 <b>THOMPSON RIVERS UNIVERSITY</b> Occupational Health & Safety	<b>Number:</b> OH&S 9.22.1
	<b>Revision Date:</b> 10/07/2014
	<b>Moderate Risk Glove-bag Removal Procedures</b>

Printed copies of this document are uncontrolled.

**1. PURPOSE**


- 1.1. To provide direction and instruction on the equipment required and procedures to remove asbestos containing materials from piping in a safe manner following WorkSafeBC regulations.

**2. SCOPE**





- 2.1. Save Work Procedures for all Facilities, Maintenance and Contractors in the safe procedures of the removal for ACM from pipe lagging.

**3. PRECAUTIONS**

**POTENTIAL HEALTH & SAFETY HAZARDS**

HAZARD		TO PROTECT YOURSELF
<b>EXPOSURE</b>		Understand the chemical(s) you are working in the vicinity of. Consult the MSDS and wear the appropriate PPE.

**4. PERSONAL PROTECTIVE EQUIPMENT**

	Safety glasses must be worn at all times in work area!
	Tyvek suits or other protective suits must be worn to protect workers clothing. Suits must have hoods and elastic at legs and wrists.
	Rubber boots or booties must be worn in work area. Shoes must be fully enclosed, no open toe shoes.
	Latex/Nitrile gloves must be worn at all times while working with or around asbestos



Half mask or full mask respirators with HEPA filters must be worn when working with asbestos containing materials. Workers must be fit tested prior to performing any asbestos work, this is done through TRU Safety department

## 5. OBJECTIVE

- 5.1. Removal and cleanup of asbestos pipe lagging using glove-bag method following moderate risk work procedures

## 6. RESPONSIBILITIES

### 6.1. Supervisors

Are responsible for ensuring that all workers have the proper personal protective equipment and respirator fit testing along with adequate training prior to carrying out this asbestos removal procedure. Supervisors are also to ensure that all the appropriate paperwork and NOPA have been filed with WorkSafeBC and the Asbestos Control Coordinator and TRU Health and Safety prior to commencement on work activity.

### 6.2 Workers

Workers are to ensure that they are aware of the proper procedures of the removal of pipe lagging containing asbestos and glove-bag procedures. As well the worker must ensure they use all the required personal protective equipment for the task.

## 7. ASSOCIATED DOCUMENTATION

<u>Doc. Number</u>	<u>Doc. Title</u>
	TRU Asbestos Work Permit
	Notice of Project Asbestos (submit thru Work Safe BC)
	Safe Work Procedures (submit thru Work Safe BC)

## 8. INTRODUCTION:

A glove-bag allows the removal of asbestos containing materials from mechanical components such as piping, valves, fittings and small dimension duct work without constructing an elaborate containment. This becomes cost effective where small quantities of material are removed from within a large area, eliminating the need to completely hoard the area. Glove-bag removal of asbestos containing materials is considered a moderate risk project.

## 9. EQUIPMENT

Glove-bags come in a variety of types, styles and orientation such as vertical and horizontal configurations. Some are multi-use, meaning that they can be moved along a pipe as removal

progresses. Other glove-bags are taped in place and used only in that one location before being discarded.

Other equipment required for glove-bag removal includes:

- a. Vacuum cleaner fitted with a HEPA filter;
- b. Respirator equipped with HEPA filter cartridge;
- c. Safety glasses;
- d. Disposal coveralls (Tyvek) with hood and elastic at wrists and legs;
- e. Disposable gloves;
- f. Rubber boots or booties;
- g. Polyethylene drop sheet having a minimum 6 mil thickness;
- h. 6mil thick asbestos disposal bags;
- i. Spray bottle with water or wetting agent to wet asbestos;
- j. Disposable wipes
- k. Duct tape or tape having similar or better strength;
- l. Utility knife with retractable blade;
- m. Wire cutters;
- n. Scraper

Determine the type, style, orientation and quantity of bags appropriate for the job. If possible, work should be performed when building occupants or other workers are not present in the immediate vicinity of the work area. In any event, the work area should be cordoned off using banner tape and warning signs.

Glove-bags must only be used on pipe insulation that is covered with a wrap such as Caposite. Without a wrap, fibers can be released during installation of the glove-bag and when it is moved along the pipe.

