

The Vermont Department of Health

When is Asbestos a Public Health Threat? Town Health Officers (THO) Training



Guidance • Support • Prevention • Protection

Asbestos and Lead Regulatory Program

2013



When is Asbestos a Public Health Threat?

Town Health Officer (THO) Training

August 7, 2013

Presented by Vernon Nelson

Asbestos and Lead Regulatory Program Overview

- Asbestos and Lead Entity and Contractor Certifications
- Asbestos and Lead Abatement Permitting
- Asbestos and Lead Abatement Inspections
- AHERA (schools) Inspections
- Complaint Investigations
- Technical Assistance
- Public Education and Outreach



When is Asbestos a Health Threat?

- Asbestos is a health threat to humans. However, asbestos fibers are only dangerous if they are disturbed (such as during building renovation or demolition), which causes fibers to float in the air, allowing them to be easily inhaled.
- THO's may be contacted for assistance when this activity is associated with rental housing, commercial buildings or outdoor environments in the vicinity of public pedestrian traffic.

What is Asbestos?

- A **naturally occurring, fibrous**, group of minerals
- Has many beneficial properties
 - *Chemical resistance*
 - *Bacterial resistance*
 - *Incombustibility*
 - *Good thermal and electrical insulator*
 - *Good acoustic insulator*
 - *Tensile strength close to steel*
 - *Good flexibility*
 - *Abundant, inexpensive, virtually indestructible*



Asbestos



Common Asbestos Containing Products

Until the 1970s, many types of building products and insulation materials used in buildings and homes contained asbestos. Common products that might have contained asbestos in the past include:

- **STEAM PIPES, BOILERS, and FURNACE DUCTS** insulated with an asbestos pipe wrap, blanket, or asbestos paper tape
- **RESILIENT FLOOR TILES** (vinyl asbestos, asphalt, and rubber), the backing on **VINYL SHEET FLOORING**, and **ADHESIVES** used for installing floor tile
- **CEMENT SHEET, MILLBOARD, and PAPER** used as insulation around furnaces and wood burning stoves
- **DOOR GASKETS** in boilers, furnaces, and wood stoves
- **SOUNDPROOFING** or **DECORATIVE MATERIAL** sprayed on walls and ceilings
- **PATCHING AND JOINT COMPOUNDS** for walls and ceilings, and **TEXTURED PAINTS**
- **ROOFING, SHINGLES, and SIDING**

Common Asbestos Containing Products



**Thermal Systems
Insulation
(TSI)**



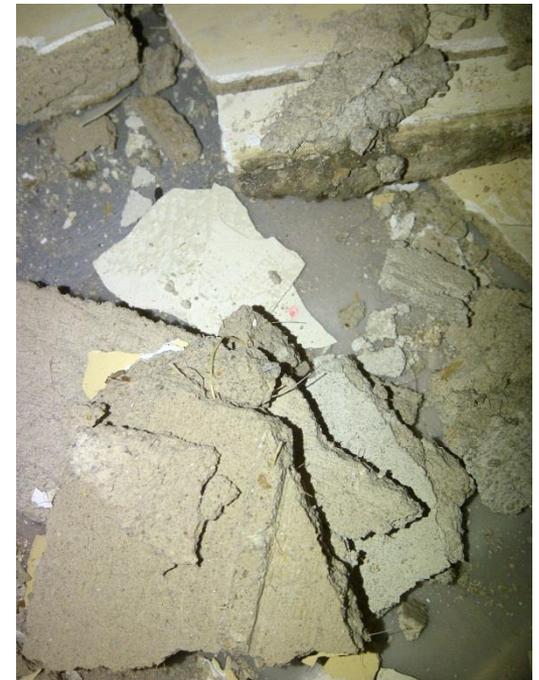
Common Asbestos Containing Products



Fireproofing



Gaskets / Rope



Plaster

Common Asbestos Containing Products



Lab Fume Hoods



**Cement Board
("Transite")**



**Wall Board/Ceiling
Systems and Coatings**

Common Asbestos Containing Products



**Resilient Flooring and
Mastics**



Cement Pipe

Common Asbestos Containing Products



Exterior Siding



Vermiculite



Ceiling Tiles

Common Asbestos Containing Products



Adhesives



Caulking, Glazing and Roofing Materials

Asbestos – Very Useful and Versatile...

....But With One Very Serious Downside

- Asbestos is a health threat to humans.
- Disturbing asbestos-containing materials (ACM) (such as during building renovation or demolition) causes asbestos fibers to dislodge and become airborne, allowing them to be easily **inhaled**.
- Exposure to asbestos can cause serious lung problems and cancer.

Why is Asbestos Harmful?

