

**WP 05-WH1058**

Revision 8

# CH Waste Handling Abnormal Operations

Technical Procedure

EFFECTIVE DATE: 02/25/11

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APPROVED FOR USE

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**CHANGE HISTORY SUMMARY**

<b>REVISION NUMBER</b>	<b>DATE ISSUED</b>	<b>DESCRIPTION OF CHANGES</b>
6	09/23/10	<p>Changed wording in Steps 2.1.5, 3.1.10, and 3.1.16 to clarify when documentation will be turned in</p> <p>Moved Note from before Step 6.2 to before Section 6.0</p> <p>Changed wording in Step 6.2.1 [C] on application of sealant</p> <p>Added wording to Step 6.3.1 [C] on plugging the filter</p> <p>Added Note before Step 6.3.1 [C]</p> <p>Changed wording on Attachment 1, Step 6.3.1 [C] from taped to covered</p>
7	12/17/10	<p>Changed wording in Introduction to include relocating packages to surface</p> <p>Changed wording in 1<sup>st</sup> bullet of Prerequisite Actions for clarification of location</p> <p>Added new Section 7.0 for relocating in-process packages. Allows for movement of TRUPACT/HalfPACT if one or both lids are removed, and due to equipment unavailability, the payload cannot be removed until it is put in another dock position.</p> <p>Added JHA information to Precautions and Limitations</p>
8	02/25/11	<p>Added 08-PT.01 to Baseline Documents</p> <p>Changed 9<sup>th</sup> bullet to included FY &amp; E as qualified personnel</p> <p>Changed Steps 6.1, 6.2.1, 6.3.1 from WH to WHT</p>

## INTRODUCTION

This procedure provides instructions for abnormal operations that may be needed for contact-handled (CH) waste handling. Sections are provided for the following abnormal operations: torn slip sheet, movement of emplaced containers, return of waste to the surface, emplacement of MgO (magnesium oxide) column support stands (hereafter referred to as BRTs), potentially noncompliant containers, covering filters for Volatile Organic Compounds (VOCs), and relocating in-process packages on surface.

Abnormal operations for this procedure are operations not performed on a routine basis which can be performed in a limited number of proven steps. Abnormal operations of a larger scope (e.g., overpack and retrieval) will have specific plans developed.

Entry into this procedure will be determined by the Waste Handling Manager (WHM), Radiological Control Manager (RCM), Waste Handling Engineer (WHE), or Radiological Control Engineer (RCE).

Performance of this procedure generates the following record(s), as applicable. Any records generated are handled in accordance with departmental Records Inventory and Disposition Schedules.

- CH Downloading and Emplacement Data Sheet (Attachment 1 of WP 05-WH1025)
- Supersack/BRT Emplacement Data Sheet (Attachment 3 of WP 05-WH1025)
- Covering Filters On Assemblies Containing High VOCs (Attachment 1)

## REFERENCES

### BASELINE DOCUMENTS

- Hazardous Waste Facility Permit (HWFP), Waste Isolation Pilot Plant, Permit No. NM4890139088-TSDF, issued by the New Mexico Environment Department
- DOE/WIPP-07-3372, Waste Isolation Pilot Plant Documented Safety Analysis
- DOE/WIPP-07-3373, Waste Isolation Pilot Plant Technical Safety Requirements
- WP 08.PT.01, Standard Waste Box Handling and Operation Manual

- WP 05-WH.02, WIPP Waste Handling Operations WDS User's Manual
- WP 05-WH1025, CH Waste Downloading and Emplacement
- WP 05-WH1101, Surface Transuranic Mixed Waste Handling Area Inspections
- WP 05-WH1402, 13-Ton Electric Forklifts
- WP 05-WH1406, Conveyance Loading Car
- WP 05-WH1412, CH Waste Handling Toyota Forklifts
- WP 05-WH1603, CH TRU Underground Transporter, 52-H-008A, B, and C
- WP 05-WH1810, Underground Transuranic Mixed Waste Disposal Area Inspections
- WP 05-WH4401, Waste Handling Operator Event Response
- WP 12-HP1100, Radiological Surveys
- WP 12-HP4000, Emergency Radiological Control Responses

