the resources and information described in Section D-4b, *Identification of Released Materials and Assessment of the Extent of the Emergency*.

D-4f(3) Cleaning and Restoration of Equipment

The RCRA Emergency Coordinator will take measures to ensure, in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(h)(2)), that in the affected area(s) of the facility, emergency equipment listed in the *RCRA Contingency Plan*, and used in the emergency response, is cleaned and fit for its intended use or replaced before operations are resumed.

Any equipment that cannot be decontaminated will be discarded as waste (e.g., hazardous, mixed, solid), as appropriate. After the equipment has been cleaned, repaired, or replaced, a post-emergency facility and equipment inspection will be performed, and the results will be documented.

D-5 Required Reporting

The RCRA Emergency Coordinator, on behalf of the Permittees, will note in the operating record the time, date, and details of the incident that required implementation of the *RCRA Contingency Plan*. In compliance with 20.4.1.500 NMAC (incorporating 40 CFR §264.56(i)), within 15 days after the incident, the Permittees will ensure that a written report on the incident will be submitted to the Secretary of the NMED and the EPA Region VI Administrator. The report will include:

- The name, address, and telephone number of the Owner/Operator

- The name, address, and telephone number of the facility
- The date, time, and type of incident (e.g., fire, explosion, or release)
- The name and quantity of material(s) involved
- The extent of injuries, if any
- An assessment of actual or potential hazards to human health or the environment, where this is applicable
- The estimated quantity and disposition of recovered material that resulted from the incident

D-6 Emergency Equipment

A variety of equipment is available at the facility for emergency response, containment, and cleanup operations in the surface HWMUs, the underground HWDUs, and the WIPP facility in general. This includes equipment for spill control, fire control, personnel protection, monitoring, first aid and medical attention, communications, and alarms. This equipment is immediately available to emergency response personnel. A listing of major emergency equipment available at the WIPP facility, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.52(e)), is shown in Table D-2. Table D-2 also includes the location and a physical description of each item on the list along with a brief outline of its capabilities. The fire-water distribution system map is shown in Figure D-5. Equipment specified at the locations listed in Table D-2 are inspected in accordance with the inspection schedule specified in Attachment E, Table E-1, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.52(b)).

D-7 Agreements with Local Emergency Response Agencies

The Permittees have established agreements with local emergency response agencies for firefighting, medical assistance, hazardous materials response, and law enforcement. In the event that on-site response resources are unable to provide the needed response actions during a medical, fire, hazardous materials, or security emergency, the RCRA Emergency Coordinator will notify appropriate response agencies and request assistance. Once on site, local emergency response agency personnel will perform emergency response activities under the direction of the Incident Commander.

The agreement with local agencies for emergency response capabilities are on file at the WIPP facility. Additional agreements may be established when needed. A description of the agreements with State and local agencies and mining operations in the vicinity of the WIPP facility, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.37 and §264.52(c)), includes, but is not limited to, the following:

- Agreements with local mining companies, including Intrepid Potash NM LLC and Mosaic Potash Carlsbad Inc. provide for mutual aid and assistance, in the form of MRTs, in the event of a mine disaster or other circumstance at either of the facilities. This provision ensures that the WIPP MOC will have two MRTs available at all times when miners are underground.

- An agreement with the U.S. Department of Interior (**DOI**), represented by the Bureau of Land Management (**BLM**), Roswell District, for wildland firefighting support within the WIPP Land Withdrawal Area.
- Agreements for mutual-aid firefighting with Eddy County, the City of Hobbs, and the City of Carlsbad for assistance, including equipment and personnel.
- Agreements with the City of Hobbs and the City of Carlsbad for mutual ambulance, medical, rescue, and hazardous material response services; for use of WIPP facility radio frequencies during emergencies; and for mutual security and law enforcement services, within the appropriate jurisdiction limits of each party.
- Agreements with the Lea Regional Medical Center and the Carlsbad Medical Center for the treatment of persons with radiological contamination who have incurred injuries beyond the treatment capabilities at the WIPP site. The WIPP facility provides transport of the patient(s) to the medical center.
- Agreements with the Sheriff of Eddy County and the Sheriff of Lea County for mutual law enforcement services support.
- An agreement with the New Mexico Department of Homeland Security and Emergency Management for mutual emergency management support, access to state law enforcement, public works, and transportation assets.

D-8 Evacuation Plan

If it becomes necessary to evacuate all or part of the WIPP facility, on-site assembly and off-site staging areas have been established. The off-site staging areas are outside the security fence. The Permittees have plans and implementation procedures for both surface and underground evacuations. Drills are performed on these procedures at the WIPP facility at least annually. The following sections describe the evacuation plan for the WIPP facility, as required under 20.4.1.500 NMAC (incorporating 40 CFR §264.52(f)).

D-8a Surface Evacuation On-site and Off-site Staging Areas

Figure D-6 shows the surface assembly and staging areas. Security officers remain at the primary staging area gate 24 hours a day, and the vehicle trap is opened for personnel during emergency evacuations. The north gate has a single-person gate and a large gate which can be opened, similar to the main gates for the primary staging area. The east gate is a turnstile gate. Upon notification, security personnel will respond, open gates, and facilitate egress for evacuation.

If building or area evacuation is necessary, the RCRA Emergency Coordinator, in conjunction with the Incident Commander, will determine which assembly area is to be used and will communicate the selection to facility personnel. The preferred evacuation route is determined based on the nature of the event, prevailing weather conditions, and actual or potential radiological release. If site evacuation is necessary, the RCRA Emergency Coordinator, in conjunction with the Incident Commander, will decide which staging area is to be used and will communicate the selection to facility personnel. The WIPP site evacuation routes are shown on Figure D-8. The surface evacuation alarm and public address system are used to direct

personnel evacuation. Persons responsible for surface accountability will direct personnel to the selected staging area outside the security fence.

Personnel report to the designated assembly or staging area where accountability is conducted (Figure D-6). Personnel who are working in a contaminated area when site evacuation is announced will assemble at specific staging areas for potentially contaminated personnel in order to minimize contact with other personnel during the evacuation.

D-8b Underground Assembly Areas and Egress Hoist Stations

Depending upon the type of emergency and level of response, it may be necessary for personnel in the underground to shelter in place, report to designated assembly areas (Figure D-7), or to evacuate the underground. Underground personnel are trained to immediately report to assembly areas under specific circumstances (i.e., loss of underground power or ventilation). Underground accountability is taken when the underground is sheltered in place or evacuated. The Underground Controller is responsible for underground accountability. Each assembly area contains a mine page phone, miner's aid station, and evacuation maps.

In accordance with 30 CFR §57.11050, the mine maintains two escapeways. These escapeways are designated as Egress Hoist Stations. When the need for an underground evacuation has been determined, underground personnel report to the Egress Hoist Stations.

Decontamination of underground personnel will be conducted the same way as described for surface decontamination. Contaminated personnel are trained to remain segregated from other personnel until radiological contamination control personnel can respond.

D-8c Plan for Surface Evacuation

Surface evacuation notification is initiated by the CMRO, as directed by the RCRA Emergency Coordinator, via sounding of the surface evacuation alarm and providing incident information via the public address system. The persons responsible for surface accountability assist personnel in evacuation from their areas. Egress routes from buildings and site evacuation routes and instructions are posted in designated areas throughout the site. Egress routes from the WHB Unit are shown in Figures D-6a, D-6b, and D-6c.

If the ERT members have been notified to respond to an identified area, these members will not depart the site during an evacuation, but will report to the Incident Commander for instructions and accountability. The ERT members will not evacuate until released by the Incident Commander.

D-8d Plan for Underground Evacuation

Notification for underground evacuation will be made using the underground evacuation alarm and strobe light signals.

Personnel will evacuate to the nearest Egress Hoist Station. Primary underground escape routes (identified by green reflectors on the rib) will be used, if possible. Secondary underground escape routes (identified by red reflectors on the rib) will be used if necessary (Figure D-4). Detailed descriptions of escapeways and an underground escape map are included in the *Underground Escape and Evacuation Plan* on file at the WIPP facility, as required by 30 CFR

§57.11053. The Underground Controller is responsible for underground personnel accountability and reporting accountability to the RCRA Emergency Coordinator.

Upon reaching the surface, personnel will report to their on-site surface assembly or off-site staging area, as directed, to receive further instructions.

Members of the WIPP Fire Department and the MRT who may be underground, will assist in the evacuation of the underground when an underground evacuation is called for. A reentry by the MRT will be performed according to 30 CFR Part 49 and MSHA regulations for reentry into a mine. The two MRTs are trained in compliance with 30 CFR Part 49 in mine mapping, mine gases, ventilation, exploration, mine fires, rescue, and recovery.

D-8e Further Site Evacuation

In the event of an evacuation involving the need to transport employees, the following transportation will be available:

- Buses/vans—WIPP facility buses/vans will be available for evacuation of personnel. The buses/vans are stationed in the employee parking lot.
- Privately Owned Vehicles—Because many employees drive to work in their own vehicles, these vehicles may be used in an emergency. Personnel will be provided routes to be taken when leaving the facility.

These vehicles may be used to transport personnel who have been released from the site by the RCRA Emergency Coordinator.

The primary evacuation routes for the WIPP facility are the main DOE north/south access road, which connects to U.S. Highways 62/180 (north) and State Highway 128 (south). Alternate evacuation routes from the facility are provided at the south side and the east side of the facility (Figure D-8).

D-9 Location of the RCRA Contingency Plan and Plan Revision

In accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.53(a)), the owner/operator of the WIPP facility will ensure that copies of this *RCRA Contingency Plan* are maintained at the WIPP facility and are available to the emergency personnel and organizations described in Section D-2. When the *RCRA Contingency Plan* is revised, updated copies are distributed (electronically or via site mail) or hand delivered to applicable WIPP facility emergency personnel and Emergency Operations Centers. In addition, the Permittees will make copies available to the following State and local agencies, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.53(b)):

- Intrepid Potash New Mexico LLC
- Mosaic Potash Carlsbad Inc.
- City of Carlsbad
- Carlsbad Medical Center, Carlsbad
- Lea Regional Medical Center, Hobbs
- City of Hobbs
- BLM, Carlsbad
- New Mexico State Police

- New Mexico Department of Homeland Security and Emergency Management
- Eddy County Commission
- Sheriff of Eddy County
- Sheriff of Lea County

In accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.54), the Permittees will ensure that this plan is reviewed and amended whenever:

- The Permit for the WIPP facility is revised in any way that would affect the *RCRA Contingency Plan*;
- This plan fails in an emergency;
- The WIPP facility design, construction, operation, maintenance, or other circumstances change in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous constituents or change the response necessary in an emergency;
- The list of RCRA Emergency Coordinators change; or
- The list of WIPP facility emergency equipment changes.

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TABLES

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Table D-1
Resource Conservation and Recovery Act Emergency Coordinators¹

Name	Address*	Office Phone	Personal Phone*
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.

¹ 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.

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, and audible alarm devices (e.g., horns, bells, tones) that provide notification of fires; transmitted to the CMR	Guard and Security Building, Water Pumphouse, Warehouse/Shops, Exhaust Filter Building, Support Building, CMR/Computer Room, Waste Handling Building (Building 411), TRUPACT Maintenance Facility, Salt Handling (SH) Hoisthouse, Maintenance Shops, Entry Control Point, Auxiliary Warehouse, Engineering Building, Training Facility, Safety Building (Building 452), Maintenance Shop, Hazardous Waste Staging Areas (Buildings 474A and 474B)
Underground Fire Alarms	Fire alarm panels, fire alarm transmitter, and audible/visual alarm devices (e.g., horns, bells, strobes) that provide notification of fires; transmitted to the CMR	Fire detection and control panel locations: Waste Shaft Underground Station, SH Shaft Underground Station, Between E-140 and E-300 in S-2180 Drift, Fuel Station
Surface Evacuation Signals; Underground Evacuation Warning System	For surface, transmitted over paging channel of the public address system, manually initiated; for underground, audible alarm	Site-wide
Public Address System	Includes intercom phones; handset stations and loudspeaker assemblies	Surface and underground
Mine Page Phones	Battery-operated paging system	CMR, Mine Rescue Room, lamproom, underground at S550/W30, S1000/W30, S1950/E140, SH Shaft Collar and Underground Station, Waste Shaft Collar and Underground Station, FSM desk, Fire Department workstation area
Portable Radios	Two-way, portable; transmits and monitors information to/from other transmitters	Issued to individuals
Plant Base Radios	Two-way, stationary; transmits and monitors information to/from other transmitters	Building 452, Building 458, Building 451 (CMR, FSM desk)
Mobile Phones	Provide communications link between emergency response personnel, as needed	Issued to individuals plus emergency vehicles

Equipment	Description and Capabilities	Location
Spill Response Equipment and Materials		
HAZMAT Equipment	Spill response equipment and supplies, PPE, and decontamination supplies stored and maintained in accordance with NFPA 1901 and as documented in WIPP facility files	Surface, in designated areas near Building 452
Absorbent Materials	Containment or cleanup of spills, including: Pressurized spill-response gun; Absorbent sheets and/or dikes for containment or cleanup of spills of oil, petroleum-based chemicals, and general liquids; Spill-control material for solvents and neutralizing absorbents and for acids/caustics	Surface, in designated areas near Building 452
Medical Resources		
Ambulance	A minimum of one ambulance, maintained and equipped in accordance with the New Mexico Ambulance Standard, 18.3.14 NMAC, and as documented in WIPP facility files	Surface (Building 452)
Medical Cart	A minimum of one medical cart, equipped to provide basic life support operations, as documented in WIPP facility files	Underground
Miner's First Aid Station	Equipped per 30 CFR 57.15001	Various Underground Locations
Fire Detection and Fire Suppression Equipment		
Building Smoke, Thermal Detectors, or Manual Pull Stations	Devices that trigger an alarm and/or fire suppression system	Guard and Security Building, Warehouse/Shops, Support Building, CMR/Computer Room, Waste Handling Building, TRUPACT Maintenance Facility, Waste Shaft Collar, Underground Fuel Station, SH Hoisthouse, Engineering Building, Industrial Safety Building, Training Facility
Fire Trucks	A minimum of two fire trucks to assist in fighting fires; firefighter equipped in accordance with NFPA 1901 and/or 1906 and as documented in WIPP facility files	Surface (Building 452)
Rescue Carts/Trucks	A minimum of two special-purpose vehicles, one on the surface and one in the underground; light rescue units, equipped in accordance with the NFPA 1901 and as documented in WIPP facility files	Surface (Building 452) and Underground
Fire Suppression Cart	A minimum of one special-purpose electric cart to assist in fighting fires; equipped with a minimum of one fire extinguisher	Underground
Fire Extinguishers	Hand-held fire extinguishers; located throughout the facility in accordance with NFPA 10	Surface and underground locations used for hazardous waste management, as documented in WIPP facility files

Equipment	Description and Capabilities	Location
Automatic Dry Chemical Extinguishing Systems	Automatic; actuated by thermal detectors or by manual pull stations	Underground fuel station
Automatic Fire Suppression Systems on liquid fueled vehicles	Individual automatic fire suppression systems installed on applicable liquid-fueled vehicles, as determined by a fire risk assessment performed in accordance with NFPA 122	Surface and underground locations used for hazardous waste management, as documented in WIPP facility files
Sprinkler Systems	NFPA water-based fire suppression systems	Water Pumphouse, Guard and Security Building, Waste Handling Building (Contact Handling, Remote Handling, and Overpack and Repair Areas only), TRUPACT Maintenance Building, Exhaust Filter Building, and Hazardous Waste Staging Areas (Buildings 474A and 474B)
Water Tanks, Hydrants	Fire suppression water supply; one 180,000-gallon capacity tank, plus a second tank with 100,000 gallon reserve	Tanks are at southwestern edge of WIPP facility; pipelines and hydrants are throughout the surface
Fire Water Pumps	Fire suppression water supply; pumps are minimally rated at 125 pounds per square inch, 1,500 gallons per minute centrifugal pump, one with electric motor drive, the other with diesel engine; pressure maintenance jockey pump	Water Pumphouse
Personal Protection Equipment		
Headlamps	Mounted on hard hat; battery operated	Each person underground
Underground Self-Rescuer Units	Short-term rebreathers per 30 CFR 57.15030	Each person underground
Self-Contained Self-Rescuer	Air supply; a minimum of 12 caches in the underground; self-contained rescue units shall be adequate to protect an individual for one hour or longer or, alternatively, sufficient to allow the employee time to reach an additional self-contained self-rescue device in the underground per NMSA 69-8-16	Cached throughout the underground
Mine Rescue Self-Contained Breathing Apparatus (SCBA)	Oxygen supply; 4-hour closed-circuit units consistent with 30 CFR 49.6; a minimum of 12 units, one for each Mine Rescue Team member	Mine Rescue Training Room
Fire Department Self-Contained Breathing Apparatus (SCBA)	Air supply; a minimum of 12 units; SCBAs shall meet the minimum requirements established per NFPA 1981	Surface (Building 452)
General Plant Emergency Equipment		
Emergency Lighting	For employee rescue and evacuation, and fire/spill containment; linked to main power supply, and selectively linked to back up diesel power supply and/or battery-backed power supply	Surface and underground