- When disturbed it can break down into sharp fibers and be breathed in.
- If inhaled, the body is able to resist most of the large fibers, but fine fibers too small to see can lodge deep in the lungs and remain there throughout life.
- Fibers can accumulate in the lungs and cause scarring and inflammation. Enough scarring and inflammation can affect breathing, which leads to disease.
- Three main diseases caused by asbestos exposure:
 - ***Asbestosis*** – scarring of the lungs
 - ***Lung cancer***
 - ***Mesothelioma*** - Cancer of chest or abdominal cavity

Which Types of Facilities or Premises May Have Asbestos Present?

- Answer... any type (most common in pre-1988)
 - *Schools*
 - *Factories*
 - *Offices*
 - *Farms*
 - *Hospitals*
 - *Homes*

Asbestos Has Been Banned... Right?

- **WRONG** - there is **not** a full **ban** on the use of asbestos, contrary to popular belief!
- Only a handful of products have been banned like:
 - *Pre-formed or wet-applied asbestos **pipe insulation** and asbestos **block insulation**.*
 - ***Spray-applied surfacing** asbestos-containing materials*
 - *Asbestos in **artificial fireplace embers** and **wall patching compounds***
 - ***Corrugated paper***
 - ***Rollboard***
 - ***Commercial paper***
 - ***Specialty paper***
 - ***Flooring felt***

Asbestos Imports Continue

- Asbestos has not been mined in the U.S. since 2002, but the U.S. **still** imports asbestos for manufacturing purposes.
- Asbestos use has been phased down by manufacturers, present usage is much lower than in the 1970's.
- **However, be aware that:**
 - *2011 asbestos consumption in the U.S. was estimated to be 1,180 metric tons. **Roofing products were estimated to account for about 41% of this** (source: USGS 2011 Minerals Yearbook).*
 - *Asbestos containing building materials are still being inadvertently installed.*

Where Might Asbestos be Found in Modern Products?

- The manufacture, importation, processing and distribution in commerce of these products, as well as some others not listed, are not banned.
 - *Vinyl floor tile and mastics*
 - *Roofing felt*
 - *Roof coatings*
 - *Cement sheets, shingles and pipes*
 - *Pipeline wrap*
 - *Friction materials*
 - *Gaskets*
 - *Non-roofing coatings*

What is ACM?

- **Asbestos Containing Material**
 - *Also known as ACBM (asbestos containing building material).*
- Any material containing more than 1% of asbestos by weight.
- ACMs are subject to Vermont and EPA asbestos regulations.
 - *This does **not** mean that materials containing less than 1% asbestos are always safe – exposure risks are possible if these materials are subjected to dust-producing activities.*
- Can be “friable” or “non-friable.”
 - *Friable = able to be crushed or reduced to powder under normal hand pressure.*
 - *Friable ACMs have a high potential to release asbestos fibers to the air if improperly disturbed.*
 - *Non-friable ACMs can easily become friable if subjected to dust-producing activities such as sawing, drilling, sanding, and crushing.*

Vermont Regulations for Asbestos Control (VRAC)

- An **asbestos inspection is required** for a building slated for demolition/renovation.
 - *Must be conducted by a Vermont-certified Asbestos Inspector.*
- **Any necessary removal of ACMs** must be done by a Vermont-certified Asbestos Abatement Contractor (*certification exemption for some ACMs – “Section 6” materials*)
 - *All ACMs must be removed prior to demolition.*
 - *For renovations – only the ACMs that will be disturbed by the renovation need to be removed.*
- **10 day advance notification for all demolitions** (regardless of the presence of asbestos) and permit-required abatements (>10 sq. ft. or 10 ln. ft. of ACM).
- Abatement activities must be done in accordance with the prescribed work practices and air-clearance criteria set forth in the Regulations.
 - *Of utmost importance is the control of emissions through the use of wet methods, filtered ventilation systems, and prompt cleanup/disposal.*
- Recordkeeping and post-abatement submittal requirements (including waste disposal documents).

EPA Regulations

- 40 CFR 61 Subpart M: National Emission Standards Hazardous Air Pollutants (NESHAP) require **inspections** before demolition/renovation
- All friable **asbestos removed** prior to demolition
- EPA **notification**: 160 square feet or 260 linear feet
- Disposal manifests, keep copies, signed copy received within 45 days
- Adequately wet
- No visible emissions

VOSHA Regulations for Worker Protection

- Applicable to work place health and safety
- 29 CFR 1910.1001 - General Industry
- 29 CFR 1926.1101 – Construction
- Permissible exposure limits (0.1 f/cc 8 hr TWA)
- Employee monitoring
- Work practices
- Training

Town Health Officers may Receive Asbestos Related Tips and Complaints from Various Sources

- Tenants/occupants concerned about exposure risk concerns
- Neighboring Property Owners
- General Public in close proximity
- Construction Contractors
- Other State Health or Environmental Staff

