USQ Not Required – ETF is a < Hazard Category 3 Radiological Facility

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>A-3</td>
<td>02/14/2018</td>
<td>Provide consistent formatting</td>
<td>Record Section was modified to be consistent with present options</td>
</tr>
<tr>
<td>A-2</td>
<td>09/20/2017</td>
<td>Operations request</td>
<td>Modified containment language and added Radiological control information regarding breaching systems and protections in place for control.</td>
</tr>
<tr>
<td>A-1</td>
<td>11/17/2016</td>
<td>Operations request</td>
<td>Modified Procedure title and use type, modified purpose and scope, modified 3.2 radiation and contamination control, added bullet to 4.1, added new section 4.3 field conditions, added new section 5.2 Contamination Control for System Breaches, modified attachment 1, updated Records section to comply with Standard 01.</td>
</tr>
<tr>
<td>A-0</td>
<td>05/25/2016</td>
<td>Converting to WRPS Format</td>
<td>New Procedure; Supersedes ETF-PRO-OP-51495 (POP-02-001)</td>
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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for cleaning up or fixing removable and direct radioactive contamination and provides direction for controlling contamination when breaching potentially contaminated and/or contaminated systems.

1.2 Scope

This procedure gives directions for decontamination of removable and direct contamination and controlling contamination during system breaching. This procedure applies to radiological conditions consistent with low-risk radiological work.

This procedure limits decontamination efforts to non-vigorous, non-aggressive methods. Cutting, welding, and grinding are not within the scope of this procedure unless it is used in conjunction with a planned work package.

2.0 INFORMATION

2.1 Radiological Source Term

This procedure assumes a source term comprised of:

- Sr-90
- Cs-137
- H-3
- Mixed Uranium.

The source term is normally in liquid form with concentrations at or below 2.0 uCi/L. Other than Tritium, there are no hard-to-detect nuclides. Mixed Uranium is the primary alpha emitting constituent. Radiological Control maintains a technical basis document that contains more specific source term characterization information.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

**WARNING** - Direct contact with decontamination chemicals or paint may cause irritation of the eye or skin.

3.2 Radiation and Contamination Control

3.2.1 Power tools will not be allowed without prior concurrence of Operations and Radiological Control.

3.2.2 This procedure limits decontamination to low-risk radiological work except when used in conjunction with planned work packages.

3.3 Environmental Compliance

3.3.1 In the event of a spill/leak/release, notify the SOM/FWS and respond per ETF-ERP-85B-003, Emergency Spill or Release at ETF.
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

The following supplies may be needed to perform this procedure:

- Portable emergency eyewash
- Approved decontamination/sealant agents include:

<table>
<thead>
<tr>
<th>Type of Agent</th>
<th>Product/MSDS/SDS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water (H₂O)</td>
<td>Glassy (MSDS/SDS #069425)</td>
</tr>
<tr>
<td></td>
<td>Glass-Maxx (MSDS/SDS #057479)</td>
</tr>
<tr>
<td>Detergents</td>
<td>Dawn (MSDS/SDS #011354)</td>
</tr>
<tr>
<td></td>
<td>Joy (MSDS/SDS #011354)</td>
</tr>
<tr>
<td></td>
<td>Ivory (MSDS/SDS #011354)</td>
</tr>
<tr>
<td></td>
<td>Tide (MSDS/SDS #013324)</td>
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<tr>
<td>Cleaners</td>
<td>Simple Green (MSDS/SDS #012261)</td>
</tr>
<tr>
<td></td>
<td>Bon Ami Cleaning Powder (MSDS/SDS #013405)</td>
</tr>
<tr>
<td>Degreasers</td>
<td>Dissolvine 220 (Tetrasodium-EDTA) (MSDS/SDS #060663)</td>
</tr>
<tr>
<td>Sealants</td>
<td>Paint-Quick Tred Latex Floor (MSDS/SDS #019679)</td>
</tr>
</tbody>
</table>

- Contamination control devices/containment(s) as determined in Section 4.3, Section 5.2.
- PPE includes:
  - Eye/face protection – splash chemical goggles/face shield (cover type)
  - Hand protection – Surgeon’s or nitrile gloves
  - Long-sleeved clothing/arm sleeves
  - Additional PPE identified in the RW.
4.2 Performance Documents

The following documents may be needed to perform this procedure:
- ETF-65D-003, Package Waste
- TFC-ESHQ-RP_MON-C-17, Fixed Contamination Areas.
- Approved Radiological Work Permit

4.3 Field Conditions

4.3.1 IF a system will be breached during the performance of this activity, PERFORM the following:

4.3.1.1 CONFIRM system to be breached is isolated and large volumes of fluids are not anticipated upon system breach.

4.3.1.2 CONFIRM any pressure in the system is limited to header pressure or static pressure that remains after the system is isolated from pressure generating devices.

4.3.1.3 IDENTIFY the method(s) of containment to be used to prevent the spread of contamination AND DOCUMENT method(s) identified on the Pre-job Checklist.
5.0 PROCEDURE

5.1 Decontaminating Surfaces or Items

5.1.1 POST affected area AND

IF directed by Radiological Control, ESTABLISH engineered controls.