#### REFERENCED DOCUMENTS

- WP 04-AD3001, Facility Mode Compliance

#### PRECAUTIONS AND LIMITATIONS

The Technical Safety Requirements (TSRs) Limiting Conditions for Operation (LCOs) and Specific Administrative Controls (SACs) provide specific preventative or mitigative limits and required actions for identified accident scenarios. Failure to comply with LCOs or SACs may constitute a violation and must be immediately reported to the Facility Shift Manager (FSM). The step affected by the LCO/SAC is followed by the LCO/SAC number in bold brackets (e.g. [**LCO 3.X.X**]). Applicable LCO/SAC Surveillance Data Sheets SHALL be completed as required by WP 04-AD3001.

Liquid-fueled vehicles/equipment SHALL be controlled during WASTE HANDLING ACTIVITIES as follows:

- The TRANSPORT PATH SHALL be established prior to WASTE movement. The TRANSPORT PATH is situationally determined.

- A VEHICLE EXCLUSION ZONE SHALL be established to escort the WASTE through the TRANSPORT PATH with the leading and lagging escort.
- The VEHICLE EXCLUSION ZONE SHALL be maintained from the S-400/E-140 intersection to the DISPOSAL ROOM entrance.
- WASTE SHALL be moved in a VEHICLE EXCLUSION ZONE.
- NON-WASTE HANDLING vehicles/equipment SHALL be PROHIBITED in the VEHICLE EXCLUSION ZONE.
- Only one liquid-fueled vehicle SHALL be in the VEHICLE EXCLUSION ZONE. **[LCO 3.3.6]**
- CH WASTE SHALL BE secured to the facility pallet AND the facility pallet SHALL BE secured to the transporter. **[LCO 3.5.1]**
- Unless otherwise noted, steps are performed by Waste Handling (WH).
- Personnel performing the waste handling activities specified in this procedure must be qualified to the level required for the specific activity (Floor, Yard & Emplacement [FY&E]/WHT/WHE) or trainees under the direct supervision of qualified personnel (FY&E/WHT/WHE).
- If procedure cannot be performed as written, WHE shall be contacted.
- U.S. Department of Energy (DOE) Transuranic (TRU) waste sites must certify CH TRU waste payload containers for shipment to Waste Isolation Pilot Plant (WIPP) in accordance with a Quality Assurance Project Plan that is approved by Carlsbad Field Office (CBFO). WIPP is not authorized to characterize waste. Radiological Survey's conducted at WIPP are for the purpose of detecting radioactive contamination, potential releases of radionuclides and to monitor and minimize the exposure of workers to radiation.
- Personnel performing this procedure must be aware of the hazards and hazard controls discussed in the Job Hazard Analysis PROD-37, PROD-52, PROD-219, and PROD-350.

### **PREREQUISITE ACTIONS**

- Ensure the applicable process area is configured for waste handling mode.

**PERFORMANCE**

## 1.0 RECOVERING FROM A TORN SLIP SHEET

- 1.1 **IF** the slip sheet tears during unloading and all means of removing the payload off the transporter have been exhausted including removal of the upper assembly as applicable,  
**THEN** perform the following:

- 1.1.1 Place the edge of the push/pull attachment close to payload.
- 1.1.2 Install appropriate rigging (ratchet strap rated capacity >15,000 lb direct lift) or (sling rated capacity >19,000 lb direct lift) above lower guide ring of drums or rib for Standard Waste Boxes (SWBs) and ten-drum overpacks (TDOPs), as applicable.

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**NOTE**

Emplacement data, and/or bar code scans, may be performed at any time during remainder of this procedure.

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- 1.1.3 Attach ratchet strap to push/pull attachment or loop sling under the gripper on the push/pull attachment.

**CAUTION**

Weight of payload may suddenly shift from facility pallet to forklift.

