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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

June 22, 2007

Dr. David Moody, Manager
Carlsbad Field Office
Department of Energy
P.O. Box 3090
Carlsbad, New Mexico 88221-3090

Mr. Richard D. Raaz, General Manager
Washington TRU Solutions LLC
P.O. Box 2078
Carlsbad, New Mexico 88221-5608

**RE: FINAL DETERMINATION, CLASS 2 MODIFICATION REQUEST
WIPP HAZARDOUS WASTE FACILITY PERMIT
EPA I.D. NUMBER NM4890139088**

Dear Dr. Moody and Mr. Raaz:

The New Mexico Environment Department (**NMED**) hereby approves with changes the permit modification request (**PMR**) to the WIPP Hazardous Waste Facility Permit as submitted to the Hazardous Waste Bureau in the following document:

- Request for Class 2 Permit Modification (Miscellaneous), Letter Dated 3/21/07, Rec'd 3/29/07

The following items were included in this submittal:

1. Revise training requirements for waste confirmation
2. Revise preventative maintenance procedure frequencies
3. Remove the Brush Truck
4. Revise Incident Level II requirements
5. Revise Emergency Operations Center staff requirements
6. Revise the Contingency Plan

This Class 2 PMR was processed in accordance with the requirements specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.42(b)). It was subject to a sixty (60) day public comment

Dr. Moody and Mr. Raaz
June 22, 2007
Page 2

period running from March 27 through May 25, 2007, during which NMED received written specific comments from a total of four individuals and organizations.

NMED hereby approves this modification with changes as noted in Attachment 1. Attachment 2 contains the redline/strikeout pages of the modified permit to help the reader rapidly identify each modification. Language deleted from the permit is ~~stricken out~~. Language added to the permit is **highlighted in redline**. Specific language changes imposed by NMED are distinguished from language changes proposed in the modification request by **yellow highlighting**. Also enclosed is a CD-ROM containing the modified files in WordPerfect 12 redline/strikeout format as well as files with markings and comments removed. An electronic version of the modified permit with markings removed will be publicly posted on the NMED WIPP Information Page at <<http://www.nmenv.state.nm.us/wipp/download.html>>.

For purposes of version control, please note that NMED has established the date of these modified pages and attachment as June 22, 2007. The effective date of the permit modification approval is your date of receipt of this letter

NMED is providing full response to all public comments under separate cover next week.

If you have any questions regarding this matter, please contact Steve Zappe of my staff at (505) 476-6051.

Sincerely,



Jon Goldstein
Director
Water and Waste Management Division

JG/soz

Attachment 1 – changes to permit modification request
Attachment 2 – redline/strikeout pages

cc w/o Attachment 2

James Bearzi, NMED HWB
John Kieling, NMED HWB
Steve Zappe, NMED HWB
Laurie King, EPA Region 6
Tom Peake, EPA ORIA

cc w/ Attachments

Chuck Noble, NMED OGC
Connie Walker, Trinity Engineering
File: Red WIPP '07

Attachment 1

Changes to Permit Modification Request

1. Item 1.b.1 – Tiered Training for Radiography and Visual Examination Requirements

Permit Attachment H2

- NMED made numerous minor editorial changes to ensure consistency between new and previously existing language.

2. Item 1.c.1 – Inspection Schedule for the Horizontal Emplacement and Retrieval Equipment (HERE)

Permit Attachment D, Table D-1a

- In response to public comment and based upon information provided in the permit modification request, NMED added a new footnote “k” specifying an alternate condition that would trigger the semi-annual inspection of the HERE. Although public comment suggested 500 hours as the criteria for performing the necessary inspection, this alternate condition would occur after 250 evolutions of the HERE, counting each actual and training emplacement as a single evolution and based upon the assumption that each evolution takes approximately two hours to complete.

Attachment 2
Redline/Strikeout Pages

ATTACHMENT B7

PERMITTEE LEVEL TRU WASTE CONFIRMATION PROCESSES

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1 maintained in the WIPP facility operating record. Noncompliant waste identified during waste
2 confirmation will be managed as described in Section B7-2.

3 The Permittees shall randomly select at least 7 percent of each waste stream shipment for
4 waste confirmation. This equates to a minimum of one container from each fourteen containers
5 in each waste stream in each designated shipment. If there are less than fourteen containers
6 from a waste stream in a particular shipment, a minimum of one container from the waste
7 stream shipped will be selected. If the random selection of containers in a shipment occurs prior
8 to loading the waste containers into the Shipping Package, the randomly selected containers
9 may be consolidated into a single Type B package consistent with transportation requirements.
10 Documentation of the random selection of containers for waste confirmation will be placed in the
11 WIPP facility operating record.

