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**WP 05-WH1727**

Revision 10

# **RH-TRU 72-B Cask Uprighting Trailer Loading**

Technical Procedure

EFFECTIVE DATE: 01/12/11

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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>
9	08/27/10	<p>Added Step 3.1 for verification of impact limiters ID number and added step to Attachment 1.</p> <p>Added Precaution and Limitation bullet requiring a spotter for the load cell in addition to the spotter for the equipment. This is a Note prior to Section 3.0.</p> <p>Added Precaution and Limitation bullet requiring a spotter to visually verify readout on impact limiter.</p> <p>Added Steps 3.4 and 3.15 for spotter visual verification of readout on impact limiter.</p> <p>Moved Step 3.27 below Step 3.29.</p>
10	01/12/11	<p>Moved 2.0 Prerequisite Actions to new Step 1.8.</p> <p>Moved Step 2.6 to bullet under Step 2.5.</p> <p>Added in Equipment and in Steps 3.2 and 3.13, information that slings must be of the same type, length, and manufacturer.</p> <p>Added information for load cell without audible alarms.</p>

**INTRODUCTION** <sup>1, 3, 4, 8, 9</sup>

This procedure provides instructions for loading the remote-handled transuranic (RH-TRU) 72-B Cask Uprighting Trailer. This procedure is not used for loading the mechanically operated trailer, which is loaded manually with the use of the overhead bridge crane.

The Automated Job Hazard Analysis (AJHA) PROD-177 coincides with this procedure.

The 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.

- Attachment 1, RH-TRU 72-B Uprighting Trailer Loading Data Sheet
- Transportation Data Sheet

**REFERENCES****BASELINE DOCUMENTS**

- Title 10 Code of Federal Regulations (CFR) Part 71, "Packaging and Transportation of Radioactive Material"
- 49 CFR §173.428, "Empty Class 7 (Radioactive) Materials Packaging"
- NRC-Docket-71-9212, RH-TRU Certificate of Compliance
- NRC-Docket-71-9212, Safety Analysis Report for the RH-TRU 72-B Waste Shipping Package
- DOE Standard 1090-2007, *Hoisting and Rigging*
- DOE/WIPP-02-3283, RH Packaging Program Guidance
- DOE/WIPP-02-3284, RH Packaging Operations Manual
- DOE/WIPP-07-3372, Waste Isolation Pilot Plant Documented Safety Analysis
- DOE/WIPP-07-3373, Waste Isolation Pilot Plant Technical Safety Requirements
- WIPP-023, Fire Hazards Analysis For the Waste Isolation Pilot Plant Carlsbad, New Mexico
- WI-RH.12, Replacement of Screws, Bolts, and Washers on RH-72-B Trailers

- WP 08-PT.03, WIPP Quality Assurance Program Plan for Type "B" Packaging
- WP 08-PT.13, RH-TRU 72-B Cask Uprighting Trailer Operation and Maintenance Manual
- WP12-FP.01, WIPP Fire Protection Program
- WP 12-FP3003, Combustible Loading Controls for the Waste Handling Building and Underground
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description

#### REFERENCED DOCUMENTS

- WP 04-AD3001, Facility Mode Compliance
- WP 05-WH1701, Road Cask Transfer Car Operation
- WP 05-WH1706, Preparation of an Empty RH-TRU 72-B Cask for Shipment
- WP 05-WH1741, 140/25-Ton Remote Handling Crane 41-T-001
- WP 05-WH1758, RH Waste Handling Abnormal Operations
- WP 05-WH4401, Waste Handling Operator Event Response
- WP 12-HP4000, Emergency Radiological Control Responses

#### EQUIPMENT

- Calibrated load cell capable of indicating a weight up to 5,000 lb
- Calibrated torque wrench - 0 to 220 ft-lb or equivalent
- Calibrated torque wrench - 0 to 700 ft-lb or equivalent
- Appropriate rigging for handling the RH-TRU 72-B (Slings must be of the same type, length, and manufacturer.)
- Clean, lint-free rags
- Nickel Never-Seize (LocTite® #767 Antiseize or equivalent)
- Dri-Slide® Multi-Purpose Lubricant Aerosol or equivalent

## PRECAUTIONS AND LIMITATIONS

The Technical Safety Requirements (TSRs) contain Limiting Conditions for Operation (LCOs) and Specific Administrative Controls (SACs) which 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.

