Asbestos Removal Using a Glove Bag

Tank Farm Maintenance Procedure

MAINTENANCE

USQ #N/A-4

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>
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<tr>
<td>E-0</td>
<td>01/04/2017</td>
<td>Periodic Review</td>
<td>Modified Step 3.4.1, 3.4.4, Section 4.1 Special Tools, Equipment, and Supplies, Step 5.1, Step 5.2.2, Step 5.3.1, Step 5.5.1, Step 5.5.3 and Administrative changes.</td>
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<tr>
<td>D-1</td>
<td>11/18/2014</td>
<td>CHAMPS Removal</td>
<td>Removed reference to CHAMPS, updated records statements and removed next periodic review date.</td>
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<tr>
<td>D-0</td>
<td>10/28/2013</td>
<td>Periodic Review</td>
<td>Removed vague phrases, added clarification, incorporated comments from reviewers, and created consistency with 7-ABS-265.</td>
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<tr>
<td>C-2</td>
<td>12/06/2011</td>
<td>Industrial Hygiene request (e.g., TFC-ESHQ-IH-STD-05 [and TFC-ESHQ-IH-STD-04] canceled 9/28/11 and replaced with TFC-ESHQ-S_IH-C-52, &quot;Asbestos Exposure Control and Management&quot;).</td>
<td>Section 2.2, Step 4.3.6, and Step 5.1.3: Replaced TFC-ESHQ-IH-STD-05 with TFC-ESHQ-S_IH-C-52. Section 5.8: Rewrote NOTE to delete previous records [Attachments 1-3]. Attachments 1-3: Deleted—these log forms now captured on the asbestos work permit.</td>
</tr>
</tbody>
</table>

Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>3</td>
</tr>
<tr>
<td>1.1</td>
<td>3</td>
</tr>
<tr>
<td>1.2</td>
<td>3</td>
</tr>
<tr>
<td>2.0</td>
<td>4</td>
</tr>
<tr>
<td>2.1</td>
<td>4</td>
</tr>
<tr>
<td>2.2</td>
<td>4</td>
</tr>
<tr>
<td>3.0</td>
<td>5</td>
</tr>
<tr>
<td>3.1</td>
<td>5</td>
</tr>
<tr>
<td>3.2</td>
<td>5</td>
</tr>
<tr>
<td>3.3</td>
<td>5</td>
</tr>
<tr>
<td>3.4</td>
<td>6</td>
</tr>
<tr>
<td>3.5</td>
<td>6</td>
</tr>
<tr>
<td>4.0</td>
<td>7</td>
</tr>
<tr>
<td>4.1</td>
<td>7</td>
</tr>
<tr>
<td>4.2</td>
<td>7</td>
</tr>
</tbody>
</table>
## 4.3 Field Preparations

## 5.0 PROCEDURE

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Asbestos Removal Set-Up</td>
<td>9</td>
</tr>
<tr>
<td>5.2</td>
<td>Installation of Glove Bag</td>
<td>10</td>
</tr>
<tr>
<td>5.3</td>
<td>Asbestos-Containing Material Removal</td>
<td>11</td>
</tr>
<tr>
<td>5.4</td>
<td>Glove Bag Removal and Cleanup</td>
<td>12</td>
</tr>
<tr>
<td>5.5</td>
<td>Clearance Sample and Return to Normal</td>
<td>14</td>
</tr>
<tr>
<td>5.6</td>
<td>Review</td>
<td>14</td>
</tr>
<tr>
<td>5.7</td>
<td>Records</td>
<td>15</td>
</tr>
</tbody>
</table>
1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure outlines requirements for removal and control of asbestos containing material utilizing a glove bag.

1.2 Scope

This procedure applies to the removal of asbestos using a glove bag for all indoor and outdoor applications.
2.0 INFORMATION

2.1 Terms and Definitions

ACM: Asbestos Containing Material.

Amended Water: Water that has been mixed with liquid surfactant to improve the wetting process of asbestos containing materials by relieving surface tension.

