

Attachment E		
Section	Change	Explanation of Change
E	Table of Contents	Added for convenience, no changes made.
E-1b	<p>Waste containers will remain inside the Contact-Handled <u>CH</u> or Remote-Handled <u>RH</u> Packages in the Parking Area Unit until TRU mixed waste handlers are prepared to handle them. ... <u>Single RH TRU mixed waste canisters are unloaded from the RH TRU 72-B casks in the Transfer Cell of the WHB Unit where they are transferred to facility casks (see Figures M1-23 and M1-24 in Permit Attachment M1). RH TRU mixed waste drums in CNS 10-160B casks, which may contain up to 10 drums configured in two 5-drum baskets (see Figure M1-25 in Permit Attachment M1), are unloaded from the cask staged in the Cask Unloading Room into the Hot Cell.</u></p> <p><del>At all times, written procedures ensure that loaded Contact-Handled Packages, facility pallets, and waste containers are managed in the WHB Unit in a manner to prevent obstructing the movement of personnel, fire-protection equipment, spill-control equipment, and decontamination equipment. <u>Written procedures ensure that in the WHB Unit and staging areas, Parking Area Unit and staging area, and TMF Staging Area the following are managed in a manner to prevent obstructing the movement of personnel, fire-protection equipment, spill-control equipment, and decontamination equipment:</u></del></p> <ul style="list-style-type: none"> <li><del>• <u>Loaded CH or RH Packages</u></del></li> <li><del>• <u>Facility pallets</u></del></li> <li><del>• <u>Containment pallets</u></del></li> <li><del>• <u>Other waste containers</u></del></li> </ul> <p><u>For CH TRU mixed waste, an aisle space of at least 44 in. (1.1 m) between loaded facility or containment pallets will be maintained in all CH TRU mixed waste staging and storage areas of the WHB Unit, and a minimum of 4 ft (1.2 m) of aisle space will be maintained between Contact-Handled Packages in the outdoor Parking Area Unit. For RH TRU mixed waste, a minimum of 44 inches (1.1 m) between loaded casks in the RH Bay will be maintained. A maximum of two loaded casks may be stored in the RH Bay at one time. Implementation of written procedures assures that loaded casks, transfer cars, and canisters are managed in the RH Bay in a manner to allow the movement of personnel, fire-protection equipment, spill-control equipment, and decontamination equipment. Within the Hot Cell, waste containers are not stored in multiple rows; similarly, within the Transfer Cell, the container is located in a rack on the Transfer Cell Shuttle Car. Thus aisle space does not apply to these areas. Aisle space requirements also do not apply to empty casks in racks. In the Parking Area Container Storage Unit or Parking Area Staging Area, when CH or RH Packages contain waste, the Permittees shall maintain a minimum spacing of 4 ft (1.2 m) between trailers loaded with CH or RH Packages or between CH or RH Packages not on trailers.</u></p>	<p>This change adds the RH TRU mixed waste process description to this Attachment. It adds containment pallets and provides the conditions for aisle space within the WHB and in the Parking Area.</p> <p>Paragraph beginning “At all times. . .” has been deleted.</p>

E-2a	<p>The WIPP facility's equipment, structures, and procedures are specially designed for the safe handling of TRU mixed waste. Permit Attachments M1 and M2 detail how <del>contact-handled (CH)</del> <u>CH and RH</u> TRU mixed waste is handled, including unloading and transport operations. ...</p> <p><u>CH TRU Mixed Waste</u></p> <p>The TRUPACT-II ... Attachment M1). The 13 ton (11.8 metric tons) electric forklift unloads the TRUPACT-II from the trailer and transfers it to an unloading dock in the WHB Unit (see Figure M1-9 in Permit Attachment M1). ...</p> <p>An overhead 6-ton (5.4-metric ton) crane and adjustable center-of-gravity lift fixture transfer TRU mixed waste containers from the Contact Handled Package to <del>the facility</del> <u>a</u> pallet on the WHB Unit floor. ...</p> <p>The WIPP facility has the capability to handle each of the CH TRU containers singly using forklifts and single container attachments <u>appropriate engineered handling devices</u>. ...</p> <p><u>The details of how CH TRU containers will be managed during verification and verification and examination is discussed in Section E-2a(1).</u></p> <p><u>The details of how RH TRU containers will be managed during verification and examination is discussed in Section E-2a(2).</u></p>	<p>These changes are needed to incorporate RH TRU mixed waste into the Attachment with regard to unloading operations. The changes separate the section into two parts, one for CH TRU mixed waste and one for RH TRU mixed waste.</p>