## **8 Moderate Work Procedures:**

Before working with a particular type of glove-bag, workers should read and understand the manufacturer's instructions for use.

In general:

- 1) Place a polyethylene drop sheet beneath the area in which the glove-bag is to be installed.
- 2) Prior to applying the bag, seal any loose insulation by wrapping it with polyethylene.
- 3) Prior to starting the removal, clean up any loose asbestos debris on or around the pipe with a vacuum cleaner fitted with a HEPA filter.

- 4) Assemble all the required tools and equipment and located in work area before sealing off.
- 5) Prior to the start of any work involving asbestos any personnel working in the immediate area will be informed of the nature of the work and that suitable precautions will be made to ensure that they are not exposed to asbestos fibers. Only workers wearing all the approved protective equipment are allowed within the work area.
- 6) Post warning signs and barrier tape that indicates the asbestos hazard and the requirement for protective clothing for anyone entering the exclusion zone.
- 7) Set up a decontamination station for the clean-up process after work has been completed.
- 8) All required protective equipment must be worn prior to commencing work.
- 9) Place the tools and spray bottle in the bag and seal the bag to the pipe. Insert the nozzle of the vacuum cleaner into the bag and seal the hole. Ensure that the weight of the hose does not pull the bag off the pipe.
- 10) Place hands into the gloves and using the tools, cut and remove any jacketing. Wet exposed insulation to reduce fiber release.
- 11) Remove the insulation, wetting it and arranging it in the bottom of the bag.
- 12) Using a wire brush, abrasive pad or scraper, clean asbestos residue off the pipe or fittings.
- 13) Wet and seal the exposed ends of the insulation. The sealant should also be applied to the inside upper section of the bag prior to removal of the bag.
- 14) Place the tools in the gloves and pull the gloves out of the bag so the tools are inside the glove. Twist and double tape glove to create a pouch that can be cut off. The tools may now be placed into the next glove bag or into a pail of water for decontamination. For decontamination, open the pouch under the water and clean the tools thoroughly.
- 15) Suck the air out of the glove-bag using the vacuum cleaner. Twist the lower section of the bag containing the waste and seal it with tape. Slowly remove the tape connecting the bag to the pipe. Place the bag into an a 6 ml asbestos waste disposal bag, along with disposable clothing and drop sheet and any other waste items utilized in the removal of the asbestos and seal, twist and fold over the sealed end and seal again. Bags will be wiped down with clean water prior to leaving work area.

- 16) All work equipment, including work clothing, should be cleaned by damp wiping or with the vacuum cleaner and place those into another poly bag and double seal the opening.
- 17) The hose end of the vacuum will be cleaned and sealed with duct tape to ensure no release of asbestos from the vacuum or vacuum hose.
- 18) Workers will now wipe down their respirator with clean water before removal. Once clean, duct tape can be placed over the canisters to prevent further contamination
- 19) Workers are to thoroughly wash their hands, face and respirator before leaving the work area.
- 20) All equipment will be removed from the area.
- 21) Once all asbestos waste and disposal items are removed from work area then signage and banners can be removed.

Glove-bags are to be used once and then disposed of. They must not be cleaned and reused. Standard glove-bags must not be used on piping at temperatures exceeding 65C. Check with glove-bag manufacturer for the recommended range of temperatures in which the bag can be used.

The surfaces from which asbestos has been removed should be visually inspected after removal of the glove-bag to ensure that there is no remaining asbestos residue.

## **10. WASTE MANAGEMENT**

Asbestos waste disposal bags are to be disposed of by putting the bags of asbestos waste in the chemical bunker for disposal in the hazardous waste pickup.

## **11. RECORDS AND VERIFICATION OF TRAINING AND PROCEDURES:**

- 10.1 Copies of all documentation are to be sent to the Asbestos Control coordinator and the TRU Safety department for filing and recordkeeping.
- 11.1. TRU Safety Department will maintain all records with regards to workers respirator fit testing and also ensure all workers are current in their training and respirator fit testing.
- 11.2. TRU Safety Department will maintain all records associated with asbestos training for workers who will be working near or with asbestos containing materials

## 11. SUMMARY OF CHANGES

Revision #	Date	Change (include section #)	Issued By
	10/07/2014	NEW	OHS Officer