AWP: Asbestos Work Permit.

Certified Asbestos Worker: Workers who have successfully completed curriculum outlined in training courses # 170055, “Certified Asbestos Worker” and 170057, Certified Asbestos Worker Refresher” or equivalents. (See ITEM training report for course descriptions and equivalent course numbers).

CP-10: Insulating coating.

Dip-Lag: Impregnated lagging cloth used to mold on asbestos surfaces.

Encapsulant: Materials specifically designed for application on ACM to prevent fiber release.

Friable: Any material containing greater than 1% asbestos by weight or volume that when dry can be crumbled, pulverized, or be reduced to powder by hand pressure.

NEA: Negative Exposure Assessment

OSHA: Occupational Safety and Health Administration

PACM: Presumed Asbestos Containing Material.

PPE: Personal Protective Equipment

WDOH: Washington Department of Health

2.2 General Information

Asbestos work control guidance referenced in this procedure is from TFC-ESHQ-S_IHC-52, “Asbestos Exposure Control and Management.”

Environmental compliance guidance referenced in this procedure is from TFC-ESHQ-ENV-STD-02, “Regulated Substance Management.”
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 Removal or intentional disturbance of ACM should only be conducted by certified and trained employees.

3.1.2 PPE is always required when removing and/or disturbing ACM.

3.1.3 PPE must be worn in accordance with applicable OSHA regulations, the AWP, and/or RWP, or as directed by IH.

3.1.4 At least two persons must perform glove bag removals.

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

3.1.6 Employees should always isolate the abatement area in case of accidental spills or bag failure.

3.2 Radiation and Contamination Control

3.2.1 Work in radiological areas will be performed using a Radiological Work Permit RWP following review by Radiological Control per the ALARA Work Planning procedure TFC ESHQ RP_RWP C 03.

3.3 Equipment Safety

3.3.1 Restriction for removal of asbestos utilizing glovebags is limited to the amount of material that can safely be removed inside the glovebag.

3.3.2 Manufactured glovebags shall not be altered and are for single use only.

3.3.3 Glovebags shall not be used on surfaces where temperature exceeds 150 °F.

3.3.4 Glovebags shall be made of clear 6 mil plastic and shall be of seamless bottom construction.

3.3.5 Glove bags should have pre-cut openings on top, and have fitted collars that allow quick, secure attachment to pipes.
3.4 Environmental Compliance

3.4.1 Removal, remediation, or disturbance of ACM or PACM requires a Notice of Intent to Remove or to Demolish to be filed with the Department of Ecology (Nuclear Waste Program) at least ten (10) working days prior to commencing work if the combined amount of RACM is; (i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or (ii) At least 1 cubic meter (35 cubic feet) of facility components where the length or area could not be measured previously.

3.4.2 Notify Environmental in the event of any ACM or PACM spill.

3.4.3 HEPA vacuums used in a radiological area during the performance of this procedure will be operated only in accordance with the requirements of TFC-ESHQ-ENV_RM-P-11 and RPP-ENV-32854, Rev. 2.

3.4.4 Before work can be performed using a HEPA vacuum in a radiological area, Environmental must be consulted to verify unit is approved for use by WDOH.

3.4.5 The use of HEPA vacuums for personnel decontamination in a radiological area may be replaced by use of wet-wipe and visual inspection to verify surface contamination is removed from respirators and protective clothing, prior to doffing.

3.4.6 Activities associated with working with P/ACM, including managing and removal of ACMs, will be in accordance with TFC-ESHQ-ENV-STD-13, “Asbestos Management Program” and TFC-ESHQ-S_IH-C-52, “Asbestos Exposure Control and Management.”