E-2a	<p>All unloading equipment is inspected in accordance with the schedule shown in Tables <u>D-1</u> and <u>D-1a</u>.</p> <p>Palletized <u>CH</u> TRU mixed waste is either transferred by a 13-ton (11.8-metric ton) forklift or the facility transfer vehicle, which is designed with an adjustable bed height that is used to transfer the facility pallets to the special pallet-support stands in the waste hoist cage.</p> <p>All <u>CH</u> TRU mixed waste transport equipment is inspected at a frequency indicated in Table D-1.</p>	<p>These changes are needed to incorporate RH TRU mixed waste into the Attachment with regard to unloading operations. The changes separate the section into two parts. One for CH TRU mixed waste and one for RH TRU mixed waste.</p>
E-2a	<p><u>RH TRU Mixed Waste</u></p> <p><u>Cranes and forklifts that are used to unload and handle RH TRU mixed waste have been designed and constructed to retain their loads in the event of a loss of power. RH TRU mixed waste received in an RH-TRU 72-B cask is unloaded from the trailer in the RH Bay, using the RH Bay Overhead Bridge Crane, and is placed on the cask transfer car. The cask transfer car moves the RH-TRU 72-B cask into the Cask Unloading Room, where a bridge crane lifts the cask from the cask transfer car and lowers it into the Transfer Cell and onto the Transfer Cell shuttle car. The Transfer Cell shuttle car moves</u></p>	<p>These changes are needed to incorporate RH TRU mixed waste into the Attachment with regard to unloading operations. The changes separate the section into two parts. One for CH TRU mixed waste and one for RH TRU mixed waste.</p>

	<p><u>the RH TRU 72-B cask into position for transferring the canister to the facility cask.</u></p>	
<p>E-2a</p>	<p><u>RH TRU mixed waste received in a CNS 10-160B cask is unloaded from the trailer in the RH Bay using the RH Bay overhead bridge crane and is placed on the cask transfer car. The cask transfer car moves the CNS 10-160B cask into the Facility Cask Unloading Room. The Hot Cell crane lifts the two drum carriage units from the CNS 10-160B cask in the Facility Cask Unloading Room into the Hot Cell, where the drums are transferred into RH TRU mixed waste facility canisters using the Overhead Powered Manipulator or Hot Cell Crane. The facility canisters are then lowered into a shielded insert on the Transfer Cell Shuttle Car in the Transfer Cell. The Transfer Cell Shuttle Car moves the shielded insert into position for transferring the facility canister to the facility cask.</u></p> <p><u>A remotely-operated fixed hoist grapple lifts the canister from the RH-TRU 72-B cask or from the shielded insert on the Transfer Cell shuttle car and transfers the canister into the facility cask located on the facility cask transfer car in the Facility Cask Loading Room. The facility cask is rotated to a horizontal position on the Facility Cask Transfer Car and the Facility Cask Transfer Car moves onto the waste hoist and is lowered underground.</u></p> <p><u>Once underground, the RH TRU mixed waste handling forklift lifts the facility cask from the Facility Cask Transfer Car and carries the facility cask to the Horizontal Emplacement and Retrieval Equipment (HERE). After placing the facility cask on the HERE, the canister is emplaced in the wall of the disposal room.</u></p> <p><u>Pertinent RH TRU mixed waste transport equipment is inspected at a frequency indicated in Table D-1a.</u></p> <p><u>Figures of RH TRU mixed waste emplacement equipment is included in Attachment M1.</u></p>	<p>These changes are needed to incorporate RH TRU mixed waste into the Attachment with regard to unloading operations. The changes separates the section into two parts. One for CH TRU mixed waste and one for RH TRU mixed waste.</p>
