Changes “Other Than Inconsequential” Require These Additional Reviews:

USQ # TF-16-1353-D, Rev. 1

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-4</td>
<td>06/15/2017</td>
<td>DSA change</td>
<td>Pages 6 and 8: Adjusted reference to 5.8.2 for ignition controls.</td>
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<tr>
<td>E-3</td>
<td>09/21/2016</td>
<td>Inconsequential change</td>
<td>Record Section update</td>
</tr>
<tr>
<td>E-1</td>
<td>08/03/2015</td>
<td>Technical Owner request to simplify instructions.</td>
<td>Fix numbering error for Section 4.3. Clarify instructions in Step 4.3.1.</td>
</tr>
<tr>
<td>E-0</td>
<td>05/04/2015</td>
<td>Periodic Review</td>
<td>Updated Scope, added Terms and definitions, corrected acronyms, updated to current standards, corrected limits, removed vague phrases and removed actions from notes.</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............................................................................................................................................. 4

3.0 PRECAUTIONS AND LIMITATIONS...................................................................................................................... 5
  3.1 Personnel and Industrial Safety .......................................................................................................................... 5
  3.2 Radiation and Contamination Control .............................................................................................................. 5
  3.3 Environmental Compliance ................................................................................................................................. 5
  3.4 Limits.................................................................................................................................................................... 6

4.0 PREREQUISITES .................................................................................................................................................... 7
  4.1 Special Tools, Equipment and Supplies........................................................................................................... 7
  4.2 Performance Documents ................................................................................................................................... 7
  4.3 Field Preparation ............................................................................................................................................... 8
5.0 PROCEDURE .......................................................................................................................... 10
  5.1 Obtaining Radiological and/or Industrial Hygiene Data in Isolated Areas (e.g., Conex Boxes, Building Rooms) ........................................................................................................... 10
  5.2 Obtaining Radiological and/or Industrial Hygiene Data from Pits, Risers, Ventilation Ducts or other Enclosed Areas with Access Ports .............................................................................. 11
  5.3 Obtaining Radiological Data from a Posted High Radiation Area .......................................... 12
  5.4 Removing Foam/Insulating Material to Obtain Radiological and/or Industrial Hygiene Data ......................................................................................................................... 13
  5.5 Obtaining Survey of a Component .......................................................................................... 14
  5.6 Obtaining Area and Component Surveys in Outdoor Areas ................................................... 15
  5.7 Post-Job Activities .................................................................................................................. 16
  5.8 Records .................................................................................................................................. 17
1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure is used to perform RadCon and Industrial Hygiene investigative surveys to assess the radiological and chemical status of an area, enclosure, or component (e.g., risk ranking for work planning).

1.2 Scope

NOTE - Movement or removal of pit covers or other large items to access areas needing to be surveyed that required the use of a mechanical lifting device to remove are not covered by this procedure. If these devices are necessary the use of an ISR must be accompanied by approved work instructions.

1.2.1 This procedure allows for the performance of IHT and HPT investigative surveys as identified on ISR. Decontamination or disposal of equipment other than that specifically identified in Section 5.0 may not be performed using this procedure.

1.2.2 The following requirements apply to the whole procedure:

- HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
- LCO 3.4 DST Induced Gas Release Event State Flammable Gas Control
- LCO 3.7 DST Flammable Gas Monitoring Control

2.0 INFORMATION

2.1 Terms and Definitions

- ARA - Airborne Radioactivity Area
- HCA - High Contamination Area
- HRA - High Radiation Area
- IH - Industrial Hygiene
- ISR - Investigative Survey Request
- SME - Subject Matter Expert
- SSW - Senior Supervisory Watch
- TOC - Tank Operations Contractors.
2.2 General Information

2.2.1 The Joint Review Group Chairperson will approve the FWS or RadCon FLM and determine the need for a Senior Supervisory Watch through approval of each ISR.

2.2.2 RadCon Management oversight will be required as determined by the Project/Facility RadCon Manager(s) and shall be documented on the ISR.

2.2.3 Work performed using this procedure will be authorized by the Operations Shift Manager(s) or the 222-S Facility Operations Manager through release of individual ISRs.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel and Industrial Safety

3.1.1 Industrial Hygiene shall identify required sampling/monitoring plans on individual ISRs.

3.2 Radiation and Contamination Control

All radiological limitations are identified in the high risk RWP TF-123 or S-799 for 222-S Labs.

3.3 Environmental Compliance

3.3.1 If any radiological conditions in Section 3.3 Environmental Compliance and/or any additional environmental radiological levels are identified in the ISR, notify the environmental On Call to determine if further actions are required.

