

**Class 2 Permit Modification Request**

**Revise Training Requirements For Waste Confirmation  
Revise Preventative Maintenance Procedure Frequency  
Remove Brush Truck  
Revise Incident Level II Requirements  
Revise Emergency Operations Center Staff Requirements  
Revise Contingency Plan**

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

**WIPP HWFP #NM4890139088-TSDF  
March 2007**

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## Overview of the Permit Modification Request

1 This document contains various Class 2 Permit Modification Requests (**PMRs**) for the Waste  
2 Isolation Pilot Plant (**WIPP**) Hazardous Waste Facility Permit (**HWFP**), Number NM4890139088-  
3 TSDf, hereinafter referred to as the WIPP HWFP.  
4

5 These PMRs are being submitted by the U.S. Department of Energy (**DOE**), Carlsbad Field Office  
6 (**CBFO**) and Washington TRU Solutions LLC (**WTS**), collectively referred to as the Permittees, in  
7 accordance with the WIPP HWFP, Condition I.B.1 (20.4.1.900 New Mexico Administrative Code  
8 (**NMAC**) incorporating Title 40, Code of Federal Regulations (**CFR**), §270.42(b)). These  
9 modifications are requested for the following items:

- 10 • establish two levels of training requirements for waste confirmation personnel  
11 dependent upon whether they are required to perform actual real time radiography  
12 (**RTR**) or visual examination (**VE**) in the field or whether they are only required to  
13 review RTR media and records or VE media and records,  
14
- 15 • remove the Brush Truck from the HWFP,  
16
- 17 • change the frequency of some preventive maintenance inspections in Attachment D,  
18 Tables D-1 and D-1a to eliminate duplicative requirements and to be consistent with  
19 recommended preventive maintenance practices,  
20
- 21 • clarify the difference between the organizations that operate various remote-handled  
22 transuranic waste systems and the organizations that are responsible for performing  
23 various inspections,  
24
- 25 • revise the minimum staff required to activate the Emergency Operations Center,  
26
- 27 • update container specific criteria that qualify a spill or release as an Incident Level  
28 II event,  
29
- 30 • revise Contingency Plan to incorporate the results of the updated Fire Hazard  
31 Analysis.  
32

33  
34 The proposed changes will not reduce the ability of the Permittees to provide continued protection  
35 to human health and the environment.  
36

37 The requested modifications to the WIPP HWFP and related supporting documents are provided in  
38 this PMR. The proposed modifications to the text of the WIPP HWFP have been identified using a  
39 double underline, and a ~~strikeout~~ font for deleted information. All direct quotations are indicated by  
40 italicized text. The following information specifically addresses how compliance has been achieved  
41 with the WIPP HWFP requirement, Permit Condition I.B.1 for submission of this Class 2 PMR.  
42  
43

- 44 **1. 20.4.1.900 NMAC (incorporating 40 CFR §270.42(b)(1)(i)) requires the applicant**  
45 **to describe the exact change to be made to the permit conditions and**  
46 **supporting documents referenced by the permit.**

1  
2 This document proposes to make various changes to the HWFP. Those changes are indicated  
3 below:  
4

- 5 • The modification proposes to establish two levels of training requirements for those  
6 personnel involved in the Permittees' waste confirmation process.  
7

8 The HWFP (Attachments B7, H1 and H2) requires that personnel who perform RTR  
9 and VE be qualified as radiographers and visual examination experts. However,  
10 most of the confirmation work requires only the review of RTR/VE media and/or  
11 records and not the actual performance of RTR or VE. Therefore, the Permittees are  
12 proposing that two levels of training be incorporated into the HWFP.  
13

14 Level 1 confirmation personnel would have the training required to view RTR and VE  
15 media and review RTR and VE records but would not require the training needed to  
16 operate actual radiography systems or perform VE in a glovebox environment.  
17

18 Level 2 confirmation personnel would be trained American Society of Non-  
19 Destructive Testing radiography operators and VE experts.  
20

- 21 • The HWFP, Attachment D, Table D-1 identifies a weekly inspection of a fire  
22 truck called the brush truck. The Permittees no longer need the brush truck  
23 and must remove it from the inspection schedule before it can be exceeded.  
24
- 25 • The HWFP, Attachment D, Table D-1a identifies PM041232 for the RH Bay  
26 Overhead Bridge Crane as a quarterly and an annual preventive maintenance (PM)  
27 procedure. The Permittees request to remove the reference to the annual PM which  
28 is duplicative of the quarterly inspection and the annual inspection is not required by  
29 this procedure.  
30
- 31 • The HWFP, Attachment D, Table D-1a identifies PM041190 for the Cask Unloading  
32 Room Crane as a quarterly and an annual preventive maintenance procedure. The  
33 Permittees request to remove the reference to the annual PM which is duplicative of  
34 the quarterly inspection and the annual inspection is not required by this procedure.  
35
- 36 • The HWFP, Attachment D, Table D-1a identifies PM052010 for the Horizontal  
37 Emplacement and Retrieval Equipment as a monthly preventive maintenance  
38 procedure. The Permittees request to change the frequency in Table D-1a to semi-  
39 annual which experience shows is sufficient to protect the equipment and to minimize  
40 impacts on waste handling operations.  
41
- 42 • The HWFP, Attachment D, Table D-1a contains columns that identify the responsible  
43 organization and the job title for the personnel normally conducting the inspection.  
44 The Permittees request a clarification that the responsible organization pertains to  
45 the organization that owns and uses the equipment and to clarify that the job title of  
46 personnel normally making the inspection does not apply to procedures beginning  
47 with PM or IC. Preventive Maintenance (PM) procedures are conducted by mine  
48 maintenance personnel or surface operations maintenance personnel. Instrument

1 Control (IC) procedures are performed by instrument technicians. This clarification  
2 is necessary to delineate that personnel performing preventive maintenance and  
3 instrument and calibration procedures are not trained as equipment operators as  
4 identified in the HWFP Attachments H1 and H2.

- 5  
6 • The HWFP, Attachment F, Section F-2 indicates the Emergency Operations Center  
7 (**EOC**) staff that is required to activate the EOC. To be consistent with organizational  
8 changes the wording in the HWFP has been revised and the staffing required to  
9 activate the EOC has been revised.
- 10  
11 • The HWFP, Attachment F, Table F-1 shows the hazardous materials/wastes which  
12 may be at the WIPP facility in large enough quantities to qualify as a National Fire  
13 Protection Association (**NFPA**) Level II Incident. The Permittees are requesting an  
14 update in that table to include all TRU mixed waste (CH and RH) in any approved  
15 container listed in Permit Condition III.C.1.
- 16  
17 • In Attachments E and F of the HWFP references are made to the locations of fire  
18 hoses and internal fire hose connections. The recent fire hazard analysis indicates  
19 that these items are no longer required to meet the NFPA standards. This  
20 modification will request removal of those items from the HWFP.

21  
22 Details of these revisions are summarized in Attachment A of this PMR.

23  
24 The proposed changes to the WIPP HWFP text are presented in Attachment B of this PMR.

25  
26 **2. 20.4.1.900 NMAC (incorporating 40 CFR §270.42(b)(1)(ii)) requires the applicant**  
27 **to identify that the modification is a Class 2 modification.**

28  
29 The proposed modifications are classified as Class 2 permit modifications for the reasons indicated  
30 below:

- 31  
32 • Item 1 - *“Changes in the training plan that affect the type or decrease the amount of*  
33 *training given to employees”* in accordance with 20.4.1.900 NMAC incorporating 40  
34 CFR §270.42 Appendix I, Item B.5.a.
- 35  
36 • Items 2 - 6 - *“Changes in the frequency or content of inspection schedules”* in  
37 accordance with 20.4.1.900 NMAC incorporating 40 CFR §270.42 Appendix I, Item  
38 B.4.
- 39  
40 • Item 7 - *“Changes in emergency procedures”* in accordance with 20.4.1.900 NMAC  
41 incorporating 40 CFR §270.42 Appendix I, Item B.6.a.
- 42  
43 • Items 8 and 9 - *“Removal of equipment from the emergency equipment list”* in  
44 accordance with 20.4.1.900 NMAC incorporating 40 CFR §270.42 Appendix I, Item  
45 B.6.c.

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

4 **Item 1** Attachment B7, Sections B7-1b(1) and B7-1c(1) require that radiography and visual  
5 examination training be performed as specified in Attachment H1 of the HWFP.  
6

7 The HWFP allows confirmation to be performed in several ways. Those include:

- 8 • radiography
  - 9 • visual examination
  - 10 • review of radiography media and data forms
  - 11 • review of visual examination media and data forms
- 12

13 The training requirements in Attachment H1 and H2 are comprehensive and cover  
14 personnel that will be performing actual radiography and visual examination as well  
15 as personnel that will only be reviewing radiography or visual examination media and  
16 records.  
17

18 When the confirmation program was initially established, it was anticipated that most  
19 confirmation would include actual equipment operation and therefore, confirmation  
20 personnel are trained as equipment operators. Now that the confirmation program  
21 is underway, it is obvious that for legacy waste, generator sites may continue to  
22 perform radiography or VE on a large portion of the waste as part of waste  
23 characterization. As the result, most confirmation is accomplished through review  
24 of media or records in an office setting and not by hazardous waste and radiological  
25 worker trained equipment operators. In order to adjust to this difference, the  
26 Permittees seek to train new confirmation personnel to perform review of media and  
27 records and not as equipment operators. This will reduce training time so that the  
28 number of confirmation staff can be increased quickly (1-2 months instead of 4-6  
29 months) when more personnel are needed.  
30

31 The classroom and on-the-job training requirements in Attachments H1 and H2 for  
32 confirmation personnel encompass approximately four months of continuous and  
33 intensive training. Many of these hands-on operator training requirements are not  
34 needed by those personnel that will only be reviewing media and records. A two  
35 level training process will allow confirmation personnel to be trained to perform their  
36 specific duties (either data review or operations and subsequent data review) while  
37 still maintaining all of the requirements necessary to be protective of human health  
38 and the environment. No changes to the training requirements for the Permittees  
39 Management Representative is being sought.  
40

