

**OSC | 10**  
Ohio Safety Congress & Expo

**Hidden asbestos hazards in public buildings: Dealing with asbestos**  
505

Larry R. Cogley, CAHES

Tuesday, March 30, 2010 2:15 to 3:15 p.m.

**Continuing Nursing Education Disclosures**

- **Goal:** To educate conference attendees on specific aspects of accident prevention and Ohio's workers' compensation system
- **Learning objectives:**
  - Recall the history of asbestos use, health issues, regulatory framework, and identification, location, proper handling; and
  - List how/when to dispose of asbestos containing materials.
- **Criteria for Successful Completion:** Attend the entire event and complete a session evaluation.
- **Conflict of Interest:** The planners and faculty have no conflict of interest.
- **Commercial Support:** There is no commercial support for this event.
- **Continuing Education:** Awarded 0.1 IACET general CEUs and 1.0 RN\* contact hour.

\*The Ohio BWC (OH-188/01-01-2013) is an approved provider of continuing nursing education by the Ohio Nurses Association (ONA-001-91), an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

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**Ohio**

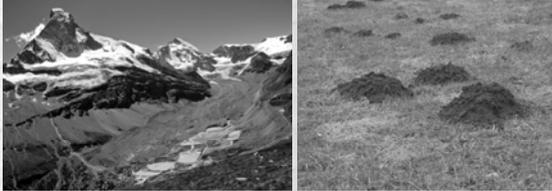
Ohio Safety Congress & Expo  
March 30, 2010

Hidden Asbestos Hazards in Public Buildings

By:  
Larry R. Cogley, CAHES

**BURGESS & NIPLE**  
Engineers • Architects • Planners

**Mountain or Molehill?**



- Let us ask ourselves this question:  
Why should we be concerned with hidden asbestos hazards in public buildings?
- Lets look into the issues and **you be the judge.**

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**Senate Resolution**

- Every year by resolution, the United States Senate designates the first week of April as National Asbestos Awareness Week.
- Why do they do this??



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**Senate Resolution (continued)**

- To warn and educate Americans on the severe hazards of asbestos exposure:
- "Thousands of workers in US face significant asbestos exposure."
- "Approximately 10,000 people in the US die from asbestos related diseases each year."



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### Senate Resolution (continued)

- In 2002, a “**Ban Asbestos Bill**” (S.742) was introduced into the US Senate. In 2007, the Senate passed S.742 to ban nearly all production, distribution, and installation of asbestos containing materials. However, no action has ever been taken on the matter in the House. Therefore, it has not become law.
- Countries that have passed national asbestos bans include Argentina, Australia, Austria, Bahrain, Belgium, Brunei, Bulgaria, Chile, Denmark, Egypt, Finland, France, Gabon, Germany, Honduras, Iceland, Ireland, Italy, Japan, Jordan, Kuwait, Latvia, Luxembourg, Netherlands, Norway, Oman, Poland, Qatar, Romania, Saudi Arabia, Singapore, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, United Kingdom, and Uruguay.



### Message: Asbestos is Hazardous to Human Health

- Asbestos can be found everywhere and anywhere there are modern building materials. *We don't want to hide our head in the sand to the issue!*
- During building renovation, demolition or operation and maintenance:
  - If addressed CORRECTLY, asbestos hazards can be effectively controlled or eliminated.
  - If ignored, asbestos can become a HUGE problem.



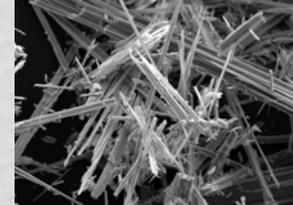
### Discussion Topics

- What is **asbestos**?
- What are the health issues?
- Where are **asbestos** containing materials?
- What regulations apply to renovation or demolition projects?
- What are proper procedures for dealing with **asbestos**?



