Asbestos Regulation and Compliance

Asbestos workshop for the elevator industry

Yvonne Nann
Occupational Hygiene Officer
WorkSafeBC
Yvonne.Nann@worksafebc.com
November 25, 2015
Definition of “Asbestos-containing Material”

The Occupational Health and Safety Regulation now defines asbestos-containing material as:

- Containing 0.5% or more asbestos as determined by polarized light microscopy, electron microscopy, and/or gravimetric analysis

- Vermiculite-containing insulation materials which contain any asbestos – even less than 0.5%
Asbestos Limits in the Air

Asbestos Exposure Limits

- 0.1 fibres per cubic centimetre of air (0.1 f/cc), 8-hour time weighted average
- 0.02 fibres per millilitre (0.02 f/ml), clearance air sampling results

Asbestos in the air at these levels would be invisible to the naked eye. Air monitoring equipment on worker
1. Purpose & Responsibilities
2. Risk Identification
3. Risk Assessment & Control
4. Written Work Procedures (hygiene facilities & decontamination)
5. Health Monitoring
6. Education & Training
7. Documentation

OHSR 6.3 and 5.54
1. Purpose & Responsibilities

Purpose

• Minimize potential hazards and exposures to asbestos fibres
• Maintain asbestos-containing materials (ACM) in good condition
• Ensure proper clean up of asbestos fibres previously released
• Prevent further release of asbestos fibres
• Monitor the condition of ACM
• Establish safe work procedures
Responsibilities

The Owner:

• Has a responsibility to **maintain** his/her **property** in a manner that ensures the health and safety of workers.

• Must **give the contractor information** necessary to identify and control hazards to the health and safety of workers on his/her property.
Responsibilities

The Employer:

• Is responsible for selecting qualified persons, as defined in the Regulation, and ensuring that the safe work procedures are followed.

• Must exercise due diligence in the selection of the qualified person. This is especially necessary if the person being hired does not hold a certification or other proof of training.

• Must provide its workers with information, instruction, training and supervision of all known or reasonably foreseeable health and safety hazards they are likely to be exposed to.

WCA 115
Responsibilities

Workers must:

• Take reasonable care to **protect their health and safety and others** who may be affected.

• Carry out his or her work in accordance with **established safe work procedures** including using/wearing protective equipment, devices and clothing as required, report unsafe work or conditions.
Risk Identification
Definition of “qualified person”

The Occupational Health and Safety Regulation defines a “qualified person” as a person who:

• Has *knowledge* of the management and control of asbestos hazards through education and training, and

• Has *experience* in the management and control of asbestos hazards.
Who is qualified?

- Certified Industrial Hygienist (CIH)
- Registered Occupational Hygienist (ROH)
- Certified Safety Professional (CSP)
- Canadian Registered Safety Professional (CRSP) or Professional Engineer (P.Eng.)
- Other acceptable combination of education, training and experience. This should include completion of recognized training courses in asbestos inspection and extensive occupational health and safety experience within the asbestos abatement industry.

*Provided that the holders of these qualifications have experience in the recognition, evaluation, and control of asbestos hazards.*
Due diligence

- Selecting qualified persons.
- Reviewing the person’s experience.
- Reviewing the person’s accredited credentials.
Asbestos Survey or Inventory

A report that locates and describes:

- The **location** of all ACM in a building or structure (e.g., elevator components/operation).

The employer must ensure that a **qualified person**:

- Collects representative samples of ACM
- Prepares an inventory of ACM

*This inventory must be kept at the workplace and be kept current.*

*OHSR 6.4*
Where might asbestos be found?

<table>
<thead>
<tr>
<th>Elevator Components</th>
<th>Building Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Limit switches</td>
<td>• Insulation within elevator door</td>
</tr>
<tr>
<td>• Electrical wiring</td>
<td>• Floor tile</td>
</tr>
<tr>
<td>• Resistor banks</td>
<td>• Ceiling tiles</td>
</tr>
<tr>
<td>• Brake pads</td>
<td>• Drywall Joint Compound</td>
</tr>
<tr>
<td>• Cement board</td>
<td>• Pipe insulation</td>
</tr>
<tr>
<td>• Blowout coils</td>
<td>• Sprayed insulation</td>
</tr>
<tr>
<td>• Elevator cab roof-coating materials</td>
<td>• Fire stop or mastics</td>
</tr>
<tr>
<td>• Elevator door core materials</td>
<td>• Cement rainwater leaders</td>
</tr>
</tbody>
</table>
Risk Identification