41 In discussing this request with stakeholders, several expressed concern that Level  
42 1 trained confirmation personnel would not understand important radiography  
43 concepts such as image quality. The generator/storage sites are required to perform  
44 RTR or VE on waste containers as part of their approved waste characterization  
45 programs. These operators are required to take into account such factors as  
46 radiographic image quality, various scanning and application techniques, prior to  
47 approving the container for disposal at WIPP. The confirmation team members then  
48 take the media (e.g., videotape for the approved container) and confirm the waste  
49 form and the absence of ignitable, corrosive and reactive wastes. If the image quality

1 in not acceptable for waste confirmation personnel to make that determination the  
2 media will be rejected and the generator/storage site will be required to submit new  
3 media that is of sufficient quality to complete waste confirmation.  
4

5 The Permittees need to increase staff on the waste confirmation teams so that  
6 situations such as illness, vacation and emergencies can be managed without a  
7 reduction in waste shipping rates.  
8

9 This modification will allow an increase in staffing without reducing the ability of the  
10 waste confirmation teams to adequately review RTR and VE media and records.  
11

12 **Item 2**

13 The Permittees no longer plan to use the Brush Truck to respond to a fire at the  
14 WIPP facility nor a brush fire in the vicinity of WIPP. The Permittees have available  
15 Engine 25 and the Seagraves Fire Truck which would be used for firefighting  
16 purposes. The Brush Truck requires extensive maintenance and is frequently out of  
17 commission for maintenance and repairs. Elimination of the brush truck does not  
18 reduce the Permittees' ability to deal with on-site or off-site fires. Along with Engine  
19 25 and the Seagraves Fire Truck the Permittees have mutual assistance agreements  
20 with local fire fighting organizations to assure adequate resources are available  
21 should any wildfire occur requiring additional support.

22 Additionally, the WIPP Property Protection Area is surrounded by pavement  
23 and/or gravel surfaces and surrounded by a gravel road. These features provide a  
24 fire break that would prevent a wildland fire from propagating from the surrounding  
25 terrain to the surface structures within the Property Protection Area.  
26

27 **Item 3**

28 The HWFP, Attachment D, Table D-1a identifies PM041232 for the RH Bay  
29 Overhead Bridge Crane as a quarterly and an annual preventive maintenance  
30 procedure. The procedure was first issued on June 26, 2002 and has been  
31 conducted quarterly. PM041232 does not have an additional annual component  
32 nor does the manufacturer recommend an annual inspection if more frequent  
33 inspections occur. PM041232 is a quarterly mechanical inspection of the hook,  
34 wire rope and hoist load block for the RH Bay Overhead Bridge Crane. Since this  
35 inspection is being done quarterly already an additional annual inspection is  
36 duplicative.

37 The annual preventative maintenance procedure is listed in Table D-1a as  
38 PM041117.  
39

40 **Item 4**

41 The HWFP, Attachment D, Table D-1a identifies PM041190 for the Cask  
42 Unloading Room Crane as a quarterly and an annual preventive maintenance  
43 procedure. PM041190 is an inspection of the hook, wire rope and hoist load block  
44 for the Cask Unloading Room Crane. The procedure was first issued on August  
45 14, 2002 and has been conducted quarterly. PM041190 does not have an  
46 additional annual component. Since this inspection is being done quarterly  
47 already an additional annual inspection is duplicative.

48 The annual preventative maintenance inspections for the Cask Unloading Room  
49 Crane are listed in Table D-1a as PM041191, PM041192 and IC411035.

1  
2 **Item 5**

The HWFP, Attachment D, Table D-1a identifies PM052010 for the Horizontal Emplacement and Retrieval Equipment (HERE) as a monthly preventive maintenance procedure. The HERE is used for the emplacement of Remote-Handled (RH) waste. The HERE is inspected prior to each evolution. Any deficiencies that impact the operation of the HERE are corrected. The Permittees are requesting to change this preventative maintenance procedure from monthly to semi-annually.

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10 The Operation and Maintenance Manual for the HERE indicate that the frequency of performing maintenance activities should be developed by WIPP operating personnel. It recommends that operational inspections be performed before each use. The Permittees currently do operational inspections before each evolution. These pre-evolution inspections include checking fluid levels, and checking the hydraulic system for leaks. The semi-annual inspection (now performed monthly) includes visual inspection and cleaning, lubricating/greasing bearings, changing hydraulic fluid filters and sampling of hydraulic fluids.

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18  
19 During the last several years of using the HERE for training and operational readiness requirements it was determined that 500 hours of use would dictate the maintenance frequency for this equipment. The Permittees have estimated that RH-TRU emplacement activities will result in less than 500 hours of use in 6 months (7 canisters/week X 26 weeks X 2 hours per emplacement = 364 hours).

20  
21  
22  
23  
24  
25 **Item 6**

Preventive Maintenance (PM) procedures are conducted by mine maintenance personnel or surface operations maintenance personnel. Instrument Control (IC) procedures are performed by instrument technicians. This clarification is necessary to indicate that personnel performing preventive maintenance and instrument and calibration procedures do not need to be trained as operators as identified in the HWFP Attachments H1 and H2. This clarification is being added in the form of a new footnote (footnote "J") to Table D-1a. The footnote clarifies that the "Responsible Organization" in Table D-1a is the owner of the listed equipment and clarifies that maintenance is performed by maintenance and instrument calibration personnel.

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36 **Item 7**

This modification will revise the minimum EOC staffing required to activate the EOC but will not reduce the full EOC staffing requirements. This will facilitate timely activation of the EOC when necessary.

37  
38  
39  
40 **Item 8**

In accordance with NFPA 471, if the products involved in a fire, explosion, spill or leakage meet certain criteria, that incident will be classified as a Level II incident. Table F-1 lists those material at WIPP which would qualify as a Level II incident. The Permittees are requesting that the text in this table be updated to include any size of approved containers of TRU mixed waste identified in Permit Condition III.C.1 and that this requirement would apply to both CH and RH TRU mixed waste.

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48 **Item 9**

In June 2006 a revised Fire Hazard Analysis (FHA) for the WIPP site was approved. The new FHA indicates that the WIPP Waste Handling Building (WHB)



1 is equipped with a sprinkler system which has been designed and installed to  
2 meet the requirements of NFPA 13 (*Standard for Installation for Sprinkler*  
3 *System*). All sprinkler risers were inspected and no deficiencies were noted. It  
4 was determined that the fire protection system met the requirements of DOE-STD-  
5 1066-99 (*Fire Protection Design Criteria*) and DOE Order 420.1A (*Facility Safety,*  
6 *U.S. Department of Energy*).

7  
8 The WIPP facility also has occupant use hose stations (standpipes) which are  
9 defined in the HWFP as internal fire hose connections (**IFHC**). The FHA indicates  
10 that “In all practical interior fire fighting operations, the only time firefighters would  
11 use a standpipe would be if they could not advance hose lines into the fire area.  
12 Since the existing hose stations were only designed for occupant use and the  
13 physical layout of the facilities allows for full hose stream access by firefighters,  
14 the existing hose station locations would not be needed for fire fighting  
15 activities...”

16  
17 No changes to the requirements for the sprinkler system, the fire brigade, the fire  
18 truck or fire extinguishers is being requested. This modification would simply  
19 remove the requirement to maintain the IFHC in Attachments E and F since they  
20 are not required to maintain adequate fire protection and delete the pictorial  
21 representation of fire hose in two figures in Attachment F.  
22  
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27

28 **4. 20.4.1.900 NMAC (incorporating 40 CFR §270.42 (b)(1)(iv)) requires the applicant to**  
29 **provide the applicable information required by 40 CFR §§270.13 through 270.21,**  
30 **270.62, and 270.63.**

31  
32 The regulatory crosswalk describes those portions of the WIPP HWFP that are affected by this  
33 PMR. Where applicable, regulatory citations in this modification reference Title 20, Chapter 4,  
34 Part 1, NMAC, revised June 14, 2000, incorporating the CFR, Title 40 (40 CFR Parts 264 and  
35 270). 40 CFR §§270.16 through 270.22, 270.62, 270.63, and 270.66 are not applicable at WIPP.  
36 Consequently, they are not listed in the regulatory crosswalk table. 40 CFR §270.23 is  
37 applicable to the WIPP Hazardous Waste Disposal Units (**HWDUs**). This modification does not  
38 impact the conditions associated with the HWDUs.  
39

40 **5. 20.4.1.900 NMAC (incorporating 40 CFR §270.11(d)(1) and 40 CFR §270.30(k))**  
41 **requires that any person signing applications and reports must certify the**  
42 **document in accordance with 20.4.1.900 NMAC.**  
43

44 The transmittal letter for this PMR contains the signed certification statement in accordance with  
45 Module I.F of the WIPP HWFP.  
46

## 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 HWFP	Yes	No
§270.13		Contents of Part A permit application	Attachment O, Part A		✓
§270.14(b)(1)		General facility description	Attachment A		✓
§270.14(b)(2)	§264.13(a)	Chemical and physical analyses	Attachment B		✓
§270.14(b)(3)	§264.13(b)	Development and implementation of waste analysis plan	Attachment B	✓	
	§264.13(c)	Off-site waste analysis requirements	Attachment B		✓
§270.14(b)(4)	§264.14(a-c)	Security procedures and equipment	Attachment C		✓
§270.14(b)(5)	§264.15(a-d)	General inspection requirements	Attachment D	✓	
	§264.174	Container inspections	Attachment D		✓
§270.23(a)(2)	§264.602	Miscellaneous units inspections	Attachment D		✓
§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 F	✓	
	§264.51	Contingency plan design and implementation	Attachment F	✓	
	§264.52 (a) & (c-f)	Contingency plan content	Attachment F	✓	
	§264.53	Contingency plan copies	Attachment F		✓
	§264.54	Contingency plan amendment	Attachment F	✓	
	§264.55	Emergency coordinator	Attachment F		✓
	§264.56	Emergency procedures	Attachment F	✓	
§270.14(b)(8)		Description of procedures, structures or equipment for:	Attachment E	✓	
§270.14(b)(8) (i)		Prevention of hazards in unloading operations (e.g., ramps and special forklifts)	Attachment E		✓
§270.14(b)(8) (ii)		Runoff or flood prevention (e.g., berms, trenches, and dikes)	Attachment E		✓
§270.14(b)(8) (iii)		Prevention of contamination of water supplies	Attachment E		✓
§270.14(b)(8) (iv)		Mitigation of effects of equipment failure and power outages	Attachment E		✓
§270.14(b)(8) (v)		Prevention of undue exposure of personnel (e.g., personal protective equipment)	Attachment E		✓
§270.14(b)(8) (vi) §270.23(a)(2)	§264.601	Prevention of releases to the atmosphere	Module II Module IV Attachment M2 Attachment N		✓
	264 Subpart C	Preparedness and Prevention	Attachment E	✓	
	§264.31	Design and operation of facility	Attachment E		✓