- Only personnel qualified on the RH-TRU 72-B as a Waste Handling Technician/Engineer (WHT/WHE), or trainees operating under the direct supervision of a RH-TRU 72-B qualified WHT/WHE, are authorized to perform the waste handling (WH) activities specified in this procedure.
- If procedure cannot be performed as written, WHE shall be contacted.
- Liquid-fueled vehicles loading or unloading RH shipping containers in the RH Bay SHALL BE ATTENDED at all times. [**LCO 3.4.1**]
- When RH-TRU 72-B is being rotated, all personnel must stand clear of trailer.
- Roll-around ladders should be used when accessing the trailer.
- Hearing and eye protection must be worn when using impact wrench.
- When performing lift operations with 140/25-ton crane, a tag line or stabilizing bar should be used.
- Trailer stands are required on free-standing trailer when loading/unloading packaging on trailer.
- If WH activities are suspended or interrupted, the Transportation Engineer (TE) shall be contacted.
- Emergency Response events that require cessation of this procedure, such as a radiological event, are to be addressed in accordance with WP 05-WH4401 and WP 12-HP4000.
- Operator must wear safety glasses and leather gloves when using hydraulic control.
- Maximum empty RH-TRU 72-B weight is 37,000 lb.
- Maximum individual RH-TRU 72-B weight is 45,000 lb.

- Maximum allowable weight of a loaded canister is 8,000 lb.
- Maximum allowable gross shipping weight for loaded packaging, including tractor and trailer, is 80,000 lb.
- A spotter must be used when the Trailer Jockey or Transport Tractor are used to position the trailer into, or remove a trailer from, the RH Bay.
- When using a load cell without an audible alarm to install or remove impact limiters on a RH-TRU 72-B, a separate spotter (other than the crane operator and/or equipment spotter) shall be designated to watch the load cell and ensure the lift does not violate lift limits.
- Load cell spotter shall maintain visual on the readout any time a load cell without an audible alarm is being used to install or remove impact limiters on a RH-TRU 72-B.
- Doors 145 and 146 must be closed prior to bringing the RH-TRU 72-B Trailer into the RH Bay or removing the trailer from the RH Bay with the Trailer Jockey or Transport Tractor.
- Any step that results in N/A on Attachment 1 must be initialed by person performing step.
- Performers of procedure may print, sign, date, and initial on Attachment 1 at any time during the performance of this procedure, except for those steps which document compliance to an LCO.
- Prior to moving the trailer, the operator shall allow sufficient time (approximately 2 minutes) for the air pressure to stabilize after attaching the tractor air supply to the trailer.
- WP 05-WH1706, Attachment 1, Empty RH-TRU 72-B Data Sheet, must be completed for empty In-Service Production Packaging shipments.

## PREREQUISITE ACTIONS

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### NOTE

Prerequisite actions must be performed, but may be performed in any order and in parallel as long as radiological control sign-offs are not bypassed.

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#### 1.0 WHE, ensure the following:

- 140/25-Ton Remote Handling Crane preoperational checks are completed.<sup>5</sup>
- Road Cask Transfer Car preoperational checks are completed, if needed.

2.0 WH, obtain Transportation Data Sheet from TE.

**SIGN-OFF WH**

3.0 Record the following on Attachment 1:

- Shipment Number
- Trailer Number
- RH-TRU 72-B Serial Number

**SIGN-OFF WH**

4.0 Verify the trailer annual inspection is current.

4.1 Record the trailer annual inspection date on Attachment 1.

**SIGN-OFF WH**

5.0 Record the following on Attachment 1:

- Torque wrench for impact limiter attachment bolts ID/Calibration due date
- Torque wrench for trunnion cap bolts and tiedown bolts ID/Calibration due date
- Load Cell ID/Calibration due date

**SIGN-OFF WH**

**PERFORMANCE**

## 1.0 PRELOADING

**CAUTION**

Although the trailer is equipped with landing gear, loading the trailer on level ground is recommended. Trailer tires should never be lifted off the ground using the landing gear to avoid damage to the equipment.

