Transfer the Onsite Transfer Cask

Tank Farm Plant Operating Procedure

SAMPLING

USQ #TF-18-1141-D, Rev. 0

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-1</td>
<td>07/23/2018</td>
<td>Changes from Periodic Review</td>
<td>Updated Rad Con Statement and Record Section. Added flexibility note in Section 5.2 through 5.5. Added signature lines to Checklist.</td>
</tr>
<tr>
<td>O-0</td>
<td>07/13/2016</td>
<td>Periodic Review</td>
<td>Update Records section to current standard.</td>
</tr>
<tr>
<td>N-2</td>
<td>03/02/2016</td>
<td>Address WRPS-PER-2016-0207</td>
<td>Added new Step 2.2.3 to reference TFC-OPS-WM-C-11 and DOE/RL-2001-36.</td>
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<tr>
<td>N-1</td>
<td>07/16/2015</td>
<td>HPI and Program modifications</td>
<td>Remove redundant TFC-OPS-OPER-C-10 activities, which are performed outside the scope of this procedure. Correct reference to TO-080-820. Delete references to ORRSR, which is no longer applicable.</td>
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<tr>
<td>N-0</td>
<td>04/18/2014</td>
<td>Periodic review comment incorporation</td>
<td>Incorporated Safety comment to make Warnings steps and delete the warning boxes. This will make the procedure compliant with a GHA. Added Step to address actions in Notes. Added full signature as required by Records.</td>
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</tbody>
</table>

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for transportation of Onsite Transfer Casks (OTCs) on the Hanford Site.

1.2 Scope

1.2.1 This procedure applies to the following:
- Transporting empty OTCs within or between the 200 areas on the Hanford Site
- Transporting loaded OTCs within or between the 200 areas on the Hanford Site
- Responding to a road accident during transport.

1.2.2 This procedure can be performed in multiple locations. A work area and/or location specific hazard analysis must be performed prior to starting the activity per TFC-ESHQ-S_SAF-C-02.

1.2.3 This procedure does not address entry into a tank farm nor does it address dome load requirements. Vehicle movements within Tank Farms shall be performed in accordance with TFC-OPS-OPER-C-10 "VEHICLE AND DOME LOAD CONTROL IN TANK FARM FACILITIES."
2.0 INFORMATION

2.1 Terms and Definitions

- OTC Onsite Transfer Cask
- RSR Radioactive Shipment Record
- ORRSR Onsite Routine Radioactive Shipment Record

2.2 General Information

2.2.1 Some activities or components in this procedure have been identified by RPP-24398 as "important to safety" with a Quality Level (QL) 1 or QL 2. Steps or checklist items containing these activities or components have the words (RPP-24398).

2.2.2 Sections 5.2 through 5.5 in this procedure may be performed independently as applicable.

2.2.3 This procedure implements the requirements of TFC-OPS-WM-C-11, Surveillance and Maintenance of Reusable Radioactive Material Packaging which in turn establishes and implements the requirements for the surveillance and maintenance process for U.S. Department of Transportation, U.S. Department of Energy (DOE), U.S. Department of Defense, or U.S. Nuclear Regulatory Commission reusable radioactive material packaging as required by DOE/RL-2001-36, Hanford Sitewide Transportation Safety Document (TSD).
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 Protective footwear, hard hats, safety glasses with side shields, and leather gloves are required during performance of this procedure.

3.1.2 All identified hazards will be addressed in the pre-job safety meeting.

3.1.3 OTCs are a radiation exposure source. OTCs must be loaded properly to reduce transport vehicle driver exposure dose.

3.1.4 Failure to place OTCs in required cask stand or on Cask/Sample Transport Truck could cause OTC to tip resulting in damage to lid and loss of containment or result in personnel injury.

3.2 Radiation and Contamination Control

When this procedure is worked in radiological areas, an approved radiological work permit (RWP) is required. If radiological conditions or work performed falls outside the scope of the RWP, all work activities must be discontinued until a new or revised RWP has been issued in accordance with TFC-ESHQ-RP_RWP-C-03.