12 **B7-1a(1) Confirmation Training Requirements**

13 **Waste confirmation may be completed by performing actual radiography/visual examination on**
14 **the waste container(s) or by a review of radiography/visual examination media and records.**

15 **Waste confirmation personnel may be trained to either review of radiography/visual examination**
16 **media and records (Level 1) or to perform actual radiography/visual examination on the waste**
17 **container(s) (Level 2). Level 2 personnel may also perform waste confirmation by review of**
18 **media and records.**

19 **The Permittees management representative must be trained to the requirements of Level 2.**

20 **B7-1b Radiography Methods Requirements**

21 Radiography has been developed by the Permittees specifically to aid in the examination and
22 identification of containerized waste. The Permittees shall describe all activities required to
23 achieve the radiography objectives in standard operating procedures (**SOPs**). These SOPs shall
24 include instructions specific to the radiography system(s) used by the Permittees at an off-site
25 facility (e.g., the generator/storage site). For example, to detect liquids, some systems require
26 the container to be rotated back and forth while other systems require the container to be tilted.

27 A radiography system (e.g., real time radiography, digital radiography/computed tomography)
28 normally consists of an X-ray-producing device, an imaging system, an enclosure for radiation
29 protection, a waste container handling system, a video and audio recording system, and an
30 operator control and data acquisition station. Although these six components are required, it is
31 expected there will be some variation within a given component between radiography systems.
32 The radiography system shall have controls or an equivalent process which allow the operator
33 to control image quality. On some radiography systems, it should be possible to vary the
34 voltage, typically between 150 to 400 kilovolts (**kV**), to provide an optimum degree of
35 penetration through the waste. For example, high-density material should be examined with the
36 X-ray device set on the maximum voltage. This ensures maximum penetration through the
37 waste container. Low-density material should be examined at lower voltage settings to improve
38 contrast and image definition. The imaging system typically utilizes either a fluorescent screen
39 and a low-light television camera or x-ray detectors to generate the image.

1 To perform radiography, the waste container is scanned while the operator views the television
2 screen. A video and audio recording is made of the waste container scan and is maintained in
3 the WIPP facility operating record as a non-permanent record. A radiography data form is also
4 used to document the Waste Matrix Code, ensure that the waste container contains no
5 ignitable, corrosive, or reactive waste by documenting the absence of liquids in excess of TSDF-
6 WAC limits or compressed gases, and verify that the physical form of the waste is consistent
7 with the waste stream description documented on the WSPF. Containers whose contents
8 prevent full examination of the remaining contents shall be subject to visual examination unless
9 the Permittees certify that visual examination would provide no additional relevant information
10 for that container based on the acceptable knowledge information for the waste stream. Such
11 certification shall be documented in the WIPP facility operating record.

12 For containers that have been characterized using radiography by the generator/storage sites in
13 accordance with the method in Attachment B1, Section B1-3, the Permittees may perform
14 confirmation by review of the generator/storage site's radiography audio/video recordings.

15 For containers which contain classified shapes and undergo radiography, the radiography will
16 occur at a facility with appropriate security provisions and the video and audio recording will be
17 considered classified. The radiography data forms will not be considered classified.

18 B7-1b(1) Radiography Training

19 The radiography system involves qualitative and semiquantitative evaluations of visual displays.
20 Operator training and experience are the most important considerations for ensuring quality
21 controls in regard to the operation of the radiography system and for interpretation and
22 disposition of radiography results. Only trained personnel shall be allowed to operate
23 radiography equipment.

24 The Permittee radiography operators performing waste confirmation shall be trained in
25 accordance with the requirements of Permit Attachment H1.

26 B7-1b(2) Radiography Oversight

27 The Permittees shall be responsible for monitoring the quality of the radiography data and
28 calling for corrective action, when necessary.

29 A training drum with internal containers of various sizes shall be scanned biennially by each
30 **Level 2** operator. The video and audio media shall then be reviewed by a radiography subject
31 matter expert to ensure that operators' interpretations remain consistent and accurate. Imaging
32 system characteristics shall be verified on a routine basis.