Equipment	Description and Capabilities	Location
Backup Power Sources	A minimum of two diesel generators, and battery-powered uninterruptible power supply (UPS);	Generators are east of Building 452; UPS is located at the essential loads
Emergency Hoist	Hoist in Air Intake Shaft	Air Intake Shaft
Emergency Showers	For emergency flushing of chemical contact or injury	Waste Handling Building and Hazardous Waste Staging Areas
Emergency Eyewash Equipment	For emergency flushing of affected eyes	Waste Handling Building (RH Bay, Site Derived Waste Area, Waste Shaft Collar, and Room 108 TRUPACT III only), TRUPACT Maintenance Building, Exhaust Shaft Filter Building, Hazardous Waste Staging Areas (Building 474A), and underground locations
Overpack containers for TRU Mixed Waste	85 Gallon drums SWBs TDOP	Building 481
Aquaset or Cement	Material for solidification of liquid waste generated as a result of fire fighting water or decontamination solutions	Surface Connex A, located south of Building 411
TDOP Upender	Upender facilitates overpacking standard waste boxes	Waste Handling Building (Building 411)
Non hazardous Decontaminating Agents	For decontamination of surfaces, equipment, and personnel	Waste Handling Building (Building 411); Surface Connex A, located south of Building 411

FIGURES

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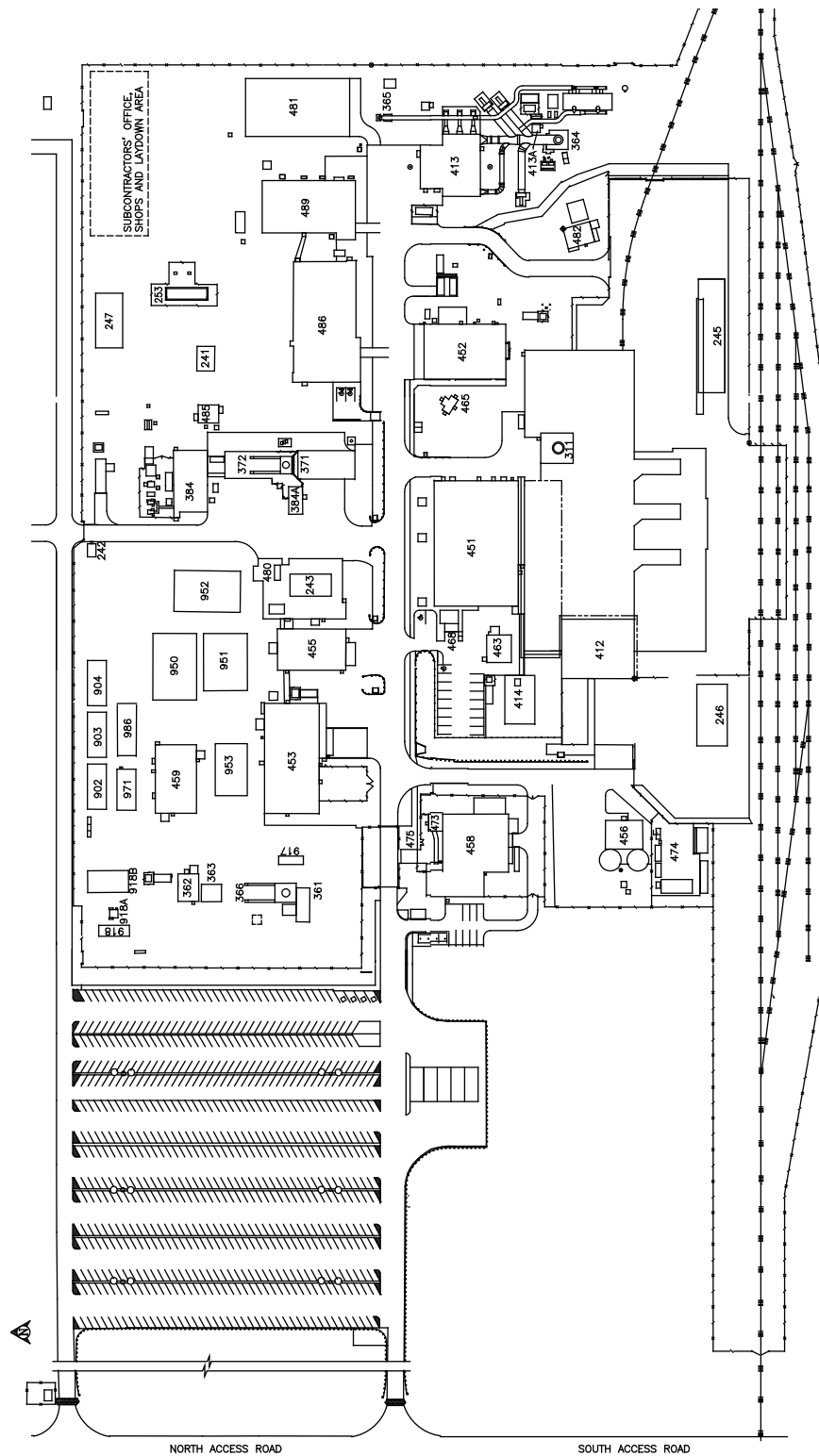


Figure D-1
WIPP Surface Structures

BLDG./ FAC. #	DESCRIPTION	BLDG./ FAC. #	DESCRIPTION	BLDG./ FAC. #	DESCRIPTION
#241	EQUIPMENT SHED	#384	SALT HANDLING SHAFT HOISTHOUSE	#480	VEHICLE FUEL STATION
#242	GUARDSHACK	#384A	MINING OPERATIONS	#481	WAREHOUSE ANNEX
#243	SALT HAULING TRUCKS SHELTER	#411	WASTE HANDLING BUILDING	#482	EXHAUST SHAFT HOIST EQUIP. WAREHOUSE
#245	TRUPAC TRAILER SHELTER	#412	TRUPACT MAINTENANCE BUILDING	#485	SULLAIR COMPRESSOR BUILDING
#246	MgO STORAGE SHELTER	#413	EXHAUST SHAFT FILTER BUILDING	#486	ENGINEERING BUILDING
#247	NORTH MAINTENANCE SHOP	#413A	MONITORING STATION A	#489	TRAINING BUILDING
#253	13.8 KV SWITCHGEAR 25P-SWG15/1	#413B	MONITORING STATION B	#H-16	SANDIA TEST WELL
#254.1	AREA SUBSTATION NO.1 25P-SW15. 1	#414	WATER CHILLER FACILITY & BLDG	#902	TRAILER
#254.2	AREA SUBSTATION NO.2 25P-SW15.2	#451	SUPPORT BUILDING	#903	TRAILER
#254.3	AREA SUBSTATION NO.3 25P-SW15.3	#452	SAFETY & EMERGENCY SERVICES FACILITY	#904	TRAILER
#254.4	AREA SUBSTATION NO.4 25P-SW15.4	#453	WAREHOUSE/SHOPS BUILDING	#917	AIS MONITORING
#254.5	AREA SUBSTATION NO.5 25P-SW15.5	#455	AUXILLIARY WAREHOUSE BUILDING	#918	VOC TRAILER
#254.6	AREA SUBSTATION NO.6 25P-SW15.6	#456	WATER PUMPHOUSE	#918A	VOC AIR MONITORING STATION
#254.7	AREA SUBSTATION NO.7 25P-SW15.7	#457	WATER TANK 25-D-001A	#918B	VOC LAB TRAILER
#254.8	AREA SUBSTATION NO.8 25P-SW15.8	#457	WATER TANK 25-D-001B	#950	WORK CONTROL TRAILER
#254.9	480V SWITCHGEAR (25P-SWG04/9)	#458	GUARD AND SECURITY BUILDING	#951	PROCUREMENT/PURCHASING
#255.1	BACK-UP DIESEL GENERATOR #1 25-PE 503	#459	CORE STORAGE BUILDING	#952	TRAILER
#255.2	BACK-UP DIESEL GENERATOR #2 25-PE 504	#463	COMPRESSOR BUILDING	#953	OFFICE COMPLEX 953
#256.4	SWITCHBOARD #4 (25P-SBD04/4)	#465	AUXILIARY AIR INTAKE	#971	HUMAN RESOURCES TRAILER
#311	WASTE SHAFT	#468	TELEPHONE HUT	#986	PUBLICATIONS & PROCEDURES TRAILER
#351	EXHAUST SHAFT	#473	ARMORY BUILDING	SWR NO.6	SWITCHRACK NO. 6
#361	AIR INTAKE SHAFT	#474	HAZARDOUS WASTE STORAGE FACILITY	SWR NO.7,7A,7B	SWITCHRACK NO. 7, 7A, 7B
#362	AIR INTAKE SHAFT/HOIST HOUSE	#474A	HAZARDOUS WASTE STORAGE BUILDING	SWR NO.7C	SWITCHRACK NO. 7C
#363	AIR INTAKE SHAFT/WINCH HOUSE	#474B	HAZARDOUS WASTE STORAGE BUILDING	SWR NO.10	SWITCH RACK NO. 10
#364	EFFLUENT MONITORING INSTRUMENT SHED A	#474C	OIL & GREASE STORAGE BUILDING	SWR NO.11	SWITCH RACK NO. 11
#365	EFFLUENT MONITORING INSTRUMENT SHED B	#474D	GAS BODLE STORAGE BUILDING	SWR NO.12	SWITCH RACK NO. 12
#366	AIR INTAKE SHAFT HEADFRAME	#474E	HAZARD MATERIAL STORAGE BUILDING	SWR NO.16	SWITCH RACK NO. 16
#371	SALT HANDLING SHAFT	#474F	WASTE OIL RETAINER	COMPACTOR	25-H-010
#372	SALT HANDLING SHAFT HEADFRAME	#475	GATEHOUSE	BALER	25-H-011