- Identify all ACM present in the workplace by **signs**, **labels**, or other effective means.
  - Colour coding
  - Letter encryption
  - Floor plan mapping
  - Signage placed behind access ways

*OHSR 6.5*
Risk Assessment

Where ACM may be disturbed, a risk assessment must be conducted by a qualified person before any

- **Demolition**,  
- **Alteration**, or  
- **Repair** of machinery, equipment or structure.

*OHSA 6.6(2) and 20.112*
Purpose: To assess the risk to workers from asbestos materials either used or present in the workplace.

Assessment of the identified ACM includes:

- Condition
- Friability
- Accessibility and likelihood of damage
- Potential for fibre release and exposure to workers
<table>
<thead>
<tr>
<th>Condition</th>
<th>Risk of Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the material in good condition, showing no apparent damage at all?</td>
<td>Minimal</td>
</tr>
<tr>
<td>Does the material have mild damage?</td>
<td>Low</td>
</tr>
<tr>
<td>Does the material have moderate damage?</td>
<td>Moderate</td>
</tr>
<tr>
<td>Does the material have severe damage? E.g., areas missing, hanging loose, water-damaged?</td>
<td>High</td>
</tr>
</tbody>
</table>
### Risk Assessment

#### Friability

<table>
<thead>
<tr>
<th>Friability</th>
<th>Risk of Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the material firmly bound?</td>
<td>Minimal</td>
</tr>
<tr>
<td>Is the material slightly friable?</td>
<td>Low</td>
</tr>
<tr>
<td>Is the material moderately friable?</td>
<td>Moderate</td>
</tr>
<tr>
<td>Does the material break apart easily?</td>
<td>High (very friable)</td>
</tr>
</tbody>
</table>
## Risk Assessment

### Accessibility & Likelihood of Damage

<table>
<thead>
<tr>
<th>Question</th>
<th>Risk of Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the fibres totally enclosed, such as behind a fixed structure (ceiling, wall, etc.)?</td>
<td>Minimal</td>
</tr>
<tr>
<td>Are the fibres inaccessible, such as beyond the reach of the public?</td>
<td>Low</td>
</tr>
<tr>
<td>Are the fibres accessible in a low activity area?</td>
<td>Moderate</td>
</tr>
<tr>
<td>Are the fibres accessible in a high activity area, such as a hallway or stairway?</td>
<td>High</td>
</tr>
</tbody>
</table>
Risk Assessment

3. Risk Assessment & Control

- Potential for fibre release and exposure to workers
  - Each parameter assigned a “score” to indicate the potential for exposure
  - Scores are combined for an overall risk factor
Controls

Hierarchy of Controls

1. Elimination
   - Physically remove the hazard

2. Substitution
   - Replace the hazard

3. Engineering Controls
   - Isolate people from the hazard

4. Administrative Controls
   - Change the way people work

5. PPE
   - Protect the worker with Personal Protective Equipment

From least effective to most effective.
Risk Classification

To assess the likelihood of asbestos fibres being released during handling activities and to select appropriate work precautions, according to the level of the risk to workers.
Risk Classification

Low Risk Work Activities

Definition:

• A work activity that involves working with or in proximity to asbestos-containing material, if the material is not being cut, sanded, drilled, broken, ground down or otherwise fragmented, or otherwise disturbed.

• There must be no potential for the release of asbestos fibres.
Risk Classification

Low Risk Work Activities

Examples:

• Repairs to asbestos-containing drywall that does not touch the asbestos-containing material (e.g., mud, filler, joint compound)
• Installing a screw hanger on drywall that has asbestos-containing material
• Replacing a single vinyl asbestos tile in the elevator cab without breaking the tile
• Removing intact limit switches and intact control panels
• Moving asbestos-containing waste that is contained in clean, sealed bags and then double bagged
• Moving sealed elevator brake pads
Risk Classification

Low Risk Work Activities

Requirements:

• Nothing, besides work procedures.

• The use of PPE or engineering controls to prevent worker exposure to airborne asbestos fibres is not required because asbestos is not being disturbed.

