Perform Pit Video Examinations and Leak Checks Using a Remotely Controlled Camera

Change History (≤ Last 5 Rev-Mods)

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>J-6</td>
<td>07/23/2018</td>
<td>Operations Request</td>
<td>Updated terms and definitions, added a new step 5.1.8 and updated format of the signature sheet.</td>
</tr>
<tr>
<td>J-5</td>
<td>05/31/2018</td>
<td>WRPS-PER-2018-0215.2</td>
<td>Inconsequential change to update reference title.</td>
</tr>
<tr>
<td>J-4</td>
<td>10/25/2017</td>
<td>Changes identified during periodic review</td>
<td>Changed AC 5.8.3 to AC 5.8.2 and added steps to ensure radiological post job surveying takes place.</td>
</tr>
<tr>
<td>J-3</td>
<td>10/04/2017</td>
<td>Incorporating unincorporated PCA at close of work</td>
<td>Removed reference to Beryllium Suspect Area (BSA).</td>
</tr>
<tr>
<td>J-2</td>
<td>03/30/2017</td>
<td>Operations Request to support upcoming waste transfer.</td>
<td>Added new information regarding beryllium.</td>
</tr>
</tbody>
</table>

Table of Contents

1.0 PURPOSE AND SCOPE ............................................................................................................. 3
  1.1 Purpose ................................................................................................................................. 3
  1.2 Scope ................................................................................................................................. 3

2.0 INFORMATION ......................................................................................................................... 3
  2.1 Terms and Definitions ......................................................................................................... 3
  2.2 General Information ......................................................................................................... 3

3.0 PRECAUTIONS AND LIMITATIONS ....................................................................................... 4
  3.1 Personnel Safety ................................................................................................................. 4
  3.2 Radiation and Contamination Control ............................................................................... 4
  3.3 Environmental Compliance ............................................................................................... 5
  3.4 Limits ................................................................................................................................. 5

4.0 PREREQUISITES .................................................................................................................. 6
  4.1 Special Tools, Equipment, and Supplies ............................................................................ 6
  4.2 Performance Documents .................................................................................................... 6
Perform Pit Video Examinations and Leak Checks
Using a Remotely Controlled Camera

4.3 Field Preparations .................................................................................................................................................. 7

5.0 PROCEDURE........................................................................................................................................................... 8

5.1 Install Video Camera(s) into Pit .............................................................................................................................. 8

5.2 Perform Video Inspection of Pit .............................................................................................................................. 9

5.3 Perform Removal of Video Inspection Camera System ........................................................................................... 10

5.4 Records .................................................................................................................................................................... 11

Checklist 1 - Survey Numbers ........................................................................................................................................ 12

Data Sheet 1 - Valve Handle Removal Table ................................................................................................................ 13

Signature Sheet ............................................................................................................................................................... 14
1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for installing video cameras, performing examinations and removing video cameras in pits associated with Waste Group B or C Tanks.

1.2 Scope

1.2.1 Removal and reinstallation of shield plugs, valve handles or other pit cover penetrations (This procedure does not allow for removal of SS/HOBO thermocouples).

1.2.2 Installation and removal of video cameras.

1.2.3 Operation of video cameras to perform pit examinations.

1.2.4 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.

2.0 INFORMATION

2.1 Terms and Definitions

- Pit - vault, valve pit, pump pit, transfer pit.
- BCA – Beryllium Controlled Area
- BRA – Beryllium Regulated Area
- BMA – Beryllium Material Area
- BCF – Beryllium Controlled Facility
- BWP – Beryllium Work Permit
- PIBC – Potentially Internally Beryllium Contaminated

2.2 General Information

2.2.1 Performance of Beryllium work will be completed by Beryllium Workers under the supervision of a trained Beryllium Supervisor.

2.2.2 Signature/initial signoffs will be made in Checklist 1.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 When removing equipment from a potentially contaminated pit, a portable eye wash station with drench hose is required at the work location.

3.1.2 Industrial hygiene sampling and/or monitoring requirements will be specified in an approved Industrial Hygiene Sampling Plan (IHSP).

3.1.3 IHT monitoring required when operating auxiliary mounted gas generators (i.e. Camera Vans).

3.1.4 Work in a BCA/BRA will be performed using an approved BWP.

3.2 Radiation and Contamination Control

3.2.1 Work in radiological areas will be performed using Radiological Work Permit following review by Radiological Control per ALARA work planning procedure TFC-ESHQ-RP_RWP-C-03.