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 HWFP	Yes	No
	§264.32	Required equipment	Attachment E Attachment F	✓	
	§264.33	Testing and maintenance of equipment	Attachment D	✓	
	§264.34	Access to communication/alarm system	Attachment E		✓
	§264.35	Required aisle space	Attachment E		✓
	§264.37	Arrangements with local authorities	Attachment F		✓
§270.14(b)(9)	§264.17(a-c)	Prevention of accidental ignition or reaction of ignitable, reactive, or incompatible wastes	Attachment E		✓
§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 G		✓
§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	Permit Module II Attachment H	✓	
§270.14(b) (13)	264 Subpart G	Closure and post-closure plans	Attachment I & J		✓
§270.14(b)(13)	§264.111	Closure performance standard	Attachment I		✓
§270.14(b)(13)	§264.112(a), (b)	Written content of closure plan	Attachment I		✓
§270.14(b)(13)	§264.112(c)	Amendment of closure plan	Attachment I		✓
§270.14(b)(13)	§264.112(d)	Notification of partial and final closure	Attachment I		✓
§270.14(b)(13)	§264.112(e)	Removal of wastes and decontamination/dismantling of equipment	Attachment I		✓
§270.14(b)(13)	§264.113	Time allowed for closure	Attachment I		✓
§270.14(b)(13)	§264.114	Disposal/decontamination	Attachment I		✓
§270.14(b)(13)	§264.115	Certification of closure	Attachment I		✓
§270.14(b)(13)	§264.116	Survey plat	Attachment I		✓
§270.14(b)(13)	§264.117	Post-closure care and use of property	Attachment J		✓
§270.14(b)(13)	§264.118	Post-closure plan; amendment of plan	Attachment J		✓

	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 HWFP	Yes	No
1	§270.14(b)(13)	§264.178	Closure/ containers	Attachment I		✓
2	§270.14(b)(13)	§264.601	Environmental performance standards-Miscellaneous units	Attachment I		✓
3	§270.14(b)(13)	§264.603	Post-closure care	Attachment I		✓
4	§270.14(b)(14)	§264.119	Post-closure notices	Attachment J		✓
5	§270.14(b)(15)	§264.142	Closure cost estimate	NA		✓
6		§264.143	Financial assurance	NA		✓
7	§270.14(b)(16)	§264.144	Post-closure cost estimate	NA		✓
8		§264.145	Post-closure care financial assurance	NA		✓
9	§270.14(b)(17)	§264.147	Liability insurance	NA		✓
10	§270.14(b)(18)	§264.149-150	Proof of financial coverage	NA		✓
11	§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 O Part A		✓
12						
13	§270.14(b)(19)(ii)	§264.18(b)	100-year floodplain	Attachment O Part A		✓
14	§270.14(b)(19)(iii)		Surface waters	Attachment O Part A		✓
15	§270.14(b)(19)(iv)		Surrounding Land use	Attachment O Part A		✓
16	§270.14(b)(19)(v)		Wind rose	Attachment O Part A		✓
17	§270.14(b)(19)(viii)	§264.14(b)	Access controls	Attachment O Part A		✓
18	§270.14(b)(19)(ix)		Injection and withdrawal wells	Attachment O Part A		✓
19	§270.14(b)(19)(xi)		Drainage on flood control barriers	Part B, Rev. 6 Chapter B, E, F		✓

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 HWFP	Yes	No
§270.14(b)(19)(xii)		Location of operational units	Part B, Rev. 6 Chapter B		✓
§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	Part B, Rev. 6 Chapter K		✓
§270.15	§264 Subpart I	Containers	Attachment M1		✓
	§264.171	Condition of containers	Attachment M1		✓
	§264.172	Compatibility of waste with containers	Attachment M1		✓
	§264.173	Management of containers	Attachment M1		✓
	§264.174	Inspections	Attachment D Attachment M1	✓	
§270.15(a)	§264.175	Containment systems	Attachment M1		✓
§270.15(c)	§264.176	Special requirements for ignitable or reactive waste	Attachment E Permit Module II		✓
§270.15(d)	§264.177	Special requirements for incompatible wastes	Attachment E Permit Module II		✓
	§264.178	Closure	Attachment I		✓
§270.15(e)	§264.179	Air emission standards	Attachment E Attachment N		✓
§270.23	264 Subpart X	Miscellaneous units	Attachment M2		✓
§270.23(a)	§264.601	Detailed unit description	Attachment M2		✓
§270.23(b)	§264.601	Hydrologic, geologic, and meteorologic assessments	Permit Module IV Attachment M2		✓
§270.23(c)	§264.601	Potential exposure pathways	Permit Module IV Attachment M2 Attachment N		✓
§270.23(d)		Demonstration of treatment effectiveness	Permit Module IV Attachment M2 Attachment N		✓
	§264.602	Monitoring, analysis, inspection, response, reporting, and corrective action	Permit Module IV Attachment M2 Attachment N		✓
	§264.603	Post-closure care	Attachment J Attachment J1		✓
	264 Subpart E	Manifest system, record keeping, and reporting	Permit Module I Permit Module II Permit Module IV Attachment B		✓

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**Attachment A**  
**Table of Changes**

## Table of Changes

Affected Permit Section	Explanation for Change
a.1. Attachment B7 a.2. Attachment H1	Text has been revised to reflect tiered training for radiography and visual examination requirements.
b.1. Attachment H2	Text has been revised to reflect tiered training for radiography and visual examination requirements.
c.1 Attachment D	Tables D-1 and D-1a have been revised to reflect correct inspection schedules, delete the Brush Truck and clarify organizational language
d.1 Attachment F	Revise minimum staffing requirements for EOC activation.
e.1 Attachment F	Revise containers in Table F-1
f.1 Attachment E f.2 Attachment F	Remove references to internal fire hose connections Remove references to internal fire hose connections and fire hoses

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**Attachment B**  
**Proposed Revised Permit Text**





1  
2 a.2. ATTACHMENT H1  
3

4 **RCRA Hazardous Waste Management Job Descriptions**  
5

6  
7 **Position Title:**

8 Radiographer Level 1 (Radiography Independent Technical Reviewer)  
9

10 **Duties:**

11  
12 = Reviews radiography record performed by another radiographer  
13

14 **Requisite Skills, Experience and Education:**

15  
16 Academic or vocational high school diploma or equivalent.  
17

18 **Training (Type/Amount):**

- 19  
20 ● General Employee Training (GET-19X/GET-20X)  
21 ● General Employee Training Refresher (GET-20XA)  
22 ● Conduct of Shift Operations (OPS 115) (Once)  
23 ● Radiography Training (Level 1)  
24  
25

1 a.2. ATTACHMENT H1  
2

3 **RCRA Hazardous Waste Management Job Descriptions**  
4  
5

6 **Position Title:**

7 Radiographer Level 2 (Radiography Independent Technical Reviewer) |  
8

9 **Duties:**

- 10  
11 - Reviews radiography record performed by another radiographer  
12 - Performs confirmation of waste using radiography  
13  
14

15 **Requisite Skills, Experience and Education:**

16 Academic or vocational high school diploma or equivalent.  
17  
18

19 **Training (Type/Amount):**

- 20  
21 ● General Employee Training (GET-19X/GET-20X)  
22 ● General Employee Training Refresher (GET-20XA)  
23 ● Radworker II (RAD-201)  
24 ● Hazardous Waste Worker (HWW-101/102)  
25 ● Respiratory Protection (SAF-630/631)  
26 ● Conduct of Shift Operations (OPS 115) (Once)  
27 ● Technical Safety Requirements (OPS 122) (Once)  
28 ● Subject Matter Expert/On the Job Trainer (TRG 293/298) (Biennial)  
29 ● Waste Handling Systems (STC-003) (Once)  
30 ● Radiography Training (Level 2) |  
31

1 RCRA Hazardous Waste Management Job Descriptions

2  
3  
4 Position Title:

5 Visual Examination Expert Level 1 (VE Independent Technical Reviewer)

6  
7 Duties:

8  
9 : Reviews visual examination or visual examination record review performed by  
10 another Visual Examination Expert.

11  
12 Requisite Skills, Experience and Education:

13  
14 Academic or vocational high school diploma or equivalent.

15  
16 Training (Type/Amount):

- 17  
18 ● General Employee Training (GET-19X/GET-20X)  
19 ● General Employee Training Refresher (GET-20XA)  
20 ● Conduct of Shift Operations (OPS 115) (Once)  
21 ● Visual Examination (Level 1)  
22

1  
2 **RCRA Hazardous Waste Management Job Descriptions**  
3  
4

5 **Position Title:**

6 Visual Examination Expert Level 2 (VE Independent Technical Reviewer) |  
7

8 **Duties:**  
9

- 10 - Reviews visual examination or visual examination record review performed by  
11 another Visual Examination Expert.  
12 - Performs confirmation of waste using visual examination or review of visual  
13 examination records |  
14  
15

16 **Requisite Skills, Experience and Education:**  
17

18 Academic or vocational high school diploma or equivalent,  
19

20 **Training (Type/Amount):**  
21

- 22 ● General Employee Training (GET-19X/GET-20X)  
23 ● General Employee Training Refresher (GET-20XA)  
24 ● Radworker II (RAD-201)  
25 ● Hazardous Waste Worker (HWW-101/102)  
26 ● Respiratory Protection (SAF-630/631)  
27 ● Conduct of Shift Operations (OPS 115) (Once)  
28 ● Technical Safety Requirements (OPS 122) (Once)  
29 ● Subject Matter Expert/On the Job Trainer (TRG 293/298) (Biennial)  
30 ● Waste Handling Systems (STC-003) (Once)  
31 ● Visual Examination Level 2 |  
32  
33  
34

1 b.1 ATTACHMENT H2

2  
3 **COURSE:** Radiography (Level 1)

4  
5 **TYPE:** Classroom/OJT

6  
7 **OBJECTIVES:**  
8 Upon completion of this course and obtaining a grade of at least 80% on a  
9 comprehensive examination, the student will be able to review radiography  
10 records performed by another radiographer. Level 1 radiographers will perform a  
11 practical capability demonstration in the presence of an experienced, qualified  
12 radiography operator or trainer.