**CAUTION**

A spotter must be used when backing trailer into RH Bay to avoid equipment damage.

**NOTE**

At the discretion of the operator **MICRO** mode may be used at any performance step except when noted.

**NOTE**

WH activities may be performed in parallel with other activities as long as radiological control sign-offs are not bypassed.

- 1.1 **IF** Steps 1.2 to 1.8 have been previously performed,  
**THEN** continue to Step 1.9.
- 1.1.1 **IF** steps have not been previously performed,  
**THEN** continue to Step 1.2.
- 1.2 **IF** transport trailer is not positioned in the RH Bay,  
**THEN** back trailer into RH Bay using the liquid-fueled tractor or trailer jockey AND document start of attendance. **[LCO 3.4.1]**

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

- 1.3 Visually verify no sharp edges exist on the crank handles.

**NOTE**

The Trailer Jockey fifth wheel may be used to assist the leveling of the trailer.

- 1.4 If necessary, adjust landing gear until RH-TRU 72-B trailer is level, using a hand-held level.

- 1.5 Remove liquid-fueled tractor or trailer jockey from the RH Bay and document end of attendance. **[LCO 3.4.1]**

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

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**NOTE**

Work platforms may be moved as needed, or removed from trailer, in order to support loading process.

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- 1.6 If not previously done, perform the following:
- Chock trailer wheels.
  - Install trailer stands on free-standing trailer.
  - Ensure jam nut is on the pivot bolt.
  - Lower rear landing gear.
  - If needed, clean and lubricate V-groove and rollers on both sides of trailer.
  - Check the bronze wear plates ensuring the retaining screws are present on both the upper and lower sections of each tiedown, as applicable.
  - Check that the bumpers are present on both left and right side trunnion towers, as applicable.
  - Ensure all other screws and bolts are not loose.

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**NOTE**

If the hydraulic rams are in the extended position, all dirt and debris must be removed from the rams using a dry cloth to prevent damage to the hydraulic cylinder seals.

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- 1.7 Remove the bolts from the tiedowns and the main trunnion journal caps.
- 1.8 Move the main trunnion pivot block caps to the pivot block cap holders and thread a 5/8 inch bolt into each of the nuts mounted on the under side of the holding shelf. Repeat for the other main trunnion journal cap.

1.9 WH, perform pre-use visual inspections of the following structural members for signs of obvious damage, deformations, or other unusual conditions:

- Chassis
- Kingpin
- Tiedown attachments
- Joints between the primary and secondary structural members

### **SIGN-OFF WH**

1.10 If necessary, open each of the tiedowns, allowing the top journal to rest in the fully-open position.

1.11 With trailer in the RH Bay, perform the following:

- Retain other bolts out of the working area where they will not be lost or damaged. Segregate main trunnion bolts from tiedown bolts.
- Ensure trunnion journals and tiedowns are free of foreign matter. Clean as necessary.
- Clean the bolts, as necessary, to adequately inspect them.
- Inspect main trunnion cap bolt, tiedown cap bolt, trunnion caps, and impact limiter bolts for damage, defects, and cleanliness.
- Apply nickel Never-Seize (LocTite® #767 Antiseize or equivalent) to bolt threads.

1.12 Replace damaged or defective components using applicable work instruction.

1.13 Ensure circuit breaker (CB) on hydraulic unit is in OFF/RESET position.

### **WARNING**

Proper Personal Protective Equipment (PPE), including 100% cotton long-sleeve shirt, safety glasses, and leather gloves, must be worn when plugging in power source, and opening/closing breakers.

1.14 Ensure the following:

- CB 14 and CB 16 on 41P-DP03/42 are **OFF**.

- Protective covers, if installed, are removed from trailer quick connections.
- Hydraulic valve operates freely and returns to middle position when released.

**CAUTION**

To prevent personnel injury and damage to the equipment, all hydraulic system jumper hose connections must be properly coupled.

- Hydraulic hoses are connected between the pump and the corresponding quick connections on the trailer. To connect the hydraulic hoses to the trailer couplers (push male coupler into female coupler and secure by turning lock ring so that the indentation on the lock ring is no longer aligned with the alignment pin on the coupler).
  - Pump reservoir is in operating range (approximately 50% - 70% full as indicated by the fluid level sight glass).
- 1.15 Ensure the 220-volt AC power source is plugged into the recessed male receptacle of the electrical enclosure on the side of the hydraulic power unit.