3.3.2 TOC Environmental representative and Tank Farm Shift Operations Facility shall be notified in accordance with TFC-ESHQ-ENV_FS-C-01, “Environmental Notifications” if:

- The initial field count of an air sample with Beta-Gamma activity greater than 0.2 DAC,
- The initial field count of an air sample with Alpha activity greater than 5.0 DAC,
- Results of 7 day decay count of air samples with a total Alpha activity greater than 0.2 DAC.
- Report within the same or first shift following the count results for air samples suspected to be radon or daughters (see NOTE 2)

NOTE 1: Notification is not required for lapel air sampler samples.

NOTE 2: Notification of workplace air samples that are suspected to be radon will be made within 24 hours after determination that the air samples are not radon and the total alpha activity is greater than 0.2 DAC. Final determination should not normally exceed 7 days, except on weekends or holidays. If the 7th day falls on a weekend or holiday, reporting shall be made on the next workday but must be made within 10 days.
3.3 Environmental Compliance (Cont.)

3.3.3 Equipment is decontaminated or contained when removed from tanks, risers, and pits.
- Equipment is decontaminated or contained when removed when \( > \frac{50,000 \text{ dpm}}{100 \text{ cm}^2} \) beta/gamma or \( > \frac{70 \text{ dpm}}{100 \text{ cm}^2} \) alpha.
- Swipes will be taken to determine that the surface of the item or outermost surface of the container are maintained \( < \frac{50,000 \text{ dpm}}{100 \text{ cm}^2} \) beta/gamma or \( < \frac{70 \text{ dpm}}{100 \text{ cm}^2} \) alpha.

3.3.4 CONFIRM passive or active HEPA filtration on tanks.

3.3.5 MINIMIZE open riser time using valves, caps, adapters, temporary covers, or plugs.

3.3.6 INSTALL ground cover prior to:
- Removing riser caps or plugs
- Breaching a contained contaminated component.

3.3.7 IF sustained winds are greater than 25 mph DO NOT OPEN pits or risers or breach radiological systems.
- A local wind speed measurement device may be utilized 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 Record.

3.4 Limits
- Specific Administrative Control 5.8.2, Flammable Gas Controls
- Administrative Control Key Element 5.9.2, Ignition Controls
4.0 PREREQUISITES

4.1 Special Tools, Equipment and Supplies

List minimum equipment and tools for each activity on ISR.

4.2 Performance Documents

The following documents may be needed to perform this procedure:

- Radiological Survey Report
- Site Form A-6005-654, Investigative Survey Request
- Site Form A-6004-101, WRPS Job Hazard Analysis Worksheet
- Site Form (A-6002-893), Pre-Job Briefing Form
- Site Form (A-6003-243), Blank Work Record.
4.3 Field Preparation

ISR Package Preparation

4.3.1 Radiological Work Planner or Industrial Hygiene Subject Matter Expert COMPLETE ISR (A-6005-654) as follows:

4.3.1.1 To obtain an ISR number, you will need to access the TFRWP drive, using the folder named ISR LOG. Access to this drive may be obtained by contacting the radiological control organization:

a. FILL in the appropriate information; Date, RWP Number, ISR Initiator, Task Description.

4.3.1.2 DEFINE scope of survey to be performed, required postings (e.g., HRA, HCA, ARA, etc), the RWP Number to be used, data to be obtained, and any applicable Lessons Learned on ISR. (A map may be included for desired survey locations)

4.3.1.3 ENSURE work activity/materials have been evaluated by engineering to ensure proper ignition and flammable gas controls are applied and are documented on ISR. (SAC 5.8.2, Key Element AC 5.9.2)

4.3.1.4 IF foam needs to be removed, CONFIRM Engineering has evaluated for intrusion prevention on ISR.

4.3.1.5 CONFIRM IH/Safety has defined on ISR the required sampling/monitoring safety plans and Job Hazard Analysis to be utilized.

4.3.1.6 CONFIRM Environmental has defined any special ALARACT reporting requirements on ISR.
4.3 Field Preparation (Cont.)

4.3.1.7 **CONFIRM** RadCon Management Oversight has been determined by Project/Facility RadCon Level 3 Manager.

4.3.1.8 **CONFIRM** approval of FWS or FLM and SSW requirements have been determined by the Joint Review Group Chairperson.