33 Independent replicate scans and replicate observations of the video output of the radiography
34 process shall be performed under uniform conditions and procedures. Independent replicate
35 scans shall be performed on one waste container per day or once per shipment, whichever is
36 less frequent. Independent observations of one scan (not the replicate scan) shall also be made
37 once per day or once per shipment, whichever is less frequent, by a qualified radiography
38 operator other than the individual who performed the first examination. When confirmation is

**TABLE D-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
1	Fire Extinguishers ⁱ	Emergency Services	Monthly See List 11	PM000036 Inspecting for Deterioration ^b , Leaks/Spills, Expiration, seals, fullness, and pressure
2	Fire Hoses	Emergency Services	Annually (minimum) See List 11	PM000031 Inspecting for Deterioration ^b and Leaks/Spills
3	Fire Hydrants	Emergency Services	Semi-annual/ annually See List 11	PM000034 Inspecting for Deterioration ^b and Leaks/Spills
4	Fire Pumps	Emergency Services	Weekly/annually See List 11	PM000026 Inspecting for Deterioration ^b , Leaks/Spills, valves, and panel lights
5	Fire Sprinkler Systems	Emergency Services	Monthly/ quarterly See List 11	PM000025 Inspecting for Deterioration ^b , Leaks/Spills, static pressures, and removable strainers
6	Fire and Emergency Response Trucks (Seagrave Fire Apparatus, Emergency One Apparatus, Brush Truck , and Underground Rescue Truck)	Emergency Services	Weekly See List 11	PM000033 Inspecting for Mechanical Operability ^m , Deterioration ^b , Leaks/Spills, and Required Equipment ⁿ
7				
8				
9				
10				
11				
12				
13	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 ^m , Deterioration ^b , and On board fire suppression system
14				
15				
16				
17	Hazardous Material Response Equipment	Emergency Services	Weekly See List 11	PM000033 Inspecting for Mechanical Operability ^m , Deterioration ^b , and Required Equipment ⁿ
18				
19	Miners First Aid Station	Emergency Services	Quarterly See List 11	PM000035 Inspecting for Required Equipment ⁿ
20	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
21				
22				
23	MSHA Air Quality Monitor	Maintenance/ Underground Operations	Daily ^l See Lists 1 and 10	WP 12-IH1828 Inspecting for Air Quality Monitoring Equipment Functional Check
24	Perimeter Fence, Gates, Signs	Security	Daily See List 6	PF0-011 Inspecting for Deterioration ^b and Posted Warnings
25				

TABLE D-1a RH TRU MIXED WASTE INSPECTION SCHEDULE/PROCEDURES						
System/ Equipment Name	Responsible Organization ^j	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection ^j	Procedure Number (Latest Revision)	Inspection Criteria		
				Deterioration ^b	Leaks/ Spills	Other
Cask Transfer Car(s)	Waste Operations	Pre-evolution ^{c,d,e} 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 ^{c,d,e,i} 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 ^{c,d,e,f} 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 ^{c,d,e,i} 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 ^{c,d,e,f} 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 ^{c,d,e,f} 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 ^{c,d,e,f} 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 ^{c,d,e,f} 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 ^{c,d,e,f} 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 ^{c,d,e,f,h,i} See List 1	WP05-WH1744	Yes	NA	Floor integrity

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

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System/ Equipment Name	Responsible Organization ^j	Inspection ^a Frequency and Job Title of Personnel Normally Making Inspection ^j	Procedure Number (Latest Revision)	Inspection Criteria		
				Deterioration ^b	Leaks/ Spills	Other
Horizontal Emplacement and Retrieval Equipment	Waste Operations	Pre-evolution ^{c,d,e,f} See List 1	WP05-WH1700 PM052010 (Semi-Annual) ^g (Monthly) PM052011 (Annual) PM052013 PM052012 PM052014 (Annual)	Yes	Yes	Assembly and Operating Instructions. Electrical Inspection. Position Transducer Calibration. Tilt Sensor Calibration.
41-Ton Forklift	Waste Operations	Preoperational ^{c,d,e,i} 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 ^{c,d,e,h,i} See List 1	WP05-WH1744	Yes	NA	Floor integrity
Surface RH TRU Mixed Waste Handling Area	Waste Operations	Preoperational ⁱ See List 1	WP- 05 WH1744	Yes	Yes	Posted Warning, Communications

