Welcome!
Today’s Workshop is Asbestos, Part II

There are 6 types of asbestos:
- Chrysotile
- Amosite
- Crocidolite
- Tremolite
- Anthophyllite
- Actinolite
Why are you here?

- Required by law and NH Solid Waste Rules.
- Build your resume
Why this Workshop?

Asbestos, Part II

- Tie together the concepts you learned in Basic Training and previous Asbestos Workshops.
- Learn how to manage and identify asbestos within the constraints of your SW Permit.
Asbestos, Part I

- Health Concerns of Asbestos
- History of Asbestos Use & Production
- Overview of Current Uses of Asbestos & Asbestos in the Waste Stream
- Asbestos Regulations: Soup to Nuts
- Best Management Practices
Today’s Agenda

- Why & How Asbestos is Regulated
- Asbestos at SW Facilities
- Shipping Asbestos
- Activity
  - Outlining an Asbestos Response Plan
  - Implementing an ARP
  - Public Education & Disposal Options
Why & How Asbestos is Regulated

Thomas E. Livingston
NHDES Air Division
Asbestos

HEALTH AND SAFETY CONCERNS
Asbestos – Naturally Occurring Mineral

- Most Common Types
  - Chrysotile (Fibers)
  - Amosite (Needles)
  - Crocidolite (Needles)

- Two Forms
  - Friable
  - Non-Friable
Diseases associated with inhalation exposure to asbestos fibers

- Lung cancer
- Mesothelioma
- Asbestosis

Asbestos Fibers Will Lodge Deep in Lungs

Latency period
10 to 40 years before symptoms
Inhalation exposure occurs when airborne fibers are breathed in and deposited deep within the lung tissue.
Factors that determine risk for developing disease

- Dose
- Duration of exposure
- Frequency
- Other environmental irritants
- Genetic predisposition
First & Second Hand Exposure

- You (inhalation, clothing, shoes)
- Your Co-Workers
- Residents
- Family and Friends
Rules and Regulations

BRIEF OVERVIEW
Federal Requirements

- 40 CFR 61 US EPA
  - Mandates Inspections
- 49 CFR 107, 171-173 US DOT
  - Packaging and Transport
- 40 CFR 763 AHERA
  - Training for Inspectors
- 29 CFR 1926 OSHA
  - Employee Safety
State Requirements
NH Department of Environmental Services

Air Resources Division: Env-A 1800
- Requires that Inspections for Asbestos be Conducted
- Establishes Work Practices for Asbestos Abatement Activities
- Requires that Asbestos Abatement and Asbestos Disposal Site Contractors and Workers be Trained and Licensed

Waste Management Division: PART Env-Sw 901
- Establishes Requirements for the Collection, Packaging, Storage, Transportation and Disposal of Asbestos Waste
Local Requirements
City & Town Governments

- Building & Code Department Permitting
- Notification
  1. Code Department
  2. Health Officer
  3. Abutters
Homeowners can do their own asbestos abatement work...

- Only applies to single-family owner occupied residence.
- Must not be sold for six months after asbestos abatement.
- Must still follow the work practices, properly package, and properly dispose of the ACM per Env-A 1800, as would a Certified or Licensed worker.
Pre-Demo Inspection

40 CFR 61
and
Env-A 1800

Mandates that materials which will be disturbed be inspected by a “COMPETENT” person, prior to being demolished.
Pre-Demo Inspection

Env-A 1800 defines “COMPETENT” as:

“Capable of identifying asbestos hazards in a commercial, private, or residential structure, and who has completed, at a minimum, a training course for asbestos inspectors meeting the requirements of 40 CFR 763, Subpart E, Appendix C, Section I: 1,A.”
Pre-Demo Abatement

1. 40 CFR 61

2. Env-A 1800

Mandates that all Asbestos Containing Building Materials (ACBM) be “REMOVED” by a licensed asbestos abatement contractor, prior to the demolition of the building in which the ACBM is located.
Packaging Requirements

- All waste is to be packaged “Wet”.
- Packaging must allow no “Visible Emissions”.
- Packaging must be “Sealed”.
- Packaging must be properly “Labeled”.
- Packaged waste must be stored in a “Secure” location.
Identifying Asbestos

ASBESTOS IN THE SOLID WASTE STREAM
Demolition & Renovation Projects
Asbestos Hazards