3.2.2 When worked as a standalone procedure, work in radiological areas will be performed using Radiological Work Permit WTO-0300.
3.3 Environmental Compliance

3.3.1 Do not open pits or risers if sustained winds are greater than 25 mph.
   - A local wind speed measurement device may be used in lieu of Hanford Meteorological Station readings, provided the reading is taken in an unobstructed location that is representative of the work area.
   - Use of a local device and the measured wind speed readings taken from it must be documented in the Work Management System Work Record.

3.3.2 HPT coverage will be performed as specified in the Radiological Work Permit.

3.3.3 Equipment is decontaminated or contained when removed from pits.
   - Equipment is decontaminated or contained when removed from pits if removable contamination is greater than 50,000 dpm/100cm² beta/gamma or 70 dpm/100cm² alpha.
   - Containments used during the work must be in accordance with TFC-ESHQ-RP_RWP-C-02 latest revision, Attachment A, Containment Selection Guide.

3.3.4 Pre- and post-job surveys (smears) shall be taken.

3.4 Limits

HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements

Specific Administrative Control 5.8.2, Flammable Gas Controls

Administrative Control 5.9.2, Ignition Controls (Key Element)

Administrative Control 5.9.3, Waste Transfer-Associated Structure Cover Installation and Door Closure (Key Element)
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

The following supplies may be needed to perform this procedure:

- Portable generator and/or vehicle mounted auxiliary mounted generators
- Video equipment and supplies
- Plastic sleeving
- Low level waste bags
- BCA labels/stickers
- “Potentially Internally Beryllium Contaminated” labels/stickers
- Electrical power cords
- Portable eyewash station with drench hose for work with waste contaminated equipment in sleeving.

4.2 Performance Documents

The following documents may be needed to perform this procedure:

- TO-100-052, Perform Waste Generation, Segregation, Accumulation and Clean-up
- TFC-ENG-FACSUP-P-17, Flammable Gas Activities Ignition Control
- TFC-ESHQ-S-SAF-C-02, Job Hazard Analysis
- TFC-ESHQ-S-STD-33, Implementation of DOE-0342, Chronic Beryllium Disease Prevention Program
4.3 Field Preparations

NOTE - Steps 4.3.1 through 4.3.6 may be performed concurrently or in any logical order.

____ 4.3.1 CONTACT the project Industrial Hygienist for the appropriate IHSP and BHA.

IHSP # ______________________________

BHA# ______________________________

____ 4.3.2 IF BWP is required, DOCUMENT the BWP number.

BWP # ______________________________

____ 4.3.3 VERIFY an Ignition Source Control Requirements Screening Form has been completed and approved for this activity. (AC 5.8.2, AC 5.9.2)

_________________________________ / __________________________________ / ______________
Signature Print (First & Last) Date
FWS/OE

____ 4.3.3.1 IF Ignition Source Control Requirements screening indicates additional controls are required, EXIT this procedure AND REQUEST a work order.

____ 4.3.4 IF removing a valve handle per Section 5.1 or a camera per Section 5.3, ENSURE a portable eye wash station with drench hose has been staged at the work location.

4.3.5 IF heat stress is expected, COMPLETE the Heat Stress Mitigation Checklist (A-6006-431).

____ 4.3.6 ENSURE a work area and/or a location specific hazards analysis has been performed per TFC-ESHQ-S-SAF-C-02.
5.0 PROCEDURE

NOTE - Sections 5.1 through 5.3 may be performed out of order and repeated for multiple camera installation/removal.

5.1 Install Video Camera(s) into Pit

_____ 5.1.1 ENSURE Section 4.3 has been completed.

NOTE - Steps 5.1.2 through 5.1.7 may be performed concurrently or in any logical order.

_____ 5.1.2 OBTAIN permission from Shift Manager(s) to remove valve handle, shield plug, or specified port cover for access. (AC 5.9.3)

_____ 5.1.3 ENSURE camera system is operable.

_____ 5.1.4 ENSURE a Pre-Job radiological survey of the work area is performed AND RECORD on Checklist 1 prior to end of shift.

_____ 5.1.5 ENSURE HPT is present to perform radiological monitoring.

_____ 5.1.6 ENSURE IHT is present to perform work area monitoring per an approved IHSP AND RECORD DRI number on Checklist 1 prior to end of shift.

_____ 5.1.7 IF removing valve handles, RECORD valve position on Data Sheet 1.

_____ 5.1.8 IF required by IH personnel, POST area in accordance with BWP requirements.

_____ 5.1.9 WHEN BWP is applicable, FOLLOW BWP requirements during the performance of this section.

_____ 5.1.10 ENSURE designated shield plug, or specified port cover or sleeved valve handle is removed.

_____ 5.1.11 ENSURE a Post-Job radiological survey of the work area is performed AND RECORD in Checklist 1 prior to end of shift.