- 1.1.4 Pull payload onto push/pull attachment.
- 1.1.5 Return to normal operations.

## 2.0 MOVEMENT OF EMPLACED WASTE

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**NOTE**

The limitations of the bar code reader limits the following operation to two rows back. Movement of emplaced waste is for waste stack configuration only.

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- 2.1 If waste that is already emplaced needs to be moved, perform the following:
- 2.1.1 Notify WHE or WHM to obtain concurrence for waste movement.
- 2.1.2 **VERIFY** only one WASTE HANDLING EQUIPMENT is emplacing WASTE EACH SHIFT.

- 2.1.3 VERIFY NON-WASTE HANDLING EQUIPMENT  $\geq$  25 feet from WASTE FACE.
- 2.1.4 Complete the **Surveillance Data Sheet(s)**, EA04AD3001-SR24, for **LCO 3.3.7**, **SR 4.3.7.1** and **4.3.7.3** as found in WP 04-AD3001.
- 2.1.5 All completed documentation will be submitted to the Central Monitoring Room Operator (CMRO) prior to the end of the shift.
- 2.1.6 Relocate containers that need to be moved.
- 2.1.7 Radiological Control Technician (RCT), **IF** required to split assemblies,  
**THEN** perform contamination swipes on newly exposed areas.
- 2.1.8 Scan a waste container in each of the payload assemblies using WIPP Waste Information System/Waste Data System (WWIS/WDS) bar code reader per WP 05-WH.02.
  - **IF** WWIS/WDS bar code reader is not operational,  
**THEN** record the information on Attachment 1 of WP 05-WH1025.
- 2.1.9 RCT, monitor swipes for gross levels of activity.
- 2.2 WH, perform the following:
  - Update underground (U/G) emplacement map.
  - Update WWIS/WDS emplacement location, if applicable.
- 2.3 RCT, verify activity on swipes of the newly exposed area is below acceptable limits **AND** record information on Attachment 1 of WP 05-WH1025.
- 2.4 Update original Attachment 1 of WP 05-WH1025 remarks section with the reason for the movement of the container, if applicable.
- 2.5 Return to normal operations.

### 3.0 RETURNING WASTE TO SURFACE

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#### NOTE

Waste may be returned to the surface because of equipment outages that would prevent waste emplacement or identification of a potentially noncompliant container.

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- 3.1 Perform the following to return waste to the surface:
  - 3.1.1 Ensure availability of surface storage location in the Waste Handling Building (WHB).
  - 3.1.2 Ensure the U/G, Shaft Access Area, and CH Bay are in Waste Handling Mode.
  - 3.1.3 Establish a WASTE TRANSPORT PATH prior to WASTE movement. The TRANSPORT PATH is situationally determined. **[LCO 3.3.6]**
  - 3.1.4 Establish a VEHICLE EXCLUSION ZONE to escort the WASTE through the TRANSPORT PATH with the leading and lagging escort. **[LCO 3.3.6]**
  - 3.1.5 The VEHICLE EXCLUSION ZONE SHALL be maintained from the DISPOSAL ROOM to the S-400/E-140 intersection.
  - 3.1.6 Ensure WASTE is moved within the VEHICLE EXCLUSION ZONE. **[LCO 3.3.6]**
  - 3.1.7 Ensure NON-WASTE handling vehicles/equipment are NOT within the VEHICLE EXCLUSION ZONE. **[LCO 3.3.6]**
  - 3.1.8 Only one liquid-fueled vehicle SHALL be in the VEHICLE EXCLUSION ZONE. **[LCO 3.3.6]**
  - 3.1.9 Complete the **Surveillance Data Sheet(s)**, EA04AD3001-SR23, for **LCO 3.3.6**, **SR 4.3.6.1** and **4.3.6.2**, as found in WP 04-AD3001.
  - 3.1.10 All completed documentation will be submitted to the CMRO prior to the end of the shift.
  - 3.1.11 Ensure waste container is secured to the facility pallet and the facility pallet is secured to the transporter. **[LCO 3.5.1]**