**WARNING**

PPE, including 100% cotton long-sleeve shirt, safety glasses, and leather gloves, must be worn when plugging in power source, and opening/closing breakers.

- 1.16 Ensure CB 14 and CB 16 on 41P-DP03/42 is in the **ON** position.

**NOTE**

The User has the option of turning the power **ON** and **OFF** on the hydraulics, as needed, to support the loading of the RH-TRU 72-B.

**WARNING**

PPE, including safety glasses and leather gloves, must be worn when using hydraulic controls

- 1.17 On the hydraulic system electrical enclosure, rotate the external circuit breaker from the **OFF/RESET** position clockwise to the **ON** position to activate power to unit.
- 1.18 On the hydraulic system electrical enclosure, push the green button labeled START to activate the hydraulic pump.
  - 1.18.1 **IF** hydraulic system sounds abnormal,  
**THEN** immediately push the red button labeled STOP to deactivate the hydraulic pump and contact WHE.
- 1.19 Allow the hydraulic pump to run while verifying that there are no hydraulic fluid leaks from hoses, couplings, or fittings.

**WARNING**

Moving parts can cause bodily injury. Hands must be kept clear of moving parts. All personnel must remain clear of load and load rotation path.

- 1.20 If not already extended, extend the hydraulic rams by first cycling the hydraulic rotating mechanism forward and backward by pushing the hydraulic system control lever UP and DOWN while ensuring clevis pin lanyards are clear of the concentric roller stud. Check for any binding of rollers and release the lever when the hydraulic rotating mechanism is centered under the main trunnion saddle.
- 1.21 On the hydraulic system electrical enclosure, push the red button labeled STOP to deactivate the hydraulic pump.
- 1.22 Remove the stainless steel clevis pin from each of the grapple journals, and pivot the journals OPEN.

- 1.23 **IF** trailer is to be loaded with a transuranic waste shipment, **THEN** obtain WP 05-WH1758, Attachment 1, RH-TRU 72-B Cask Loading Data Sheet.

**SIGN-OFF WHE or NA**

2.0 LOADING THE RH-TRU 72-B TRAILER

- 2.1 Engage RH-TRU 72-B lifting trunnions using lifting yoke.

- 2.2 Move the RH-TRU 72-B to the trailer.

**WARNING**

Personnel must stay clear of trailer while RH-TRU 72-B is rotating to prevent injury.

**WARNING**

A spotter must be used when lowering RH-TRU 72-B.

**WARNING**

Keep hands clear of main trunnion saddles when lowering RH-TRU 72-B.

**CAUTION**

To avoid equipment damage, the RH-TRU 72-B can not be loaded straight down into the main trunnion saddles. It must be lowered forward of the trunnion tower until the lower handling trunnions clear the gussets directly below the main trunnion saddles.

**CAUTION**

To avoid equipment damage, before loading the RH-TRU 72-B onto the trailer, ensure no obstructions or foreign material (screws, bolts, tools) are present in the main trunnion pivot blocks or in the tiedown blocks.

- 2.3 Ensure crane control is in MICRO mode before aligning the RH-TRU 72-B with the main trunnions of the RH-TRU 72-B trailer.

- 2.4 Center the RH-TRU 72-B over the trailer, in front of the trunnion towers, making sure it is centered between the two main trunnion towers.
- 2.5 Lower the RH-TRU 72-B, ensuring the cask is centered between the main trunnion journals, until the main trunnions are seated in the main trunnion journals. (Spotter must verify lower trunnions seat into grapple journals while RH-TRU 72-B is being lowered.)
- With the RH-TRU 72-B fully seated in the main trunnion journals, install the main trunnion journal caps, and the 5/8 x 3-1/2 in. bolts and torque each bolt to 150 - 160 ft-lb.
  - Position the grapple journals onto each of the RH-TRU 72-B lower handling trunnions.

### SIGN-OFF WH

#### WARNING

A spotter must be used when rotating RH-TRU 72-B.

#### NOTE

It may be necessary to operate the hydraulics to make slight adjustments to the position of the rotating grapple journals in relation to the position of the RH-TRU 72-B trunnions.