Figure D-1a
Legend to Figure D-1

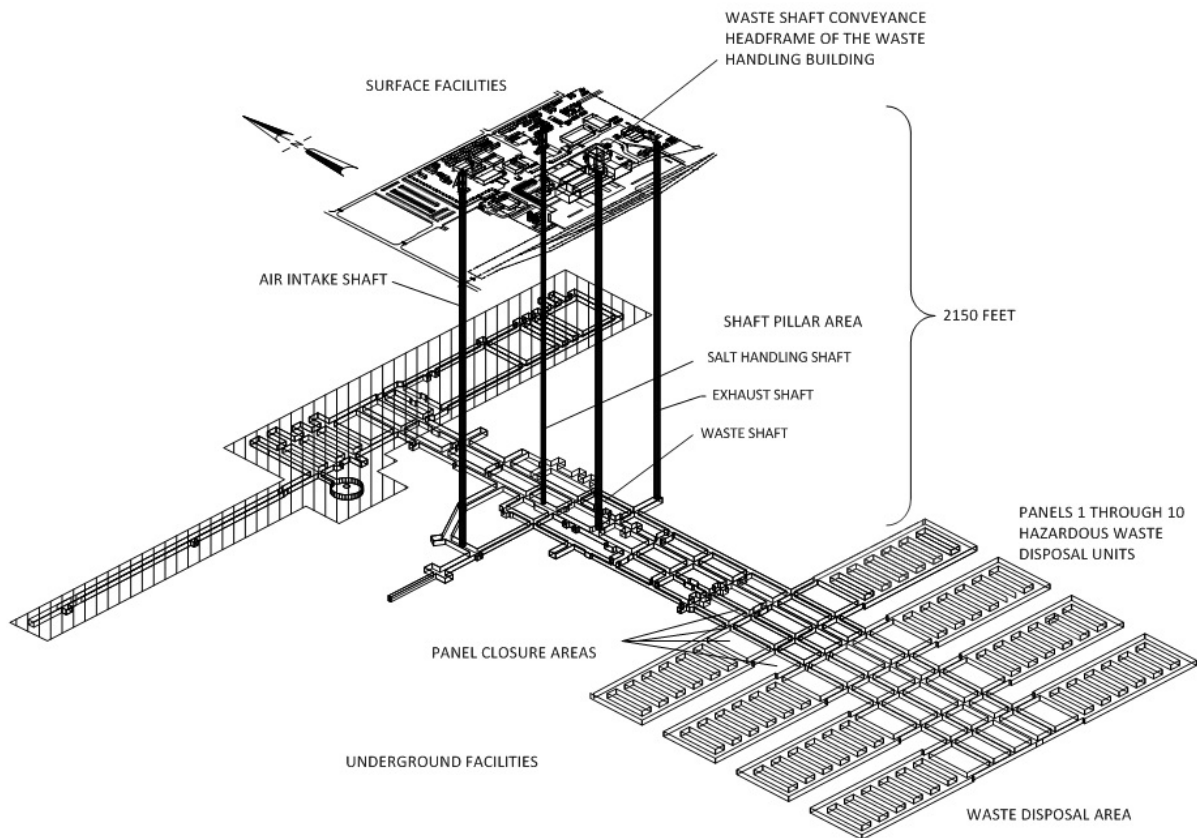


Figure D-2
Spatial View of the WIPP Facility

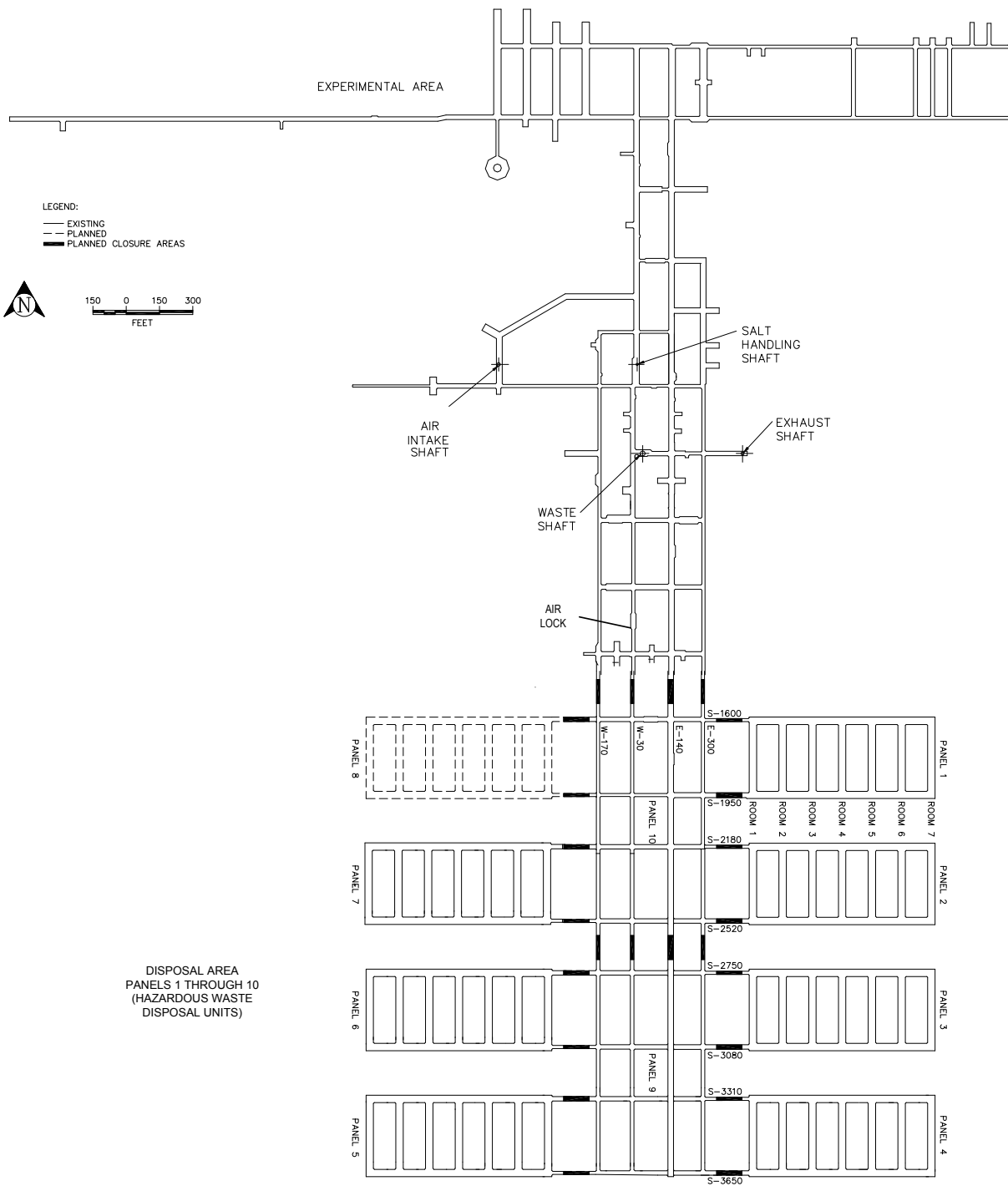


Figure D-3
WIPP Underground Facilities

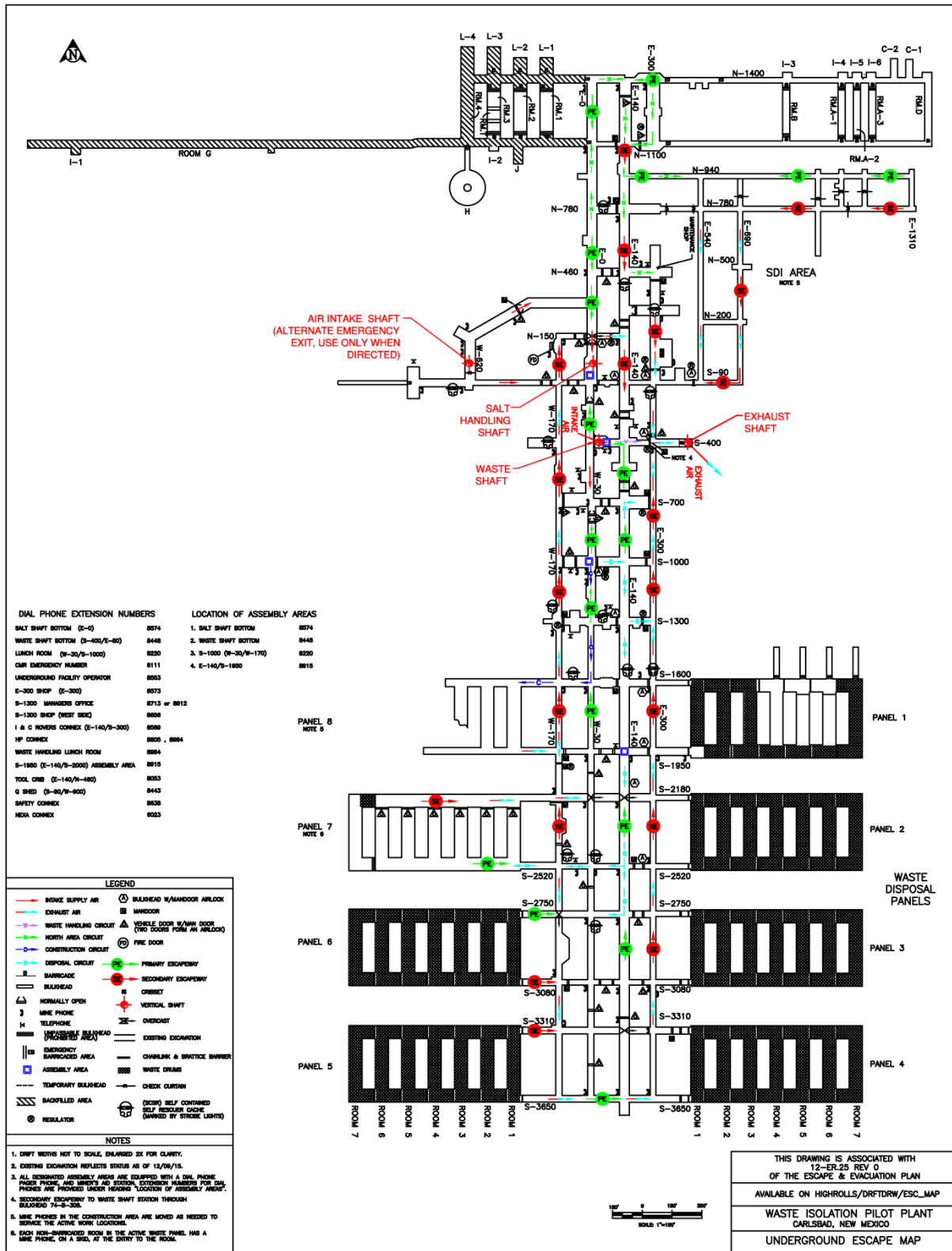


Figure D-4
Underground Escapeways/Evacuation Routes

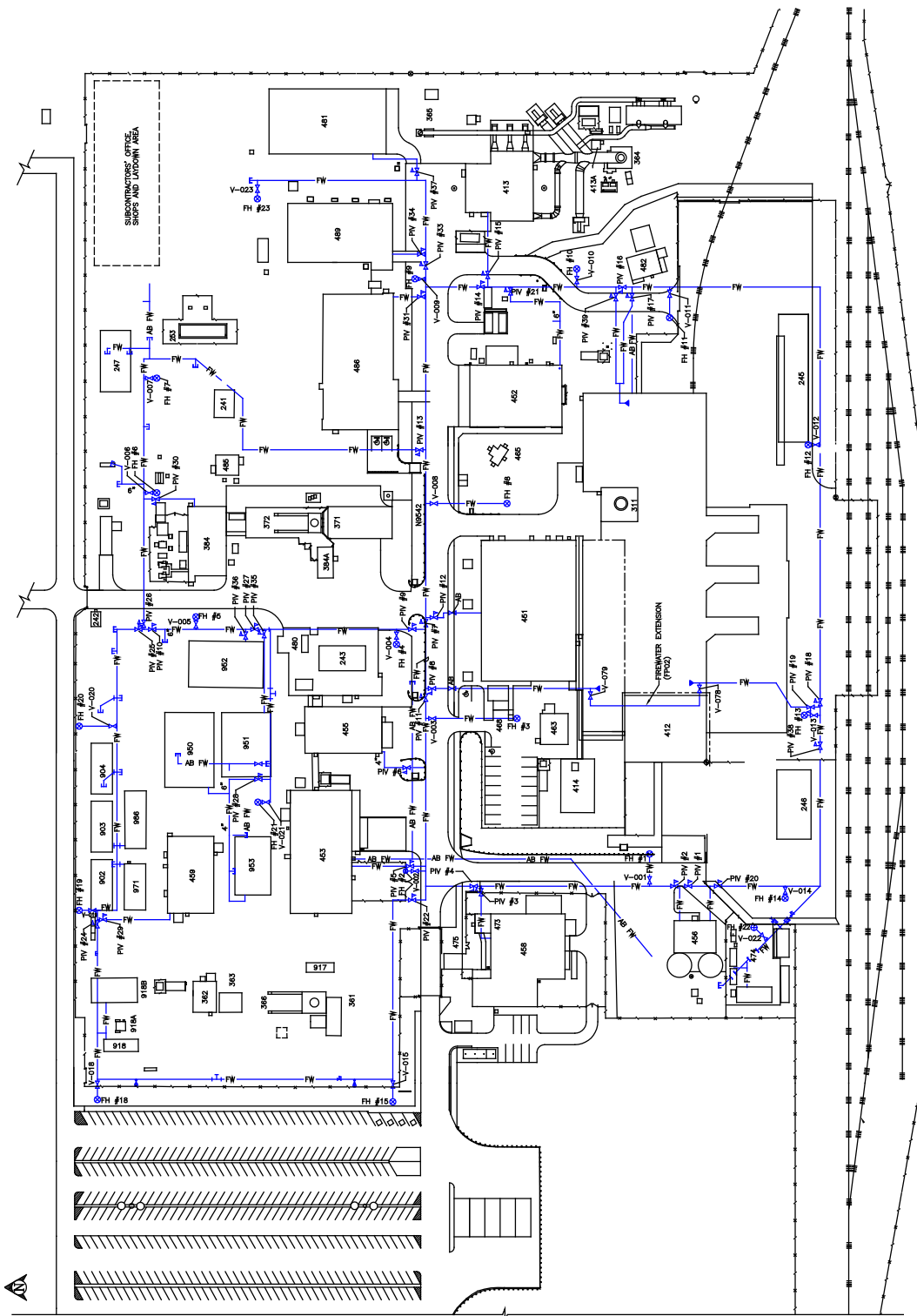


Figure D-5
Fire-Water Distribution System

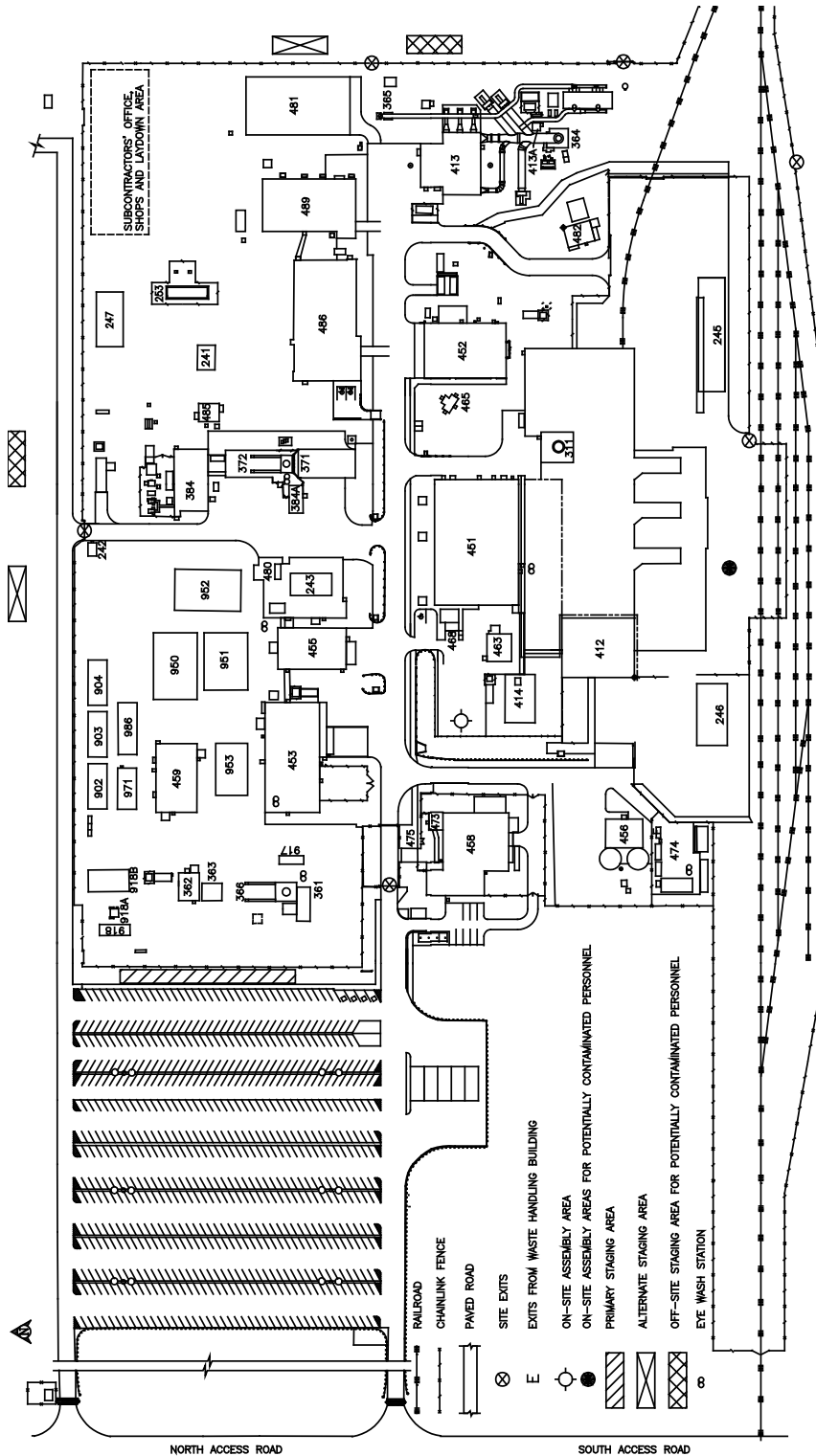


Figure D-6
WIPP On-Site Assembly Areas and Off-Site Staging Areas

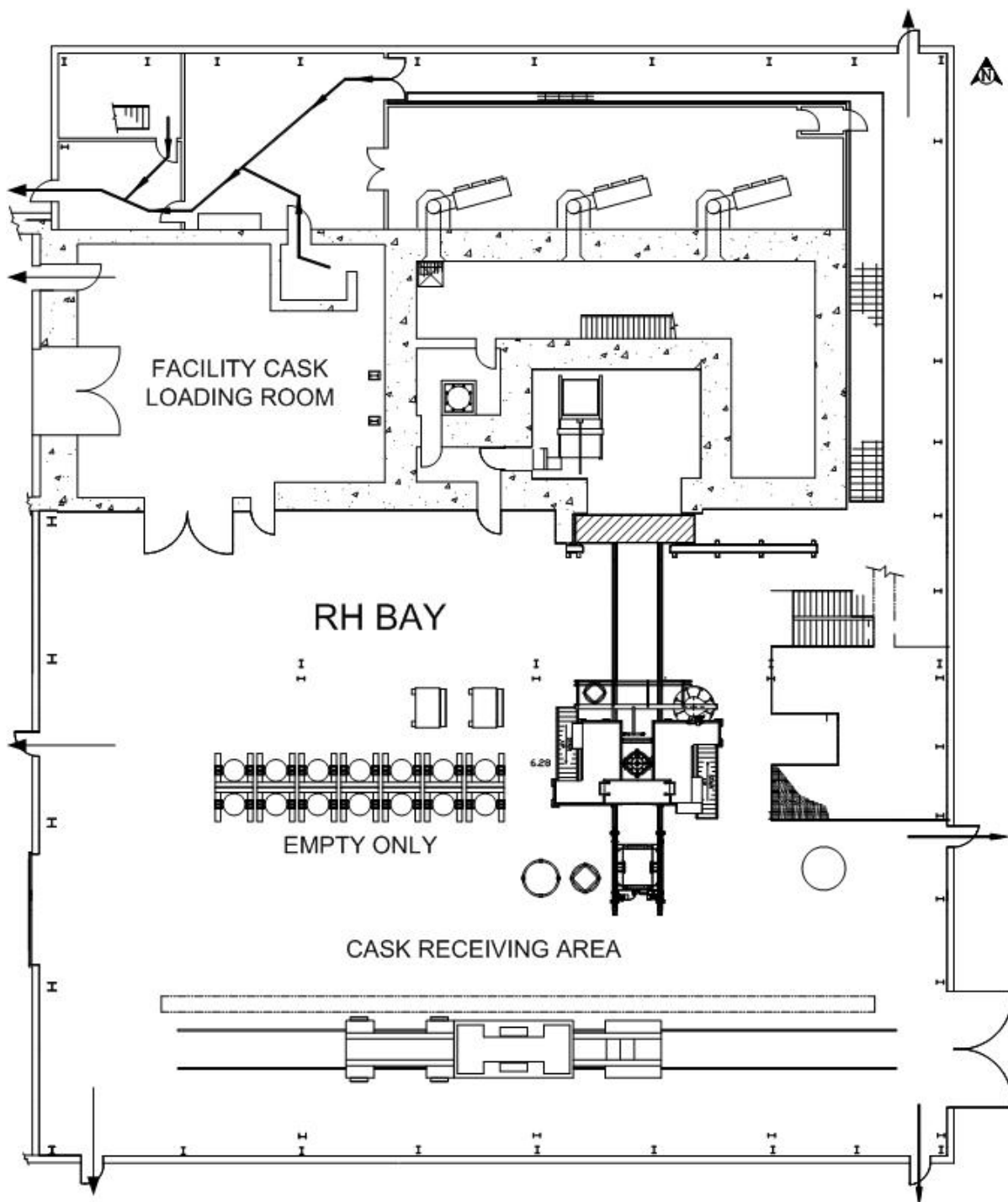


Figure D-6a
RH Bay Evacuation Routes

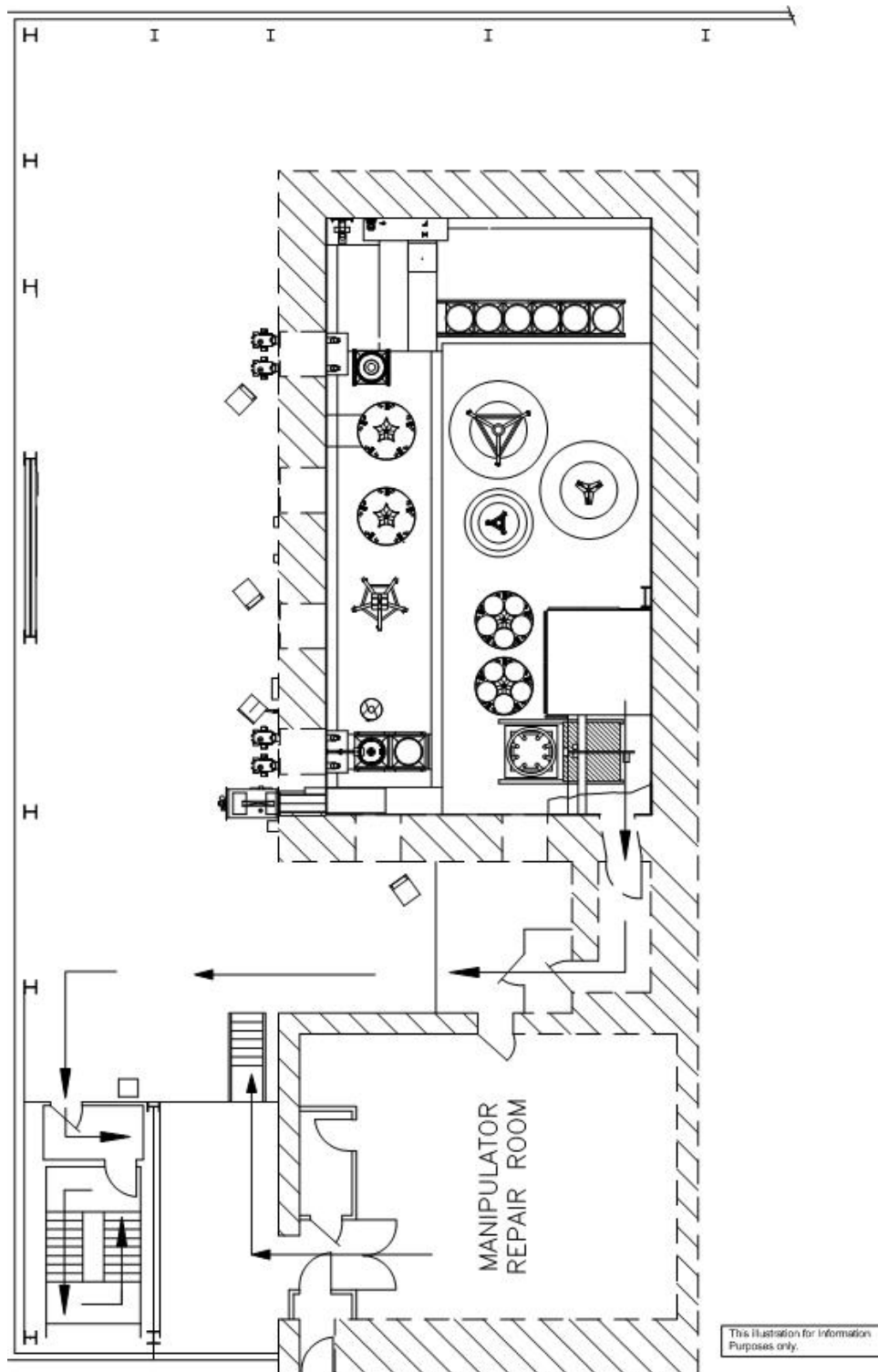


Figure D-6b
RH Bay Hot Cell Evacuation Route

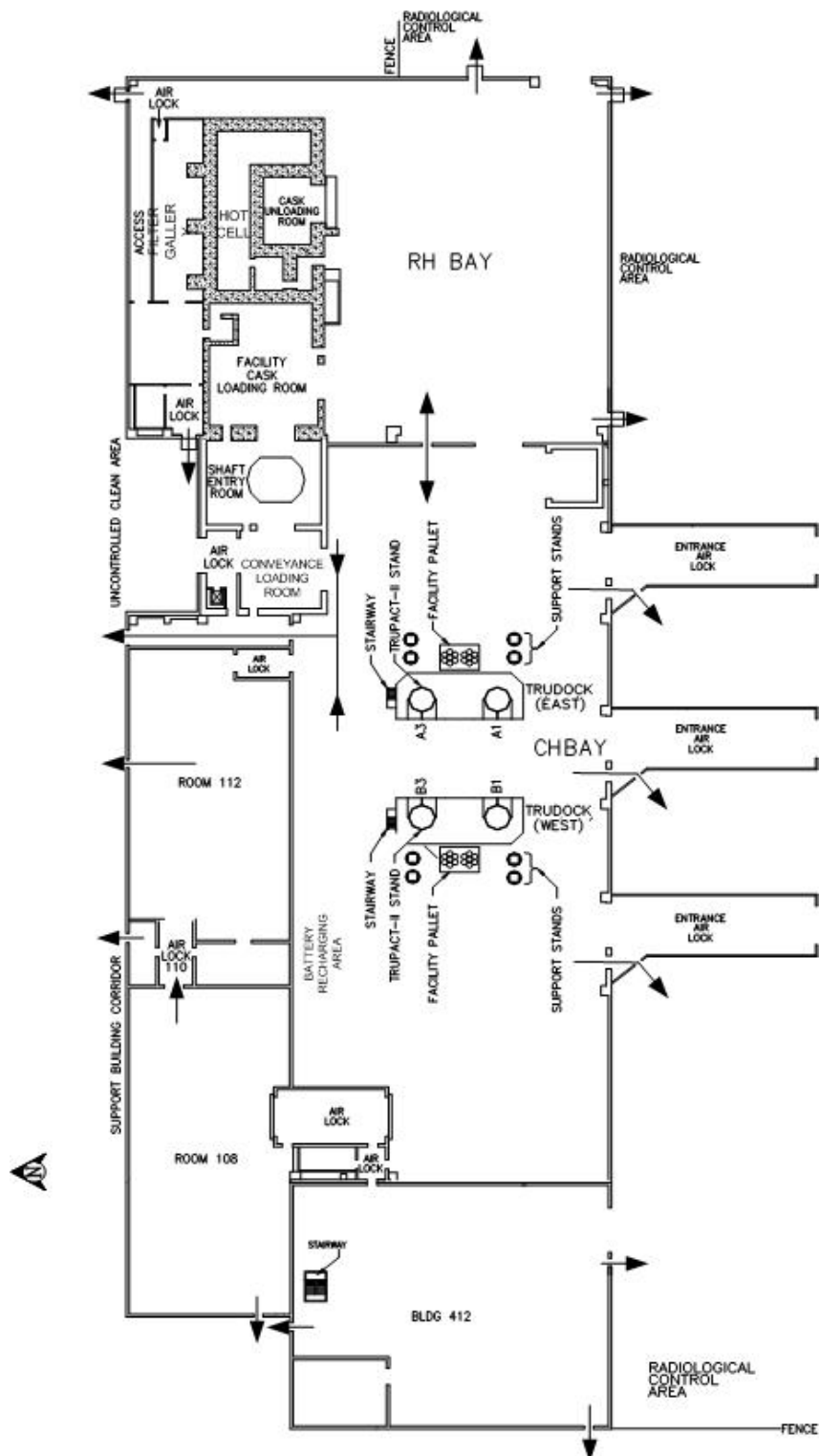


Figure D-6c
Evacuation Routes in the Waste Handling Building

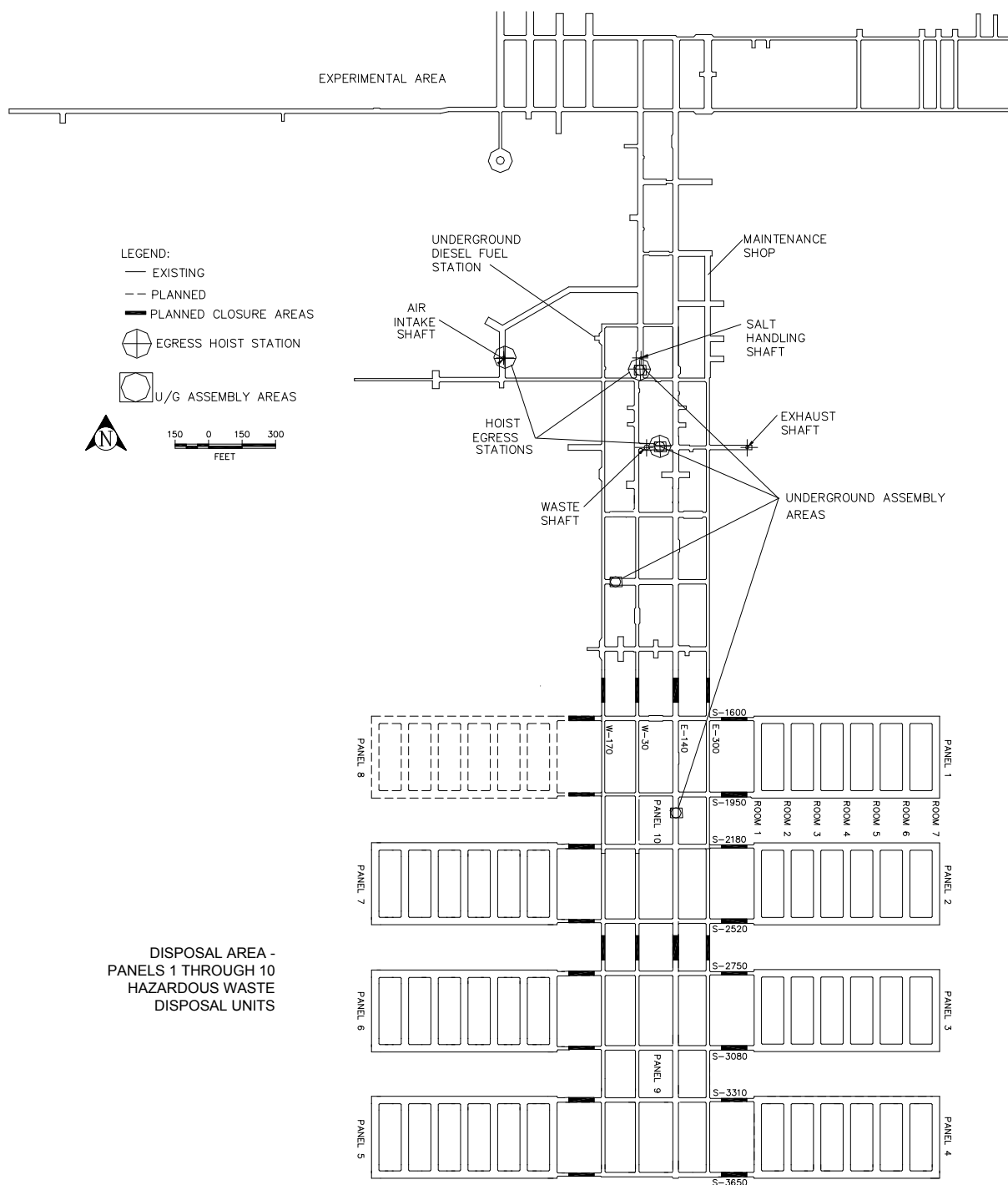


Figure D-7
Designated Underground Assembly Areas

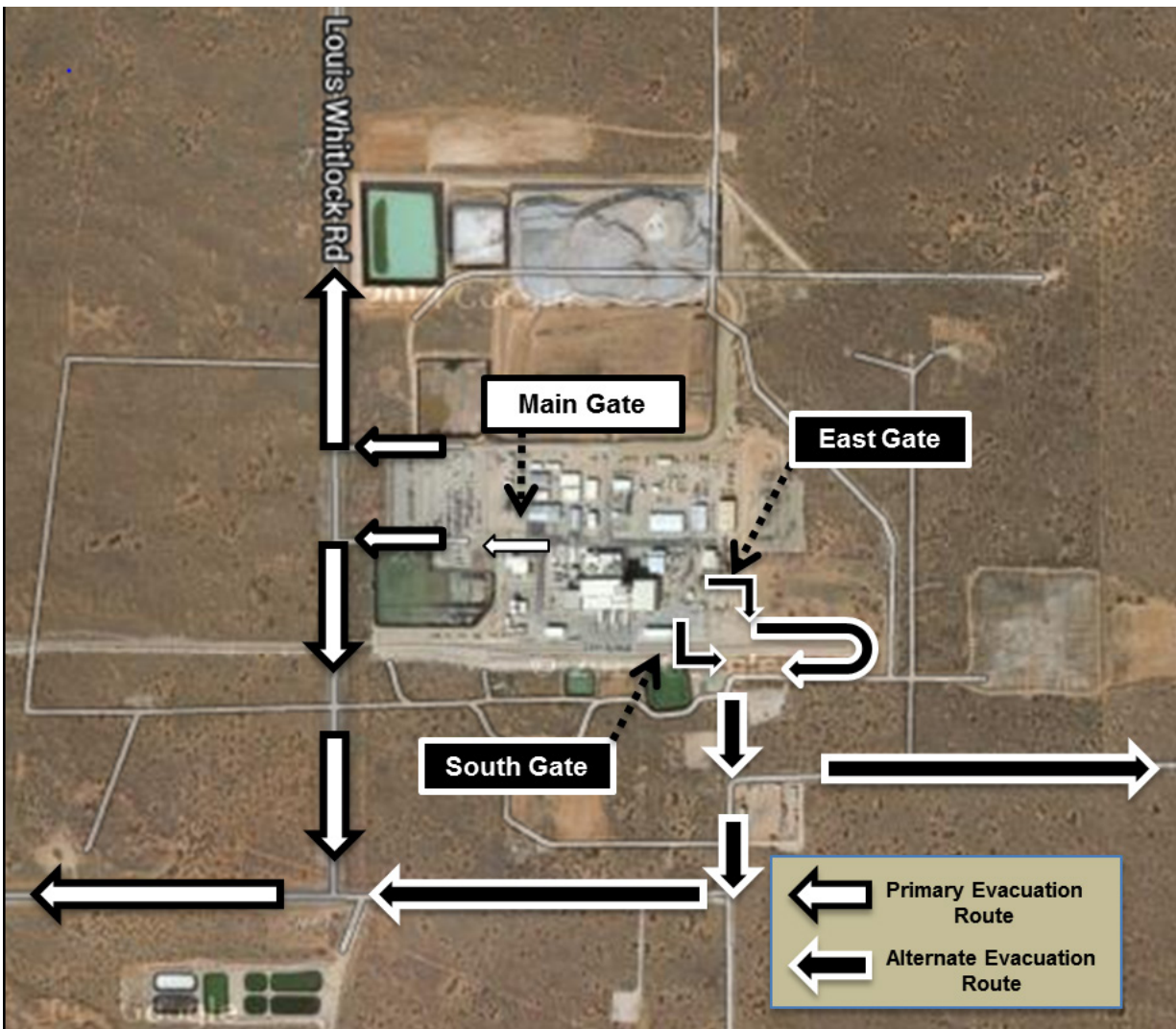


Figure D-8
WIPP Site Evacuation Routes

Item 2

Class 2 Permit Modification Request

Active Room Ventilation Flow Rate

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

WIPP Permit Number - NM4890139088-TSDF

June 2016

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Transmittal Letter

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Acronyms and Abbreviations

acfm	actual cubic feet per minute
CFR	Code of Federal Regulations
CMRO	Central Monitoring Room Operator
DOE	U.S. Department of Energy
IDLH	Immediately Dangerous to Life or Health
LEL	lower explosive limit
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
OSHA	Occupational Safety & Health Administration
Permit	WIPP Hazardous Waste Facility Permit
PMR	Permit Modification Request
PPE	personal protective equipment
ppmv	parts per million by volume
scfm	standard cubic feet per minute
VOC	volatile organic compound
WIPP	Waste Isolation Pilot Plant

Overview of the Permit Modification Request

This document contains a Class 2 Permit Modification Request (**PMR**) for the Waste Isolation Pilot Plant (**WIPP**) Hazardous Waste Facility Permit (**Permit**) Number NM4890139088-TSDF.