- 3.1.12 Ensure Waste Hoist is properly configured for waste uploading.
- 3.1.13 RCT, ensure U/G waste transit notification system has been activated (e.g., amber lights and/or U/G Services).
- 3.1.14 RCT, escort transporter to Waste Hoist Station.
- 3.1.15 Complete the **Surveillance Data Sheet(s)**, EA04AD3001-SR37, for **LCO 3.3.6, SR4.3.6.3**, as found in WP 04-AD3001.
- 3.1.16 All completed documentation will be submitted to the CMRO prior to the end of the shift.
- 3.1.17 Ensure RCT and WH personnel are available on surface to accept the facility pallet.
- 3.1.18 Upload facility pallet to the surface.
- 3.1.19 When the facility pallet is on surface, place in designated storage area.
- 3.1.20 Return to normal operations.

#### 4.0 EMPLACEMENT OF BRTs

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##### **NOTE**

Prior to emplacing BRTs, the U/G must be in Waste Handling Mode.

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- 4.1 Before starting of emplacement of BRTs, measure out nominally one foot from the existing waste face row/column and mark it. Connect all marks together across the room.
- 4.2 Transport the first BRT section (S1) to the ACTIVE DISPOSAL ROOM.
- 4.3 Place the first BRT section (S1) with the support legs placed on or close to the line that was marked.
- 4.4 Transport the second BRT section (S2) to the ACTIVE DISPOSAL ROOM. Place the second BRT section (S2) onto the first BRT section (S1).
- 4.5 Transport the third BRT section (S3) to the ACTIVE DISPOSAL ROOM. Place the third BRT section (S3) onto the second BRT section (S2).
- 4.6 Repeat Steps 4.3 through 4.6 until required MgO excess factor is met.

- 4.7 Prior to resuming waste emplacement, measure out nominally one foot from the last BRTs row/column and mark it. Connect all marks together across the room.
- 4.8 Place the waste payload on or close to the line that was marked.
- 4.9 Return to normal operations.

## 5.0 NONCOMPLIANT CONTAINER RESPONSE

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### **NOTE**

The WIPP Documented Safety Analysis (DSA) assumes that WASTE transported to WIPP is in compliance with the requirements in the DOE approved WIPP Waste Acceptance Criteria (WAC). The generator sites are responsible for the characterization, certification, and packaging of WASTE prior to shipment to the WIPP.

LCO 3.7.1 defines ACTIONS to evaluate and respond to a WASTE container identified to be potentially noncompliant.

A potentially noncompliant container(s) could be identified during unloading a waste container from the Type B Package.

### **OR**

Receipt of notification from the generator site that a noncompliant waste container or a noncompliant Type B Package was shipped to the WIPP.

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- 5.1 **IF** a potentially noncompliant container is identified, **THEN** perform the following:
  - 5.1.1 Notify the CMR, FSM, WHM, WHE, Integrated Operations Manager, and CBFO Facility Representative.
  - 5.1.2 Enter LCO 3.7.1, Condition A.
  - 5.1.3 If applicable, as determined by the WHM, also notify:
    - Engineering
    - Industrial Safety & Hygiene
    - Nuclear Safety
    - Transportation Operations
    - Central Characterization Project
    - Washington Regulatory and Environmental Services
    - Generator Site(s)

- New Mexico Environmental Department
- Packaging Integration
- National TRU Programs

5.1.4 Evaluate available information on the potentially noncompliant container. Evaluation techniques may involve the following:

- Review of WWIS/WDS
- Review of acceptable knowledge
- Conference with generator sites
- Conference with Subject Matter Experts
- Conference with regulators
- Nuclear Review Board (NRB)

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**NOTE**

Noncompliances shall be documented in a manner consistent with the evaluation performed, which may range from technical position papers to NRB minutes. The documentation shall identify participants involved to demonstrate integration and concurrence with the proposed response.

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5.1.5 Document the evaluation.