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

- 3 ^a Inspection may be accomplished as part of or in addition to regularly scheduled preventive maintenance inspections for each
4 item or system. Certain structural systems of the WHB are also subject to inspection following severe natural events including
5 earthquakes, tornados, and severe storms. Structural systems include columns, beams, girders, anchor bolts, and concrete
6 walls.
- 7 ^b Deterioration includes: visible cracks, erosion, salt build-up, damage, corrosion, loose or missing parts, malfunctions, and
8 structural deterioration.
- 9 ^c "Pre-evolution" signifies that inspections are required prior to equipment use in the waste handling process. (An evolution is
10 considered to be from the receipt of a cask into the RH Bay through canister emplacement in the underground.) For an area,
11 preoperational inspection includes: area is clean and free of obstructions (for emergency equipment); adequate aisle space;
12 emergency and communications equipment is readily available, properly located and sign-posted, visible, and operational. For
13 equipment, this includes: checking fluid levels, pressures, valve and switch positions, battery charge levels, pressures, general
14 cleanliness, and that functional components and emergency equipment are present and operational. When the equipment is not
15 in use, no inspections are required.
- 16 ^d When equipment needs to be inspected while handling waste (i.e., during waste unloading or transfer operations), general
17 cleanliness and functional components will be inspected to detect any problem that may harm human health or the environment.
18 The inspection will verify that emergency equipment is present.
- 19 ^e Inspection of RH TRU mixed waste equipment and areas in the RH Complex applies only after RH TRU mixed waste receipt
20 begins.
- 21 ^f The inspection/maintenance activities associated with these pieces of equipment are performed when the RH Complex is empty
22 of RH TRU mixed waste. If contamination is present, a radiation work permit may be needed.
- 23 ^g For the Hot Cell and Transfer Cell, if RH TRU mixed waste is present, camera inspections will be performed in lieu of physical
24 inspection.
- 25 ^h The integrity of the floor coating will be inspected weekly if RH TRU mixed waste is present.
- 26 ⁱ "Preoperational" signifies that inspections are required prior to the first use in a calendar day.
- 27 ^j **Responsible organizations refers to the organization that owns the equipment. Preventive Maintenance (PM) procedures are**
28 **conducted by either mine maintenance or surface operations maintenance personnel and Instrument Calibration (IC) procedures**
29 **are conducted by instrument and calibration maintenance personnel.**
- 30 ^k **Inspection will be performed after 250 evolutions (actual and training emplacements), if such usage occurs prior to the semi-**
31 **annual inspection.**

1 area fire protection system. The information contained in these tables and figures in Permit
2 Attachment F demonstrates that the WIPP facility has the portable fire extinguishers, fire-control
3 equipment (including special extinguishing equipment that use foam, inert gas, or dry
4 chemicals), spill-control equipment, and decontamination equipment needed for compliance
5 with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.32(c)).

6 E-1a(4) Water for Fire Control

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

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

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

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

1 the "WIPP Hazardous Material Incident Report." Additional technical personnel
2 complete identified sections of the report.

- 3 ● Fire Brigade—The fire brigade is a team of five personnel who respond to site
4 emergencies. The team consists of an Incident Commander and four fire fighters.
5 The fire fighters are trained in accordance with NFPA Standards for Industrial
6 Fire Brigades (Fire Brigades that perform both advanced exterior and interior
7 structural fire fighting).
- 8 ● First Line Initial Response Team (FLIRT)—Supplemental primary responders in
9 the event of a general underground emergency for medical and hazardous
10 material response. The FLIRT also provides backup support for the ERT in the
11 event of a general surface-facility emergency. FLIRT members are part of the
12 WIPP Supplemental Emergency Response Program.
- 13 ● Mine Rescue Team (MRT)—Supplemental group responsible for underground
14 reentry and rescue after an emergency evacuation. The MRT responds in
15 accordance with 30 CFR Part 49 requirements. MRT members are part of the
16 WIPP Supplemental Emergency Response Program.
- 17 ● Office Warden—An individual assigned responsibility for assuring that personnel
18 are evacuated from his/her assigned area or building during evacuations. Office
19 Wardens maintain a list of all personnel in their specific area. This list is
20 compared with the physical presence of personnel who assemble at the staging
21 areas. The Office Wardens report area accountability to the ACOWs.
- 22 ● EOC Staff-The EOC consists of a minimum staff of three MOC management
23 positions (the Crisis Manager, a Safety Representative and an Operations
24 Representative) to activate the EOC. The full EOC Staff includes the Crisis
25 Manager, the Deputy Crisis Manager, a Safety Representative, an Operations
26 Representative and the EOC Coordinator. Additional technical and logistics
27 personnel will provide support as necessary, which includes MOC management
28 personnel, three Operations representatives, one Environment, Safety, and
29 Health representative (ES&H), and one Emergency Management representative.
30 The EOC staff can also include technical and logistic support personnel from
31 other Permittee organizations, as necessary. Additional administrative support
32 staff is made available from site personnel, these personnel provide message
33 runners, communications, and computer assistance. The EOC is activated by the
34 FSM. Since EOC staff are performing duties similar to their normal job functions
35 and providing support related to their area of expertise, no specific RCRA training
36 is required.