*NHDES receives 1200 demolition/renovation notifications per yr.*
Some Common Products Containing Asbestos

- Vinyl Flooring - tile/sheeting, backing & mastics
- Boiler & Pipe Insulation and Cements
- Transite (Siding, Roofing, Pipe, etc.)
- Asphalt Roofing Materials
- High Temperature Gaskets
- Caulking and Putty
- Dry Wall, Plaster & Joint Compound
- Friction Devices
- Vermiculite

By the way, did you know that you can still purchase items that contain asbestos?
Vinyl Floor Tile
Ceiling Tile
Roofing

Shingles

Flashing/Caulking

Insulation

Concrete or Asphalt Cements
Where might you find asbestos here?
ASBESTOS SOLID WASTE RULES
(Env-Sw 901)

Melanie Doiron WMS III
NHDES Solid Waste Management Bureau
How is Asbestos Waste Regulated in NH?

Law: RSA 149-M
Rule: CHAPTER Env-Sw 900
PART: Env-Sw 901

This Rule applies to:

• Collecting, Storing and Transferring
• Processing and Treating
• Disposal
• Reuse and other Limitations
• Transporting, Packaging, Labeling
• Testing and Reporting
What is Asbestos Waste?

- A solid waste that contains more than one percent asbestos by weight;
- Any asbestos-containing solid waste that is collected in a pollution control device designed to remove asbestos; and
- The entire volume and weight of any waste identified in the above when mixed with any other material or any solid waste.
Remember...
Asbestos can be found here

- Thermal Insulation
- Roofing Materials
- Spray on Insulation
- Floor Tiles
- Vinyl Sheet Flooring
- Adhesives
- Ceiling Tiles
- Siding
- Other Materials
Is Your Facility Prepared to Accept Asbestos Waste?

- Are you authorized/permitted to accept asbestos at your facility?
- Can you properly handle/or store it?
- Do you have written procedures in place, for when it comes into your facility?
Section IV: Terms and Conditions

- **Authorized Waste:** This permit authorizes the facility to receive and store asbestos waste generated from the Permittee’s contracted asbestos abatement projects.

- **(2) Facility Capacity:** Pursuant to Env-Sw 1204.04, the rate of incoming authorized waste shall be limited to 30 tons per day, on average, but in no case shall the rate exceed the quantity of waste the facility is able to actively manage and properly handle and process in accordance with this permit.

- **(3) Location Restrictions:** The location of the facility shall comply with siting requirements provided in Env-Sw 1203, except for the setback requirements specified in Env-Sw 1203.01(b).
Asbestos Waste Holding Facilities for Abatement Contractors

Env-Sw 407.06

Eligible for a PbN to receive and store asbestos if:

- Hold a current license (Env- A 1800)
- Meet certain requirements
  - Waste from contracted projects (limited private company)
  - Only employees of permittee (certified) can handle waste
  - 100 cyd max stored at facility
- Other requirements i.e. Env-Sw 901
What is Needed To Prepare?

Accepting it (authorized)
- Permits- type, approvals
- A written plan
- Prepare- training, handling, storing, shipping

Unexpected (gift)
- Prevention
- A written plan
- Prepare- training, handling, storing, shipping
Is Your Facility Prepared to Manage Asbestos Waste?

- Do you know Your BMPs?
- Do you Have PPE? respirators/mask, clothing, footwear
- Are you Familiar with Rules? -which ones are applicable?
What Training Do I Need if I am to Handle Asbestos?

Env-Sw 901.08

Personnel handling asbestos must be trained and equipped as required by 29 CFR 1910 (federal) and Env-A 1800 (state)
Env-Sw 901 Asbestos

What do these rules apply to?
- Friable and Non- Friable Asbestos Waste
- Material that is potential asbestos (visual, form, function)
- Wastes and materials combined with asbestos waste
- From point of origin (generator) to disposal
Your Facility **Must** Prevent Releases
How is Asbestos Waste Treated to Prevent Releases?

- Quarantine the area/pile
- Spray with water
- Cover so it cannot become airborne
- Any other equivalent method
How To Package and Label Asbestos Prior to Storing, Transporting, or Disposal

Env-Sw 901.03

- Treat Friable: Spray water, cover or seal
- Bags: 6 mil (or equivalent)/one time use
Where/How Can Asbestos Waste be stored?