_____ 5.1.12 IF video inspection is being recorded and is to be kept as a record, RECORD pit identification markings using the video equipment.

_____ 5.1.13 SLOWLY LOWER camera through access port until camera enters pit space.

_____ 5.1.14 SECURE sleeving to pit cover.
5.2 Perform Video Inspection of Pit

_____  5.2.1 ENSURE camera system is operable.

_____  5.2.2 PERFORM video examinations.

_____  5.2.3 AFTER video examinations have been completed, PERFORM the following:

_____  5.2.3.1 PLACE camera in straight down (home) position.

_____  5.2.3.2 TURN lights off.

_____  5.2.3.3 POWER down camera system.
5.3 Perform Removal of Video Inspection Camera System

5.3.1 **ENSURE** Section 4.3 has been completed.

5.3.2 **ENSURE** HPT is present to perform radiological monitoring.

5.3.3 **ENSURE** IHT is present to perform work area monitoring per an approved IHSP AND **RECORD** DRI number on Checklist 1 prior to end of shift.

5.3.4 **WHEN** BWP is applicable, **FOLLOW** BWP requirements during the performance of this section.

5.3.5 **REMOVE** sleeved camera system from access port.

5.3.5.1 **IF** installing camera in same location, **GO TO** Step 5.1.3.

5.3.6 **RE-INSTALL** valve handle, shield plug, or specified port cover removed for camera access.

5.3.6.1 **IF** valve handle was removed, **RE-INSTALL** in position recorded on Data Sheet 1.

5.3.7 **ENSURE** a Post-Job radiological survey of the work area is performed AND **RECORD** in Checklist 1 prior to end of shift.

5.3.8 **NOTIFY** Shift Manager(s) valve handle, shield plug, or specified port cover has been reinstalled.

5.3.9 **DISPOSE** of waste in accordance with TO-100-052.

5.3.10 **IF** BCA is posted, **DOWN POST** per IH direction.
5.4 Records

_____ 5.4.1 PERFORM the following for records identified within this procedure.

_____ 5.4.1.1 RECORD the number of times the record was generated in applicable column

OR

PLACE a check mark (✓) in the N/A column.

_____ 5.4.1.2 SUBMIT the package for verification of completed records.

<table>
<thead>
<tr>
<th>Records Submittal Checklist</th>
<th>Number of times completed</th>
<th>N/A (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3 Field Preparations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4.3.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4.3.2</td>
<td></td>
<td></td>
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<tr>
<td>Step 4.3.3</td>
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<tr>
<td>Checklists</td>
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<tr>
<td>Checklist 1 - Survey Numbers</td>
<td></td>
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<tr>
<td>Data Sheets</td>
<td></td>
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<tr>
<td>Data Sheet 1 - Valve Handle Removal Table</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

_________________________ / ______________________ / _____________

Signature                  Print (First & Last)        Date

FWS/OE/Shift Manager

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.
# Checklist 1 - Survey Numbers

PIT# __________  WORK PKG# __________________

<table>
<thead>
<tr>
<th>INSTALL</th>
<th>Camera 1</th>
<th>Camera 2</th>
<th>Camera 3</th>
<th>Camera 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE/TIME:</td>
<td></td>
<td></td>
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<tr>
<td>RECORD IH DRI Survey ID number.</td>
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<tr>
<td>RECORD Pre-Job Radiological Survey number.</td>
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<thead>
<tr>
<th>REMOVAL</th>
<th>Camera 1</th>
<th>Camera 2</th>
<th>Camera 3</th>
<th>Camera 4</th>
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<tr>
<td>DATE/TIME:</td>
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<tr>
<td>RECORD IH DRI Survey ID number.</td>
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<tr>
<td>RECORD Post-Job Radiological Survey number.</td>
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### Data Sheet 1 - Valve Handle Removal Table

<table>
<thead>
<tr>
<th>Valve Description</th>
<th>Valve Position</th>
<th>Operator Initials/Date/Time</th>
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<tbody>
<tr>
<td></td>
<td>3-way valves (BLOCK DIRECTION)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Valve Description</th>
<th>2-way valves (OPEN or CLOSED)</th>
<th>Operator Initials/Date/Time</th>
</tr>
</thead>
</table>

SM/OE Sign Print (First & Last) Date
Signature Sheet

Participating personnel enter their printed name, signature, and initials below.

<table>
<thead>
<tr>
<th>Name (Printed)</th>
<th>Signature</th>
<th>Initials</th>
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