**TABLE F-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	S-1300 Maint Shop U/G; FACs 480, 255.1 & 255.2; Transport Tank; Building 456 Trailer 911F	Fire Immediate (acute) Delayed (chronic)
One Standard Waste Box or two or more 55 gallon drums of GH Multiple containers of TRU Waste as described in Permit Condition III.C.1	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 F-6
EMERGENCY EQUIPMENT MAINTAINED
AT THE WASTE ISOLATION PILOT PLANT**

Equipment	Description and Capabilities	Location
1 Fire Hose Connections	Fire suppression water supply	Pumphouse, Guard and Security Building, Support Building, Waste Handling Building (contact transuranic waste area only), Warehouse/Chops Building, Auxiliary Warehouse Building, TRUPACT Maintenance Facility, Engineering Building, Exhaust Filter Building
2 Personal Protection Equipment		
3 Headlamps	Mounted on hard hat; battery operated	Each person underground
4 5 Underground Self-Rescuer Units	Short-term rebreathers; approximately 300	Each person underground
6 7 8 Self-Contained Breathing Apparatus (SCBA)	Oxygen supply; 4-hour units; approximately 14 Mine Rescue Team Draeger units	Mine Rescue Training Room
9 10 11 Chemical and Chemical-Supported Gloves	Body protection; (12 pair) inner-cloth, (12 pair) outer-pvc, (5 pair) outer-viton	HAZMAT trailer
12 Suit, Acid	Body protection; (4) acid	HAZMAT trailer
13 14 Suit, Fully Encapsulated	Body protection; used with SCBAs; full outerboot; (4) Level A; (4) Level B	HAZMAT trailer
15 Emergency Medical Equipment		
16 Antishock Trousers	Shock treatment; (2) inflatable, one on each ambulance	Ambulance # 1 and # 2
17 18 19 Zoll 1600 Heart Monitor and Defibrillator	Heart Monitor/defibrillator	Ambulance # 1 and # 2

TABLE F-7
TYPES OF FIRE SUPPRESSION SYSTEMS BY LOCATION

LOCATION	AS	AD	MPS	IFHC	PFE
Waste Handling Building	*		*	±	*
Support Building	*		*	±	*
Exhaust Filter Building	*		*	±	*
Water Pumphouse	*		*	±	*
Underground Support Areas (also has rescue truck) (as illustrated in Figure F-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
- ~~IFHC = Interior Fire Hose Connections~~
- PFE = Portable Fire Extinguishers

⁽²⁾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

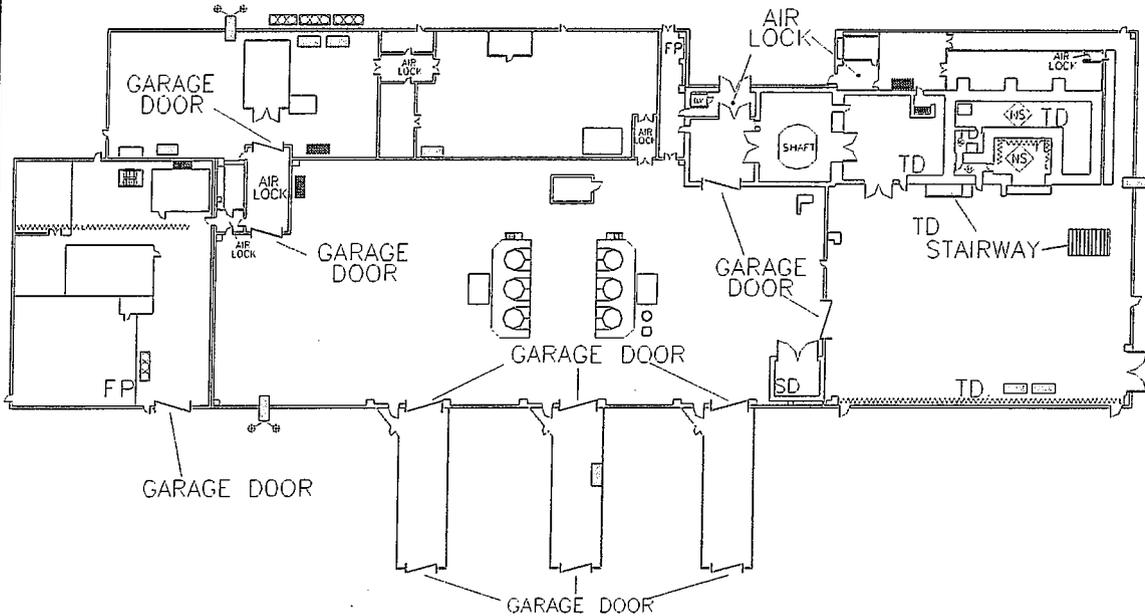
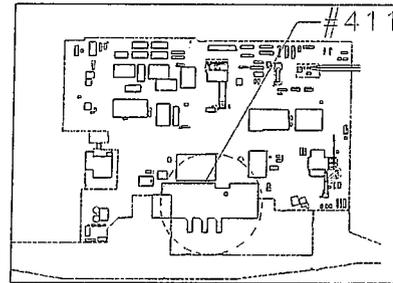
⁽³⁾The Exhaust Filter Building, Underground Facilities, Warehouse/Shops Building, Water Pumphouse, and Salt Handling Hoist house also have portable fire extinguishers, manual pull stations, and automatic detectors.

