

WP 05-WH1720

Revision 11

Empty 72-B Retrieval From Transfer Cell

Technical Procedure

EFFECTIVE DATE: 01/28/11

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APPROVED FOR USE

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CHANGE HISTORY SUMMARY

REVISION NUMBER	ISSUED DATE	DESCRIPTION OF CHANGES
11	01/28/11	<p>Editorial changes made throughout.</p> <p>Added the JHA to the Precautions and Limitations.</p> <p>Removed the Precautions and Limitations bullet regarding FCRD gates.</p> <p>Several Prerequisite Actions steps were moved to the Performance Section of the procedure.</p> <p>Added a Note prior to Steps 1.0 and 2.9.</p> <p>Added Step 2.10.</p> <p>Deleted Step 2.11.</p> <p>Added Steps 3.1, 3.2, and 3.19.</p> <p>Updated verify to ensure throughout the procedure.</p>

INTRODUCTION ^{1, 2, 3}

This procedure provides the instructions for removing an empty remote-handled transuranic (RH-TRU) 72-B from the Canister Shuttle Car (CSC) located in the Transfer Cell at the Waste Isolation Pilot Plant.

No records are generated by the performance of this procedure.

REFERENCES**BASELINE DOCUMENTS**

- DOE/WIPP-07-3372, Waste Isolation Pilot Plant Documented Safety Analysis
- DOE/WIPP-07-3373, Waste Isolation Pilot Plant Technical Safety Requirements
- DOE Standard 1090-2007, Hoisting and Rigging
- WP 08-PT.03, WIPP Quality Assurance Program Plan for Type "B" Packaging
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description

REFERENCED DOCUMENTS

- WP 05-WH1710, 72-B RH Processing
- WP 05-WH1706, Preparation of an Empty RH-TRU 72-B Cask for Shipment
- WP 05-WH1714, RH Cask Preparation Station 41-Z-076
- WP 05-WH1719, 25-Ton Cask Unloading Room Crane
- WP 05-WH1744, Surface RH Transuranic Mixed Waste Handling Area Inspections

PRECAUTIONS AND LIMITATIONS

- Only personnel qualified as a Waste Handling Technician/Engineer (WHT/WHE), or trainees operating under the direct supervision of a qualified WHT/WHE, are authorized to perform the waste handling (WH) activities specified in this procedure.

- Only personnel who are familiar with the current version of the Job Hazard Analysis (JHA) PROD-406, Empty 72-B Retrieval from Transfer Cell, may perform this procedure.
- If this procedure cannot be performed as written or in sequence, a WHE shall be contacted.
- A WHE should be notified if any abnormal conditions are found during the performance of this procedure.

PREREQUISITE ACTIONS

1.0 Perform the following:

- WH, ensure the applicable sections of surface RH transuranic mixed waste handling area inspections have been performed.
- Ensure Facility Cask Transfer Car (FCTC) and Facility Cask are clear of the Facility Cask Rotating Device (FCRD).
- Ensure the FCRD gates are closed.
- At Control Panel 411-CP-264-04, ensure the following:
 - Closed-circuit TV (CCTV) system is **ON**.
 - CUR VALVE CLOSED lamp is **ON**.
 - SHIELD VALVE 41-N-003 CLOSED lamp is **ON**.
 - SHIELD VALVE 41-N-003 OPEN lamp is **OFF**.
 - CLR PORT ROAD CASK POS Y1 lamp is **ON**, indicating the CSC is at position Y1.
 - CANISTER TRANSFER SYSTEM MODE SWITCH is in the **ASSY** position.
 - CANISTER SHUTTLE CAR AUTO - MANUAL switch is in the **AUTO** position.
 - GRAPPLE HOIST switch is in the **AUTO** position.
 - ROBOTS HOME lamp is **ON**.

PERFORMANCE

NOTE

During the performance of this procedure, if proper indications are not received, the WHE may authorize performing steps or repeating steps of this procedure to ensure proper indications are received. This is not intended to circumvent the intent of a "continuous use" procedure and prior to restarting the procedure, it must be re-entered at the same point it was stopped. Radiological Control hold points may not be bypassed. This includes, but is not limited to:

- Moving/repositioning the Canister Shuttle Car
- Raising/lowering a grapple
- Opening and closing a grapple not under a load
- Resetting a robot and repeating robot sequence as necessary

Any step or steps performed at the discretion of the WHE will be documented in the RH Waste Handling narrative log.

NOTE

Steps 1.1 through 1.5 may be performed in parallel with Steps 1.6 through 1.9.5.