### What Is Asbestos?

- Group of naturally occurring fibrous silicate minerals
- Mined, processed, and used in thousands of products
- *Asbestos > 1% hazardous to human health*



### Asbestos Use (The Real Beginning)

- Word “asbestos” comes from Greek adjective meaning inextinguishable or indestructible
- First documented use: 2500 BC (Scandinavia)
- Greeks called it “miracle mineral”
- Romans used the material for tablecloths



### Where Do We Get Asbestos?

Canada  
China

Brazil  
India



Africa





### Public Buildings/Infrastructure (cont.)

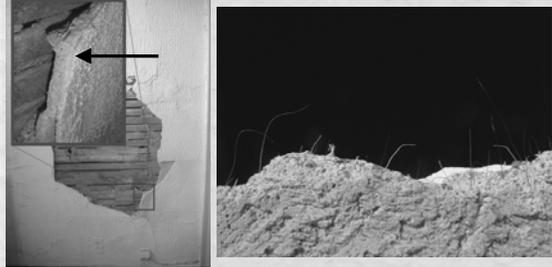
- Floor and ceiling tiles and mastic
- Ceiling treatments (textured paints, acoustical ceiling panels)
- Plaster, dry wall, spray applied acoustical treatments (popcorn)



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### Public Buildings/Infrastructure (cont.)

- Plaster walls/ceilings



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### Public Buildings/Infrastructure (cont.)

- Attic, wall insulation (vermiculite)



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### Public Buildings/Infrastructure (cont.)

- Caulking and glazing compounds



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### Public Buildings/Infrastructure (cont.)

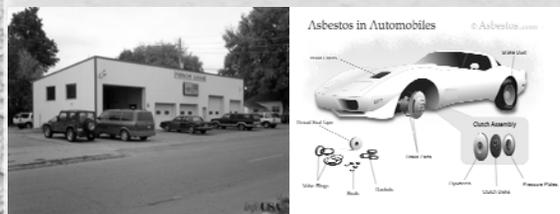
- Boilers (insulation, internal tiles, and mortars)



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### Public Buildings/Infrastructure (cont.)

- Repair facility (garages)
- Public vehicles



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**Public Buildings/Infrastructure (cont.)**

- Laboratory countertops and hoods



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**Public Buildings/Infrastructure (cont.)**

- Office areas



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**Public Buildings/Infrastructure (cont.)**

- Auditoriums, theaters, assembly halls



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**Public Buildings/Infrastructure (cont.)**

Highway Structures	Roads	Tunnels
<ul style="list-style-type: none"> <li>•Permanent formwork to bridge decks</li> <li>•Early bridges (concrete)</li> <li>•Concrete patching materials</li> <li>•Joint fillers/mastics</li> <li>•Drainage conduits</li> <li>•Utility lines</li> <li>•Bearing pads</li> <li>•Railing gaskets</li> </ul>	<ul style="list-style-type: none"> <li>•Drainage conduits, communication ducts, troughs, and electrical ducts and chambers</li> <li>•Panels in signal box</li> <li>•Back panels and fuse assemblies in street lighting columns, lanterns, and other jointing cabinets/enclosures.</li> </ul>	<ul style="list-style-type: none"> <li>•Build up of dust deposits behind claddings and on ceilings from vehicle brake linings, etc.</li> <li>•Asbestos cement ventilation ducting and cladding panels</li> <li>•Insulation, lagging and lining for fire protection to pipe work and cables</li> <li>•Tank coverings, sumps and debris, tiling, and roofing materials</li> </ul>

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**Public Buildings/Infrastructure (cont.)**



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**Public Buildings/Infrastructure (cont.)**

- Water, storm and sanitary sewer lines (exterior)



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### Past Asbestos Uses



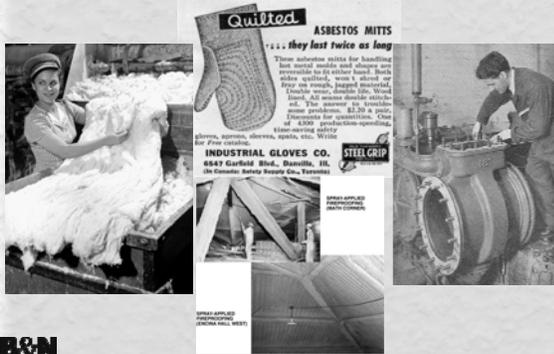
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### Past Asbestos Uses (continued)



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### Past Asbestos Uses (continued)



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### Past Asbestos Uses (continued)



"It's a Wonderful Life" (1946) Jimmy Stewart

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### Past Asbestos Uses (continued)



"The Wizard of Oz" (1939) Judy Garland

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### Relevant Regulations

Regulation	Threshold Amounts	Applicable Activities
OSHA (Occupation Safety and Health Administration) •29CFR 1926 (Construction) •29CFR 1910 (Personal Protection)	Any	Worker protection
AHERA (Asbestos Hazard Emergency Response Act) •40CFR 763 Subpart E	> 3 square feet disturbed	Schools
ODH (Ohio Department of Health) •OAC 3701-34	50 linear/square feet	All abatement activities Licensing
NESHAP (National Emissions Standards for Hazardous Air Pollutants) •40CFR 61 Subpart M •OAC 3745-20	260 linear feet/160 square feet/35 cubic feet	Removal Handling Disposal

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## When Is Regulation Required?