Pre-Fire Survey

- | | | |
|--|---|-----------------------------------|
| 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,</u> | | |

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

411
 WASTE HANDLING BUILDING
 1ST FLOOR

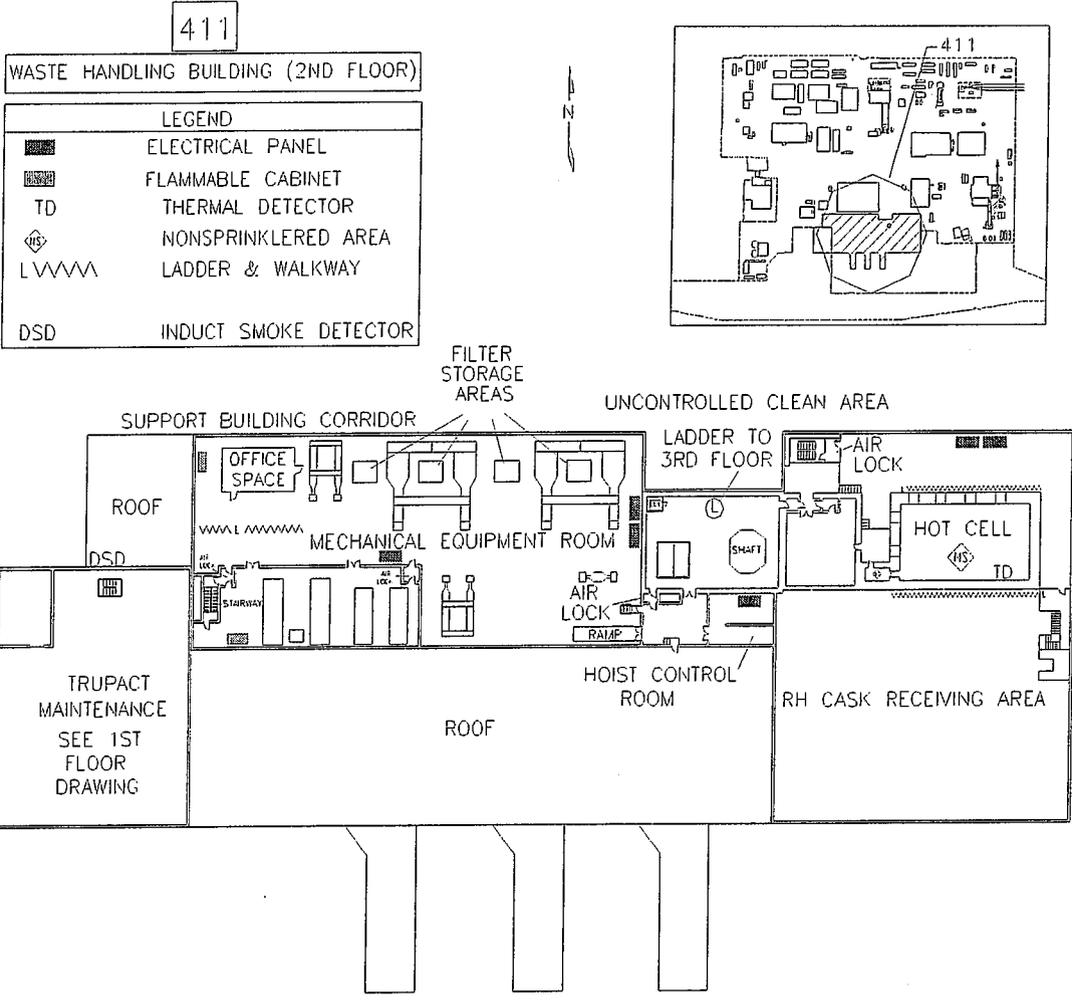


11. Comments: WATER SHUT-OFF AT PIV #8, PIV #17, PIV #19

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

Pre-Fire Survey

- | | | |
|---|---|-----------------------------------|
| 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</u> | | |



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

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

ATTACHMENT H1

RCRA HAZARDOUS WASTE MANAGEMENT JOB TITLES AND DESCRIPTIONS

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Visual Examination Expert **Level 2** (VE Independent Technical Reviewer) [H1-40](#)
Permittees' Management Representative [H1-41](#)

RCRA Hazardous Waste Management Job Descriptions

Position Title: Radiographer Level 1 (Radiography Independent Technical Reviewer)

Duties:

- Reviews radiography record performed by another radiographer

Requisite Skills, Experience and Education:

Academic or vocational high school diploma or equivalent.