1.0 REPLACEMENT OF INNER VESSEL LID

- 1.1 At Control Panel 411-CP-264-04, push the TEL PORT SHIELD 41-N-013 **UP** button.
- 1.2 Ensure the Telescoping Port Shield is UP.
- 1.3 Ensure FACILITY GRAPPLE 41-T-002 is open and OPEN lamp is **ON**.
- 1.4 Push HOIST POS E button to lower Grapple Hoist and Shield Bell to position E.
- 1.5 When Hoist and Shield Bell reach position E, verify HOIST POS E lamp is **ON**.
- 1.6 Push CLR PORT LID STORAGE POS Y2 button to initiate movement of the CSC to position Y2.
- 1.7 Verify CLR PORT LID STORAGE POS Y2 lamp is **ON**.
- 1.8 Ensure position Y camera shows alignment with the lid platform, using laser indication (Camera #5 with Diamond Marker #2).

- 1.9 **IF** laser indication is not in alignment,
THEN perform the following:
 - 1.9.1 Ensure CANISTER TRANSFER SYSTEM MODE switch is in XFER.
 - 1.9.2 Ensure CANISTER SHUTTLE CAR switch is in MAN.
 - 1.9.3 Press FORWARD or REVERSE button until laser indication is aligned properly.
 - 1.9.4 Place CANISTER SHUTTLE CAR switch in AUTO.
 - 1.9.5 Place CANISTER TRANSFER SYSTEM MODE switch in ASSY.
- 1.10 Push SHIELD VALVE 41-N-003 **OPEN** button.
- 1.11 Verify SHIELD VALVE 41-N-003 OPEN lamp is **ON**.
- 1.12 Push HOIST POS G button to lower Grapple Hoist to position G.
- 1.13 Verify PINTLE GRAPPLE CONTACT lamp is **ON**.
- 1.14 **IF** PINTLE GRAPPLE lamp is **NOT ON**,
THEN perform the following:
 - 1.14.1 Place GRAPPLE HOIST MAN - OFF- AUTO switch in MAN.
 - 1.14.2 Press JOG LIFT and/or JOG LOWER button to properly set grapple on pintle until PINTLE GRAPPLE CONTACT lamp is **ON**.
 - 1.14.3 Place GRAPPLE HOIST MAN - OFF - AUTO switch in AUTO.
- 1.15 Place the FACILITY GRAPPLE 41-T-022 OPEN - CLOSE switch in the **CLOSE** position.
- 1.16 Verify FACILITY GRAPPLE 41-T-022 **CLOSE** lamp is **ON**.
- 1.17 Push HOIST POS F button to raise Grapple Hoist to position F.
- 1.18 When Hoist reaches position F, verify HOIST POS F lamp is **ON**.
- 1.19 Push SHIELD VALVE 41-N-003 **CLOSE**.
- 1.20 Ensure SHIELD VALVE 41-N-003 is in the **CLOSE** position.
- 1.21 Push CLR PORT ROAD CASK POS Y1 button to initiate CSC movement to position Y1.

- 1.22 Verify CLR PORT ROAD CASK POS Y1 lamp is **ON**.
- 1.23 Ensure the position Y camera shows alignment with the cask basket, using laser indication (Camera #5 with Diamond Marker #1).
- 1.24 **IF** laser indication is not in alignment, **THEN** perform the following:
 - 1.24.1 Ensure CANISTER TRANSFER SYSTEM MODE switch is in XFER.
 - 1.24.2 Ensure CANISTER SHUTTLE CAR switch is in MAN.
 - 1.24.3 Press FORWARD or REVERSE button until laser indication is aligned properly.
 - 1.24.4 Place CANISTER SHUTTLE CAR switch in AUTO.
 - 1.24.5 Place CANISTER TRANSFER SYSTEM MODE switch in ASSY.
- 1.25 Push SHIELD VALVE 41-N-003 **OPEN** button.
- 1.26 Ensure SHIELD VALVE 41-N-003 is in the **OPEN** position.
- 1.27 Place GRAPPLE HOIST AUTO - STOP - MAN switch in **MAN**.
- 1.28 Push JOG LOWER button to lower IV lid on top of the RH-TRU 72-B
- 1.29 Release JOG LOWER button when PINTLE GRAPPLE CONTACT lamp is **ON**.

2.0 FACILITY GRAPPLE RETRACTION

- 2.1 Place FACILITY GRAPPLE 41-T-022 OPEN - CLOSE switch in the OPEN position.

CAUTION

Failure to verify the grapple is open may result in damage to the lid.

- 2.2 Ensure FACILITY GRAPPLE 41-T-022 is in the **OPEN** position.

CAUTION

Failure to verify there is no load on the grapple may result in damage to the lid.