13  
14 **REFRESHER:**  
15 Biennially

16  
17 **COURSE DESCRIPTION**

18  
19 Level 1 radiographers shall be instructed in the specific waste generating practices and typical  
20 packaging configurations expected to be found in each Waste Matrix Code at each site shipping  
21 waste to WIPP. The OJT and apprenticeship shall be conducted by an experienced, qualified  
22 radiography operator or trainer prior to qualification of the training candidate.

23  
24 The Permittees' Level 1 radiography training program includes:

25  
26 Formal Training

- 27  
28 • Project Requirements  
29 • State and Federal Regulations  
30 • Basic Principles of Radiography  
31 • Radiography of Waste Forms  
32 • Waste Stream-Specific Instruction (e.g., specific waste generating processes,  
33 typical packaging configurations, waste material parameters)

34  
35 On-the-Job Training

- 36  
37 • System Operation (equipment and procedures used by Level 1 radiographers)  
38 • Identification of Packaging Configurations  
39 • Identification of Waste Material Parameters/Waste Matrix Codes  
40 • Identification of excess residual liquids as defined in the TSDf-WAC, and  
41 compressed gases  
42 • Verification of waste stream description

43  
44  
45  
46  
47  
48 **COURSE:** Radiography (Level 2)

1 **TYPE:** Classroom/OJT

2  
3 **OBJECTIVES:**

4 Upon completion of this course, the student will be able to perform radiography in  
5 a safe manner and will be able to confirm whether waste contains ignitable,  
6 corrosive, or reactive waste.

7  
8 Successfully pass a comprehensive exam based upon training enabling  
9 objectives. The comprehensive exam will address the radiography operation,  
10 documentation, and procedural elements stipulated in this WAP.

11  
12 Perform practical capability demonstration in the presence of appointed site  
13 Permittee radiography subject matter expert.

14  
15 **REFRESHER:**

16 Biennially

17  
18 **COURSE DESCRIPTION**

19  
20 Radiography operators shall be instructed in the specific waste generating practices and typical  
21 packaging configurations expected to be found in each Waste Matrix Code at each site shipping  
22 waste to WIPP. The OJT and apprenticeship shall be conducted by an experienced, qualified  
23 radiography operator prior to qualification of the training candidate.

24  
25 The Permittees' radiography training program includes:

26  
27 Formal Training

- 28  
29
- 30 • Project Requirements
  - 31 • State and Federal Regulations
  - 32 • Basic Principles of Radiography
  - 33 • Radiographic Image Quality
  - 34 • Radiographic Scanning Techniques
  - 35 • Application Techniques
  - 36 • Radiography of Waste Forms
  - 37 • Standards, Codes, and Procedures for Radiography
  - 38 • Waste Stream-Specific Instruction

39 On-the-Job Training

- 40  
41
- 42 • System Operation
  - 43 • Identification of Packaging Configurations
  - 44 • Identification of Waste Material Parameters/Waste Matrix Codes
  - 45 • Identification of excess residual liquids as defined in the TSDF-WAC, ~~sealed~~  
46 ~~containers greater than four liters (nominal)~~, and compressed gases
  - 47 • Verification of waste stream description

48 A radiography test drum shall include items common to the waste streams to be confirmed by the  
49 Permittees. The test drums shall be divided into layers with varying packing densities or different

1 drums may be used to represent different situations that may occur during radiography  
2 examination by the Permittees. The following elements will be in a radiography test drum(s):  
3

- 4 • Aerosol can with puncture
- 5 • Horsetail bag
- 6 • Pair of coveralls
- 7 • Empty bottle
- 8 • Irregular shaped pieces of wood
- 9 • Empty one gallon paint can
- 10 • Full container
- 11 • Aerosol can with fluid
- 12 • One gallon bottle with three tablespoons of fluid
- 13 • One gallon bottle with one cup of fluid (upside down)
- 14 • Leaded glove or leaded apron
- 15 • Wrench

16  
17 These items shall be successfully identified by the operator as part of the qualification process.  
18

19 Requalification of operators shall be based upon evidence of continued satisfactory performance  
20 (primarily video/audio reviews) and shall be done at least every two years. Unsatisfactory  
21 performance will result in disqualification. Unsatisfactory performance is defined as the  
22 misidentification of excess residual liquids (as defined in the TSDF-WAC), sealed containers  
23 greater than four liters (nominal), except for inorganic solids packaging in metal cans, or  
24 compressed gases) in a training drum or a score of less than eighty percent (80%) on the  
25 comprehensive exam. Retraining and demonstration of satisfactory performance are required  
26 before a disqualified operator is again allowed to operate the radiography system for the  
27 Permittees.  
28  
29  
30



1 **COURSE:** Visual Examination (Level 1)

2  
3 **TYPE:** Classroom/OJT

4  
5 **OBJECTIVES:**

6 Upon completion of this course and obtaining a grade of at least 80% on a  
7 comprehensive examination, the student will be able to perform a review of visual  
8 examination records and will be able to confirm the Summary Category Group,  
9 Waste Matrix Code and whether waste contains ignitable, corrosive, or reactive  
10 waste. Level 1 VE personnel will perform a practical capability demonstration in  
11 the presence of an experienced, qualified VE expert or trainer.

12  
13 **REFRESHER:**

14 Biennially

15  
16 **COURSE DESCRIPTION**

17  
18 Level 1 VE personnel shall be instructed in the specific waste generating processes, typical  
19 packaging configurations, and waste material parameters expected to be found in each Waste  
20 Matrix Code in the waste stream being confirmed using visual examination.

21  
22 The OJT and apprenticeship shall be conducted by an operator experienced and qualified in  
23 visual examination or a qualified trainer prior to qualification of the candidate. The training shall  
24 be site waste stream specific to include the various waste configurations being confirmed. For  
25 example, the particular physical forms and packaging configurations at each site will vary and  
26 operators shall be trained on types of waste that are generated, stored, and/or characterized at  
27 that particular site.

28  
29 Visual examination personnel shall be requalified once every two years.

30  
31 The Level 1 visual examination training program includes:

32  
33 Formal Training

- 34  
35 • Project Requirements  
36 • State and Federal Regulations  
37 • Batch Data Report Forms  
38 • Waste Stream-Specific Instruction (e.g., waste generating processes, typical  
39 packaging configurations, waste material parameters)

40  
41 On-the-Job Training

- 42  
43 • System Operation (equipment and procedures used by Level 1 VE personnel)  
44 • Identification of Packaging Configurations  
45 • Identification of Waste Material Parameters/Waste Matrix Codes  
46 • Identification of excess residual liquids as defined in the TSDF-WAC, and  
47 compressed gases  
48 • Verification of waste stream description  
49



1 **COURSE:** Visual Examination (Level 2)

2  
3 **TYPE:** Classroom/OJT

4  
5 **OBJECTIVES:**

6 Upon completion of this course, the student will be able to perform visual  
7 examination or a review of visual examination records in a safe manner and will  
8 be able to confirm whether waste contains ignitable, corrosive, or reactive waste.

9  
10 Successfully pass a comprehensive exam based upon training enabling  
11 objectives. The comprehensive exam will address the visual examination  
12 operation, documentation, and procedural elements stipulated in this WAP.

13  
14 Perform practical capability demonstration in the presence of appointed site  
15 Permittee visual examination subject matter expert.

16  
17 **REFRESHER:**

18 Biennially

19  
20 **COURSE DESCRIPTION**

21  
22 Visual examination operators shall be instructed in the specific waste generating processes,  
23 typical packaging configurations, and ~~expected~~ waste material parameters expected to be found  
24 in each Waste Matrix Code in the waste stream being confirmed using visual examination.

25  
26 The OJT and apprenticeship shall be conducted by an operator experienced and qualified in  
27 visual examination prior to qualification of the candidate. The training shall be site waste stream  
28 specific to include the various waste configurations being confirmed. For example, the particular  
29 physical forms and packaging configurations at each site will vary so operators shall be trained  
30 on types of waste that are generated, stored, and/or characterized at that particular site.

31  
32 Visual examination personnel shall be requalified once every two years.