Training (Type/Amount):

- General Employee Training (GET-19X/GET-20X)
- General Employee Training Refresher (GET-20XA)
- Conduct of Shift Operations (OPS 115) (Once)
- Radiography Training (Level 1)

1 **RCRA Hazardous Waste Management Job Descriptions**

2
3
4 **Position Title:** Radiographer **Level 2** (Radiography Independent Technical Reviewer)

5
6 **Duties:**

- 7
8 - Performs confirmation of waste using radiography
9 - Reviews radiography record performed by another radiographer

10
11 **Requisite Skills, Experience and Education:**

12 Academic or vocational high school diploma or equivalent.

13
14
15 **Training (Type/Amount):**

- 16
17 ● General Employee Training (GET-19X/GET-20X)
18 ● General Employee Training Refresher (GET-20XA)
19 ● Radworker II (RAD-201)
20 ● Hazardous Waste Worker (HWW-101/102)
21 ● Respiratory Protection (SAF-630/631)
22 ● Conduct of Shift Operations (OPS 115) (Once)
23 ● Technical Safety Requirements (OPS 122) (Once)
24 ● Subject Matter Expert/On the Job Trainer (TRG 293/298) (Biennial)
25 ● Waste Handling Systems (STC-003) (Once)
26 ● Radiography Training (**Level 2**)

RCRA Hazardous Waste Management Job Descriptions

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Position Title: Visual Examination Expert Level 1 (VE Independent Technical Reviewer)

Duties:

- Reviews visual examination or visual examination record review performed by another Visual Examination Expert.

Requisite Skills, Experience and Education:

Academic or vocational high school diploma or equivalent.

Training (Type/Amount):

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

RCRA Hazardous Waste Management Job Descriptions

Position Title: Visual Examination Expert **Level 2** (VE Independent Technical Reviewer)

Duties:

- Performs confirmation of waste using visual examination or review of visual examination records
- Reviews visual examination or visual examination record review performed by another Visual Examination Expert.

Requisite Skills, Experience and Education:

Academic or vocational high school diploma or equivalent.

Training (Type/Amount):

- General Employee Training (GET-19X/GET-20X)
- General Employee Training Refresher (GET-20XA)
- Radworker II (RAD-201)
- Hazardous Waste Worker (HWW-101/102)
- Respiratory Protection (SAF-630/631)
- Conduct of Shift Operations (OPS 115) (Once)
- Technical Safety Requirements (OPS 122) (Once)
- Subject Matter Expert/On the Job Trainer (TRG 293/298) (Biennial)
- Waste Handling Systems (STC-003) (Once)
- Visual Examination (**Level 2**)

ATTACHMENT H2

TRAINING COURSE AND QUALIFICATION CARD OUTLINES

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

2 **TYPE:** Classroom/OJT

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

8 **REFRESHER:** Biennially

9 **COURSE DESCRIPTION**

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

14 The Permittees' Level 1 radiography training program includes:

15 Formal Training

- 16 • Project Requirements
- 17 • State and Federal Regulations
- 18 • Basic Principles of Radiography
- 19 • Radiography of Waste Forms (including the ability to identify liquids and
20 compressed gases which will be verified by a radiography subject matter expert)
- 21 • Waste Stream-Specific Instruction (e.g., specific waste generating processes,
22 typical packaging configurations, waste material parameters)

23 On-the-Job Training

- 24 • System Operation (equipment and procedures used by Level 1 radiographers)
- 25 • Identification of Packaging Configurations
- 26 • Identification of Waste Material Parameters/Waste Matrix Codes
- 27 • Identification of excess residual liquids as defined in the TSDf-WAC, and
28 compressed gases
- 29 • Verification of waste stream description

- 1 **COURSE:** Radiography (Level 2)
- 2 **TYPE:** Classroom/OJT
- 3 **OBJECTIVES:** Upon completion of this course, the student will be able to perform
4 radiography in a safe manner and will be able to confirm whether waste
5 contains ignitable, corrosive, or reactive waste.
- 6 Successfully pass a comprehensive exam based upon training enabling
7 objectives. The comprehensive exam will address the radiography
8 operation, documentation, and procedural elements stipulated in this
9 WAP.
- 10 Perform practical capability demonstration in the presence of appointed
11 site Permittee radiography subject matter expert.
- 12 **REFRESHER:** Biennially

13 **COURSE DESCRIPTION**

14 Radiography Level 2 radiography operators shall be instructed in the specific waste generating
15 practices and typical packaging configurations expected to be found in each Waste Matrix Code
16 at each site shipping waste to WIPP. The OJT and apprenticeship shall be conducted by an
17 experienced, qualified radiography operator prior to qualification of the training candidate.