- In area restricted from public access
- Protected from elements (wind/water)
- Regularly Monitored (assures site security)
- Posted with signs

Env-Sw 901.02 (d)
What Needs to be Posted?
Env-Sw 901.02 (d)(4)

- Danger
- Asbestos Waste Storage Area
- Dust, cancer, and lung hazard
- Authorized personnel only
Who Needs to be Notified?

Env-Sw 901.02(e)

Local Fire Officials
- You have asbestos
- Where it is located

Why Notify?
So they can be prepared for potential hazards, in case of a fire
Where Can it be Dispose of?

Only to a landfill facility authorized to receive asbestos waste Env-Sw 901.04
What Records are Needed When Transporting?  Env-Sw 901.06

- Waste shipment records must accompany all asbestos waste when transported (40 CFR 61)
- Comply with USDOT regulations
- Notify the landfill prior to delivery
Final Disposal of Asbestos (LF)
Env-Sw 901.04

- Sent to an authorized landfill (permit)
- Treated and packaged properly
- LF must be properly equipped and staffed (PPE/ trained staff/ equipment for wetting and decon)
- Prepare disposal area –place and cover immediately/ must prevent releases
- Non-rigid containers must be disposed if exposed
- Cover immediately (3 feet waste/ 18 in. soil)
- Keep records that identify area (map-location, depth, area, quantity)
What if I Have a Spill (> 1 lb, friable)?

Env-Sw 901.07(a)

- Must report it Immediately: NHDES Air Resources, Department of Safety, National Response Center
What’s In Your Operating Plan?

Can the facility accept asbestos?
• List authorized and prohibited waste
How is it managed?
• Waste acceptance /rejection procedures
Is there a plan?
• Contingency plan/ Training
Where is it shipped? Where does it go?
• Disposal options
What records/reporting is need?
• Shipment papers/ AFRs/ Inspections
ONE DOES NOT SIMPLY END A PRESENTATION WITHOUT ANSWERING QUESTIONS
Shipping Asbestos to an Authorized Destination

Thomas E Livingston
NHDES Air Division
Asbestos

PREPARING A SHIPMENT FOR FINAL DISPOSAL
Standard Waste Bag

- OSHA Warning
- DOT Information
- Generator Label
Packaging

- Non-Bulk Packaging
- Asbestos bags, Fiber drums, Gaylords, other leak proof containers usually used for small quantities
Bulk Packaging

Placing waste directly into lined transport vehicles such as dumpsters, dump trucks, dump trailers. Liner must be leak proof and be a minimum of 20 mil thickness of polyethylene or its functional equivalent.
Transportation Documentation

- USEPA: Waste Shipment Records
- USDOT: Waste Shipping Papers
Asbestos

RECORDKEEPING AND REPORTING
### The Waste Shipment Record

- **WHO OWNED THE ASBESTOS?**
- **WHERE DID IT COME FROM?**
- **WHO REMOVED AND PACKAGED IT?**
- **WHO TRANSPORTED THE ASBESTOS?**
- **WHO IS RECEIVING THE ASBESTOS?**

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**WASTE SHIPMENT RECORD**

<table>
<thead>
<tr>
<th>1. Work site: Name: Mailing Address: City/State/Zip:</th>
<th>Owner’s Name</th>
<th>Owner’s Telephone #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Remover’s name and address: Name: Mailing Address: City/State/Zip: He-P 5000 License #:</td>
<td>Remover’s Telephone #</td>
<td></td>
</tr>
<tr>
<td>3. Waste Disposal Site (WDS), meaning the facility that will receive the waste: Name: Mailing Address: City/State/Zip: Physical Location:</td>
<td>WDS Telephone #</td>
<td></td>
</tr>
<tr>
<td>4. Name and address of responsible agency: NH Dept. of Environmental Services, 304 Hazen Drive, Concord, NH 03302-0006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Description of materials: Name: Asbestos Division Class #: 9 Identification #: NA2212 Packing Group #: III Reportable Quantity (RQ): 1 lb (one pound)</td>
<td>6. Containers No. Type</td>
<td>7. Total quantity (m² or yd³)</td>
</tr>
<tr>
<td>8. Special handling instructions and additional information (provided by generator):</td>
<td>Emergency Telephone #</td>
<td></td>
</tr>
<tr>
<td>9. GENERATOR’S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printed/typed name &amp; title</td>
<td>Signature</td>
<td>Month Day Year</td>
</tr>
<tr>
<td>10. Transporter 1 (Acknowledgment of receipt of materials) Printed/typed name &amp; title</td>
<td>Address and telephone #</td>
<td>Month Day Year</td>
</tr>
<tr>
<td>Signature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Transporter 2 (Acknowledgment of receipt of materials) Printed/typed name &amp; title</td>
<td>Address and telephone #</td>
<td>Month Day Year</td>
</tr>
<tr>
<td>Signature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Discrepancy indication space: Rejected: Yes ☐ No ☐</td>
<td>Destination:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12. Printed/typed name &amp; title</td>
<td>Signature</td>
<td>Month Day Year</td>
</tr>
</tbody>
</table>
Any Questions?