3.3 Environmental Compliance

The Environmental representative shall be notified, in accordance with TFC-ESHQ-ENV_FS-C-01, Environmental Notification, in the event of a leak or a spill. The Environmental On-Call representative will make the appropriate notifications.

3.4 Limits

RPP-24398, Package-Specific Safety Document Onsite Transfer Cask
- No package usage below -25 °C (-13 °F) unless the Viton-A gasket is replaced with a Viton material designed for service in lower temperatures.
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

The following supplies may be needed to perform this procedure:

- Two-way radio or cellular phone
- Radioactive Shipment Record (RSR) or Onsite Routine Radioactive Shipment Record (ORRSR), as required
- Chain of Custody, as required
- Radiological Work Permit
- Wrench to fit Cask Lid and Bail Bolts
- Retaining bolts 1/2” with nuts (ASTM A307 GR. A, H-2-38078-6&7) (RPP-24398)
- Toggle pins (431 SST, H-2-38078-9) (RPP-24398)
- Triangular reflectors
- First Aid kit.
5.0 **PROCEDURE**

5.1 **Inspect Cask/Sample Transport Truck**

NOTE - An inspection is required at the beginning of each shift when Cask/Sample Transport Truck is used or whenever truck is turned over to a new driver.

5.1.1 **PERFORM** the following inspection at the beginning of each shift when Cask/Sample Transport Truck is used or whenever truck is turned over to a new driver.

5.1.1.1 **INSPECT** Cask/Sample Transport Truck AND **DOCUMENT** results per Checklist 1.

5.1.1.2 **IF** any deficiencies are noted, **CONTACT** FWS.

5.1.1.3 **ENSURE** no full casks are onboard before performing Step 5.1.1.4.

5.1.1.4 **IF** Cask/Sample Transport Truck is $\frac{1}{4}$ tank, **REFUEL** Cask/Sample Transport Truck.

5.1.1.5 **FORWARD** completed Checklist 1 to Sampling for record retention.
5.2 Inspect and Transport Empty OTCs to Customer

NOTE - Sections 5.2 through 5.5 in this procedure may be performed independently as applicable.

5.2.1 CONFIRM OTC is free of obvious defects, degradation, or dents (> 1/4").

5.2.2 CONFIRM no broken welds or lid distortion.

5.2.3 ENSURE the following:
   • no missing bolts
   • no corroded bolts
   • bolts are tight.

5.2.4 CONFIRM the following:
   • lifting bail is operable
   • welded joints are not corroded
   • gaskets and bottom plug are in place.

5.2.5 RAISE OTC with overhead hoist or other means.

5.2.6 VERIFY radiation contamination levels and dose rates are within limits stated on RSR or ORRSR.

5.2.7 IF dose rates are not within limits stated on RSR or ORRSR, NOTIFY Certified Shipper and FWS.

5.2.8 USE overhead hoist or other means AND

PLACE OTC into Cask/Sample Transport Truck transport stand.

5.2.9 INSTALL retaining bolts/nuts or toggle pins AND

ENSURE bolts/nuts are tight or pins are secure.

5.2.10 IF transporting more than one OTC, REPEAT Steps 5.2.1 through 5.2.9.
5.2 Inspect and Transport Empty OTCs to Customer (Cont.)

5.2.11 SECURE chain fall to prevent movement during transit.

5.2.12 ENSURE documentation for RSR or ORRSR is complete.

5.2.13 TRANSPORT OTCs to destination specified by Dispatcher or FWS.

NOTE - Driver may sign as receiver for Tank Sampling only.

5.2.14 ENSURE receiver signs RSR or ORRSR.

5.2.15 USE overhead hoist or other means AND

UNLOAD OTCs into cask stand or onto Cask/Sample Transport Truck.
5.3 **Load Customer Filled OTC**

NOTE - Sections 5.2 through 5.5 in this procedure may be performed independently as applicable.