18 The Permittees' Level 2 radiography training program includes:

19 Formal Training

- 20 • Project Requirements
- 21 • State and Federal Regulations
- 22 • Basic Principles of Radiography
- 23 • Radiographic Image Quality
- 24 • Radiographic Scanning Techniques
- 25 • Application Techniques
- 26 • Radiography of Waste Forms
- 27 • Standards, Codes, and Procedures for Radiography
- 28 • Waste Stream-Specific Instruction

29

30 On-the-Job Training

- 31 • System Operation
- 32 • Identification of Packaging Configurations
- 33 • Identification of Waste Material Parameters/Waste Matrix Codes
- 34 • Identification of excess residual liquids as defined in the TSDF-WAC, sealed
35 containers greater than four liters (nominal), and compressed gases
- 36 • Verification of waste stream description
- 37

1 A radiography ~~test~~ training drum shall include items common to the waste streams to be
2 confirmed by the Permittees. The ~~test~~ training drums shall be divided into layers with varying
3 packing densities or different drums may be used to represent different situations that may
4 occur during radiography examination by the Permittees. The following elements will be in a
5 radiography ~~test~~ training drum(s):

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

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

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

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

2 **TYPE:** Classroom/OJT

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

11 **REFRESHER:** Biennially

12 **COURSE DESCRIPTION**

13 Level 1 visual examination personnel shall be instructed in the specific waste generating
14 processes, typical packaging configurations, and waste material parameters expected to be
15 found in each Waste Matrix Code in the waste stream being confirmed using visual
16 examination.

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

23 Visual examination personnel shall be requalified once every two years.

24 The Level 1 visual examination training program includes:

25 Formal Training

- 26 • Project Requirements
- 27 • State and Federal Regulations
- 28 • Batch Data Report Forms
- 29 • Waste Stream-Specific Instruction (e.g., waste generating processes, typical
30 packaging configurations, waste material parameters)

31 On-the-Job Training

- 32 • System Operation (equipment and procedures used by Level 1 visual examination
33 personnel)
- 34 • Identification of Packaging Configurations
- 35 • Identification of Waste Material Parameters/Waste Matrix Codes

- 1
 - 2
 - 3
- Identification of excess residual liquids as defined in the TSDf-WAC and compressed gases
 - Verification of waste stream description

- 1 **COURSE:** Visual Examination (Level 2)
- 2 **TYPE:** Classroom/OJT
- 3 **OBJECTIVES:** Upon completion of this course, the student will be able to perform visual
4 examination or a review of visual examination records in a safe manner
5 and will be able to confirm whether waste contains ignitable, corrosive, or
6 reactive waste.
- 7 Successfully pass a comprehensive exam based upon training enabling
8 objectives. The comprehensive exam will address the visual examination
9 operation, documentation, and procedural elements stipulated in this
10 WAP.
- 11 Perform practical capability demonstration in the presence of appointed
12 site Permittee visual examination subject matter expert.
- 13 **REFRESHER:** Biennially

14 **COURSE DESCRIPTION**

15 Visual Level 2 visual examination operators shall be instructed in the specific waste generating
16 processes, typical packaging configurations, and ~~expected~~ waste material parameters expected
17 to be found in each Waste Matrix Code in the waste stream being confirmed using visual
18 examination.

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

24 Visual examination personnel shall be requalified once every two years.

25 The Level 2 visual examination training program includes:

26 Formal Training

- 27 • Project Requirements
- 28 • State and Federal Regulations
- 29 • Batch Data Report Forms
- 30 • Application Techniques
- 31 • Waste Stream-Specific Instruction (e.g., specific waste generating processes,
32 typical packaging configurations, waste material parameters)

1 On-the-Job Training

- 2 • Identification of Packaging Configurations
- 3 • Identification of Waste Material Parameters/Waste Matrix Code
- 4 • Identification of Prohibited Items liquids as defined in the TSDf-WAC, ~~sealed~~
- 5 ~~containers greater than four liters (nominal);~~ and compressed gases
- 6 • Verification of waste stream description