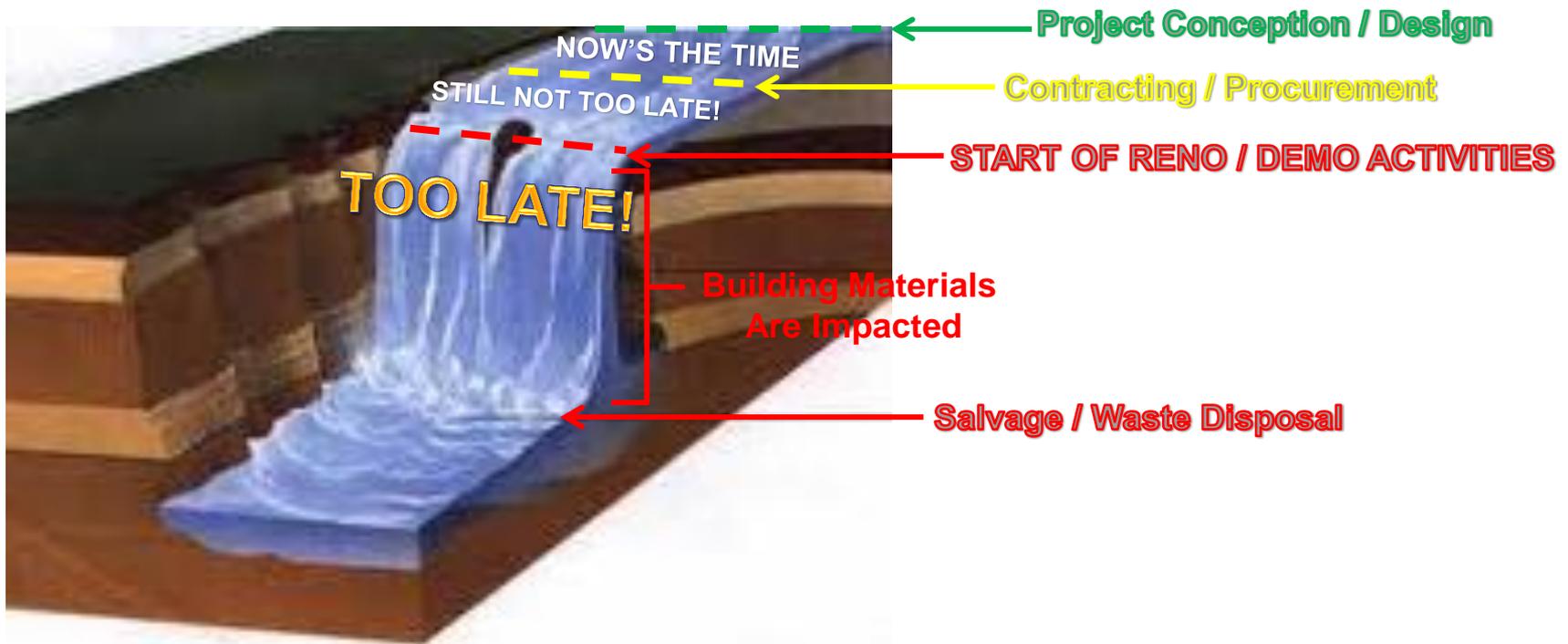
Please Refer to the THO Manual for Useful Tools and Documentation

- Tip/Complaint Investigation Form
- Health Orders – Cease and Desist, Corrective Actions
- Photos are worth a thousand words on complaint investigations
- Forward preliminary tip/complaint intake or follow up assistance information to the Asbestos and Lead Regulatory Program

Building Reno/Demo – *the Proper Sequence of Events*

1. Inspection by VT-certified Asbestos Inspector.
2. 10-day advance Notification of Demolition/ACM Removal to VT DOH and when applicable (NESHAP) to USEPA.
3. Asbestos abatement permit application to VT DOH (10 days in advance) and permit issued.
4. Removal of all ACMs by VT-certified Asbestos Abatement Contractor.
5. Air clearance by VT-certified Asbestos Consultant.
6. Disposal of all asbestos waste at a landfill approved to accept this type of waste.
7. Demolition of building **after** asbestos abatement project is complete and 10-day advance notification period is over.

When to Ask the “Asbestos Question”



For guidance and information resources:

Please visit the Vermont Department of Health's (VDH) Asbestos Regulatory Program Web page for more information including a listing of Vermont Licensed Asbestos Inspector/Consultants and Asbestos Abatement Contractors:

<http://healthvermont.gov/enviro/asbestos/index.aspx>

Contact VDH Asbestos and Lead Regulatory Program by telephone at (800) 439-8550

For Federal Regulations Visit USEPA's Asbestos website
www.usepa.gov/asbestos

VOSHA – Asbestos in Construction Standard

Applicable to workplace health and safety, to protect workers from exposure to asbestos in association with construction .

Find out more at: <http://www.osha.gov/asbestos>