5.3.1 **POSITION** Cask/Sample Transport Truck to load OTCs.

5.3.2 **ENSURE** sample generator provides a certified shipper.

5.3.3 **ENSURE** shipment will be transported within 99 hours of Cask being sealed. (See TO-080-820 Data Sheet 1 for time OTC was sealed). (RPP-24398)

5.3.4 **IF** shipment cannot be transported within 99 hours of cask being sealed, **NOTIFY** FWS to have cask vented per approved work package or procedure. (RPP-24398)

5.3.5 **ENSURE** bolts securing lifting bail in upright position are in-place and tight. (RPP-24398)

5.3.6 **RAISE** OTCs with overhead hoist or other means. (RPP-24398)

5.3.7 **MEASURE** surface dose rates of each cask individually in an environment where dose rate contribution from other casks will not significantly affect measurement AND **CONFIRM** radiological contamination levels and dose rates are within limits stated on RSR or ORRSR. (RPP-24398)

5.3.8 **IF** limits are exceeded, **NOTIFY** certified shipper and FWS.

5.3.9 **ENSURE** OTCs has a completed Radioactive Material Tag attached.
5.3 Load Customer Filled OTC (Cont.)

5.3.10 USE overhead hoist or other means AND ENSURE OTC is placed onto Cask/Sample Transport Truck transport stand as follows: (RPP-24398)

5.3.10.1 PLACE OTC with the highest surface dose rate in the rear cask transfer container

5.3.10.2 PLACE OTC with the second highest surface dose rate in center cask transfer container

5.3.10.3 PLACE OTC with the lowest surface dose rate in front cask transfer container (i.e., nearest to the cab).

5.3.10.4 IF only two OTCs are being transported, ENSURE cask transfer container nearest the driver is empty.

5.3.11 INSTALL retaining bolts/nuts or toggle pins AND ENSURE bolts/nuts or pins are secure.

5.3.12 IF loading more than one OTC, REPEAT Steps 5.3.3 through 5.3.11.

5.3.13 ENSURE the sum of the maximum dose rates for up to 3 casks does not exceed 10 mSv/h (1,000 mrem/hr) or does not exceed 0.05 mSv/h (5mrem/hr) in occupied space of truck. (RPP-24398)

5.3.14 IF dose rates around Cask/Sample Transport Truck greater than those listed on ORRSR/RSR/Step 5.3.13 could not be verified, NOTIFY Certified Shipper and FWS.

5.3.15 SECURE chain fall to prevent movement during transit.
5.3 Load Customer Filled OTC (Cont.)

NOTE - Step 5.3.16 through 5.3.19 can be completed in any logical order.

5.3.16 COMPLETE Checklist 2 - Inspection of OTCs AND

FORWARD completed Checklist 2 to Sampling for record retention.

5.3.17 ENSURE labels, markings, and placards are in-place and correct as specified by Certified Shipper. (RPP-24398)

5.3.18 OBTAIN CHAIN OF CUSTODY form from relinquishing party.

5.3.19 ENSURE Waste Tank Sample Seal is affixed to the OTC (across the cask/lid interface) AND Chain of Custody matches the following information on seal: (RPP-24398)

- Supervisor
- Date of Sampling
- Sample Number
- Time of Sampling
- Seal Number.

5.3.20 COMPLETE the following on CHAIN OF CUSTODY form:

- Received By
- Date/Time
- Seal Intact upon receipt.
Transfer the Onsite Transfer Cask

5.4 Transport OTC to Receiving Facility

NOTE - Sections 5.2 through 5.5 in this procedure may be performed independently as applicable.

5.4.1 TURN ON Cask/Sample Transport Truck headlights and amber flashing light.

5.4.2 TRANSPORT loaded OTCs to designated location within 24 hours.

5.4.3 IF sample cannot be delivered within time specified, CONTACT Dispatcher or FWS.

5.4.4 NOTIFY receiving Personnel and Dispatcher or FWS upon arrival at receiving facility.

5.4.5 NOTIFY Dispatcher or FWS of any problem upon arrival at receiving facility.
Transfer the Onsite Transfer Cask

5.5 Unload Customer Filled OTC

NOTE - Sections 5.2 through 5.5 in this procedure may be performed independently as applicable.