- 2.3 Ensure no load on grapple using grapple weight indicator.
- 2.4 Push JOG LIFT button until Grapple Hoist is at position F.
- 2.5 When Hoist reaches position F, verify HOIST POS F lamp is **ON**.
- 2.6 Place GRAPPLE HOIST AUTO - STOP - MAN switch in **AUTO**.
- 2.7 Push SHIELD VALVE 41-N-003 **CLOSE**.
- 2.8 Verify SHIELD VALVE 41-N-003 **CLOSE** lamp is **ON**.

NOTE

Steps 2.9 through 2.12 may be performed in parallel with Steps 2.13 through 2.17.

- 2.9 Push HOIST POS A button to lift Grapple Hoist to position A.
- 2.10 When Grapple Hoist has taken weight of Shield Bell, push TEL PORT SHIELD 41-N-013 **DOWN** button.
- 2.11 When Hoist reaches position A, verify HOIST POS A lamp is **ON**.
- 2.12 Ensure TEL PORT SHIELD 41-N-013 is in the **DOWN** position.
- 2.13 Push CUR PORT ROAD CASK POS W button to initiate CSC movement to position W.
- 2.14 Verify CUR PORT ROAD CASK POS W indicating lamp is **ON**.
- 2.15 Ensure position W camera shows alignment with the cask basket using laser indication (Camera #6 with Diamond Marker #1).
- 2.16 **IF** laser indication is not in alignment or if the CSC is at the EAST END OVERTRAVEL STOP,
THEN perform the following:
 - 2.16.1 Ensure CANISTER TRANSFER SYSTEM MODE switch is in XFER.
 - 2.16.2 Ensure CANISTER SHUTTLE CAR switch is in MAN.

- 2.16.3 Press FORWARD or REVERSE button until laser indication is aligned properly and the **EAST END OVERTRAVEL STOP** lamp is **OFF**.
- 2.16.4 Place CANISTER SHUTTLE CAR switch in AUTO.
- 2.16.5 Place CANISTER TRANSFER SYSTEM MODE switch in ASSY.
- 2.17 Place the CANISTER TRANSFER MODE switch in **NEUTRAL**.
- 3.0 RETRIEVAL OF EMPTY RH-TRU 72-B
 - 3.1 Ensure preoperational checks for the 25-Ton Cask Unloading Room (CUR) crane have been completed.
 - 3.2 Ensure the Road Cask Transfer Car (RCTC) is staged in the CUR.
 - 3.3 At Control Panel 411-CP04/157 in the CUR, perform the following:
 - 3.3.1 Ensure the Emergency Stop button is in the **OUT** position.
 - 3.3.2 Ensure CCTV system is **ON** and operable.
 - 3.3.3 Place Key switch in the **MAN** position.
 - 3.3.4 Verify the CLOSED lamp is **ON**.
 - 3.3.5 Press START push button.
 - 3.3.6 Verify POWER ON light is **ON**.
 - 3.3.7 Verify HOIST IN POSITION lamp is **ON**.
 - 3.3.8 Push HOIST FAULT reset button, if required.
 - 3.3.9 Ensure crane is in the HOME position with the trolley full north and bridge full west.
 - 3.3.10 Verify OPEN PERMISSIVE lamp is **ON**.
 - 3.4 Open the CUR Shield Valve.
 - 3.5 Verify the OPEN lamp is **ON**.
 - 3.6 Place MICRO SPEED switch in **ON** position.

- 3.7 Press START button.
 - 3.7.1 Verify both TROLLEY IN POSITION lamps are **ON**.
 - 3.7.2 Verify both BRIDGE IN POSITION lamps are **ON**.
- 3.8 Using appropriate controls, lower hoist to engage RH-TRU 72-B trunnions.
- 3.9 Lift RH-TRU 72-B to upper limit.
- 3.10 Verify HOIST IN POSITION lamp is **ON**.
- 3.11 Close CUR Shield Valve.
- 3.12 Verify CLOSED lamp is **ON**.
- 3.13 Using appropriate controls, locate RH-TRU 72-B in position B (aligned with RCTC).
- 3.14 Lower RH-TRU 72-B into RCTC.
- 3.15 Using appropriate controls, disengage CUR crane lifting yoke from RH-TRU 72-B and position in appropriate area.
- 3.16 Place Key switch in **OFF** position.
- 3.17 Ensure Cask Prep Stand is at PASS THRU height.
- 3.18 Position RCTC in the Cask Prep Stand.
- 3.19 Ensure Cask Prep Stand preoperational checks have been completed.
- 3.20 Lower Cask Prep Stand to RH-TRU 72-B Cask height, in order to begin RH-TRU 72-B preparation for empty shipment per WP 05-WH1706.