These are MINIMUM requirements.
Risk Classification

Moderate Risk Work Activities

Definition:

• A work activity, other than a high risk work activity, that involves working with or in proximity to ACM that is being cut, sanded, drilled, broken, ground down or otherwise fragmented, or otherwise disturbed.

• It is necessary to use PPE or engineering controls to prevent worker exposure to airborne asbestos fibre.
Risk Classification

Moderate Risk Work Activities

Examples:

• Using hand tools to cut, shape, drill, grind or remove non-friable manufactured products containing asbestos (e.g., asbestos containing pipe insulation)

• Collecting bulk asbestos samples for analysis

• Removing asbestos tape or paper on ductwork

• Removing vinyl asbestos tile or other non-friable materials
Risk Classification

Moderate Risk Work Activities

Examples:

- Backing mounting screws out of asbestos-containing boards and removing the boards intact
- Opening limit switches, electrical control panels
- Cutting asbestos insulated electrical wires
- Removing brake pads and housing
- Removing Resistor banks from inside the control panel
- Removing items attached to asbestos cement board
Risk Classification

Moderate Risk Work Activities

Requirements:

Specific procedures and containment such as:

- Negative pressure in the enclosure to prevent the air escaping or glove bag
- Respiratory protection with P100 filters
- Appropriate clothing impervious to asbestos fibres
- Decontamination or washing station for worker decontamination
- HEPA vacuum, sealed asbestos waste
- First aid
Risk Classification

High Risk Work Activities

Definition:

- A work activity that involves working with or in proximity to ACM if a high level of control (e.g., airtight enclosure) is necessary to prevent worker exposure to airborne asbestos fibre.
Risk Classification

High Risk Work Activities

Examples:

• Removing, encapsulating, or enclosing materials containing **FRIABLE** asbestos during repair, alteration, maintenance, demolition, or dismantling of any part of a building structure, machine or piece of equipment

• Removing asbestos-containing textured materials from ceilings or walls

• Using power tools (without water or dust controls) to cut or drill through asbestos-containing materials
Written Work Procedures

Written safe work procedures must address:

• Containment of asbestos operations
• Control of the release of asbestos fibre
• Use and maintenance of appropriate PPE & clothing
• Removal of asbestos waste and cleanup of asbestos waste material
• Means for the decontamination of workers

→ Must provide workers with task-specific work direction that addresses both hazards and required controls.
Waste Handling & Disposal

Hazardous waste handling and disposal include:

• All ACM & contaminated waste to be placed in impervious containers.

• Double bagged & labeled as asbestos waste.

• Wet clean or HEPA vacuumed surfaces before removal from designated work area

• Decontaminate or clean reusable tools, equipment or machinery

• Complete waste manifest

• Must be removed while work is in progress, at the end of each shift, and at completion of job.
Hygiene and Decontamination Procedures

• Prohibit drinking, food consumption, smoking, etc at the work area
• Full shower decontamination facility (for high risk work activities)
• Washing facilities and personal decontamination (with soap and water) – changed regularly after use to ensure cleanliness
• HEPA vacuum
• Procedures for laundering contaminated clothing
Health monitoring may include:

- Early reporting systems linked with periodic inquiries about signs and symptoms.
- Periodic medical tests and examination such as chest x-rays by Healthcare professional.
- Maintenance of records which link job and exposure records (ensure confidentiality).
- Review and re-evaluated on a regular basis to ensure the effectiveness of exposure control plan.
Asbestos Exposure Registry Program

Occupational diseases

- Contact Information
- Reporting and applying for compensation
- Registering exposure to a hazardous substance
- What is an occupational disease?
- Recognized occupational diseases
- Asbestos-related diseases
- Statistics
- Can I sue instead of claiming compensation?

Contact information

For general questions relating to occupational disease claims, call:

- Manager, Occupational Disease Services at: 604.231.8842.

To register an occupational disease claim including asbestos-related disease claims:

- Call Teleclaim at 1.888.WORKERS (1.888.967.5377), Monday to Friday from 8 am to 6 pm. The claims representative will also provide a user ID and password so that claim details can be viewed online.

For questions regarding fatalities and/or survivor benefits, call:

- Manager, Fatal and Survivor Benefits at: 604.231.8842

Reporting and applying for compensation for an occupational disease

Workers, employers, and treating physicians are required to report an occupational disease to WorkSafeBC.