- 2.6 Pivot grapple journals closed around the trunnions.

#### NOTE

Mechanical means may be necessary to install the stainless steel clevis pins into grapple journals.

- 2.7 Install stainless steel clevis pins into each of the grapple journals.

#### NOTE

When lifting yoke is clear of RH-TRU 72-B, the crane may be operated in **MICRO** or **NORMAL** mode; utilized at the discretion of the operator.

- 2.8 Remove lifting yoke from the RH-TRU 72-B and place in stand. Disconnect from crane, if necessary.

**WARNING**

Moving parts can cause bodily injury. Hands must be kept clear of moving parts. All personnel must remain clear of load and load rotation path.

**WARNING**

PPE, including safety glasses and leather gloves, must be worn when using hydraulic controls

- 2.9 On the hydraulic system electrical enclosure, push the green button labeled START to activate the hydraulic pump.
- 2.10 Rotate the RH-TRU 72-B to the horizontal position by pulling the hydraulic system control lever DOWN. (Spotter must verify the rollers are not binding while RH-TRU 72-B is rotating and the top trunnions seat into tiedowns on trailer.)
- 2.11 **IF** the RH-TRU 72-B does seat properly,  
**THEN GO TO** Step 2.13.
- 2.12 **IF** the RH-TRU 72-B does **NOT** seat properly in the tiedowns,  
**THEN** perform the following:
  - 2.12.1 Rotate the RH-TRU 72-B to vertical and back to horizontal as needed.
    - **IF** this works,  
**THEN GO TO** Step 2.13.
    - **IF** this does **NOT** work,  
**THEN** contact WHE.
- 2.13 When the RH-TRU 72-B is in the horizontal position, release the hydraulic system control lever to stop the rotation.
- 2.14 On the hydraulic system electrical enclosure, push the red button labeled STOP to deactivate the hydraulic pump, and cycle control valve several times to relieve pressure.
- 2.15 On the hydraulic system electrical enclosure, rotate the external circuit breaker from the **ON** position counterclockwise to the **OFF/RESET** position to deactivate power.

**WARNING**

PPE, including 100% cotton long-sleeve shirt, safety glasses, and leather gloves must be worn when opening/closing breakers and disconnecting power source.

- 2.16 Place CB 14 and CB 16 on 41P-DP03/42 in the OFF position.
- 2.17 WH, perform the following:
- Unplug the 220-volt power cable from the hydraulic system electrical enclosure.
  - Disconnect the hydraulic hoses from the connections on the trailer.
  - Install trailer quick connection protective covers, if available.
  - Pivot the tiedown caps to the closed position on each of the tiedowns.
- 2.18 Install the tiedown closure bolt and torque to 150 - 160 ft-lb on each of the tiedowns.

**SIGN-OFF WH****NOTE**

When using a load cell without an audible alarm to install or remove impact limiters on a RH-TRU 72-B, a separate spotter (other than the crane operator and/or equipment spotter) shall be designated to watch the load cell and ensure the lift does not violate lift limits.

**3.0 INSTALLING IMPACT LIMITERS <sup>6,7</sup>**

- 3.1 Ensure Impact Limiters ID number matches the RH-TRU 72-B ID number on the Transportation Data Sheet.

**SIGN-OFF WH****SIGN-OFF VERIFICATION WH**

- 3.2 Attach crane rigging (two shackles and two slings, each rated to lift a minimum of 2,500 lb and of the same type, length, and manufacturer) and load cell to **UPPER** impact limiter (**UPPER** impact limiter goes on the RH-TRU 72-B closest to the rear of the trailer).
- 3.3 When Impact Limiter is aligned with the RH-TRU 72-B, ensure crane control is in **MICRO** mode.

**CAUTION**

Exceeding a pull limit of 4,000 lb may damage RH-TRU 72-B impact limiter lifting lugs. Average weight of impact limiter is 2,560 lb.