4.3.1.9 The ISR package should contain the following documents at a minimum.
- Ready to work ISR
- Copy of RWP TF-123 or S-799
- Pre-Job Briefing form (A-6002-893)
- Blank Work Record (A-6003-243)
- Job Hazard Analysis Checklist (A-6004-101)
- Working copy of TF-OPS-025, Performance of Radiological Control and Industrial Hygiene Investigative Surveys.

**Complete Field Preparations**

4.3.2 **ENSURE** the activity has been walked down (may include table-top) by the FWS and/or RadCon FLM and the work crew.

4.3.3 **OBTAIN** Shift Operations Manager or the 222-S Facility Operations Manager release for ISR completion.

4.3.4 **ENSURE** any abnormal procedures and plans have been discussed as part of the pre-job briefing.

4.3.5 **ENSURE** identified lessons learned are discussed at the pre-job briefing.

4.3.6 **ENSURE** the SOM/L&T Administrator is briefed on the extent of the surveys **AND**

**DETERMINE** the need for L&T.
# 5.0 PROCEDURE

**NOTE** - Sections may be performed in parallel or independently, but all steps within a Section must be completed in order with the exception of radiological and industrial hygiene monitoring which can be performed repetitively throughout each section as necessary.

## 5.1 Obtaining Radiological and/or Industrial Hygiene Data in Isolated Areas (e.g., Conex Boxes, Building Rooms)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
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<tbody>
<tr>
<td>5.1.1</td>
<td><strong>ESTABLISH</strong> ARA, HRA, and HCA controls prior to entry, as directed by ISR.</td>
</tr>
<tr>
<td>5.1.2</td>
<td><strong>PERFORM</strong> IH sampling and monitoring per ISR and/or sampling/monitoring plan.</td>
</tr>
<tr>
<td>5.1.3</td>
<td>HPTs <strong>ENTER</strong> area to establish radiological conditions.</td>
</tr>
<tr>
<td>5.1.4</td>
<td><strong>OBTAIN</strong> pictures of area for planning purposes as directed by ISR.</td>
</tr>
<tr>
<td>5.1.5</td>
<td><strong>EXIT AND ISOLATE</strong> area.</td>
</tr>
<tr>
<td>5.1.6</td>
<td><strong>DO NOT REMOVE</strong> ARA postings until airborne concentrations have been verified to be less than 0.2 DAC.</td>
</tr>
<tr>
<td>5.1.7</td>
<td><strong>PERFORM</strong> post job survey of surrounding area <strong>AND</strong> <strong>REMOVE/DOWNPOST</strong> temporary postings installed as appropriate.</td>
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</tbody>
</table>
5.2 Obtaining Radiological and/or Industrial Hygiene Data from Pits, Risers, Ventilation Ducts or other Enclosed Areas with Access Ports

5.2.1 ESTABLISH HCA, ARA or HRA as directed by ISR.

5.2.2 INSTALL ground cover around risers and access ports.

5.2.3 OBTAIN access by removal of T-handles, plugs, or small pit covers into bagging, sleeving or by using wet rags.

5.2.3.1 TAKE swipes to ensure surface of the item or outermost surface of the container are maintained < 50,000 dpm/100cm\(^2\) beta/gamma and < 70 dpm/100cm\(^2\) alpha.

5.2.3.2 IF contamination levels are ≥ 50,000 dpm/100cm\(^2\) beta/gamma or ≥ 70 dpm/100cm\(^2\) alpha, DECONTAMINATE OR CONTAIN equipment as it is removed.

5.2.4 PERFORM IH sampling and monitoring per ISR and/or sampling/monitoring plan.

5.2.5 IF required on ISR, PERFORM oxygen and flammable gas monitoring AND RECORD DRI number on ISR.

5.2.5.1 IF flammable gas concentrations are ≥ 25% of LFL, PLACE equipment in a safe condition AND NOTIFY Central Shift Manager (373-2689).

5.2.6 OBTAIN radiological data as possible.

5.2.7 REPLACE T-handle, plug or pit cover.

5.2.8 PERFORM post job survey of surrounding area AND REMOVE/DOWNPOST temporary postings installed as appropriate.
5.3 Obtaining Radiological Data from a Posted High Radiation Area

5.3.1 ESTABLISH postings as directed by ISR.

5.3.2 IF radiological readings are > 1.0 rem/hr, PERFORM the following:

5.3.2.1 OBTAIN permission and key from Shift Operations Manager for entry.

5.3.2.2 POST guard to maintain access control when HRA is opened.

5.3.3 PERFORM IH sampling and monitoring per ISR and/or sampling/monitoring plan.

5.3.4 OBTAIN radiological data per ISR.

5.3.5 IF radiological readings are > 1.0 rem/hr, PERFORM the following:

5.3.5.1 LOCK access to HRA AND SECURE guard.

5.3.5.2 RETURN key to Shift Office AND NOTIFY Shift Manager that area has been locked and secured.
5.4 Removing Foam/Insulating Material to Obtain Radiological and/or Industrial Hygiene Data

5.4.1 **OBTAIN** survey requirements (quantity/size/location) from Radiological Subject Matter Expert (SME).