This PMR is being submitted by the U.S. Department of Energy (**DOE**) and Nuclear Waste Partnership LLC, collectively referred to as the Permittees, in accordance with the 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(b)). The modification provides for the following changes:

- Provides the Permittees the ability to implement measures in situations where the active room ventilation rate of 35,000 standard cubic feet per minute (**scfm**) cannot be met during waste disposal operations when workers are present. These measures will address VOC emissions from the hypothetical roof fall scenarios described in the Permit application and maintain the same level of worker protection as currently described in the Permit. This is in lieu of suspending waste disposal operations. Implementing measures will be prescribed in standard operating procedures. These measures may include, but are not limited to, the following: the adjustment of the volatile organic compound (**VOC**) Immediately Dangerous to Life or Health (**IDLH**)-based action levels in the Permit, Section 4.6.3.2., in direct proportion to the actual flow rate that is less than 35,000 scfm or use of personal protective equipment (**PPE**) as described in Occupational Safety and Health Administration (**OSHA**) Standard 29 CFR 1910.134. Implementing measures taken at the WIPP facility regarding the 35,000 scfm ventilation flow rate will be recorded in the WIPP facility log, which is maintained by the Central Monitoring Room Operator (**CMRO**) and reported to the New Mexico Environment Department (**NMED**) in the annual Mine Ventilation Rate Monitoring Report required by Permit Attachment O.
- Provides the Permittees the ability to propose an alternative remedial action plan to the Secretary in lieu of closing the active room if the requirements of Permit Part 4, Section 4.6.3.3. cannot be met.
- Removes the minimum air velocity value of 60 ft (18 m) per minute in Permit Attachment A2 because it is not related to the environmental performance standard for maintaining a minimum active room ventilation flow rate of 35,000 scfm during waste disposal operations when workers are present.

The Permittees are proposing changes to the following Permit Part and Attachments:

- Revise Part 4, – Geologic Repository Disposal, Section 4.5.3.2. - Ventilation
- Revise Part 4, – Geologic Repository Disposal, Section 4.6.3.3. – Remedial Action
- Revise Attachment A2 – Geologic Repository, Section A2-2a(3), Subsurface Structures, Underground Ventilation System Description
- Revise Attachment O – WIPP Mine Ventilation Rate Monitoring Plan, Section O-1, Definitions

- Revise Attachment O – WIPP Mine Ventilation Rate Monitoring Plan, Section O-2, Objective
- Revise Attachment O – WIPP Mine Ventilation Rate Monitoring Plan, Section O-3, Design and Procedures
- Revise Attachment O – WIPP Mine Ventilation Rate Monitoring Plan, Section O-3a(1), Test and Balance Process
- Revise Attachment O – WIPP Mine Ventilation Rate Monitoring Plan, Section O-3b(1), Monitoring Total Mine Airflow
- Revise Attachment O – WIPP Mine Ventilation Rate Monitoring Plan, Section O-3c(1), Verification of Active Room Minimum Airflow
- Add Section O-5c to Attachment O - Standard Operating Procedure Applicable to Abnormal Operating Conditions for Active Room Ventilation Flow Rate. This is a new proposed section.

These 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 related supporting documents are provided in this PMR. The proposed modification to the text of the Permit has been identified using **red** text and **double underline** and a ~~strikeout~~ font for deleted information. All direct quotations are indicated by italicized text. The following information specifically addresses how compliance has been achieved with the Permit, Part 1, Section 1.3.1., for submission of this Class 2 PMR.

1. 20.4.1.900 NMAC (incorporating 40 CFR 270.42(b)(1)(i)) requires the applicant to describe the exact change to be made to the permit conditions and supporting documents referenced by the Permit.

The Permit requires a minimum active room ventilation flow rate of 35,000 scfm (42,000 acfm) in each active room when waste disposal is taking place and workers are present in the room. The 35,000 scfm was used as an assumption in calculating the 8-hour time weighted average to quantify exposure levels for the underground waste worker to VOCs in the event of a roof fall in an adjacent filled room¹. The NMED acknowledged that the Permittees could protect the underground waste workers from IDLH exposures resulting from a roof fall through the use of PPE, such as a self-contained breathing apparatus. However, because the Permittees did not propose the use of such equipment, the NMED imposed the 35,000 scfm minimum active room ventilation flow rate as a condition in the Permit².

¹ Waste Isolation Pilot Plant, Resource Conservation and Recovery Act Part B Permit Application. Appendix D9 Exposure Assessment for Protection of the Atmosphere, Attachment 1 Examination of Roof Collapse Scenario. DOE/WIPP 91-005. Revision 6.

² New Mexico Environment Department's Direct Testimony Regarding Regulatory Process and Imposed Conditions. Volatile Organic Compound Concentration Limits. II. Analysis, D. Response to Comments, 1. Roof Fall. HRM 98-04(P). 1999.

The VOC Room Based Limits for the underground waste worker (who is routinely in the vicinity of disposed waste during waste emplacement) were based on a scenario that included the possibility of a roof fall in the room adjacent to the active room. The scenario evaluated an acute exposure of VOCs to the underground waste worker. The scenario assumed the roof fall in the adjacent filled room would force VOCs present in the headspace void volume of the filled room into the active room. This would subject the underground waste worker in the active room to an acute dose, thereby jeopardizing the worker's health. An acute dose was defined as a concentration equal to the lesser of the IDLH value or the lower explosive limit (**LEL**) for flammable VOCs.

In order to set a concentration limit for the filled room that is protective of the underground waste worker in the active room, a calculation was performed. The calculation identified the starting concentration in the adjacent filled room. This concentration would subject the waste worker in the active room to the IDLH during a roof fall if 35,000 scfm were available. For example, in order to achieve an IDLH concentration of 200 ppmv for carbon tetrachloride in the active room, the starting concentration in the adjacent filled room would have to be 9,625 parts per million by volume (**ppmv**).

If the measured concentration of carbon tetrachloride in the adjacent filled room is 9,625 ppmv and a roof fall occurred in the adjacent filled room with 35,000 scfm of ventilation flow available in the active room, then the waste worker would be exposed to 200 ppmv of carbon tetrachloride. Hence the concentration of concern (limit) in the Permit, Table 4.4.1. for carbon tetrachloride of 9,625 ppmv is listed for a flow rate of 35,000 scfm.

For flammable VOCs, consideration was given to the concentration in the adjacent filled room that equaled the LEL. It should be noted that the limits related to the LEL do not depend on the roof fall scenario or the 35,000 scfm ventilation flow rate. Action must be taken if the LEL is approached in the adjacent filled room in accordance with the Permit.

Because there is a direct relationship between ventilation flow rate and the concentrations of concern in Table 4.4.1. for VOCs that are not flammable or have an IDLH-related value less than the LEL, a flow rate less than 35,000 scfm could be used to determine a different action level. The corresponding analyte action level would be adjusted to a value equal to the ratio of the lower flow rate to 35,000 scfm multiplied by the existing values in Table 4.4.1. For example, if the available ventilation flow rate in the active room was only 30,000 scfm, then the new action level for carbon tetrachloride would be as follows:

$$(26,000 \text{ scfm} / 35,000 \text{ scfm}) * (9,625 \text{ ppmv}) = 7,150 \text{ ppmv}$$

In this scenario, the Permittees will monitor and take actions based on this lower limit. Technical Report³, *Implementing Measures for Ventilation Flow Rate Less Than 35,000 scfm*, and Appendix C of this modification provides additional examples of calculated VOC room-based action levels based on a reduced active room ventilation flow rate.

The standard operating procedure that the Permittees will put in place to monitor flow rates and address the adjusted action levels will verify that for flammable VOCs, the adjusted concentration action level is the lesser of the IDLH value or the LEL value. In the event that the

³ RES 16:106; Compensatory Measures for Ventilation Flow Rate Less Than 35,000 scfm; Technical Report, 2016.

adjusted concentration action level based upon the IDLH value is less than the concentration action level based on the LEL value, then the IDLH based action level will be used for that flammable analyte.

Six of the nine VOCs listed in Permit Table 4.4.1. are flammable and have specific LELs. In establishing the VOC Room-Based Concentration Limits (**limits**) in Table 4.4.1., it was assumed that in the hypothetical roof fall scenario in a filled disposal room, gas ignition and an explosion were plausible. Therefore, NMED reduced the VOC limits for two of these six flammable VOCs, chlorobenzene and toluene, to ensure that the average concentrations of these VOCs in the air of a filled disposal room do not exceed the respective LELs⁴. NMED also used the LEL for methylene chloride (130,000 ppmv) but conservatively established the limit at 100,000 ppmv for this flammable VOC.

The underground roof (back) fall may occur during waste emplacement causing 21 drums to fall from the top of the stack resulting in a breach of those drums. Sandia National Laboratories⁵ concluded that the energy required to crush an empty drum 10 inches in the axial direction requires a dynamic load of greater than 16,947 Newton meters (N-m). The lid did not separate from the drum and the drum did not breach during the dynamic tests. Therefore, the roof fall scenario, when conservatively considering the dynamic effects of falling roof material on drums, is not expected to result in any breached drums. Even if some of the drums are breached, the material falling is expected to encapsulate the waste and the material available to be released will be minimal. Therefore, no release of VOCs or hazardous constituents is expected from the loading of drums due to the added weight of the collapsed roof material.

Current practices for monitoring for air quality contaminants will remain unchanged. These practices are implemented pursuant to the requirements of the Mine Safety and Health Administration rules and DOE Orders for protection of workers. This modification is providing an equivalent level of protection for VOCs that result from a roof fall event in an adjacent filled room. It provides flexibility in the type and amount of emplacement equipment that is being used without having to continuously revise the Permit when improvements are identified.

Previously, there was no requirement to address a thermal runaway drum reaction in an active room. The Waste Acceptance Criteria (**WAC**) prevents occurrence of this event and program enhancements prevent reoccurrence of the event that resulted from the February 2014 radiological release. The roof collapse scenario that was analyzed by Sandia National Laboratories assumed 21 drums could be breached; therefore, this assessment bounds the one drum thermal runaway event.

The Permit requires that the Permittees take action in the event the levels in Table 4.6.3.2. are exceeded. In particular, if the 90 percent action level is achieved, the active room must be closed. However, there may be alternative actions that can be taken, such as increasing ventilation flow rates or requiring PPE, for which workers are trained and qualified that, would be equally effective in protecting those workers. The Permittees are proposing language that gives

⁴ New Mexico Environment Department's Direct Testimony Regarding Regulatory Process and Imposed Conditions. Volatile Organic Compound Concentration Limits. II. Analysis, D. Response to Comments, 1. Roof Fall. HRM 98-04(P). 1999.

⁵ SAND80-2157, Analysis, Scale Modeling, and Full-Scale Tests of Low-Level Nuclear Waste Drum Response to Accident Environments (Sandia 1980).

them the flexibility to propose alternative actions to the Secretary for approval prior to the action levels being reached.

Finally, this PMR includes a change to remove the minimum air velocity value of 60 ft (18 m) per minute in Permit Attachment A2 because it is unrelated to the VOC Room Based Limits for maintaining a minimum active room ventilation flow rate of 35,000 scfm during waste disposal operations when workers are present, and it is inconsistent with the measures proposed in this PMR.

Proposed text changes are included in Appendix A and Appendix B of this PMR. Appendix A provides a detailed list of changes by Permit section and Appendix B provides the proposed redline/strikeout to the existing Permit language. The following is the list of the appendices to this PMR:

- Appendix A, Table of Changes, describes each change that is being proposed.
- Appendix B, Proposed Revised Permit Text, identifies the changes to the permit text in redline strikeout.
- Appendix C, Implementing Measure for Revised Ventilation Flow Rates.
- Appendix D, Mine Ventilation Services Filtration Mode Assessment.

2. 20.4.1.900 NMAC (incorporating 40 CFR 270.42(b)(1)(ii)), requires the applicant to identify that the modification is a Class 2 modification.

This PMR is classified as a Class 2 modification for the reason indicated below:

20.4.1.900 NMAC incorporating 40 CFR 270.42, Appendix I, Item A. "General Permit Provisions, 4. Changes in the frequency of or procedures for monitoring, reporting, sampling, or maintenance activities by the permittee: b. Other changes...2"

This PMR proposes to change the procedure for monitoring and reporting the minimum active room ventilation flow rate in an active room when waste disposal is taking place and workers are present in the room. The current procedure for monitoring is based on achieving a minimum active room ventilation flow rate of 35,000 scfm (42,000 acfm). The 35,000 scfm provides a sufficient dilution factor as to protect the underground worker from exceeding the IDLH limits for known analytes. While operating at 35,000 scfm, no organic vapor respiratory protection for workers is needed.

If the minimum active room ventilation flow rate of 35,000 scfm cannot be met, the revised procedure for monitoring will specify that a compensatory measure shall be taken during waste disposal operations when workers are present in each active room. Compensatory measures will be prescribed in standard operating procedures.

Compensatory measures implemented at the WIPP facility will be recorded in the WIPP facility log, which is maintained by the CMRO and new reporting requirements are being proposed to ensure the NMED is notified annually when compensatory measures are used. This proposed change does not reduce the ability of the Permittees to provide continued protection to human

health and the environment. It provides an equivalent level of protection (and in some cases, is more protective) to what is currently practiced.

3. 20.4.1.900 NMAC (incorporating 40 CFR 270.42(b)(1)(iii)), requires the applicant to explain why the modification is needed.

The current minimum ventilation flow rate in an active room when waste disposal is taking place and workers are present is 35,000 scfm, which allows the current concentrations of concern limits listed in the Permit, Section 4.4.1., to be met. The 35,000 scfm provides a sufficient dilution factor as to protect the underground worker from exceeding the IDLH limits for known analytes. While operating at 35,000 scfm, no additional protective measures for workers are needed.