33  
34 The visual examination training program includes:

35  
36 Formal Training

- 37  
38
  - Project Requirements
  - State and Federal Regulations
  - Application Techniques
  - Waste Stream-Specific Instruction (e.g., specific waste generating processes,  
42 typical packaging configurations, waste material parameters)

43  
44 On-the-Job Training

- 45  
46
  - Identification of Packaging Configurations
  - Identification of Waste Material Parameters/Waste Matrix Code
  - Identification of Prohibited Items liquids as defined in the TSDf-WAC, ~~sealed~~  
48 ~~containers greater than four liters (nominal), and compressed gases~~

- 1
  - Verification of waste stream description

c.1 Attachment D, Table D-1

TABLE D-1  
INSPECTION SCHEDULE/PROCEDURES

System/Equipment Name	Responsible Organization	Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection	Procedure Number and Inspection Criteria
Air Intake Shaft Hoist	Underground Operations	Preoperational <sup>c</sup> See Lists 1b and c	WP 04-HO1004 Inspecting for Deterioration <sup>b</sup> , Safety Equipment, Communication Systems, and Mechanical Operability <sup>m</sup> in accordance with Mine Safety and Health Administration (MSHA) requirements
Ambulances (Surface and Underground) and related emergency supplies and equipment	Emergency Services	Weekly See List 11	PM000030 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and Required Equipment <sup>n</sup>
Adjustable Center of Gravity Lift Fixture	Waste Handling	Preoperational See List 8	WP 05-WH1410 Inspecting for Mechanical Operability <sup>m</sup> and Deterioration <sup>b</sup>
Backup Power Supply Diesel Generators	Facility Operations	Monthly See List 3	WP 04-ED1301 Inspecting for Mechanical Operability <sup>m</sup> and Leaks/Spills by starting and operating both generators. Results of this inspection are logged in accordance with WP 04-AD3008.
Facility Inspections (Water Diversion Berms)	Facility Engineering	Annually See List 4	WP 10-WC3008 Inspecting for Damage, Impediments to water flow, and Deterioration <sup>b</sup>
Central Monitoring Systems (CMS)	Facility Operations	Continuous See List 3	Automatic Self-Checking
Contact-Handled (CH) TRU Underground Transporter	Waste Handling	Preoperational See List 8	WP 05-WH1603 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and area around transporter clear of obstacles
Facility Transfer Vehicle	Waste Handling	Preoperational See List 8	WP 05-WH1406 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , path clear of obstacles, and guards in the proper place
Exhaust Shaft	Underground Operations	Quarterly See List 1a	PM041099 Inspecting for Deterioration <sup>b</sup> and Leaks/Spills
Eye Wash and Shower Equipment	Equipment Custodian	Weekly See List 5	WP 12-IS1832 Inspecting for Deterioration <sup>b</sup>
		Semi-annually See List 2a	WP 12-IS1832 Inspecting for Deterioration <sup>b</sup> and Fluid Levels—Replace as Required

**TABLE D-1  
INSPECTION SCHEDULE/PROCEDURES**

<b>System/Equipment Name</b>	<b>Responsible Organization</b>	<b>Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection</b>	<b>Procedure Number and Inspection Criteria</b>
1 2 Fire Detection and Alarm System	Emergency Services	Semiannually See List 11	PM000027 Inspecting for Deterioration <sup>b</sup> , Operability of indicator lights and, underground fuel station dry chemical suppression system. Inspection is per NFPA 72
3 Fire Extinguishers <sup>l</sup>	Emergency Services	Monthly See List 11	PM000036 Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, Expiration, seals, fullness, and pressure
4 Fire Hoses	Emergency Services	Annually (minimum) See List 11	PM000031 Inspecting for Deterioration <sup>b</sup> and Leaks/Spills
5 Fire Hydrants	Emergency Services	Semi-annual/ annually See List 11	PM000034 Inspecting for Deterioration <sup>b</sup> and Leaks/Spills
6 Fire Pumps	Emergency Services	Weekly/annually See List 11	PM000026 Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, valves, and panel lights
7 Fire Sprinkler Systems	Emergency Services	Monthly/ quarterly See List 11	PM000025 Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, static pressures, and removable strainers
8 9 10 11 12 13 14 <u>Fire and Emergency Response Trucks</u> (Seagrave Fire Apparatus, Emergency One Apparatus, <del>Brush Truck</del> , and Underground Rescue Truck)	Emergency Services	Weekly See List 11	PM000033 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , Leaks/Spills, and Required Equipment <sup>n</sup>
15 16 17 18 Forklifts Used for Waste Handling (Electric and Diesel forklifts, Push-Pull Attachment)	Waste Handling	Preoperational See List 8	WP 05-WH1401, WP 05-WH1402, WP 05-WH1403, and WP 05-WH1412 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and On board fire suppression system
19 20 Hazardous Material Response Equipment	Emergency Services	Weekly See List 11	PM000033 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and Required Equipment <sup>n</sup>
21 Miners First Aid Station	Emergency Services	Quarterly See List 11	PM000035 Inspecting for Required Equipment <sup>n</sup>
22 23 24 Mine Pager Phones (between surface and underground)	Facility Operations	Monthly See List 3	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations
25 MSHA Air Quality Monitor	Maintenance/ Underground Operations	Daily <sup>l</sup> See Lists 1 and 10	WP 12-IH1828 Inspecting for Air Quality Monitoring Equipment Functional Check

**TABLE D-1  
INSPECTION SCHEDULE/PROCEDURES**

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<b>System/Equipment Name</b>	<b>Responsible Organization</b>	<b>Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection</b>	<b>Procedure Number and Inspection Criteria</b>
Perimeter Fence, Gates, Signs	Security	Daily See List 6	PF0-011 Inspecting for Deterioration <sup>b</sup> and Posted Warnings
Personal Protective Equipment (not otherwise contained in emergency vehicles or issued to individuals): —Self-Contained Breathing Apparatus	Emergency Services	Weekly See List 11	PM000029 Inspecting for Deterioration <sup>b</sup> and Pressure
Public Address (and Intercom System)	Facility Operations	Monthly See List 3	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations Systems operated in test mode
Radio Equipment	Facility Operations	Daily <sup>j</sup> See List 3	Radios are operated daily and are repaired upon failure
Rescue Truck (Surface and Underground)	Emergency Services	Weekly See List 11	PM000030 and PM000033 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , Leaks/Spills, and Required Equipment <sup>n</sup>
Salt Handling Shaft Hoist	Underground Operations	Preoperational See List 1b and c	WP 04-HO1002 Inspecting for Deterioration <sup>b</sup> , Safety Equipment, Communication Systems, and Mechanical Operability <sup>m</sup> in accordance with MSHA requirements
Self-Rescuers	Underground Operations	Quarterly See List 1c	WP 04-AU1026 Inspecting for Deterioration <sup>b</sup> and Functionality in accordance with MSHA requirements
Surface TRU Mixed Waste Handling Area <sup>k</sup>	Waste Handling	Preoperational or Weekly <sup>e</sup> See List 8	WP 05-WH1101 Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, Required Aisle Space, Posted Warnings, Communication Systems, Container Condition, and Floor coating integrity
TRU Mixed Waste Decontamination Equipment	Waste Handling	Annually See List 8	WP 05-WH1101 Inspecting for Required Equipment <sup>n</sup>
Underground Openings— Roof Bolts and Travelways	Underground Operations	Weekly See List 1a	WP 04-AU1007 Inspecting for Deterioration <sup>b</sup>
Underground— Geomechanical Instrumentation System (GIS)	Geotechnical Engineering	Monthly See List 9	WP 07-EU1301 Inspecting for Deterioration <sup>b</sup>
Underground TRU Mixed Waste Disposal Area	Waste Handling	Preoperational See List 8	WP 05-WH1810 Inspecting for Deterioration <sup>b</sup> , Leaks/Spills, mine pager phones, equipment, unobstructed access, signs, debris, and ventilation

**TABLE D-1  
INSPECTION SCHEDULE/PROCEDURES**

<b>System/Equipment Name</b>	<b>Responsible Organization</b>	<b>Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection</b>	<b>Procedure Number and Inspection Criteria</b>
Uninterruptible Power Supply (Central UPS)	Facility Operations	Daily See List 3	WP 04-ED1542 Inspecting for Mechanical Operability <sup>m</sup> and Deterioration <sup>b</sup> with no malfunction alarms. Results of this inspection are logged in accordance with WP 04-AD3008.
TDOP Upender	Waste Handling	Preoperational See List 8	WP 05-WH1010 Inspecting for Mechanical Operability <sup>m</sup> and Deterioration <sup>b</sup>
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 <sup>b</sup> and Calibration of Mine Ventilation Rate Monitoring Equipment
Waste Handling Cranes	Waste Handling	Preoperational See List 8	WP 05-WH1407 Inspecting for Mechanical Operability <sup>m</sup> , Deterioration <sup>b</sup> , and Leaks/Spills
Waste Hoist	Underground Operations	Preoperational See List 1b and c	WP 04-HO1003 Inspecting for Deterioration <sup>b</sup> , Safety Equipment, Communication Systems, and Mechanical Operability <sup>m</sup> , Leaks/Spills, in accordance with MSHA requirements
Water Tank Level	Facility Operations	Daily See List 3	SDD-WD00 Inspecting for Deterioration <sup>b</sup> , 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 <sup>b</sup>
Trailer Jockey	Waste Handling	Preoperational See List 8	WP 05-WH1405 Inspecting for Mechanical Operability <sup>m</sup> and Deterioration <sup>b</sup>
Facility Grapple	Waste Handling	Preoperational See List 8	To Be Determined (RH equipment)
15-Ton Bridge Crane	Waste Handling	Preoperational See List 8	To Be Determined (RH equipment)
Hook and Rope on 50/25-Ton Bridge Crane	Waste Handling	Preoperational See List 8	To Be Determined (RH equipment)



d.1 Attachment D, Table D-1a

TABLE D-1a						
RH TRU MIXED WASTE INSPECTION SCHEDULE/PROCEDURES						
System/ Equipment Name	Responsible Organization <sup>j</sup>	Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection <sup>j</sup>	Procedure Number (Latest Revision)	Inspection Criteria		
				Deterioration <sup>b</sup>	Leaks/ Spills	Other
Cask Transfer Car(s)	Waste Operations	Pre-evolution <sup>c,d,e</sup> See list 1	WP05-WH1701 PM041187 (Semi-Annual)	Yes	NA	Pre-evolution Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication
RH Bay Overhead Bridge Crane	Waste Operations	Preoperational <sup>c,d,e,i</sup> See list 1	WP05-WH1741 PM041232 (Quarterly & Annual) PM041117 (Annual)	Yes	Yes	Pre-operational Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication
Facility Cask	Waste Operations	Pre-evolution <sup>c,d,e,f</sup> See list 1	WP05-WH1713 PM041201 (Annual) PM041203 (Annual)	Yes	NA	Pre-evolution Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication. Electrical PM.
RH Bay Cask Lifting Yoke	Waste Operations	Preoperational <sup>c,d,e,i</sup> See list 1	WP05-WH1741 PM041169 (Annual)	Yes	NA	Pre-operational Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication
Facility Cask Transfer Car	Waste Operations	Pre-evolution <sup>c,d,e,f</sup> See list 1	WP05-WH1704 PM041186 (Quarterly) PM041195 (Annual)	Yes	Yes	Pre-evolution Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication Electrical Inspection
Facility Cask Rotating Device	Waste Operations	Pre-evolution <sup>c,d,e,f</sup> See list 1	WP05-WH1713 PM041175 (Annual) PM041176 (Annual)	Yes	Yes	Pre-evolution Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication Electrical Inspection
Facility Grapple	Waste Operations	Pre-evolution <sup>c,d,e,f</sup> See list 1	WP05-WH1721 PM041172 (Quarterly) PM041177 (Annual)	Yes	NA	Pre-evolution Checks and Operating Instructions. Mechanical Inspection for Wear. Non-Destructive Examination
6.25-Ton Grapple Hoist	Waste Operations	Pre-evolution <sup>c,d,e,f</sup> See list 1	WP05-WH1721 PM041173 (Annual)	Yes	Yes	Pre-evolution Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication
Transfer Cell Shuttle Car	Waste Operations	Pre-evolution <sup>c,d,e,f</sup> See list 1	WP05-WH1705 PM041184 (Semi-Annual) PM041222 (Annual)	Yes	Yes	Pre-evolution Pre-operational Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication. Electrical Inspection.
Cask Unloading Room	Waste Operations	Preoperational <sup>c,d,e,f,h,i</sup> See list 1	WP05-WH1744	Yes	NA	Floor integrity