THANK YOU
It is a Group Effort!
Outlining & Implementing an Asbestos Response Plan

Group Activity led by your instructors to assist you in developing an asbestos response plan that can be added to your Operations Plan required through your permit.

Hint
This is what NOT to do!
Asbestos

EDUCATION & RECAP
Problems Can (& WILL) Result When

- A homeowner or contractor who is not “Competent” conducts the inspection.
- A homeowner or contractor who is not knowledgeable removes the Asbestos.
- The inspector is not able to see the ACM during the pre-demo inspection.
BMP - Asbestos Waste

Ask the Resident/Contractor:

- Where did the waste material come from?
- Was an asbestos survey completed before beginning the demolition/renovation project?
- If so, was all asbestos properly removed and disposed of before bringing the waste to the transfer station?
- How old was the building from which the waste came from?
Education for Residents

THE DANGERS OF ASBESTOS IN YOUR HOME

Asbestos is a naturally occurring material that is used frequently in construction. However, when asbestos is damaged and fibers are released into the air, they pose a health risk.

Asbestos can cause asbestososis, mesothelioma, and lung cancer.

Asbestos can be found in up to 4,000 different materials including:

- Exterior surfaces (Window putty, roof shingles, transite siding, and roof felt)
- Interior Surfaces (Popcorn ceilings, woodstoves, wall texture, and acoustical tiles)
- Heating and Ventilation (Cover gaskets, pipe insulation, and duct coverings)
- Flooring (Vinyl asbestos sheets, mastic, tiles, and undershetting)

Before renovating your home, it is important to make sure you aren’t disturbing any asbestos. You can do this by taking a sample of any suspicious materials and sending it to a lab to be tested. Follow these steps to take a sample:

1. Wet down material lightly before taking a sample.
2. Be careful to not disturb any more material than necessary to minimize risk.
3. Collect a thumb-sized sample and place it in a small glass jar or plastic bag.
4. Clearly label where and when the sample was taken, as well the color and type of material.
5. Send the sample to a lab for analysis. Make sure to take a sample of all suspicious materials.

If you’re planning a renovation or demolition and don’t want to take samples, you can hire a certified inspector to survey your home.

This survey will identify asbestos-containing materials that will be disturbed during the renovation or demolition, so proper techniques can be applied to minimize risk.

For a list of certified asbestos inspectors, contractors, and labs, call LRAPA at (541) 736-1056, visit www.lrapa.org or email us at asbestos@lrapa.org.
Asbestos in the Home

*Asbestos usage has declined dramatically and in several cases, its usage has been banned. As a result, older homes are more likely to be at risk.

**A** Exterior Surfaces
1. Roof Felt and Shingles
2. Window Putty
3. Cement Asbestos Board Siding / Undersheeting

**B** Insulation
1. Vermiculite Insulation
2. Batt Insulation

**C** Flooring
1. Vinyl Asbestos Flooring Material

**D** Interior Surfaces
1. Sprayed-on Ceiling Material
2. Textured Paint

**E** Boilers, Heating and Piping
1. Heat Source Covering
2. Door Gaskets
3. Duct Lining
4. Valve Gaskets and Lining

**F** Electrical Equipment
1. Recessed Lighting
2. Wiring Insulation
3. Fuse Boxes
4. Outlets

**G** Appliances
1. Refrigerators / Freezers
2. Range Hoods
3. Woodstoves (Heat Reflectors)
4. Clothes Dryers

**H** Miscellaneous
1. Fireplace Logs

**J** Automotive
1. Brake Linings, Gaskets, and Clutch Facings
If you have any concerns:

- Do not accept the waste.
- Handout NHDES’ Asbestos Brochure.
- Direct them to Contact NHDES for assistance.
...and above all, remember...