5.2 Develop a resolution for dispositioning the container(s).

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**NOTE**

In the event that a drum payload assembly containing high VOC's is received, a separate work instruction will be issued to overpack the drums.

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**NOTE**

Unless otherwise noted, all sign-offs for this section will be performed on Attachment 1 of this procedure.

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6.0 COVERING FILTERS ON ASSEMBLIES CONTAINING HIGH VOCs

6.1 WHT, record shipment number and outer containment assembly (OCA) body serial number on Attachment 1.

**SIGN-OFF WHT**

**WARNING**

To prevent injury to personnel, safety glasses and gloves must be worn when applying liquid anaerobic thread sealant.

**NOTE**

One filter per container must remain uncovered.

**6.2 Ten Drum Overpack**

6.2.1 WHT, **IF** the filters for a TDOP need to be covered, **THEN** perform the following:

- [ A ] Ensure TDOP is setting on facility pallet.
- [ B ] For each TDOP, identify the filter that will be left uncovered as marked by the generator site.
- [ C ] Apply thread sealant (liquid anaerobic or thread sealant tape) to all the threads of each pipe plug.
- [ D ] Install the pipe plugs until flush or bottomed against the existing filter.

**SIGN-OFF WHT or N/A**

- [ E ] Ensure one filter port is not plugged.

**SIGN-OFF WHT or N/A****6.3 Standard Waste Box**

6.3.1 WHT, **IF** the filters for a SWB need to be covered, **THEN** perform the following:

- [ A ] Ensure SWB is setting on facility pallet.
- [ B ] For each SWB, identify the filter that will be left uncovered as marked by the generator site.

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**NOTE**

If utilized, tape must be approved by Packaging Integration.

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[ C ] Perform one of the following:

- Place or press fit plug into the opening of filter(s) to be plugged.

**OR**

Wrap tape around the side of the remaining filter(s) to fully cover the slotted area.

**SIGN-OFF WHT or N/A**

[ D ] Ensure one filter is not covered.

**SIGN-OFF WHT or N/A**

6.4 WH, forward Attachment 1 to WHE when complete.

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**NOTE**

Section 7.0 may be used to relocate a CH package that has one or both lids removed in order to complete the process. This section shall only be used if the required equipment is unavailable to support processing at the original dock position where the package is located.

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**NOTE**

After completion of 05-WH1011, the empty CH package may be moved as needed to allow completion of 05-WH1015.

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**7.0 RELOCATION OF AN IN-PROCESS CH WASTE PACKAGE**

- 7.1 Ensure WHB is configured for CH WH mode.
- 7.2 Ensure Radiological control coverage is available for movement of the package.
- 7.3 Notify WHE or WHM and FSM to obtain concurrence for the relocation of an in-process CH waste package.
- 7.4 Verify all applicable Radiological Control sign-offs have been completed on WP 05-WH1015, Attachment 1.

7.5 Relocate packages as needed.

8.0 WHE REVIEW

8.1 WHE, ensure Attachment 1 is completed properly.

8.2 WHE, forward Attachment 1 to Records Coordinator when completed.

Attachment 1 – Covering Filters On Assemblies Containing High Volatile Organic Compounds (VOCs)

Step No.	DESCRIPTION	INITIAL
<b>PERFORMANCE</b>		
6.1	Shipment No. _____ OCA Body S/N: _____	WHT
6.2.1[ D ]	Applicable TDOP pipe plugs installed.	WHT or N/A
6.2.1[ E ]	One TDOP filter port is not plugged.	WHT or N/A
6.3.1[ C ]	Applicable SWB filter(s) have been covered.	WHT or N/A
6.3.1[ D ]	One SWB filter is not covered.	WHT or N/A

REMARKS: \_\_\_\_\_

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Performers responsible for each step completion enter printed name, signature, initials, and date below:

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Printed Name	Signature	Initials	Date
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REVIEWED/VALIDATED: \_\_\_\_\_

WHE Printed Name	Signature	Initials	Date
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