**TABLE D-1a**  
**RH TRU MIXED WASTE INSPECTION SCHEDULE/PROCEDURES**

System/ Equipment Name	Responsible Organization <sup>1</sup>	Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection <sup>2</sup>	Procedure Number (Latest Revision)	Inspection Criteria		
				Deterioration <sup>b</sup>	Leaks/ Spills	Other
Hot Cell	Waste Operations	Preoperational <sup>c,d,e,f,g,h,i</sup> See list 1	WP05-WH1744	Yes	NA	Floor integrity
Hot Cell Overhead Powered Manipulator	Waste Operations	Preoperational <sup>c,d,e,i</sup> See list 1	WP05-WH1743 PM041215 (Annual) PM041216 (Annual) IC411037 (Annual)	Yes	Yes	Pre-operational Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication. Electrical Inspection. Load Cell Calibration
Hot Cell Bridge Crane	Waste Operations	Preoperational <sup>c,d,e,i</sup> See list 1	WP05-WH1742 PM041217 (Annual) PM041209 (Annual) IC411038 (Annual)	Yes	Yes	Pre-operational Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication. Electrical Inspection. Load Cell Calibration.
Transfer Cell	Waste Operations	Preoperational <sup>c,d,e,f,h,i</sup> See list 1	WP05-WH1744	Yes	NA	Floor integrity
Facility Cask Loading Room	Waste Operations	Preoperational <sup>c,d,e,f,h,i</sup> See list 1	WP05-WH1744	Yes	NA	Floor integrity
Closed Circuit Television Camera	Waste Operations	Preoperational <sup>c,i</sup> See list 1	WP05-WH1757	NA	NA	Operability
Radiation Monitoring Equipment	Radiation Control	Preoperational <sup>c,d,e</sup> See list 2	WP12-HP124 IC240010 WP12-HP130 IC240007 WP12-HP131 (Annual)	Yes	NA	Operability Checks, Functional Checks, Instrument calibrations, Flow Calibration, Efficiency Checks.
Cask Unloading Room Crane	Waste Operations	Preoperational <sup>c,d,e,i</sup> See list 1	WP05-WH1719 PM041190 (Quarterly & Annual) PM041191 (Annual) PM041192 (Annual) IC411035 (Annual)	Yes	Yes	Pre-operational Checks and Operating Instructions. Mechanical Inspection for Wear and Lubrication. Electrical Inspection. Load Cell Calibration.
Horizontal Emplaceme nt and Retrieval Equipment	Waste Operations	Pre-evolution <sup>c,d,e,f</sup> See list 1	WP05-WH1700 PM052010 (Semi-annual) (Monthly) PM052011 (Annual) PM052013 PM052012 PM052014 (Annual)	Yes	Yes	Assembly and Operating Instructions. Electrical Inspection. Position Transducer Calibration. Tilt Sensor Calibration.

TABLE D-1a RH TRU MIXED WASTE INSPECTION SCHEDULE/PROCEDURES						
System/ Equipment Name	Responsible Organization <sup>j</sup>	Inspection <sup>a</sup> Frequency and Job Title of Personnel Normally Making Inspection <sup>j</sup>	Procedure Number (Latest Revision)	Inspection Criteria		
				Deterioration <sup>b</sup>	Leaks/ Spills	Other
41-Ton Forklift	Waste Operations	Preoperational <sup>c,d,e,i</sup> See list 1	WP05-WH1602 PM074061 PM052003 (Hours of Use) PM074027 (Quarterly) PM074029 &PM074051 (Annual)	Yes	Yes	Pre-Operational Checks. PM performed every 100 hours of operation, every 500 hours of operation or every 5 Years. Quarterly Engine Emission Test. Annual Electrical Inspection. Annual NDE.
RH Bay	Waste Operations	Preoperational <sup>c,d,e,h,i</sup> See list 1	WP05-WH1744	Yes	NA	Floor integrity
Surface RH TRU Mixed Waste Handling Area	Waste Operations	Preoperational <sup>i</sup> See List 1	WP- 05 WH1744	Yes	Yes	Posted Warning, Communications

**TABLE D-1a (CONTINUED)  
RH TRU MIXED WASTE INSPECTION SCHEDULE/PROCEDURES NOTES**

- <sup>a</sup> 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 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.
- <sup>b</sup> Deterioration includes: visible cracks, erosion, salt build-up, damage, corrosion, loose or missing parts, malfunctions, and structural deterioration.
- <sup>c</sup> "Pre-evolution" signifies that inspections are required prior to equipment use in the waste handling process. (An evolution is considered to be from the receipt of a cask into the RH Bay through canister emplacement in the underground.) For an area, preoperational inspection 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 functional components and emergency equipment are present and operational. When the equipment is not in use, no inspections are required.
- <sup>d</sup> When equipment needs to be inspected while handling waste (i.e., during waste unloading or transfer operations), general cleanliness and functional components will be inspected to detect any problem that may harm human health or the environment. The inspection will verify that emergency equipment is present.
- <sup>e</sup> Inspection of RH TRU mixed waste equipment and areas in the RH Complex applies only after RH TRU mixed waste receipt begins.
- <sup>f</sup> The inspection/maintenance activities associated with these pieces of equipment are performed when the RH Complex is empty of RH TRU mixed waste. If contamination is present, a radiation work permit may be needed.
- <sup>g</sup> For the Hot Cell and Transfer Cell, if RH TRU mixed waste is present, camera inspections will be performed in lieu of physical inspection.
- <sup>h</sup> The integrity of the floor coating will be inspected weekly if RH TRU mixed waste is present.
- <sup>i</sup> "Preoperational" signifies that inspections are required prior to the first use in a calendar day.
- <sup>j</sup> Responsible organizations refers to the organization that owns the equipment. Preventive Maintenance (PM) procedures are conducted by either mine maintenance or surface operations maintenance personnel and Instrument Calibration (IC) procedures are conducted by instrument and calibration maintenance personnel.

1 d.1 Attachment F, Section F-2

2  
3 EOC Staff- The EOC requires a minimum staff of three MOC management positions (the Crisis  
4 Manager, a Safety Representative and an Operations Representative) to activate the EOC. The  
5 full EOC Staff includes the Crisis Manager, the Deputy Crisis Manager, a Safety Representative,  
6 an Operations Representative and the EOC Coordinator. Additional technical and logistics  
7 personnel will provide support as necessary. , which includes MOC management personnel,  
8 three Operations representatives, one Environment, Safety, and Health representative (**ES&H**),  
9 and one Emergency Management representative. The EOC staff can also include technical and  
10 logistic support personnel from other Permittee organizations, as necessary. Additional  
11 administrative support staff is made available from site personnel, these personnel provide  
12 message runners, communications, and computer assistance. The EOC is activated by the FSM.  
13 Since EOC staff are performing duties similar to their normal job functions and providing support  
14 related to their area of expertise, no specific RCRA training is required.

1 e.1 Table F-1

2  
3 **TABLE F-1**  
4 **HAZARDOUS SUBSTANCES IN LARGE ENOUGH**  
5 **QUANTITIES TO CONSTITUTE A LEVEL II INCIDENT**  
6

7

Chemical Description	Building Location	Hazard Category
8 Ethylene Glycol Solution - 35%	Buildings 411; 412; 451; 452; 486; 463; 474C; FAC 414	Immediate (acute) Delayed (chronic)
9 Gasoline, Unleaded 10 GASC0001	FAC 480	Fire Immediate (acute) Delayed (chronic)
11 No. 1 Diesel Fuel Oil 12 GASC0210	S-1300 Maint Shop U/G; FACs 480, 255.1 & 255.2; Transport Tank; Building 456 Trailer 911F	Fire Immediate (acute) Delayed (chronic)
13 <del>One Standard Waste Box or</del> 14 <del>two or more 55-gallon drums of</del> 15 <del>GH Various containers of TRU</del> 16 <del>Waste as described in Permit</del> 17 <del>Condition III.C.1</del>	WHB Waste Shaft U/G	Delayed (chronic)
18 Hazardous materials in 19 quantities that exceed 5 times 20 the Reportable Quantity (Per 21 DOE O 151.1) values as 22 defined in 40 CFR 302	It should be noted that WIPP is not expected to possess such quantities.	Fire Immediate (acute) Delayed (chronic)

23

1 f.1 Attachment E, Section E-1a(4) Water for Fire Control

2  
3 20.4.1.500 NMAC (incorporating 40 CFR §264.32(d)), requires that the WIPP facility be  
4 equipped with water at an adequate volume and pressure to supply water-hose streams, foam-  
5 producing equipment, automatic sprinklers, or water-spray systems. The following discussion on  
6 fire control systems at the WIPP facility demonstrates the Permittees commitment to comply with  
7 this requirement.