<p>E-2a(1)</p>	<p><u>E-2a(1) Verification and Examination of CH TRU</u></p> <p><u>Verification and Examination of CH TRU mixed waste will occur either via radiography or through a review of the visual examination records on a statistically representative subpopulation of each waste stream in a shipment.</u></p> <p><u>After removal from the CH Package, each assembly will be tagged to indicate that verification and examination is required before storage or disposal. When containers are removed from assemblies, each container will be tagged to indicate that verification and examination is required. No containers from an unverified and unexamined shipment will be placed in the permitted storage area.</u></p> <p><u>Containers will be randomly selected for verification and examination. If verification and examination are performed via a review of the VE records from the shipments that have arrived at WIPP, the containers/packages will remain in an</u></p>	<p>This change is needed to incorporate the Permittees Waste Analysis Activities performed at the WIPP facility into the Permit Attachment. This section addresses the CH TRU mixed waste verification and examination process.</p>

	<p><u>appropriate Staging Area within the WHB, TMF, or PAU until this review is complete. If verification and examination are performed via radiography the facility or containment pallet containing the container(s) for radiography will be moved to the TMF, the payload assembly will be disassembled if necessary, the container(s) radiographed and the payload assembly reassembled if necessary. Any container which is moved singly will be provided with adequate secondary containment (e.g., containment pallet).</u></p> <p><u>Once the payload assembly is reassembled, it will be returned to an appropriate staging area. When verification and examination are complete, the approved containers will have the tag removed indicating that the containers have been approved through the verification and examination process and the shipment can be placed into storage or downloaded to the repository.</u></p>	
<p>E-2a(2)</p>	<p><u>E-2a(2) Verification and Examination of RH-TRU Mixed Waste Containers</u></p> <p><u>Verification and Examination of RH-TRU mixed waste will occur through a review of the visual examination records on each waste stream in a shipment.</u></p>	<p>This change is needed to incorporate the Permittees Waste Analysis Activities performed at the WIPP facility into the Permit Attachment. This section addresses the RH TRU mixed waste verification and examination process.</p>
<p>E-2b</p>	<p>The WHB <del>Unit</del> <u>is and the TMF provide</u> a physical barrier that will prevent TRU mixed waste spills from reaching the environment before a cleanup could be initiated and completed. A detailed description of the WHB containment capability <u>for the CH Bay Storage Area, Shielded Storage Area, CH Bay Staging Area, TMF Staging Area, Room 108 and Airlock 107 Staging Area, and RH Complex</u> is contained in Permit Attachment M1. ...</p> <p>TRU mixed ... WIPP facility. <u>The verification and examination process to verify that the waste contains no ignitable, corrosive or reactive waste is detailed in Permit Attachment B7.</u> Derived waste must also meet all TSDF-WAC requirements prior to disposal. Calculations in Permit Attachment M1 demonstrate that one percent residual liquid in TRU mixed waste containers is easily contained by the WHB <del>Unit</del> <u>or TMF</u> floor.</p> <p>Whenever TRU mixed waste is outside the WHB <del>Unit</del>, <u>or TMF</u> it will be contained in Contact- <del>or Remote</del>-Handled Packages. TRU mixed waste containers are only unloaded from the shipping containers inside the WHB <del>Unit</del> and shipping containers are never opened outside this facility; therefore, TRU mixed waste is not expected to reach the outside environment or other parts of the facility from the TRU mixed waste handling facilities in non-flood circumstances. ...</p>	<p>This change adds the TMF and the added rooms of the WHB to the runoff considerations of the facility.</p>