5.5.1 CONDUCT radiological survey of OTC.

5.5.2 INSPECT package for visible damage and intact sample seal. (RPP-24398)

5.5.2.1 IF damage is observed or sample seal is damaged/missing, NOTIFY FWS.

5.5.3 IF container has leaked, STOP work AND NOTIFY Dispatcher or FWS.

5.5.4 USE overhead hoist or other means AND UNLOAD OTC. (RPP-24398)

5.5.5 IF unloading more than one OTC, REPEAT Steps 5.5.1 through 5.5.4.

5.5.6 COMPLETE the following on CHAIN OF CUSTODY form:
- Relinquished By
- Date/Time.

5.5.7 COMPLETE the following on CHAIN OF CUSTODY form:
- Received By
- Date/Time
- Seal Intact.

5.5.8 ENSURE receiver signs RSR or ORRSR.

5.5.9 OBTAIN copy of CHAIN OF CUSTODY form to be returned to Sample Generator.

5.5.10 IF customer has empty OTC to be returned, contact Dispatcher or FWS AND PERFORM Section 5.2.
5.6 **Emergency Response**

5.6.1 **MOVE** up-wind, **SECURE** area **AND**

**PLACE** reflectors to warn others.

5.6.2 **NOTIFY** Sampling dispatcher or FWS.

5.6.3 **MAINTAIN** visual contact with truck until relieved by Certified Shipper or FWS.

5.6.4 **PROVIDE** assistance as required.

5.7 **Records**

The following records are generated during the performance of this procedure.

5.7.1 **SUBMIT** the completed records to the shift office for record retention.

- This procedure in its entirety.

**FWS/OE/Shift Manager SEND** the completed records to the Central Shift Office for records retention

__________________________ / __________________________ / ______________

Signature                 Print (First & Last)       Date

Shift Manager /OE

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
# CASK/SAMPLE TRANSFER TRUCK INSPECTION CHECKLIST

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<th>Component</th>
<th>Sat</th>
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<th>Comments</th>
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<tr>
<td>Driver's Name: ______________________________</td>
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<td>Truck Odometer: ______________________________</td>
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<tr>
<td>Vehicle License No: __________________________</td>
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<td>Tires and Rims</td>
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<td>Oil</td>
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<td>Coolant</td>
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<td>Running Lights/Flashing Amber Lights Light(s)</td>
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<td>Steering Mechanism</td>
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<td>Horn</td>
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<td>Windshield Wipers</td>
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<td>Rear/Side Vision Mirrors</td>
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<td>Radio (2 way)</td>
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<td>Free of Oil, Grease and Fuel Leaks</td>
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<td>Fuel</td>
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<td>Hoist load chains</td>
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<td>Hoist</td>
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<td>Hoist/chain motion (i.e. no binding) vibration, etc.)</td>
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<tr>
<td>Reflector Triangle</td>
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<tr>
<td>Emergency Flashing Lights</td>
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</table>

(RPP-24398)

Signature / Print (First and Last) / Date
## Checklist 2 - Inspection of OTC

INSPECTION used when transporting OTCs.

### DELIVERY INSPECTION

<table>
<thead>
<tr>
<th>CASK #</th>
<th>QC EXP. DATE</th>
<th>CASK AND LID # MATCH (✓ WHEN COMPLETE)</th>
<th>Retaining bolts ½” with nuts (ASTM A307 Gr. A, H-2-38078-6&amp;7) in good condition, installed and tight. (RPP-24398) OR Toggle pins (431 SST, H-2-38078-9) in good condition, installed, and secure. (RPP-24398)</th>
<th>DRIVER INITIAL/DATE</th>
<th>QC VERIFY</th>
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Signature / Print (First & Last) / Date

Signature / Print (First & Last) / Date

Driver

QC