View information on reporting and applying for compensation for an occupational disease.

Registering exposure to a hazardous substance

Due to the latency and long period of exposure required for the onset of some occupational diseases, WorkSafeBC has developed an Exposure Registry Program as a way for workers, employers, and others to register a worker’s exposure to a harmful substance at work.
Have you been exposed to a harmful substance or agent at work?

If you have, you may be entitled to compensation as set out under section 6 of the Workers Compensation Act if you develop an occupational disease due to the exposure — now or in the future.

Due to the latency and long period of exposure required for the onset of some occupational diseases, WorkSafeBC has created this new exposure registry as a way for workers, employers, and others to register a worker’s exposure to a harmful substance or agent at work. The information obtained through the registry will be kept as a permanent record of a worker’s exposure.

If your exposure has resulted in medical treatment or time loss from work, please complete an application for compensation

Phone 1 888 WORKERS (1 888 967-5377) or #5377 for TELUS, Rogers, and Bell mobility customers, Monday to Friday, 8 a.m. to 4 p.m. PST

To report a serious incident or fatality

Phone 1 888 621-SAFE (7233) Monday to Friday, 8 a.m. to 4 p.m. PST, or toll-free 1 866 WCB-HELP (922-4357) after hours.

I understand the information on this form is collected, used, and disclosed under the authority of the Workers Compensation Act and the Freedom of Information and Protection of Privacy Act. I acknowledge that WorkSafeBC may disclose this information to the worker, the employer, or their respective representatives, or to others in accordance with the Workers Compensation Act and the Freedom of Information and Protection of Privacy Act.

**Person submitting information**

- Worker
- Employer
- Other

* Indicates a mandatory field.
Worker Education and Training

Worker education and training includes:

- Hazards of asbestos
- Means of identifying and labeling ACM (e.g., brake pads, cement boards, spray insulations, pipe insulation in machine room, etc.)
- Correct use of PPE and required engineering controls
- Work procedures to be followed
- Purpose and significances of required health monitoring
- What to do if suspected ACM is encountered that has not been identified on inventory.
# Documentation

<table>
<thead>
<tr>
<th>Maintained for 3 Years</th>
<th>Maintained for 10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Control of fibre release</td>
<td>1. Asbestos inventory</td>
</tr>
<tr>
<td>2. Training and instruction of workers</td>
<td>2. Risk assessment</td>
</tr>
<tr>
<td>3. Written work procedures</td>
<td>3. Inspections</td>
</tr>
<tr>
<td>4. Notice of Project – Asbestos (NOPA)</td>
<td>4. Air monitoring</td>
</tr>
</tbody>
</table>
Exposure Control Plan

1. Purpose & Responsibilities
2. Risk Identification
3. Risk Assessment & Control
4. Written Work Procedures (hygiene facilities & decontamination)
5. Health Monitoring
6. Education & Training
7. Documentation

OHSR 6.3 and 5.54
Exposures - Hazardous Materials Exposures

The following links list tools, publications, and other resources to help prevent exposure to hazardous materials in the workplace. These resources may not meet all the requirements for health and safety in British Columbia. Please check the Workers Compensation Act, the Occupational Health and Safety Regulation, and related materials for specific WorkSafeBC requirements.

Asbestos

Profile on asbestos exposure (CAREX Canada)

OHS Regulation & Guidelines for Asbestos

OHS Regulation

- 6.1 to 6.32 Asbestos
- 20.2 Notice of Project
- 20.112 Hazardous Materials

OHS Guidelines

- G6.1 to G6.22 Asbestos
- G20.2(1)(a) to (c) Notice of project
- G20.112 Hazardous materials - asbestos

Multimedia

Asbestos (2 min., 16 sec.)

Asbestos in Demolition and Renovation (5 min., 10 sec.)

Asbestos Hazards in Renovations, Restorations, and Demolition (2 min., 55 sec.)
Occupational Health and Safety Regulation

Part 6: Asbestos
Handbooks

**SAFE WORK PRACTICES FOR HANDLING**

**ASBESTOS**

**BREATHE SAFER**

*How to use respirators safely and start a respirator program*

[Image of a person in protective gear and a respirator mask]
QUESTIONS