8  
9 The primary function of the WIPP facility water system is to supply water for domestic use and  
10 fire protection. Water is furnished by the Double Eagle Water Company, owned by the City of  
11 Carlsbad. Wells located 30 miles (mi) (48.3 kilometers [km]) north of the WIPP facility are the  
12 source of the water. Water is supplied by gravity flow through a 24 inch (in.) (61 centimeter [cm])  
13 diameter pipeline to a junction point about 13 mi (20.9 km) north of the site at U.S. Highway  
14 62/180. This line is sized to provide 6,000 gallons (gal) (22,712 liters [L]) per minute for use by  
15 others, in addition to the peak flow rate required by the WIPP facility. Controls at the junction  
16 point give the WIPP facility priority over flows to all other users. A 10 in. (25 cm) diameter  
17 pipeline supplies water by gravity flow from the tie-in point to the WIPP facility.

18  
19 At the WIPP facility, the water enters a pair of 180,000-gal (681,372-L) aboveground storage  
20 tanks located adjacent to the Pumphouse. These tanks are 32 ft (9.75 m) in diameter and are  
21 constructed of welded steel. The water level in each tank is monitored in the CMR. One tank  
22 stores water for use by the facility's fire-water system. The other tank stores water for use by the  
23 facility's domestic water system, and to reserve approximately 100,000 gal (378,540 L) of water  
24 for use by the fire-water system. Separate sets of pumps for the domestic water and fire-water  
25 systems are provided in the Pumphouse. During a fire, the fire-water pump is automatically  
26 started, and available domestic water is used first. Upon depletion of the domestic-water  
27 inventory, the domestic-water pumps are automatically shut off, and the dedicated fire-water  
28 reserve is available for fire-suppression use only. The primary fire-water pump is a 100-percent-  
29 capacity electric pump. A 100-percent-capacity diesel fire-water pump provides backup in case  
30 of a power failure or when maintenance is required on the electric pump. Each fire-water pump is  
31 rated at 1,500 gal (5,678 L) per minute at 125 pounds (lb) (56.7 kilograms [kg]) per square in.

32  
33 The following buildings are connected to and protected by the wet-pipe sprinkler system: the  
34 Pumphouse, the Guard and Security Building, the Support Building, the WHB, the Exhaust Filter  
35 Building, the TRUPACT Maintenance Facility, the Engineering Building, the Safety and  
36 Emergency Services Building, the Training Building, and several other warehouse and  
37 maintenance buildings. The physical layout of the facilities allows for full hose stream access by  
38 firefighters. The Pumphouse, the Support Building, the WHB, and several other warehouse and  
39 maintenance buildings also have fire hose connections. There is no firefighting water-supply  
40 system underground. Instead, the underground is equipped with fire extinguishers of various  
41 types and in various locations (including vehicles) and a fire truck with a 125 lb (56.7 kg)  
42 chemical extinguisher. The underground fuel station is equipped with an automatic, 1,000-lb  
43 (453.5 kg) chemical extinguishing systems. Only dry chemical materials or water are used to  
44 fight fires involving TRU mixed waste.

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47 f.2 Attachment F, Table F-6

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**TABLE F-6  
EMERGENCY EQUIPMENT MAINTAINED  
AT THE WASTE ISOLATION PILOT PLANT**

Equipment	Description and Capabilities	Location
Communications		
Building Fire Alarms	Manual pull stations and automatic devices (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, Pumphouse, Warehouse/Shops, Exhaust Filter Building, Support Building, CMR/ Computer Room, Waste Handling Building, TRUPACT Maintenance Facility, SH Hoisthouse, Maintenance Shops, Guard Shack*, Auxiliary Warehouse, Core Storage Building, Engineering Building, Training Facility, Safety Building, Maintenance Shop, Hazardous Waste Storage (non-TRU) Area (Facility 474)  *local alarms; not connected to the CMR
Underground Fire Alarms	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-O/N-1200, Fuel Station
Site-wide Evacuation Alarm	Transmitted over paging channel of the public address system, overriding its normal use; manually initiated according to procedures requiring evacuation; 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

**TABLE F-6  
EMERGENCY EQUIPMENT MAINTAINED  
AT THE WASTE ISOLATION PILOT PLANT**

	Equipment	Description and Capabilities	Location
1	Mine Page Phones	Battery-operated paging system	CMR, Mine Rescue Room, EOC, lamproom, underground at S550/W30, S100/W30, S1950/E140, SH Shaft Collar and Underground Station, Waste Shaft Collar and Underground Station, FSM desk.
2	Emergency Pagers	Manual; , intermittent alarm signals	Issued to appropriate emergency personnel
3	Plectrons	Tone-alert radio receivers placed in areas not accessible by the public address system	Site-wide
4	Portable Radios	Two-way, portable; transmits and monitors information to/from other transmitters	Issued to individuals
5	Plant Base Radios	Two-way, stationary, 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
6	Mobile Phones	Provide communications link between WIPP Security and key personnel	Issued to individuals plus emergency vehicles,
7	Spill Response		
8 9	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
10	Absorbent Sheets	Containment or cleanup; (1) 3' x 100' Sheet	HAZMAT trailer
11	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



**TABLE F-6  
EMERGENCY EQUIPMENT MAINTAINED  
AT THE WASTE ISOLATION PILOT PLANT**

Equipment	Description and Capabilities	Location
1	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
2	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
3	Air Chisel Extrication (1) Capable of cutting 3/16" steel	Surface rescue truck
4 5	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
6	Floor Squeegee Containment or cleanup; (1) straight rubber blade, nonwood handle	HAZMAT trailer
7	Foam Concentrate AFFF 6% (4) 5-gallon pail	Fire truck # 1
8 9	Gas Cylinder Leak Control Kit (1)Series A Hazardous Material Response Kit; contains nonsparking equipment to control and plug leaks	HAZMAT trailer
10	Portable Generator (1)Backup power; 5,000 watt; 120 or 240 volt	Surface rescue truck

**TABLE F-6  
EMERGENCY EQUIPMENT MAINTAINED  
AT THE WASTE ISOLATION PILOT PLANT**

Equipment	Description and Capabilities	Location
1 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' 1/2" 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	Underground rescue truck, HAZMAT trailer
2 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
3 Porta-power	(1) 10-ton hydraulic, hand-powered jaws used for extrication during rescues.	Surface rescue truck
4 Jugs	Containment or cleanup; (4) 1-gallon plastic	HAZMAT trailer
5 Pails	Containment or cleanup; (3) 5-gallon plastic with lid	HAZMAT trailer
6 Portable Lighting	(1) Emergency lighting system; 120 volts; 500-watt bulbs, suitable for wet location	Underground rescue truck

**TABLE F-6  
EMERGENCY EQUIPMENT MAINTAINED  
AT THE WASTE ISOLATION PILOT PLANT**

Equipment	Description and Capabilities	Location
1 Patching Kit	Series A Hazardous Response Kit; Class A; contains nonsparking equipment to control and plug leaks.	HAZMAT trailer
2 Scoops and Shovels	Cleanup; plastic; various sizes; nonsparking; nonwood handles (1) Scoop (3) Shovels	HAZMAT trailer
3 Medical Resources		
4 Ambulance #1	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)
5 Ambulance #2	Diesel hardcab ambulance equipped with first aid kit, 2 stretchers, and other associated medical supplies	Underground
6 Rescue Truck	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)
7 Fire Detection and Fire Suppression Equipment		
8 Building Smoke, 9 Thermal Detectors, or 10 Manual Pull Stations	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
11 Fire Truck # 1	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)
12 Rescue Truck # 2 13 (U/G)	(1) 125-pound dry chemical extinguisher (1) 150-pound foam extinguisher	Underground
14 Extinguishers	Individual fire extinguisher stations; various types located throughout the facility, conforming to NFPA-10.	Buildings, underground, and underground vehicles
15 Automatic Dry 16 Chemical 17 Extinguishing Systems	Automatic; 1,000-pound system (Purple K); actuated by thermal detectors or by manual pull stations	Underground fuel station

**TABLE F-6  
EMERGENCY EQUIPMENT MAINTAINED  
AT THE WASTE ISOLATION PILOT PLANT**

	Equipment	Description and Capabilities	Location
1	Sprinkler Systems	Fire alarms activated by water flow	Pumphouse, Guard and Security Building, Support Building, Waste Handling Building (contact-transuranic waste area only), Warehouse/Shops Building, Auxiliary Warehouse Building, TRUPACT Maintenance Facility, Training Facility, SH Shaft Hoisthouse, Exhaust Filter Building, Engineering Building, and Safety Building
2	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
3	Fire Water Pumps	Fire suppression water supply; 125 pounds per square inch, 1,500 gallons per minute centrifugal pump, one with electric motor drive, the other with diesel engine; pressure maintenance pump	Pumphouse
4	Fire Hose Connections	Fire suppression water supply	Pumphouse, Guard and Security Building, Support Building, Waste Handling Building (contact-transuranic waste area only), Warehouse/Shops Building, Auxiliary Warehouse Building, TRUPACT Maintenance Facility, Engineering Building, Exhaust Filter Building
5	Personal Protection Equipment		
6	Headlamps	Mounted on hard hat; battery operated	Each person underground
7 8	Underground Self-Rescuer Units	Short-term rebreathers; approximately 300	Each person underground
9 10 11	Self-Contained Breathing Apparatus (SCBA)	Oxygen supply; 4-hour units; approximately 14 Mine Rescue Team Draeger units	Mine Rescue Training Room
12 13 14	Chemical and Chemical-Supported Gloves	Body protection; (12 pair) inner-cloth, (12 pair) outer-pvc, (5 pair) outer-viton	HAZMAT trailer
15	Suit, Acid	Body protection; (4) acid	HAZMAT trailer

**EMERGENCY EQUIPMENT MAINTAINED  
AT THE WASTE ISOLATION PILOT PLANT**

Equipment	Description and Capabilities	Location
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
Zoll 1600 Heart Monitor and Defibrillator	Heart Monitor/defibrillator	Ambulance # 1 and # 2

Attachment F, Table F-7

**TABLE F-7  
TYPES OF FIRE SUPPRESSION SYSTEMS BY LOCATION**

LOCATION	AS	AD	MPS	IFHG	PFE
Waste Handling Building	*		*	±	*
Support Building	*		*	±	*
Exhaust Filter Building	*		*	±	*
Water Pumphouse	*		*	±	*