The WIPP ventilation system, while operating in filtration mode, currently supplies approximately 60,000 scfm (72,000 acfm) to the underground repository. It has been determined that it is not possible to achieve 35,000 scfm (42,000 acfm) in an active waste disposal room while operating in filtration mode with 60,000 scfm (72,000 acfm). The Mine Ventilation Services Company performed an assessment to demonstrate the variability of disposal room ventilation flow rate while under repository filtration mode of 60,000 scfm. The assessment also shows the emplacement equipment necessary for operations and sets a minimum flow rate based on that equipment. Details of the assessment are shown in Appendix D of this modification. It is expected that the ventilation flow rate in Panel 7 could range from approximately 22,000 scfm (26,400 acfm) to 32,000 scfm (38,400 acfm) by reconfiguring various bulkheads and regulators, and/or adding additional curtains in the underground. Appendix D of this modification shows the assessment performed by Mine Ventilation Services Company. Approximately 106,000 scfm (127,200 acfm) of air flow is expected to be supplied to the underground with the Interim Ventilation System. Because the Interim Ventilation System has not been tested under all expected mining conditions, there may be situations where 35,000 scfm is not achievable in an active waste disposal room while personnel are present. This modification allows the Permittees the option to proceed with waste emplacement operations when waste is in transit, without interruption under abnormal conditions that may prevent 35,000 scfm from being met (such as barometric pressure changes, maintenance activities, and equipment malfunctions).

If an active room ventilation flow rate of 35,000 scfm cannot be met, measures to protect waste handling personnel shall be taken during waste disposal operations when workers are present. Implementing measures will be prescribed in standard operating procedures and may include, but are not limited to, the following: the adjustment of the IDLH-related VOC action levels in the Permit, Section 4.6.3.2., in direct proportion to the actual flow rate that is less than 35,000 scfm, or the use of PPE as described OSHA Standard 29 CFR 1910.134. Measures implemented at the WIPP facility will be recorded in the WIPP facility log, which is maintained by the CMRO. The Permittees are also proposing to add a reporting requirement to Attachment O to include a tabulation of instances of when measures were implemented and the nature of the measure used.

This modification allows the Permittees to take action earlier than what is currently required by the VOC Room Based Limits listed in Permit Table 4.4.1. The standard operating procedure will list decision point tables with adjusted VOC actions levels at 5,000 scfm increments, which are conservative and eliminates the need for calculations.

This modification also allows the Permittees to continue waste disposal operations during off-normal conditions, and maintenance activities. Maintenance activities may include, but are not

limited to, the following: change-out of high-efficiency particulate air filters at a determined frequency, barometric pressure changes, and equipment malfunctions. During these abnormal conditions, 35,000 scfm may be unavailable to the active room. There may also be instances where emplacing waste in the underground is necessary in order to avoid violating storage provisions (i.e., quantity or time limits) in the Waste Handling Building.

The Permittees' proposal for use of alternative remedial actions is based on several factors. First, the Permittees can exert control over employees to ensure they are not exposed to acute concentrations of VOCs. This means that instead of closing portions of the repository, it may be more appropriate to increase ventilation to the affected areas. Second, the Permittees may be able to remediate the situation by requiring PPE be worn and/or increased monitoring in the affected areas. The workers will wear PPE for which they are trained and qualified. The Permit text changes provide for the submittal, NMED approval, and implementation of the alternative remedial actions.

Removal of the 60 feet (18 m) per minute minimum air velocity is needed in order to implement the proposals in this Permit at lower flow rates. The 60 feet (18 m) per minute air velocity is a requirement for the mean entry air velocity in coal mines for exhausting the air from an active area where coal is being mined per 30 CFR 75.326. No similar requirement exists for non-coal mines such as the WIPP facility. The requirement which was part of the original design specifications was removed from the Mine Ventilation Plan when revision 10 was issued in 2001. No corresponding change was made to the Permit at that time. It is not used as a protective measure since operating procedures require establishing the presence of minimum breathable air conditions prior to allowing workers to enter and the Permit provides protection for waste workers who are emplacing TRU mixed waste in an active disposal room. Furthermore, this text is descriptive text and needs to be deleted to avoid conflict and possible confusion with the 35,000 scfm minimum flow rate requirement in the Permit.

This modification is needed to prevent disruption of waste emplacement activities and to ensure protection of underground workers in situations where 35,000 scfm is not available in the active disposal room during waste disposal operations and during abnormal conditions such as, but not limited to, barometric pressure changes, maintenance activities, and equipment malfunctions, or at times when more appropriate alternative remedial actions can be used to mitigate hazardous situations in an adjacent room. This option is a preparedness measure in the event the flow rate cannot be met.

4. 20.4.1.900 NMAC (incorporating 40 CFR 270.42 (b)(1)(iv)), requires the applicant to provide the applicable information required by 40 CFR 270.13 through 270.21, 270.62 and 270.63.

The regulatory crosswalk describes those portions of the WIPP Permit that are affected by this PMR. Where applicable, regulatory citations in this modification reference Title 20, Chapter 4, Part 1, NMAC, revised March 9, 2009, incorporating 40 CFR Parts 264 and 270. 40 CFR §§270.16 through 270.21, 270.62, and 270.63 are not applicable at WIPP. Consequently, they are not listed in the regulatory crosswalk table.

5. **20.4.1.900 NMAC (incorporating 40 CFR 270.11(d)(1) and 40 CFR 270.30(k)), requires that any person signing under paragraph a and b must certify the document in accordance with 20.4.1.900 NMAC.**

The transmittal letter for this PMR contains the signed certification statement in accordance with Permit Part 1, Section 1.9.

Regulatory Crosswalk

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the WIPP Permit	Yes	No
§270.13		Contents of Part A permit application	Attachment B, Part A		✓
§270.14(b)(1)		General facility description	Attachment A		✓
§270.14(b)(2)	§264.13(a)	Chemical and physical analyses	Attachment C		✓
§270.14(b)(3)	§264.13(b)	Development and implementation of waste analysis plan	Attachment C		✓
	§264.13(c)	Off-site waste analysis requirements	Attachment C		✓
§270.14(b)(4)	§264.14(a-c)	Security procedures and equipment	Part 2.6		✓
§270.14(b)(5)	§264.15(a-d)	General inspection requirements	Attachment E		✓
	§264.174	Container inspections	Attachment E		✓
§270.23(a)(2)	§264.602	Miscellaneous units inspections	Attachment E		✓
§270.14(b)(6)		Request for waiver from preparedness and prevention requirements of Part 264 Subpart C	NA		✓
§270.14(b)(7)	264 Subpart D	Contingency plan requirements	Attachment D		✓
	§264.51	Contingency plan design and implementation	Attachment D		✓
	§264.52 (a) & (c-f)	Contingency plan content	Attachment D		✓
	§264.53	Contingency plan copies	Attachment D		✓
	§264.54	Contingency plan amendment	Attachment D		✓
	§264.55	Emergency coordinator	Attachment D		✓
	§264.56	Emergency procedures	Attachment D		✓
§270.14(b)(8)		Description of procedures, structures or equipment for:	Part 2.10		✓
§270.14(b)(8) (i)		Prevention of hazards in unloading operations (e.g., ramps and special forklifts)	Part 2.10		✓
§270.14(b)(8) (ii)		Runoff or flood prevention (e.g., berms, trenches, and dikes)	Part 2.10		✓
§270.14(b)(8) (iii)		Prevention of contamination of water supplies	Part 2.10		✓
§270.14(b)(8) (iv)		Mitigation of effects of equipment failure and power outages	Part 2.10		✓
§270.14(b)(8) (v)		Prevention of undue exposure of personnel (e.g., personal protective equipment)	Part 2.10		✓
§270.14(b)(8) (vi) §270.23(a)(2)	§264.601	Prevention of releases to the atmosphere	Part 4 Attachment A2 Attachment N		✓
	264 Subpart C	Preparedness and Prevention	Part 2.10		✓
	§264.31	Design and operation of facility	Part 2.10		✓

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the WIPP Permit	Yes	No
	§264.32	Required equipment	Part 2.10 Attachment D		✓
	§264.33	Testing and maintenance of equipment	Attachment E		✓
	§264.34	Access to communication/alarm system	Part 2.10		✓
	§264.35	Required aisle space	Part 2.10		✓
	§264.37	Arrangements with local authorities	Attachment D		✓
§270.14(b)(9)	§264.17(a-c)	Prevention of accidental ignition or reaction of ignitable, reactive, or incompatible wastes	Part 2.10		✓
§270.14(b)(10)		Traffic pattern, volume, and controls, for example: Identification of turn lanes Identification of traffic/stacking lanes, if appropriate Description of access road surface Description of access road load-bearing capacity Identification of traffic controls	Attachment A4		✓
§270.14(b)(11)(i) and (ii)	§264.18(a)	Seismic standard applicability and requirements	Part B, Rev. 6 Chapter B		✓
§270.14(b)(11)(iii-v)	§264.18(b)	100-year floodplain standard	Part B, Rev. 6 Chapter B		✓
	§264.18(c)	Other location standards	Part B, Rev. 6 Chapter B		✓
§270.14(b)(12)	§264.16(a-e)	Personnel training program	Part 2 Attachment F		✓
§270.14(b)(13)	264 Subpart G	Closure and post-closure plans	Attachment G & H		✓
§270.14(b)(13)	§264.111	Closure performance standard	Attachment G		✓
§270.14(b)(13)	§264.112(a), (b)	Written content of closure plan	Attachment G		✓
§270.14(b)(13)	§264.112(c)	Amendment of closure plan	Attachment G		✓
§270.14(b)(13)	§264.112(d)	Notification of partial and final closure	Attachment G		✓
§270.14(b)(13)	§264.112(e)	Removal of wastes and decontamination/dismantling of equipment	Attachment G		✓
§270.14(b)(13)	§264.113	Time allowed for closure	Attachment G		✓
§270.14(b)(13)	§264.114	Disposal/decontamination	Attachment G		✓
§270.14(b)(13)	§264.115	Certification of closure	Attachment G		✓
§270.14(b)(13)	§264.116	Survey plat	Attachment G		✓
§270.14(b)(13)	§264.117	Post-closure care and use of property	Attachment H		✓
§270.14(b)(13)	§264.118	Post-closure plan; amendment of plan	Attachment H		✓
§270.14(b)(13)	§264.178	Closure/containers	Attachment G		✓
§270.14(b)(13)	§264.601	Environmental performance standards-Miscellaneous units	Attachment G		✓
§270.14(b)(13)	§264.603	Post-closure care	Attachment G		✓

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the WIPP Permit	Yes	No
§270.14(b)(14)	§264.119	Post-closure notices	Attachment H		✓
§270.14(b)(15)	§264.142	Closure cost estimate	NA		✓
	§264.143	Financial assurance	NA		✓
§270.14(b)(16)	§264.144	Post-closure cost estimate	NA		✓
	§264.145	Post-closure care financial assurance	NA		✓
§270.14(b)(17)	§264.147	Liability insurance	NA		✓
§270.14(b)(18)	§264.149-150	Proof of financial coverage	NA		✓
§270.14(b)(19)(i), (vi), (vii), and (x)		Topographic map requirements Map scale and date Map orientation Legal boundaries Buildings Treatment, storage, and disposal operations Run-on/run-off control systems Fire control facilities	Attachment B Part A		✓
§270.14(b)(19)(ii)	§264.18(b)	100-year floodplain	Attachment B Part A		✓
§270.14(b)(19)(iii)		Surface waters	Attachment B Part A		✓
§270.14(b)(19)(iv)		Surrounding Land use	Attachment B Part A		✓
§270.14(b)(19)(v)		Wind rose	Attachment B Part A		✓
§270.14(b)(19)(viii)	§264.14(b)	Access controls	Attachment B Part A		✓
§270.14(b)(19)(ix)		Injection and withdrawal wells	Attachment B Part A		✓
§270.14(b)(19)(xi)		Drainage on flood control barriers	Attachment B Part A		✓
§270.14(b)(19)(xii)		Location of operational units	Attachment B Part A		✓
§270.14(b)(20)		Other federal laws Wild and Scenic Rivers Act National Historic Preservation Act Endangered Species Act Coastal Zone Management Act Fish and Wildlife Coordination Act Executive Orders	Attachment B Part A		✓
§270.15	§264 Subpart I	Containers	Attachment A1		✓
	§264.171	Condition of containers	Attachment A1		✓
	§264.172	Compatibility of waste with containers	Attachment A1		✓
	§264.173	Management of containers	Attachment A1		✓
	§264.174	Inspections	Attachment E Attachment A1		✓
§270.15(a)	§264.175	Containment systems	Attachment A1		✓
§270.15(c)	§264.176	Special requirements for ignitable or reactive waste	Part 2		✓

Regulatory Citation(s) 20.4.1.900 NMAC (incorporating 40 CFR Part 270)	Regulatory Citation(s) 20.4.1.500 NMAC (incorporating 40 CFR Part 264)	Description of Requirement	Added or Clarified Information		
			Section of the WIPP Permit	Yes	No
§270.15(d)	§264.177	Special requirements for incompatible wastes	Part 2		✓
	§264.178	Closure	Attachment G		✓
§270.15(e)	§264.179	Air emission standards	Part 4 Attachment N		✓
§270.23	264 Subpart X	Miscellaneous units	Attachment A2 Attachment O	✓	
§270.23(a)	§264.601	Detailed unit description	Attachment A2 Attachment O	✓	
§270.23(b)	§264.601	Hydrologic, geologic, and meteorologic assessments	Part 5 Attachment L		✓
§270.23(c)	§264.601	Potential exposure pathways	Part 4 Attachment A2 Attachment N		✓
§270.23(d)		Demonstration of treatment effectiveness	NA		✓
	§264.602	Monitoring, analysis, inspection, response, reporting, and corrective action	Part 2 Part 4 Part 5 Attachment A2 Attachment N Attachment O	✓	
	§264.603	Post-closure care	Attachment H Attachment H1		✓
	264 Subpart E	Manifest system, record keeping, and reporting	Part 2 Attachment C		✓

Appendix A
Table of Changes

Table of Changes

Affected Permit Section	Explanation of Change
Part 4, Section 4.5.3.2., Ventilation	<p>Added the acronym “(scfm)” after “standard ft³/min” in first paragraph.</p> <p>Added “If an active room ventilation rate of 35,000 scfm cannot be met, measures as described in Permit Attachment O shall be taken during waste disposal operations when workers are present.” to the end of the paragraph.</p>
Part 4, Section 4.6.3.3., Remedial Action	<p>Added “Alternatively, prior to reaching these action levels, the Permittees may propose an alternative remedial action plan to the Secretary. The Permittees may implement such plans in lieu of closing and abandoning the active room only after approval by the Secretary.” to the end of the paragraph.</p>
Attachment A2, Section A2-2a(3), Subsurface Structures under Underground Ventilation System Description	<p>Added “and” after “area”, in the third paragraph.</p> <p>Deleted “and to exceed a minimum air velocity of 60 ft (18 m) per minute” in the third paragraph.</p> <p>Added “If an active room ventilation rate of 35,000 scfm cannot be met, measures as described in Permit Attachment O shall be taken during waste disposal operations when workers are present.” to the end of the third paragraph.</p> <p>Added “If an active room ventilation rate of 35,000 scfm cannot be met, measures as described in Permit Attachment O shall be taken during waste disposal operations when workers are present.” to last paragraph.</p>
Attachment O, Table of Contents	<p>Added new section “O-5c Standard Operating Procedure Applicable to Abnormal Operating Conditions for the Active Room.”</p>
Attachment O, Section O-1, Definitions	<p>Added “unless measures are implemented.” to the end of the first sentence in the fifth paragraph starting with the words “Restricted Access”.</p> <p>Added “Implementing measures will be prescribed in standard operating procedures. These measures may include, but are not limited to, the following: the adjustment of the volatile organic compound (VOC) immediately dangerous to life or health (IDLH)-based action levels in the Permit, Section 4.6.3.2., in direct proportion to the actual flow rate that is less than 35,000 scfm or the use of personal protective equipment (PPE) as described in Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.134. Implementing measures taken at the WIPP facility regarding the 35,000 scfm ventilation flow rate will be recorded in the WIPP facility log, which is maintained by the Central Monitoring Room Operator (CMRO) and reported to the New Mexico Environment Department in the annual Mine Ventilation Rate Monitoring Report required by Section O-5a.” In fifth paragraph starting with the words “Restricted Access”.</p> <p>Added “Section” before “O-3c(2)” to last sentence of the fifth paragraph.</p>
Attachment O, Section O-2, Objective	<p>Added “If an active room ventilation rate of 35,000 scfm cannot be met, measures as described in Section O-1 shall be taken during waste disposal operations when workers are present.” as the second bullet of the bulleted list.</p>
Attachment O, Section O-3, Design and Procedures	<p>Added “If an active room ventilation rate of 35,000 scfm cannot be met, measures as described in Section O-1 shall be taken during waste disposal operations when workers are present.” as the third bullet of the bulleted list.</p>
Attachment O, Section O-3a(1), Test and Balance Process	<p>Deleted “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.” in the sixth paragraph starting with the words “The Balance”.</p> <p>Replaced “operations” with “operational” in last paragraph.</p>
Attachment O, Section O-3b(1), Monitoring Total Mine Airflow	<p>Replaced “Central Monitoring Room Operator’s (CMRO)” with “the CMRO” because the acronym is now defined in Section O-1.</p>
Attachment O, Section O-3c(1), Verification of Active Room	<p>Added “If an active room ventilation rate of 35,000 scfm cannot be met, measures such as those described in Section O-1 shall be taken during waste</p>

Affected Permit Section	Explanation of Change
Minimum Airflow	disposal operations when workers are present.”
Attachment O, Section O-5a, Reporting	Added “The Permittees will identify the implementing measures as described in Section O-1 used to allow waste handling activities to proceed when the ventilation rate is not achieved.” to end of second paragraph.
Attachment O, Section O-5c, Standard Operating Procedure Applicable to Abnormal Operating Conditions for Active Room Ventilation Flow Rate	Added a new section to the Permit titled “Standard Operating Procedure Applicable to Abnormal Operating Conditions for Active Room Ventilation Flow Rate.”