Regulation	Public or Regulators?
OSHA	Notices posted prior to abatement in adjacent work areas. Occupants notified when inspection/abatement activities are to occur. PUBLIC
AHERA	Notices posted when abatement is occurring in occupied school buildings. PUBLIC Students/guardians notified annually of any inspection or abatement activities scheduled. PUBLIC
ODH	Notice required prior to the commencement of abatement activities above threshold amount. REGULATORS
NESHAP OAC 3745-20	Notice require prior to ALL demolition activities and any abatement activities above threshold amount (either demolition or renovation). REGULATORS

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## Inspection Requirements

- Prior to renovation or demolition a facility must be thoroughly inspected for asbestos (NESHAP Rule 40 CFR 61 Subpart M).
- In Ohio the inspection must be conducted by someone certified by Ohio Department of Health (Certified Asbestos Hazard Evaluation Specialist, CAHES).
- The inspection locates, identifies, quantifies, and evaluates the condition of suspect asbestos containing materials.

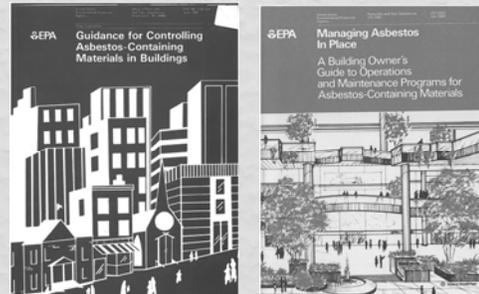
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## Notification Requirements

- Owner must notify public prior to abatement in adjacent work areas.
- Contractor must notify regulators prior to **ALL** abatement activities.
- Contractor must submit asbestos report and *OHIO ENVIRONMENTAL PROTECTION AGENCY NOTIFICATION OF DEMOLITION AND RENOVATION FORM*.

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## EPA Guidance Manuals



[www.epa.gov/asbestos](http://www.epa.gov/asbestos)

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## Handling and Disposal Requirements

- Contractor must be ODH certified.
- Handling requirements will include:
  - Wetting down materials.
  - Certified workers wearing appropriate safety gear.
  - Proper packaging.
- Disposal requirements include:
  - Record keeping.
  - Disposal at asbestos certified landfill.



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## Who Is Responsible?

- When things go bad, who is left holding the bag?

NOT ONLY WAS I LEFT HOLDING THE BAG, IT WAS FULL OF TOXIC WASTE.



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### Who Is Responsible? (continued)

- Owner/operator – ALWAYS considered a responsible party by OEPA
- Also abatement contractors, demolition contractors, general contractors

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### Control Options

- Operation and Maintenance (O&M)
  - Asbestos hazard remains
  - Minimal facility disruptions
  - No/or little waste generated
- Encapsulation
  - Liquid penetrate or solid is used to surround and/or embed asbestos to prevent fiber release
  - Hazard remains

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### Control Options (continued)

- Enclosure
  - Air tight barrier between asbestos and building environment (similar to encapsulation)... hazard remains
- Repair
  - Removing (limited) damaged asbestos and patching ... hazard remains
- Removal
  - Total removal and disposal at landfill

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### Summary

- During building renovation, demolition or operation and maintenance:
  - If addressed CORRECTLY, asbestos hazards can be effectively controlled or eliminated.
  - If ignored, asbestos can become a HUGE problem.
- Owner/operator- ALWAYS considered a responsible party by OEPA.
- Protect workers from exposure and protect owner from liability.

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### Credits

- Bob Princic – Ohio EPA Northeast District, Environmental Supervisor;
- Christopher Williams – Environmental Sanitarian, Akron Regional Air Quality Management District;
- Louis Burnoski – Burgess & Niple

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### Conclusion

- Asbestos is very common construction material;
- Inhalation or ingestion of airborne fibers can cause significant health damage or death;
- 10,000 Americans die each year;
- **There is no cure;**
- So, should we be concerned with hidden asbestos hazards?
- **You be the judge.**



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# THE END



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