3.5 Limits

Comply with environmental standards, as applicable, when disposing of any waste generated during performance of this procedure. An approved Asbestos Work Permit shall be present at the job site prior to commencing work activities, when disturbing
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

The following supplies may be needed to perform this procedure:

- Respiratory Protection as required in AWP
- Protective clothing as specified in AWP
- Warning signs and barricade tape
- Personal air sampling pumps
- ACM or PACM waste containers (boxes, 6 mil plastic bags, etc.)
- 6 mil clear polyethylene sheeting, fire retardant
- High-Efficiency Particulate Air (HEPA)-filtered vacuum cleaner (see Section 3.4)
- Encapsulation materials
- Glove bag(s)
- High quality duct tape, or equivalent
- Spray bottle / amended water/surfactant
- Knife / wire cutters/pliers/flexi-wire saws/retractable utility knives
- Tape measure
- Scrub brushes, scrapers, water bucket, rags
- Smoke test kit (tubes and bulb)
- Other tools, equipment and supplies as identified by Shift Manager/OE/FWS.

4.2 Performance Documents

The following documents may be needed to perform this procedure:

- TFC-ESHQ-S_IH-C-52, Asbestos Exposure Control and Management
- TFC-ESHQ-ENV_RM-P-11, "Using Filtered Vacuum Cleaners for Removing Radiological Surface Contamination"
- TFC-ESHQ-ENV-STD-13, Asbestos Management Program
- RPP-ENV-32854, Using HEPA Filtered Vacuum Cleaners For Removing Radiological Surface Contamination Checklist
- DOE-0336 Hanford Site Lockout/Tagout Procedure
- Site Form A-603-870, TOC Asbestos Work Permit.
4.3 Field Preparations

4.3.1 IF sampling is identified on the AWP, SCHEDULE Industrial Hygiene Technician services.

4.3.2 IF not working outdoor, COMPLETE pre-monitoring for airborne asbestos if directed by AWP.

4.3.3 AS directed by the AWP, ESTABLISH a regulated area where the concentration of airborne asbestos fibers exceed, or can reasonably be expected to exceed, the eight hour Permissible Exposure Limit of (0.1 f/cc) or 15 minute Excursion Limit (1.0 f/cc).

4.3.4 IF locking and tagging is required, CONFIRM lock and tag or over-tagging requirements have been satisfied in accordance with DOE-0336 Hanford Site Lockout/Tagout Procedure.

4.3.5 STAGE, CONNECT AND CHECK power equipment.
5.0 PROCEDURE

5.1 Asbestos Removal Set-Up

5.1.1 **ENSURE** AWP is present at the work site.

5.1.2 **SIGN IN** before entering regulated area on the AWP.

5.1.3 **DON** all protective clothing and sampling equipment for workers as specified on the AWP.

**NOTE** - Asbestos-containing material must be in sufficiently good condition to withstand installation and weight of glove bag and contents without causing material degradation.

5.1.4 **DETERMINE** condition of ACM in the vicinity of work area.

5.1.5 **IF** condition of asbestos-containing material is insufficient to withstand installation and weight of glove bag, **STOP** for determination of alternate method using TFC-ESHQ-S_IH_C-52, “Asbestos Exposure Control and Management,” Attachment A.
5.2 Installation of Glove Bag

5.2.1 ARRANGE removal tools and materials in the glove bag. (i.e., amended water spray bottle, knife, scissors, keyhole saw, wire nippers, dip-lag cloth, lockdown).

5.2.2 INSTALL glove bag over area of ACM or PACM so that it completely covers the circumference of pipe or other structure where the work is to be done AND CLOSE glove bag around pipe and seal edges with duct tape.

5.2.3 ENSURE entire glovebag is sealed.

5.2.4 INSTALL smoke tube through glove bag AND CLOSE with duct tape.

5.2.5 PERFORM smoke test of glove bag.

5.2.6 ENSURE there are no visible leaks in glove bag.

5.2.7 REPAIR any leaks with tape AND RECHECK with smoke.
5.3 Asbestos-Containing Material Removal

5.3.1 APPLY amended water/ surfactant to ACM or PACM to be removed throughout the entire duration of abatement with spray applicator previously placed in glove bag.

5.3.2 REMOVE asbestos-containing material from component AND PLACE in bottom of glove bag.

5.3.3 CLEAN the following with water, scrub brush, and rags:
   - Exposed pipe or component
   - Upper section of glove bag
   - All tools and equipment to be removed from glove bag.