Appendix B
Proposed Revised Permit Text

Proposed Revised Permit Text:

4.5.3.2. Ventilation

The Permittees shall maintain a minimum active room ventilation rate of 35,000 standard ft³/min (scfm) in each active room when waste disposal is taking place and workers are present in the room, as specified in Permit Attachment A2, Section A2-2a(3), “Subsurface Structures (Underground Ventilation System Description),” and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.601(c)). If an active room ventilation rate of 35,000 scfm cannot be met, measures as described in Permit Attachment O shall be taken during waste disposal operations when workers are present.

4.6.3.3. Remedial Action

Upon receiving validated analytical results that indicate one or more of the VOCs specified in Table 4.4.1 in any of the closed rooms in an active panel has reached the “50% Action Level” in Table 4.6.3.2, the sampling frequency for such closed rooms will increase to once per week. The once per week sampling will continue either until the concentrations in the closed room(s) fall below the “50% Action Level” in Table 4.6.3.2, or until closure of Room 1 of the panel, whichever occurs first. If one or more of the VOCs in Table 4.4.1 in the active open room or immediately adjacent closed room reaches the “95% Action Level” in Table 4.6.3.2, another sample will be taken to confirm the existence of such a condition. If the second sample confirms that one or more of VOCs in the immediately adjacent closed room have reached the “95% Action Level” in Table 4.6.3.2, the active open room will be abandoned, ventilation barriers will be installed as specified in Permit Section 4.5.3.3, waste emplacement will proceed in the next open room, and monitoring of the subject closed room will continue at a frequency of once per week until commencement of panel closure. Alternatively, prior to reaching these action levels, the Permittees may propose an alternative remedial action plan to the Secretary. The Permittees may implement such plans in lieu of closing and abandoning the active room only after approval by the Secretary.

A2-2a(3) Subsurface Structures

Underground Hazardous Waste Disposal Units (HWDUs)

Underground Facilities Ventilation System

Underground Ventilation System Description

At any given time during waste emplacement activities, there may be significant activities in multiple rooms in a panel. For example, one room may be receiving CH TRU mixed waste containers, another room may be receiving RH TRU mixed waste canisters, and the drilling of RH TRU mixed waste emplacement boreholes may be occurring in another room. The remaining rooms in a panel will either be completely filled with waste; be idle, awaiting waste handling operations; or being prepared for waste receipt. A minimum ventilation rate of 35,000 ft³ (990 m³) per minute will be maintained in each active room when waste disposal is taking place and workers are present in the room. This quantity of air is required to support the numbers and types of diesel equipment that are expected to be in operation in the area, and to support the underground personnel working in that area, ~~and to exceed a minimum air velocity of 60 ft (18 m) per minute.~~ The remainder of the air is needed in order to account for air leakage through inactive rooms. If an active room ventilation rate of 35,000 scfm cannot be met, measures as described in Permit Attachment O shall be taken during waste disposal operations when workers are present.

Air will be routed into a panel from the intake side. Air is routed through the individual rooms within a panel using any of the following flow control devices: underground bulkheads, brattice cloth barricades, bulkheads with doors or air regulators. Bulkheads are constructed by erecting framing of rectangular steel tubing and screwing galvanized sheet metal to the framing. Bulkhead members use telescoping extensions that are attached to framing and the salt which adjust to creep. Flexible flashing attached to the bulkhead on one side and the salt on the other completes the seal of the ventilation. Where controlled airflow is required, a louver-style damper or a slide-gate (sliding panel) regulator is installed on the bulkhead. Personnel access is available through most bulkheads, and vehicular access is possible through selected bulkheads. Vehicle roll-up doors in the panel areas are not equipped with warning bells or strobe lights since these doors are to be used for limited periodic maintenance activities in the return air path. Flow is also controlled using brattice cloth barricades. These consist of chain link fence that is bolted to the salt or attached to a structural member and covered with brattice cloth; and are used in instances where the only flow control requirement is to block the air. A brattice cloth air barricade is shown in Figure A2-11. Ventilation will be maintained only in all active rooms within a panel until waste emplacement activities are completed and the panel-closure system is installed. The air will be routed simultaneously through all the active rooms within the panel. The filled rooms will be isolated from the ventilation system, while the active rooms that are actively being filled will receive a minimum of 35,000 scfm of air when workers are present to assure worker safety. If an active room ventilation rate of 35,000 scfm cannot be met, measures as described in Permit Attachment O shall be taken during waste disposal operations when workers are present. After all rooms within a panel are filled, the panel will be closed using a closure system described Permit Attachment G and Permit Attachment G1.

ATTACHMENT O

WIPP MINE VENTILATION RATE MONITORING PLAN

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O-1 Definitions

Restricted Access: If the required ventilation rate in an active room when waste disposal is taking place cannot be achieved or cannot be supported due to operational needs, access is restricted by the use of barriers, signs and postings, or individuals stationed at the entrance to the active disposal room when ventilation rates are below 35,000 scfm unless measures are implemented. Implementing measures will be prescribed in standard operating procedures. These measures may include, but are not limited to, the following: the adjustment of the volatile organic compound (VOC) immediately dangerous to life or health (IDLH)-based action levels in the Permit, Section 4.6.3.2., in direct proportion to the actual flow rate that is less than 35,000 scfm or the use of personal protective equipment (PPE) as described in Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.134. Implementing measures taken at the WIPP facility regarding the 35,000 scfm ventilation flow rate will be recorded in the WIPP facility log, which is maintained by the Central Monitoring Room Operator (CMRO) and reported to the New Mexico Environment Department in the annual Mine Ventilation Rate Monitoring Report required by Section O-5a. Note: As provided in Section O-3c(2) entry to restricted access active rooms for the purpose of establishing normal ventilation is allowed.

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 a minimum of 35,000 scfm of air through the active rooms when waste disposal is taking place and when workers are present in the rooms
- If an active room ventilation rate of 35,000 scfm cannot be met, measures as described in Section O-1 shall be taken during waste disposal operations when workers are present.

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, measures as described in Section O-1 shall be taken during waste disposal operations when workers are present.
- Quarterly verification of the total mine airflow

O-3a Test and Balance

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.~~ 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.

The Test and Balance process culminates in a final report which is retained on site. Following receipt of the Test and Balance Report, the Permittees shall revise the WIPP surface and underground ventilation system procedures to incorporate any required changes to the ventilation system configuration. The Test and Balance data shall be used to adjust the operating range of fan controls, waste tower pressure, auxiliary air intake tunnel regulator settings, underground regulator settings, and door configurations. The model data and procedure changes shall be used to establish normal configuration settings to achieve the desired airflow in the underground. These settings shall then be modified by operations personnel throughout the year to compensate for system fluctuations caused by seasonal changes in psychrometric properties, and to meet specific ~~operations~~ operational needs. This ensures that the facility is operated at the design airflow rate for each ventilation mode.

O-3b Total Mine Airflow

O-3b(1) Monitoring Total Mine Airflow

The Permittees shall use the ~~Central Monitoring Room Operator's (CMRO)~~ CMRO Log to monitor total mine airflow. Run-times for the various modes of operation shall be entered into the CMRO Log. For example, if the CMRO Log indicates that the ventilation system was configured for Alternate Mode (one main fan) at 8:00 am, and that this configuration was maintained until 11:30 am, a total of 3.5 hours of run-time in Alternate Mode would be recorded. Run times are recorded to the nearest quarter hour. The CMRO shall record each time when the ventilation system configuration is changed, including periods when there is no ventilation.

O-3c Active Room Minimum Airflow

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

Whenever workers are present, the Permittees shall verify the minimum airflow through active room(s) when waste disposal is taking place of 35,000 scfm at the start of each shift, any time there is an operational mode change, or if there is a change in the ventilation system configuration. If an active room ventilation rate of 35,000 scfm cannot be met, measures such as those described in Section O-1 shall be taken during waste disposal operations when workers are present.

O-5 Reporting and Recordkeeping

O-5a Reporting

The Permittees shall evaluate compliance with the minimum ventilation rate for an active room specified in Permit Section 4.5.3.2 on a monthly basis. The Permittees shall report to the Secretary in the annual report specified in Permit Section 4.6.4.2 whenever the evaluation of the mine ventilation monitoring program data identifies that the ventilation rate specified in Permit Section 4.5.3.2 has not been achieved. The Permittees will identify the implementing measures as described in Section O-1 used to allow waste handling activities to proceed when the ventilation rate is not achieved.

O-5c Standard Operating Procedure Applicable to Abnormal Operating Conditions for Active Room Ventilation Flow Rate

The abnormal operating conditions procedure provides instructions necessary to evaluate VOC concentrations in an adjacent filled room prior to commencing waste emplacement operations in an active disposal room when workers are present at a reduced active room ventilation flow rate. Abnormal conditions that may prevent 35,000 scfm from being met, may include, but are not limited to, barometric pressure changes, maintenance activities, and equipment malfunctions. VOC data in the adjacent filled room are collected and analyzed in accordance with Permit Part 4, Section 4.6.3. Adjusted VOC action levels are prescribed at a maximum of 5,000 scfm increments to provide a means of assessment. The validated VOC monitoring data are compared to the action levels prescribed in the standard operating procedure and a decision flow path is provided to the Facility Shift Manager, or designee, to determine applicable actions. These actions include, but are not limited to, commencing waste emplacement operations at a reduced active room ventilation flow rate based on the adjusted VOC action levels, commencing waste emplacement operations at a reduced active room ventilation flow rate with the use of PPE as described in OSHA standard 29 CFR 1910.134, or restricting access to the active disposal room until the ventilation flow rate requirements of Permit Part 4, Section 4.5.3.2, are met. As stated in the abnormal operating conditions procedure, implementing measures taken at the WIPP facility are recorded in the WIPP facility log, which is maintained by the CMRO and reported to the New Mexico Environment Department in the annual Mine Ventilation Rate Monitoring Report required by Section O-5a.

Appendix C
Implementing Measure for Revised Ventilation Flow Rates

VOC Room-Based Limits at 30,000 scfm				
Compound	Ventilation Rate Scaling Factor (ppmv/scfm)	VOC Room- Based Action Level at 30,000 scfm (ppmv)	50% Action Level for VOC Constituents of Concern in any Closed Room, ppmv	95% Action level for VOC Constituents of Concern in any Closed Room, ppmv
Carbon Tetrachloride	0.275	8,250	4,125	7,837
Chlorobenzene	–	13,000	6,500	12,350
Chloroform	0.284	8,511	4,255	8,085
1,1-Dichloroethene	0.157	4,706	2,353	4,470
1,2-Dichloroethane	0.069	2,057	1,028	1,954
Methylene Chloride	3.163	94,901	47,451	90,156
1,1,2,2-Tetrachloroethane	0.085	2,537	1,268	2,410
Toluene	–	11,000	5,500	10,450
1,1,1-Trichloroethane	0.963	28,886	14,443	27,441
Trichloroethylene	1.371	41,142	20,571	39,085
VOC Room-Based Limits at 25,000 scfm				
Compound	Ventilation Rate Scaling Factor (ppmv/scfm)	VOC Room- Based Action Level at 25,000 scfm (ppmv)	50% Action Level for VOC Constituents of Concern in any Closed Room, ppmv	95% Action level for VOC Constituents of Concern in any Closed Room, ppmv
Carbon Tetrachloride	0.275	6,875	3,437	6,531
Chlorobenzene	–	13,000	6,500	12,350
Chloroform	0.284	7,093	3,546	6,738
1,1-Dichloroethene	0.157	3,921	1,960	3,725
1,2-Dichloroethane	0.069	1,714	857	1,628
Methylene Chloride	3.163	79,084	39,542	75,130
1,1,2,2-Tetrachloroethane	0.085	2,114	1,057	2,008
Toluene	–	11,000	5,500	10,450
1,1,1-Trichloroethane	0.963	24,071	12,035	22,867
Trichloroethylene	1.371	34,285	17,142	32,571
VOC Room-Based Limits at 20,000 scfm				
Compound	Ventilation Rate Scaling Factor (ppmv/scfm)	VOC Room- Based Action Level at 20,000 scfm (ppmv)	50% Action Level for VOC Constituents of Concern in any Closed Room, ppmv	95% Action level for VOC Constituents of Concern in any Closed Room, ppmv
Carbon Tetrachloride	0.275	5,500	2,750	5,225
Chlorobenzene	–	13,000	6,500	12,350
Chloroform	0.284	5,674	2,837	5,390
1,1-Dichloroethene	0.157	3,137	1,568	2,980
1,2-Dichloroethane	0.069	1,371	685	1,302
Methylene Chloride	3.163	63,267	31,634	60,104
1,1,2,2-Tetrachloroethane	0.085	1,691	845	1,606
Toluene	–	11,000	5,500	10,450
1,1,1-Trichloroethane	0.963	19,257	9,628	18,294
Trichloroethylene	1.371	27,428	13,714	26,057

VOC Room-Based Limits at 15,000 scfm				
Compound	Ventilation Rate Scaling Factor (ppmv/scfm)	VOC Room- Based Action Level at 15,000 scfm (ppmv)	50% Action Level for VOC Constituents of Concern in any Closed Room, ppmv	95% Action level for VOC Constituents of Concern in any Closed Room, ppmv
Carbon Tetrachloride	0.275	4,125	2,062	3,918
Chlorobenzene	–	13,000	6,500	12,350
Chloroform	0.284	4,256	2,128	4,043
1,1-Dichloroethene	0.157	2,353	1,176	2,235
1,2-Dichloroethane	0.069	1,029	514	977
Methylene Chloride	3.163	47,451	23,725	45,078
1,1,2,2-Tetrachloroethane	0.085	1,269	634	1,205
Toluene	0.688	10,315	5,158	9,800
1,1,1-Trichloroethane	0.963	14,443	7,221	13,720
Trichloroethylene	1.371	20,571	10,285	19,542
VOC Room-Based Limits at 10,000 scfm				
Compound	Ventilation Rate Scaling Factor (ppmv/scfm)	VOC Room- Based Action Level at 10,000 scfm (ppmv)	50% Action Level for VOC Constituents of Concern in any Closed Room, ppmv	95% Action level for VOC Constituents of Concern in any Closed Room, ppmv
Carbon Tetrachloride	0.275	2,750	1,375	2,612
Chlorobenzene	–	13,000	6,500	12,350
Chloroform	0.284	2,837	1,418	2,695
1,1-Dichloroethene	0.157	1,569	784	1,490
1,2-Dichloroethane	0.069	686	343	651
Methylene Chloride	3.163	31,634	15,817	30,052
1,1,2,2-Tetrachloroethane	0.085	846	423	803
Toluene	0.688	6,877	3,439	6,533
1,1,1-Trichloroethane	0.963	9,629	4,814	9,147
Trichloroethylene	1.371	13,714	6,857	13,028

Appendix D
Mine Ventilation Services Filtration Mode Assessment



Mine Ventilation Services, Inc.