- 3.4 **IF** using a load cell without an audible alarm, **THEN** ensure that a load cell spotter has been designated (other than the crane operator or equipment spotter) and has visual contact with the load cell readout.
- 3.5 Install **UPPER** impact limiter on RH-TRU 72-B.
- 3.5.1 **IF** pull limit range is exceeded, **STOP WORK**, **THEN** contact WHE.
- 3.6 Install work platform on the REAR of the trailer in the working position, if necessary.
- 3.7 Install six **UPPER** impact limiter attachment bolts by hand before snugging up any of the bolts.
- 3.8 Tighten all six impact limiter bolts by hand until all are hand-tight.

**CAUTION**

Impact limiter attachment bolt torque should be applied in three steps of approximately 220 ft-lb per load step.

- 3.9 Torque six **UPPER** impact limiter attachment bolts in star pattern following number sequence to 600 to 700 ft-lb.

**SIGN-OFF WH**

- 3.10 Lower the hoist ensuring the load cell value is decreasing.
- 3.11 Remove rigging from **UPPER** impact limiter.

**NOTE**

When rigging is clear of RH-TRU 72-B, the crane may be operated in **MICRO** or **NORMAL** mode; utilized at the discretion of the operator.

- 3.12 Install a bolt, nut, and flat washers into each lifting lug (2) on **UPPER** impact limiter.

- 3.13 Install crane rigging (two shackles and two slings, each rated to lift a minimum of 2,500 lb and of the same type, length, and manufacturer) and load cell to the **LOWER** impact limiter (lower impact limiter goes on RH-TRU 72-B closest to front of trailer).
- 3.14 When impact Limiter is aligned with the RH-TRU 72-B, ensure crane control is in **MICRO**.

**CAUTION**

Exceeding a pull limit of 4,000 lb may damage RH-TRU 72-B impact limiter lifting lugs. Average weight of impact limiter is 2,560 lb.

- 3.15 **IF** using a load cell without an audible alarm, **THEN** ensure that a load cell spotter has been designated (other than the crane operator or equipment spotter) and has visual contact with the load cell readout.
- 3.16 Install **LOWER** impact limiter on front of RH-TRU 72-B.
- 3.16.1 **IF** pull limit range is exceeded, **STOP WORK**, **THEN** contact WHE.
- 3.17 Install work platform on **FRONT** of trailer in the working position, if necessary.
- 3.18 Install six **LOWER** impact limiter attachment bolts by hand before snugging up any of the bolts.
- 3.19 Tighten all six impact limiter bolts by hand until all are hand-tight.

**CAUTION**

Impact limiter attachment bolt torque should be applied in three steps of approximately 220 ft-lb per load step.

- 3.20 Torque six **LOWER** impact limiter attachment bolts in star pattern following number sequence to 600 to 700 ft-lb.

**SIGN-OFF WH**

- 3.21 Lower the hoist ensuring the load cell value is decreasing.
- 3.22 Remove rigging from **LOWER** impact limiter.

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**NOTE**

When rigging is clear of the RH-TRU 72-B, **MICRO** or **NORMAL** mode may be utilized at the discretion of the operator.

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- 3.23 Install a bolt, nut, and flat washers into each lifting lug (2) on **LOWER** impact limiter.
- 3.24 **IF** RH-TRU 72-B is loaded with a transuranic waste canister, **THEN** install tamper indicating seal between Outer Containment (OC) body and **UPPER** impact limiter (lid end of RH-TRU 72-B) and if required, record tamper indicating security serial number and seal date on Attachment 1.
- 3.24.1 **IF** RH-TRU 72-B is **NOT** loaded with a transuranic waste container, **THEN N/A AND GO TO** Step 3.25.

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

- 3.25 WHE, if required, contact TE and request RH packaging and trailer to be properly labeled and placards applied.
- 3.26 WH, perform the following:
- Raise trailer landing gear (rear).
  - Remove trailer stands installed on free-standing trailer.
  - Remove wheel chocks.
  - Remove any work platforms, if needed.

**SIGN-OFF WH**

- 3.27 If required, for empty RH-TRU 72-B shipment, ensure empty labels and a UN2908 label are on RH-TRU 72-B.<sup>2</sup>
- 3.28 Record on Attachment 1, trailer loading complete.