5.1.2 IF liquids are used as a decontamination agent (see table, Section 4.1), POSITION catch containers to collect liquids.

5.1.2.1 CONSIDER absorbent material to help control liquids.

5.1.2.2 IF liquid quantities are more than can be easily absorbed, CONTACT SOM/FWS before dispositioning liquids.

WARNING

Direct contact with decontamination chemicals or paint may cause irritation of the eye or skin.

Special Instructions

Additional PPE may be required per the RWP.

5.1.3 DON appropriate PPE:

- Eye/face protection – splash chemical goggles/face shield (cover type)
- Hand protection – surgeon’s or nitrile gloves
- Long-sleeved clothing/arm sleeves
- Additional PPE identified on the RWP.

5.1.4 ESTABLISH success criteria (targeted decon levels).

5.1.5 DECONTAMINATE (decon) surface or item.
5.1 Decontaminating Surfaces or Items (Cont.)

NOTE - Fixed contamination may be painted with yellow paint as the initial coat with concurrence of Operations and Radiological Control in accordance with TFC-ESHQ-RP_MON-C-17.

5.1.6 IF contamination cannot be removed and must be fixed, OBTAIN concurrence of Operations and Radiological Control manager AND FIX contamination using a sealant on the approved list in Section 4.1.

5.1.7 REQUEST HPT survey work area for contamination.

5.1.8 PACKAGE waste for disposal per ETF-65D-003.

5.1.9 AS required by Radiological Control, DOWN POST affected area.
5.2 Contamination Control for System Breaches

NOTE - During the breaching of contaminated or potentially contaminated systems, the Pre-job Briefing will identify the method of contamination control to be used to prevent the spread of contamination. The following are the approved methods to be used. Select from the criteria that describes the system breach to occur.

5.2.1 CONTROL/POST affected area as directed by Radiological Control.

Breaching a Potentially Pressurized System

NOTE - A potentially pressurized system may be pressurized due to static head or due to inability to drain systems via installed valves or drain ports.

- Examples of when to use this method: Drawing Process Samples, Draining systems in preparation for corrective maintenance or preventative maintenance.

- The size of containment is subject to the amount of estimated residual fluid in the system.

5.2.2 IF breaching a potentially pressurized system, IMPLEMENT the following to prevent spray or the spread of contamination:

One or both of the following is acceptable.

- Sleeving
- Gloved Sleeving/Bag (not a certified glove bag)

The following may be used in conjunction with the above.

- Catch container
- Catch container (modified with sleeving/tubing)
- Clean damp rags
- Clean dry cloth towels
- Drapes
- Catch containers
- Absorbent material.
5.2 Contamination Control for System Breaches (Cont.)

Breaching a Non-pressurized System

NOTE - The same controls listed for pressurized system breaches are acceptable for non-pressurized system breaching. The difference is that since there is no spray potential, there is less emphasis on full containment (sleeves/gloved bags) and more emphasis on catch containers.

- Examples of when to use this method: Preparation for corrective maintenance or preventive maintenance.

- The size of the contamination control method selected is dependent on the amount of estimated residual fluid in the system.

5.2.3 IF breaching a system that is known to not have residual pressure, IMPLEMENT the use of engineered controls to prevent the spread of contamination.

NOTE - As a minimum, catch containers are required except when it is physically impossible to install one. In addition to a catch container, one or a combination of the following may be used.

- Sleevling
- Gloved Sleevling/Bag (not a certified glove bag)
- Drapes
- Impermeable bags
- Drip Pans
- Clean damp rags
- Clean dry cloth towels
- Absorbent material.
5.2 Contamination Control for System Breaches (Cont.)

**Breaching a Dry/Powder System**

NOTE - Dry/Powder Systems include systems such as ventilation system and systems which produce a powder in the process. Examples are exhaust systems and VOG.

- Examples of when to use this method: Preparation for corrective maintenance or preventive maintenance.

- The size of the contamination control method selected is dependent on the amount of estimated residual dry powder in the system.

5.2.4 IF breaching a dry/powder system, IMPLEMENT the following to prevent the spread of powder or contamination:

One or more of the following is acceptable.

- Catch container
- Sleeving
- Fixatives
- Misting
- Impermeable bags.

The following may be used in conjunction with the above. However, cloth media and absorbent pads may not be used as the only means of contamination control.

- Clean damp rags
- Absorbent material.

5.2.5 AS required by Radiological Control, DOWN POST affected area.
5.3 Records

Special Instructions

This procedure may be worked within a work package, or it may be worked as a standalone procedure. The handling of records will be per one of the associated activity as identified below.

IF Worked Within a Work Package

This procedure is performed within a work package, as such, the procedure in its entirety will be maintained as a record per the Work Control process.

IF Worked as a Standalone Procedure

5.3.1 PERFORM the following for records identified within this procedure.

5.3.1.1 RECORD the number of times the record was generated in applicable column

OR

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

5.3.1.2 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>
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<tbody>
<tr>
<td>Checklists</td>
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<td></td>
</tr>
<tr>
<td>Pre-job Checklist</td>
<td></td>
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<tr>
<td>FWS/OE/Shift Manager SEND</td>
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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_IRM_DC-C-02.