1625 Shaw Ave, Suite 103, Clovis, CA 93611 U.S.A.

Telephone: (559) 452-0182, Facsimile (559) 452-0184, e-mail: support@mvsengineering.com

Memorandum

To: Jill Farnsworth, Nuclear Waste Partnership, LLC (NWP)
From: John Bowling, Mine Ventilation Services, Inc. (MVS)
CC: Keith Wallace (MVS)
Date: 5/1/2015
Re: Exploration of Emplacement Operations under 60 kcfm Flow Rev. 0

Introduction

Mine Ventilation Services, Inc. (MVS) was asked to explore the potential of conducting emplacement operations in the current Filtration Mode. WIPP's permit calls for a required minimum of 42,000 acfm (actual airflow at U/G density) in the active room to undertake waste emplacement. Currently, only approximately 55,000 acfm is available to the entire U/G for ventilation. In order to direct even half of the total available airflow in the U/G to one particular location will require significant improvements to the condition and maintenance of U/G ventilation controls.

The airflow requirement of 42,000 acfm used in the 1999 permit stems from a requirement of 35,000 scfm (standard cfm, at sea level), which appears to have been arrived at initially by diesel dilution requirements. The airflow requirement to dilute diesel emissions from the disposal equipment is a function of the engine power and combustion efficiency/cleanliness of the diesel equipment operating at the time in the emplacement room. The equipment which could be expected to operate during disposal activities are the following:

- (3) CH waste transporters (two need 10 kcfm, one needs 6.5 kcfm),
- (1) 6-ton forklift (11.8 kcfm), and
- (1) 13-ton forklift for SLB2 (6.5 kcfm).

These dilution requirements are based on MSHA or EPA diesel engine certifications or, if those were not available, a dilution ratio of 125 cfm/bhp. Not all of this equipment would be expected to work in the active emplacement room simultaneously.

Additionally, during the permitting process, studies of airborne VOC contaminants used the 35,000 scfm/42,000 acfm as a basis of concentration models within an active emplacement panel. These studies also contributed to cementing the 35,000 scfm/42,000 acfm panel airflow requirement as part of the permit.

Options for Conducting Disposal Activities

To conduct disposal activities, several options will be examined. The options should be prioritized following prudent industrial hazard control principles, preferring and enacting in order:

1. Elimination of the hazard,
2. Substitution of the hazard,
3. Engineering controls,
4. Administrative controls,
5. Utilizing PPE to mitigate exposure to hazards.

Accepting that disposal operations cannot be conducted without operating the required piece of mobile diesel equipment (i.e. the CH waste transporter and forklift(s)), elimination or substitution of the hazard (diesel emissions and other airborne contaminants such as VOCs) are not possible. The remaining options, in their respective order of priority, are:

1. Manipulate existing ventilation controls to attempt to establish 42,000 acfm in P7R6. (Engineering control)
2. Construct additional ventilation controls and substantially improve existing controls to attempt to establish 42,000 acfm in P7R6. (Engineering control)
3. Consider operational options employing less equipment which will require less airflow. (Administrative control)
4. Consider utilizing respirators to protect workers from higher concentrations of diesel emissions and/or other airborne contaminants. (PPE)

Results of Modifying Ventilation Controls

The results of enacting Option 1: Manipulating existing ventilation controls have been modeled extensively. With neutral NVP and manipulating only existing ventilation controls, a maximum of 22,000 acfm can be supplied to P7R6. The following changes, labeled in Figure 1, were assumed to be made to the existing ventilation controls:

1. Close 74-B-401
2. Close 74-B-504
3. Cover AIS (w/ current closure)
4. Remove 74-B-706 in P7R6
5. Added bulkheads closing off P7R7 (part of procedure to isolate completed room)
6. Open 74-B-313: 2 louvers
7. Close 74-B-308 fully
8. Close 74-B-402/403 (normally closed, confirm)
9. Close 74-B-415/416 (standard for waste handling operations)
10. Close 74-B-312

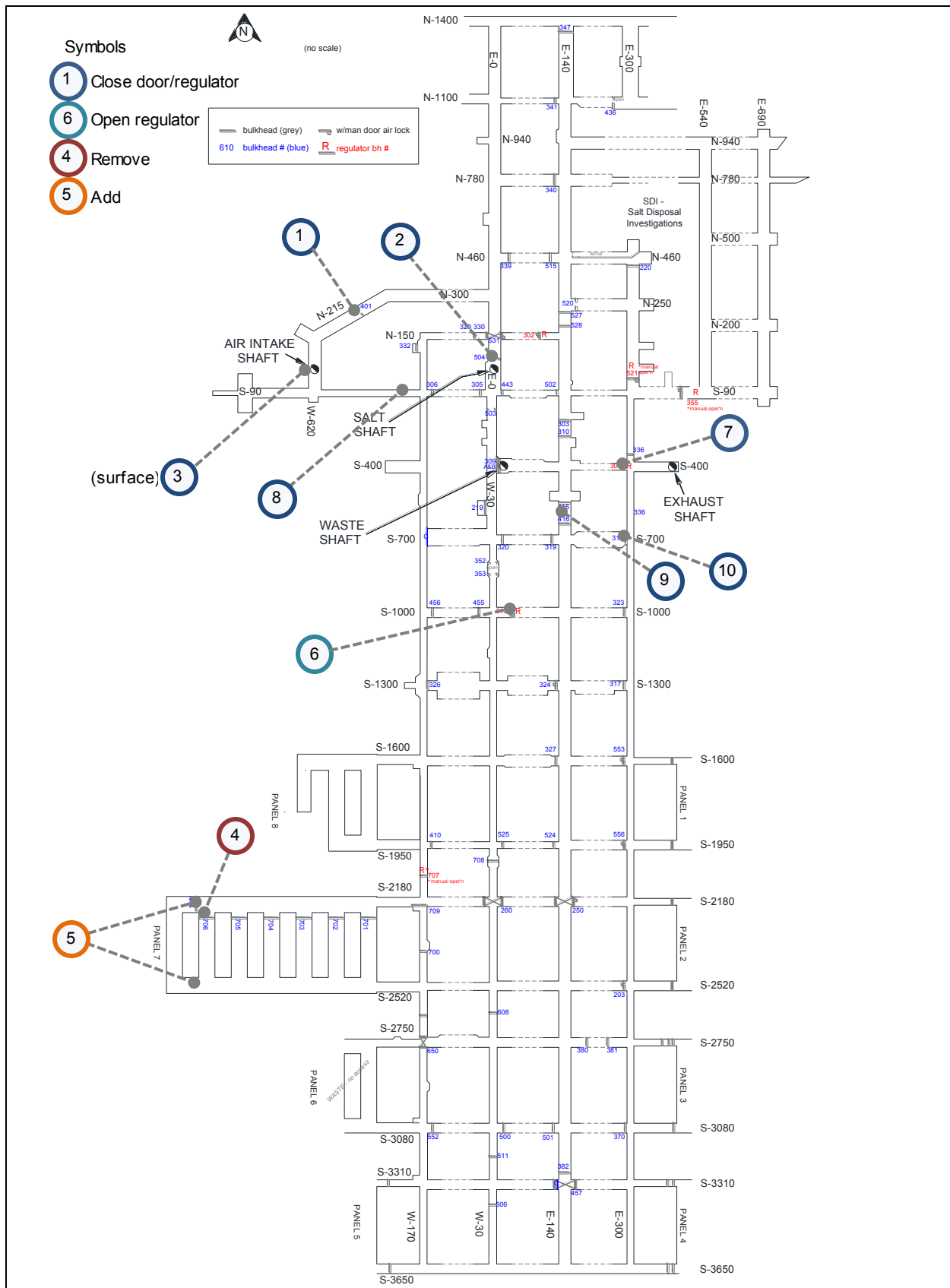
Option 2: Construct additional ventilation controls and substantially improve existing controls was also modeled. More extensive modifications to existing ventilation controls were examined, such as tightening and lining bulkheads with curtains, as well as adding a ventilation control. The ventilation controls, labeled in Figure 2, were modified as follow:

11. Tightened 74-B-504 with curtain
12. Tightened AIS closure
13. Added brattice curtain in E-300 (approx. S-2300, in line with Panel 7), pinned tightly
14. Brattice on north side of 74-B-650 (S-2750/W-170 intersection) tightened
15. Tightened 74-B-312 regulator with curtain

The results of the above scenario, assumed to allow for nearly the maximum achievable airflow through P7R6 via engineering controls, are provided in Table 1. The largest single improvement in airflow to the panel is provided by the added curtain in E-300, which results in approximately 9,000 acfm additional airflow in P7R6.

Table 1: Maximum expected airflow in P7R6 following changes to ventilation controls.

NVP (season)	Predicted airflow in P7R6 w/ curtain in E-300 (acfm)	Predicted airflow in P7R6 w/o curtain in E-300 (acfm)
Winter	38,500	28,900
Neutral	36,500	27,400
Summer	34,600	26,000



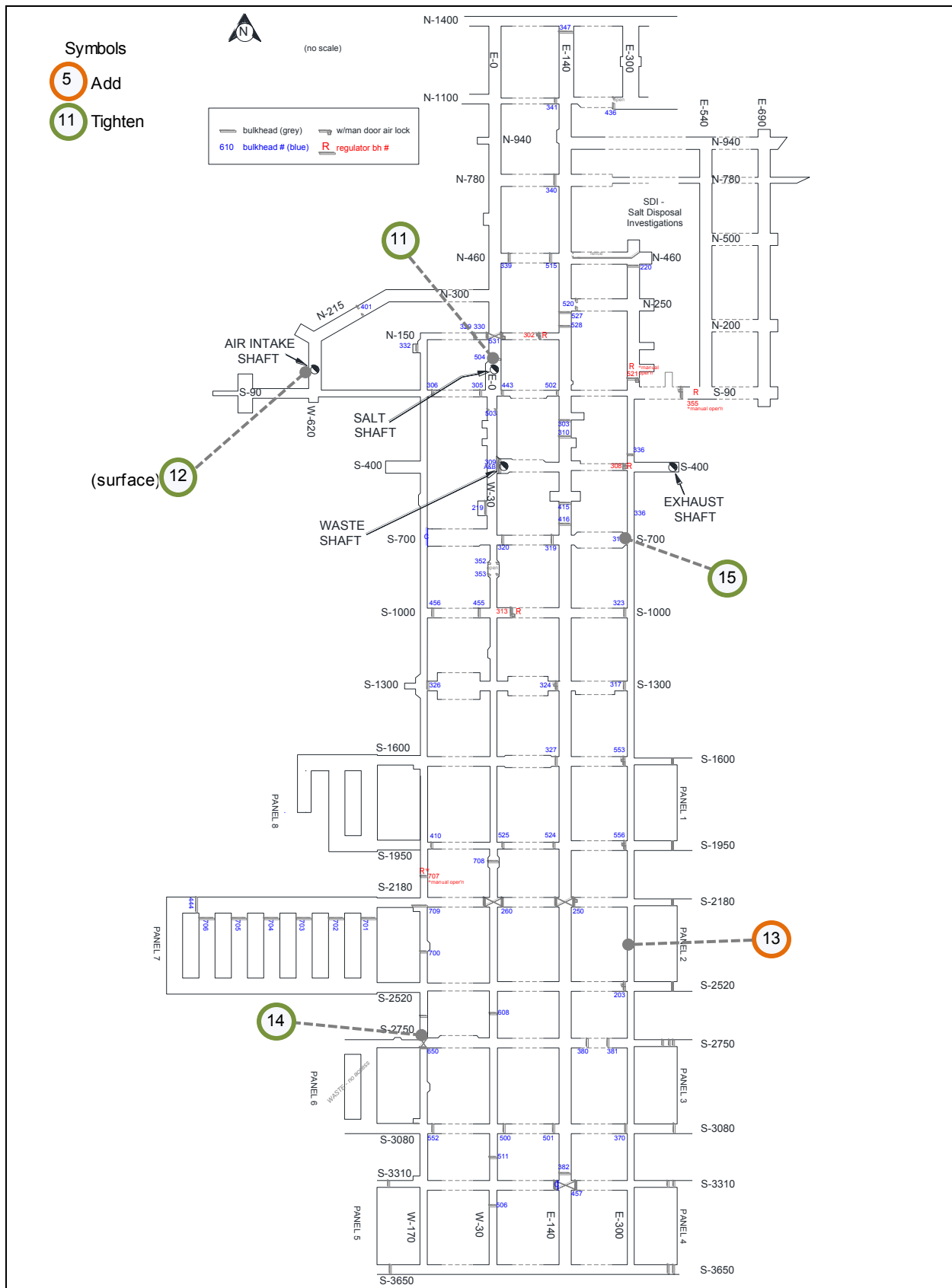


Figure 2: Option 2 ventilation control modifications to increase airflow to P7R6 for waste emplacement

Additional Options: Administrative Controls and PPE

Diesel dilution requirements could be easily met by simply limiting the number and models of diesel equipment operating in the disposal circuit at any one time. Making the previously mentioned modifications to ventilation controls increases the available airflow in P7R6 by over 14,000 cfm, which allows for the operation of one additional piece of diesel mobile equipment. Although it would not meet the current permit's airflow requirements, two to three of the CH waste transporters could operate with either of the forklifts in the disposal circuit while meeting diesel dilution requirements. PPE should not be necessary to protect workers from diesel emissions, especially if the amount of equipment in operation is limited.

VOC concentrations are a function of the waste stream, however, not the equipment in operation. Administrative controls limiting the VOC content of handled waste may not be possible or practical to implement. Depending on VOC concentrations encountered, additional PPE, e.g. respirators with VOC filters, may be necessary to conduct emplacement operations.

Operational Considerations

Conducting waste emplacement activities under very-low flow conditions will mandate some additional operational considerations. First, there will be essentially no airflow remaining for allocation to other activities. If conducting emplacement under low-flow conditions, other activities requiring ventilation may not be performed in the U/G.

In order to handle waste in the WS station, the Waste Shaft Circuit must be active: BH308 regulator will have to be opened while waste is handled in WS station. Depending on the current NVP condition, the WS station may or may not receive the 10,000 acfm needed operate the CH waste transporter if the 74-B-313 regulator is partially open. The 74-B-313 regulator should be closed while waste transfer is in progress in the WS station. The 74-B-308 regulator should be closed and the 74-B-313 regulator opened when the transporter passes through 74-B-415/416 doors to divert the maximum airflow to the Disposal Circuit. Effectively, ventilation is only sufficient for either waste handling in the WS station (the Waste Handling Circuit) or in the Disposal Circuit.

Constructing a curtain in E-300 dramatically limits airflow available to all areas south of the S-2520. Modeling predicts approximately 3,200 cfm reaches S-3650, depending largely on the resistance added by the curtain in E-300. Because of low airflow in this south area, VOC concentrations should be expected to increase over time. The limited airflow and increased VOC concentration will have the effect of substantially restricting any activity south of Panel 7.

Conclusions

Ventilation modeling suggests that closing and tightening current ventilation controls, as well as adding curtains over leaky bulkheads could direct about $27,500 \pm 1,500$ acfm (depending on NVP) into P7R6. Although this area may not be currently accessible, adding a curtain pinned tightly up in E-300 at approximately S-2300 (in line with Panel 7) could increase flow through P7R6 to about $36,500 \pm 2,000$ acfm (depending on NVP). By managing the equipment operated in the disposal circuit (administrative control), exposure to diesel emissions can be effectively mitigated. Respiratory PPE could be utilized temporarily, as a compensatory measure, to mitigate exposure to VOCs until SVS-IVS is completed.

Due to extremely limited available airflow, only either the Waste Shaft Circuit or the Disposal Circuit can be ventilated at any given time. Ventilation will be insufficient for nearly any other activities in the underground while waste emplacement is being conducted.