**SIGN-OFF WH**

- 3.29 Enter printed name, signature, date, and initials on Attachment 1.
- 3.30 Back liquid-fueled tractor or trailer jockey into RH Bay, attach to trailer, and document start of attendance. **[LCO 3.4.1]**

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

- 3.31 With liquid-fueled tractor or trailer jockey attached, remove from the RH Bay, and document end of attendance. **[LCO 3.4.1]**

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

3.32 Submit Attachment 1 and Transportation Data Sheet to WHE.

**SIGN-OFF WH**

4.0 REVIEW

4.1 WHE, perform the following:

4.1.1 Review/validate Attachment 1 for completeness.

4.1.2 Enter printed name, signature, date and initials on Attachment 1, if necessary.

4.1.3 Fax or hand carry a copy of completed Attachment 1 from WP 05-WH1758 (if applicable) to TE.

4.1.4 Forward originals of Attachment 1, and Transportation Data Sheet to Records Coordinator.

## Attachment 1 – RH-TRU 72-B Uprighting Trailer Loading Data Sheet

STEP	DESCRIPTION	INITIALS
	<b>PREREQUISITE ACTIONS</b>	
2.0	Transportation Data Sheet obtained	WH
3.0	Shipment Number: _____ Trailer Number: _____ RH-TRU 72-B Serial Number: _____	WH
4.1	Trailer annual inspection date: _____	WH
5.0	Impact limiter attachment bolt torque wrench ID: _____ Calibration due date: _____	WH
5.0	Trunnion cap bolt and tiedown bolts torque wrench ID: _____ Calibration due date: _____	WH
5.0	Load Cell ID: _____ Calibration due date: _____	WH
	<b>PERFORMANCE</b>	
1.2	<b>IF</b> transport trailer is not positioned in the RH Bay, <b>THEN</b> back trailer into RH Bay using the liquid-fueled tractor or trailer jockey <b>AND</b> document start of attendance. <b>[LCO 3.4.1]</b>  Sign: _____ Date: _____ Time: _____	WH or N/A
1.5	Remove liquid-fueled tractor or trailer jockey from the RH Bay and document end of attendance. <b>[LCO 3.4.1]</b>  Sign: _____ Date: _____ Time: _____	WH or N/A
1.9	Pre-use visual inspections complete.	WH
1.23	If trailer is to be loaded with a RH-TRU 72-B transuranic waste shipment, obtain WP 05-WH1758, Attachment 1, RH-TRU 72-B Cask Loading Data Sheet.	WHE or N/A
2.5	Install main trunnion journal caps, and bolts. Torque to 150 - 160 ft-lb.	WH
2.18	Install the tiedown closure bolt and torque to 150 - 160 ft-lb on each of the tiedowns.	WH
3.1	Impact Limiter ID number matches the RH-TRU 72-B ID number on the Transportation Data Sheet. <b>SIGN-OFF</b>	WH
	Impact Limiter ID number matches the RH-TRU 72-B ID number on the Transportation Data Sheet. <b>VERIFICATION SIGN-OFF</b>	WH
3.9	Upper impact limiter attachment bolts torqued to 600 to 700 ft-lb.	WH
3.20	Lower impact limiter attachment bolts torqued to 600 to 700 ft-lb.	WH
3.24	Record tamper indicating security serial number and seal date: _____	WH or N/A

Attachment 1 – RH-TRU 72-B Uprighting Trailer Loading Data Sheet

3.26	Raise trailer landing gear (rear). Remove trailer stands installed on free-standing trailer. Remove wheel chocks. Remove any work platforms, if needed.	WH	
3.28	Trailer loading complete.	WH	
3.30	Back liquid-fueled tractor or trailer jockey into RH Bay, attach to trailer, and document start of attendance. <b>[LCO 3.4.1]</b>  Sign: _____ Date: _____ Time: _____	WH or N/A	
3.31	With liquid-fueled tractor or trailer jockey attached, remove from the RH Bay, and document end of attendance. <b>[LCO 3.4.1]</b>  Sign: _____ Date: _____ Time: _____	WH or N/A	
3.32	Attachment 1 and Transportation Data Sheet submitted to WHE.	WH	
Printed Name	Signature	Date	Initials
Printed Name	Signature	Date	Initials
Printed Name	Signature	Date	Initials
Printed Name	Signature	Date	Initials
Remarks:			
Review/Validation:			
	WHE (Print Name)	Signature	Date