<p>E-2d</p>	<p>There is a Central UPS, located in the Support Building, that supplies power to selected loads located in the Support Building and WHB-Unit. The Central UPS provides pack-up power to equipment associated with radiation monitoring, communications, and central monitoring systems. In addition, individual UPSs are provided for the selected equipment associated with these same systems, but are located remotely from the Support Building and the WHB-Unit. The CMR is also connected to the Central UPS.</p> <p>The CMS components of the WHB-Unit and the Support Building are powered from the central UPS. The UPS features automatic switching without a loss of power from primary power to alternate power to the backup power. ...</p> <p><u>The RH Complex is included in the WHB. The Central UPS supplies power to the WHB which includes the RH Complex. The RH Bay, Hot Cell and Transfer Cell equipment are serviced by dual 1,300 KW diesel powered generators located between the exhaust shaft and the WHB. The generators provide backup power to both CH and RH waste handling operations. The RH waste handling equipment is designed to stop as a result of loss of power in a fail-safe condition. Power from the back-up generators may be utilized to place RH TRU mixed waste containers in process into a safe configuration. During a total power outage condition selected RH load can be powered by the Central UPS. Within a short time selected RH loads at 480 volts and below can be powered by the Backup Diesel Generators. The backup central UPS for the WHB would also supply backup power to the RH Complex.</u></p>	<p>This change adds the RH Complex to the discussion of backup power.</p>
<p>E-2e</p>	<ul style="list-style-type: none"> <li>● <u>Waste streams will undergo verification and examination via radiography or the review of visual examination records as described in Attachment B7, to verify the physical form of the waste and that the waste contains no corrosive, ignitable, or reactive waste .</u></li> <li>● The shipping containers, forklifts, unloading dock, crane, facility pallets, <u>containment pallets</u>, facility transfer vehicle, waste hoist cage, and underground waste transporter were designed or selected for use in order to minimize the need for <u>CH-TRU</u> mixed waste handling personnel to come into contact with <u>CH-TRU</u> mixed waste.</li> <li>● <u>The shipping containers, forklifts, cranes, cask shuttle, transfer cars, manipulators, Hot Cell, waste hoist cage, and HERE were designed or selected for use in order to minimize the need for RH-TRU mixed waste handling personnel to come into contact with RH-TRU mixed waste. These items are discussed in detail in Permit Attachments M1 and M2. Section E-2a of this Permit Attachment discuss prevention of hazards to personnel during unloading operations.</u></li> <li>● TRU mixed waste handling operations are conducted so that the need for TRU mixed waste handling personnel to touch the TRU mixed waste containers during unloading, <u>verification and examination</u>, overpacking (if necessary), and emplacement operations is minimized. Appropriate personal protective equipment (PPE) will be</li> </ul>	<p>These changes clarify personnel protection for the proposed Permittees waste analysis activities that are proposed for the WIPP facility and for the management of RH TRU mixed waste.</p>

	<p>used depending on locations and operations (e.g., steel-toed shoes, hard hat, safety glasses inside a crane operating envelope; steel-toed shoes, hard hat, mine lamp, self rescuer, and safety glasses in the Underground).</p> <ul style="list-style-type: none"><li>● The shipping container, forklifts, unloading dock, crane, facility pallets, <u>containment pallets</u>, facility transfer vehicle, waste hoist cage, and underground waste transporter were designed or selected for use in order to minimize the need for TRU mixed waste handling personnel to come into contact with TRU mixed waste. ...</li><li>● <u>Differential air pressure between the RH TRU mixed waste handling locations in the RH Complex protects workers and prevents potential spread of contamination during handling of RH TRU mixed waste. Airflow between key rooms in the WHB are controlled by maintaining differential pressures between the rooms. The CH Receiving Bay is maintained with a negative pressure relative to outside atmosphere. The RH Receiving Bay is maintained with a requirement to be positive pressure relative to the CH Receiving Bay. The RH Hot Cell is maintained with a negative differential pressure relative to the RH Receiving Bay. The Hot Cell ventilation is exhausted through high-efficiency particulate air filters prior to venting through the WHB exhaust.</u></li></ul>	
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