1 2 3	Underground Support Areas (also has rescue truck) (as illustrated in Figure F-5)		*	*		*
4	Station A Effluent Monitoring Shed			*		*
5	Station B Effluent Monitoring Shed			*		*

<sup>(1)</sup>Symbols for WIPP fire-protection systems:

- AS = Automatic Wet Pipe Sprinkler System
- AD = Automatic Dry Chemical Extinguishing System
- MPS = Manual Pull Stations
- IFHC = Interior Fire Hose Connections
- PFE = Portable Fire Extinguishers

<sup>(2)</sup>The Waste Handling Building and the Support Building contain the following:

- Automatic wet pipe sprinklers
- ~~Interior fire hose connections~~
- 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

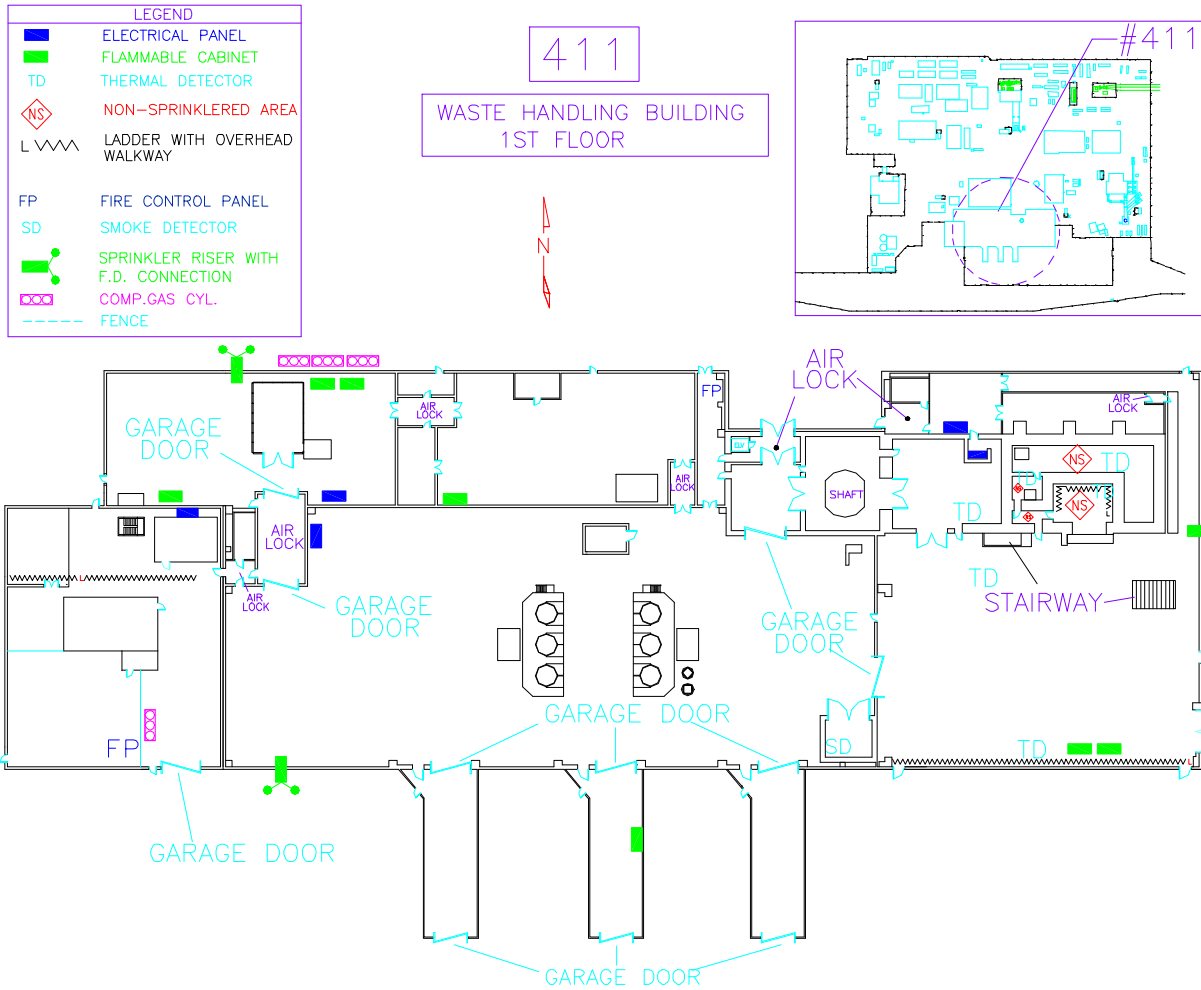
<sup>(3)</sup>The Exhaust Filter Building, Underground Facilities, Warehouse/Shops Building, Water Pumphouse, and Salt Handling Hoist house also have portable fire extinguishers, manual pull stations, and automatic detectors.

Attachment F, Table F-10 and F-11

Revised Figures F-10 and F-11 are attached.

# Pre-Fire Survey

1. Bldg. Name: WASTE HANDLING BUILDING
2. Address: 411 SITE
3. Occ. Type: MAINTENANCE AND OPERATIONS PERSONNEL
4. Map #: 411-1
5. Roof Const.: METAL
6. Floor Const.: CONCRETE
7. Date: 07/27/95
8. Revision Date: 02/10/97
9. Surrounding Bldgs.: 412, 451, 452, 463
10. Fire Hydrants: FH-#8 N, FH-#11 E, FH-#12 S, FH-#13 S,

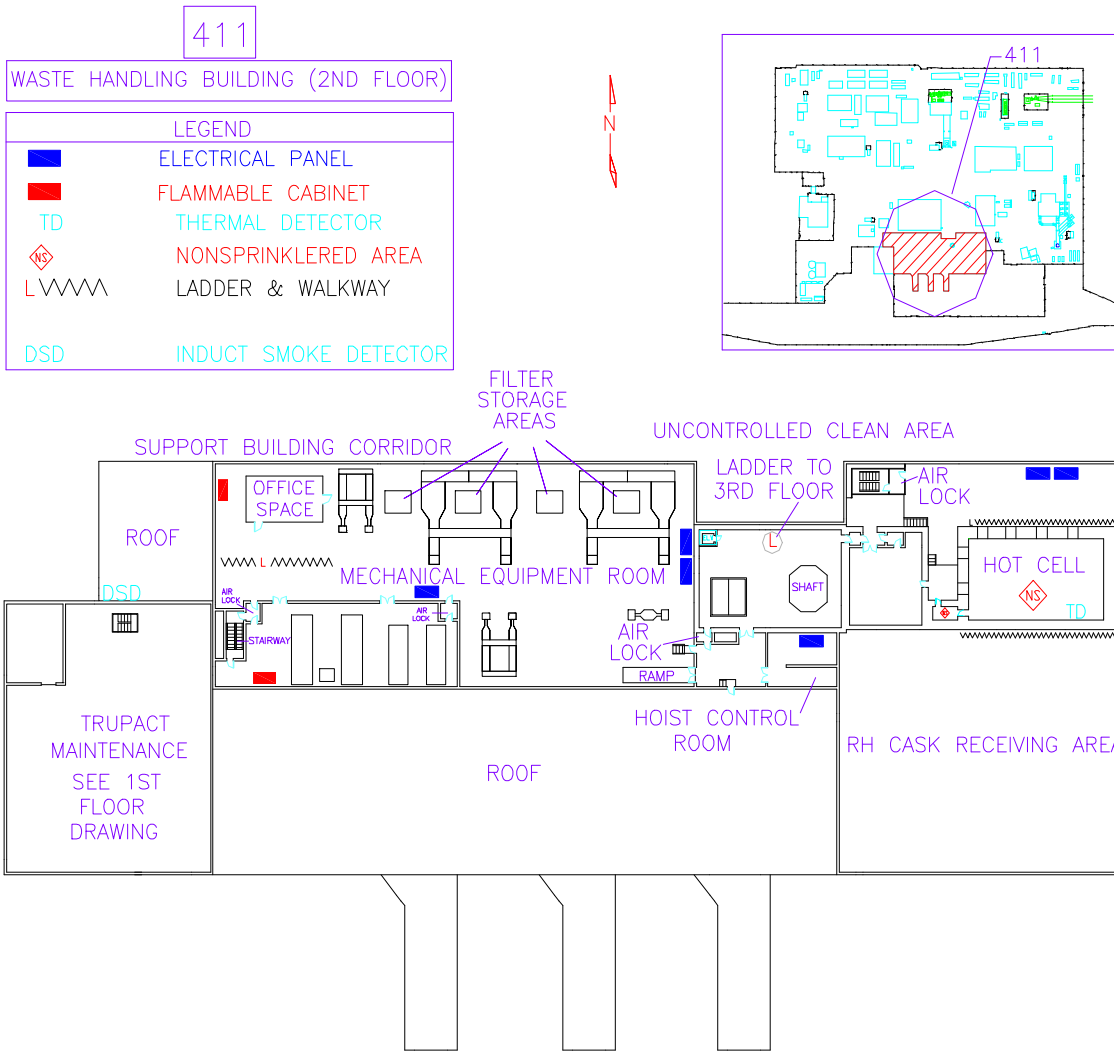


11. Comments: WATER SHUT-OFF AT PIV #8, PIV #17, PIV #19

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

# Pre-Fire Survey

1. Bldg. Name: WASTE HANDLING BUILDING
2. Address: 411 SITE
3. Occ. Type: MAINTENANCE AND OPERATIONS PERSONNEL
4. Map #: 411-2
5. Roof Const.: METAL
6. Floor Const.: CONCRETE
7. Date: 07/27/95
8. Revision Date: 02/11/97
9. Surrounding Bldgs.: 412, 451, 452, 463
10. Fire Hydrants: FH-#8 N, FH-#11 E, FH-#12 S, FH-#13 S



11. Comments: WATER SHUT-OFF AT PIV #8, PIV #17, PIV #19
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Figure F-11  
Waste Handling Building Pre-Fire Survey (Second Floor)