5.4.2 Radiological SME, **REQUEST** Engineering evaluate if planned foam/material removal will impact tank intrusion prevention status per “Tank Farm Intrusion Prevention,” TFC-ENG-FACSUP-P-03.

5.4.3 **ESTABLISH** HCA around area where foam/insulating material is to be removed with groundcover or small drape as directed by ISR.

5.4.4 **PERFORM** IH sampling and monitoring per ISR and/or sampling/monitoring plan.

5.4.5 **REMOVE** plugs of foam/material to obtain radiological data from component surfaces.

5.4.6 **REPLACE** plugs,

**OR**

**DISPOSE** of as radiological waste when surveys area complete.

5.4.7 **DOWNPOST** HCA when completed with survey.
### 5.5 Obtaining Survey of a Component

- **5.5.1** PERFORM detailed radiation survey.
- **5.5.2** IF component is packaged and a contamination survey requires breaching packaging, ESTABLISH HCA and ARA, as directed by ISR.
- **5.5.3** PERFORM IH sampling and monitoring per ISR and/or sampling/monitoring plan.
- **5.5.4** INSTALL ground cover around area.
  - **5.5.4.1** MAINTAIN ground cover $< 50,000$ dpm/100cm$^2$ beta/gamma and $< 70$ dpm/100cm$^2$ alpha.
- **5.5.5** SLIT the outer packaging.
- **5.5.6** PERFORM contamination survey.
- **5.5.7** REPAIR any slit in packaging or repackage item.
- **5.5.8** RESURVEY outer packaging.
- **5.5.9** IF contamination is detected, ADD additional layer of packaging.
5.6 Obtaining Area and Component Surveys in Outdoor Areas

5.6.1 ESTABLISH HCA controls prior to entry, as directed by ISR.

5.6.2 PERFORM IH sampling and monitoring per sampling/monitoring plan.

5.6.3 HPTs ENTER area and perform surveys as necessary to establish radiological conditions.

5.6.4 IF requested, OBTAIN pictures of area for planning purposes.

5.6.5 EXIT area.

5.6.6 PERFORM post job survey of entry egress AND REMOVE postings.
5.7 Post-Job Activities

5.7.1 HPT COMPLETE RSR AND DOCUMENT survey number on ISR.

5.7.2 RadCon FLM SEND completed package to the Radiological Work Planner who originated the ISR.

5.7.3 Field Work Supervisor, Radiological Control First Line Manager, or Industrial Hygiene Supervisor, ENSURE ALARA Review is completed within 60 calendar days of completion of the investigative survey AND IF any of the following criteria are met, DOCUMENT completion of the ALARA Review on the ISR including the following:

- Activity met high risk screening criteria identified in Table 1 of TFC-ESHQ-RP_RWP-C-03, ALARA Work Planning
- Trigger levels in Section 4.7 of TFC-ESHQ-RP_RWP-C-03, ALARA Work Planning were met during performance of investigative survey.

5.7.4 IF criteria in Step 5.7.3 are not met, PERFORM the following on ISR:

5.7.4.1 ENTER "N/A" under ALARA Review number.

5.7.4.2 PRINT, SIGN AND DATE entries.

5.7.5 Radiological Work Planner SEND completed ISR, Job Hazard Analysis, Pre-Job Briefing and Work Record to the appropriate records administrator for records retention into IDMS.
5.8 Records

5.8.1 **PERFORM** the following for records identified within this procedure.

5.8.1.1 On the Records Submittal Checklist, **RECORD** the number of pages that were completed

**OR**

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

5.8.1.2 **ATTACH** the completed records to the Records Submittal Checklist **AND**

**SIGN** Records Submittal Checklist indicating the package is complete.

5.8.1.3 **SUBMIT** the completed records to an approved RadCon Record Storage Area for retention.

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.

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<table>
<thead>
<tr>
<th>Records Submittal Checklist</th>
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<tr>
<td><strong>FORMS</strong></td>
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<td>Site Form A-A-6003-243, Work Record</td>
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_________________________ / ______________________ / ______________________
Signature
Print (First and Last Name) Date

First Line Manager (or designee)