5.3.4 ENCAPSULATE open ends of exposed ACM or PACM and surface from which ACM or PACM was abated with lockdown encapsulant.
5.4 Glove Bag Removal and Cleanup

5.4.1 PULL tools through glove sleeve into glovebag glove(s).

5.4.1.1 TWIST glove sleeve keeping tools in glove area.

5.4.1.2 INSTALL tape around glove sleeve

5.4.1.3 CUT through AND

TAPE ends of cut areas from both sides and VERIFY complete seal of tools and glove bag.

5.4.1.4 REMOVE and WET-WIPE tools or STORE as regulated equipment inside glove.

5.4.2 ATTACH HEPA vacuum (while it is running to glove bag AND EVACUATE air from glove bag using wand from HEPA vacuum.

5.4.2.1 TWIST bottom of bag containing waste AND

CLOSE it off with tape.

5.4.3 ARRANGE a 6 mil polyethylene waste disposal bag over bottom of glove bag.

5.4.3.1 REMOVE tape which holds glove bag onto pipe or component.

5.4.3.2 OPEN top AND

FOLD the rest of glove bag into waste disposal bag.

5.4.3.3 REMOVE air from disposal bag with HEPA vacuum AND

HORSETAIL.

5.4.4 CLEAN work area.

5.4.5 REMOVE disposable protective clothing AND

PLACE into an asbestos labeled disposal bag.
5.4 Glove Bag Removal and Cleanup (Cont.)

5.4.6 WIPE exterior of respirator using a clean, damp rag.

5.4.7 REMOVE respirator AND

WIPE clean with wet-wipe to remove all visible debris.

5.4.7.1 IF the AWP identifies a Negative Exposure Assessment (NEA) for the work, RETURN respirator to shop for cleaning AND

RELEASE tools for use.

5.4.7.2 IF the AWP does not identify a NEA for the work, BAG AND HOLD respirator and tools in a bag labeled DANGER Asbestos,

5.4.7.3 IF the results of personal air sampling demonstrate exposures below the PELs, RELEASE respirator for return to shop and tools for use.

5.4.7.4 IF the AWP does not identify a NEA for the work and personal air sampling results are above the PELs, PERFORM the following:

a. PLACE respirator in a water soluble bag with a DANGER Asbestos label and a note from Project Supervisor stating the mask was wet-wiped AND

RETURN respirator to respirator shop.

b. IF tools do draw air, LABEL with DANGER Asbestos label AND

STORE as directed.

c. IF tools do not draw air AND

IF there is no visible surface particulates, CLEAN AND RELEASE tools for use.

5.4.8 SIGN OUT on the AWP after exiting the regulated area.
5.5 Clearance Sample and Return to Normal

5.5.1 AS directed by AWP, OBTAIN a clearance sample.

5.5.2 IF area clearance sample result is required, COMPLETE sampling.

5.5.3 AFTER acceptable results are obtained, REMOVE warning signs and barriers (e.g. barricade tape).

5.5.4 DISPOSE of scrap materials, coveralls, plastic, in asbestos waste storage receptacle for burial.

5.5.5 IF installed, REMOVE lock and tag in accordance with DOE-0336 Hanford Site Lockout/Tagout Procedure AND NOTIFY facility operations normal use can be resumed.

5.6 Review

5.6.1 REVIEW work package with Certified Asbestos Supervisor AND CONFIRM all permits and forms have been completed and are in work package.

5.6.2 RETURN work package to Asbestos Planner for asbestos assessment revision, and asbestos inventory update.

5.6.3 IF HEPA vacuums were used in a radiological area during the performance of this procedure, the Field Work Supervisor/Lead will, FORWARD a copy of the completed RPP-ENV-32854 applicable figures to Environmental.
5.7 Records

The performance of this procedure generates no records. However, PM Data Sheets associated with the procedure, are records and are maintained in the work package as record material.

The record custodian identified in the Company Level Record Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.