

Registration

The registration deadline is **Wednesday, September 17, 2008**. Participation is limited to 95 attendees in Westford and 50 at Brown University, so early registration is advised.

Register on-line at: www.newmoa.org/cleanup/cwm/vapor2008

Payment

The Workshop fee is \$100 (\$40 for government and academia). Continental breakfast and lunch are included. Payment is required upon registration and prior to the workshop.

There are three ways to pay for this workshop:

- By check payable to NEWMOA, Federal ID# 042901917. Mail to NEWMOA at 129 Portland Street, Suite 602, Boston, MA 02114-2014.

- By credit card payment via paypal. Please have your credit card ready when registering on-line.

-For staff from NEWMOA state programs only, NEWMOA can invoice your department. (Please get prior permission from your director/supervisor.)

Directions and Accommodations

September 23, 2008: Westford Regency Inn
219 Littleton Road
Westford, MA 01886
(978) 692-8200
www.westfordregency.com

September 24, 2008: Brown University
Barus and Holley Building, Room 190
182 Hope Street
Providence, RI 02912
www.brown.edu/Administration/Admission/visitbrown/directions.html

Northeast Waste Management Officials' Association (NEWMOA)

NEWMOA is an interstate organization that was established by the New England Governors and recognized by the EPA in 1986. The Association's membership is composed of the state environmental agency directors of hazardous waste, solid waste, waste site cleanup, underground storage tank, and pollution prevention programs in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. NEWMOA helps states articulate, promote, and implement economically sound regional programs for the enhancement of environmental protection. NEWMOA promotes the efficient sharing of state and federal resources and assists states in information sharing, training, and education.

Continuing Education Credit

The Massachusetts Licensed Site Professional (LSP) Board has approved this workshop for 6 continuing education credits, course number 1365. The Connecticut Licensed Environmental Professional (LEP) Board has approved this workshop for 5½ continuing education credits, course number CTDEP-254. Certificates will be handed out at the end of the workshop.

Workshop Fee & Deadline

The workshop fee is \$100 with a special rate of \$40 for government and academia. The workshop fee includes a continental breakfast and lunch. The **deadline** for registration is **Wednesday, September 17, 2008**.

Additional Information

If you have any questions regarding the Workshop, please contact Jennifer Griffith at NEWMOA at (617) 367-8558 ext. 303, jgriffith@newmoa.org.

Brown University's Superfund Basic Research Program (SBRP)

SBRP brings together scientists with interdisciplinary training from different backgrounds to work together in a cooperative and synergistic enterprise. Biomedical researchers aim to develop new approaches to evaluating toxicant responses in sensitive and susceptible individuals that can be applied to real world exposure scenarios involving complex mixtures. Engineering researchers extend their laboratory-based research to modeling and remediation of complex polluted sites using novel materials and strategies. Together with members from the Rhode Island Departments of Health and Environmental Management the team works to better understand human health consequences and the management of contaminated sites in Rhode Island and other heavily industrialized states.



The workshop is made possible through funding from Brown University's Superfund Basic Research Program and the US EPA Brownfields Program



VAPOR INTRUSION IN COMMERCIAL AND INDUSTRIAL BUILDINGS: ASSESSMENT & MITIGATION

Co-Sponsored By:

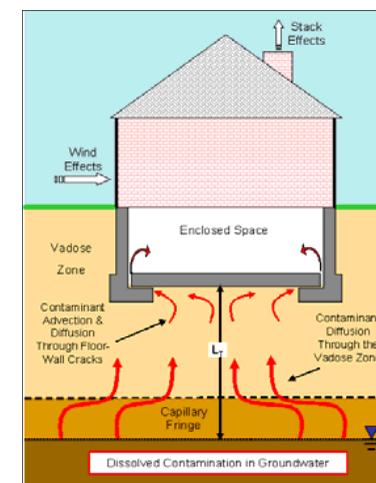
NEWMOA

Connecticut
Maine
Massachusetts
New Hampshire
New Jersey
New York
Rhode Island
Vermont

and

**Brown
University**

Superfund Basic
Research Program
(SBRP)



2 Locations:

September 23, 2008
Westford Regency Inn &
Conference Center in
Westford, MA

September 24, 2008
Brown University in
Providence, RI

Online registration at: www.newmoa.org/cleanup/cwm/vapor2008

VAPOR INTRUSION IN COMMERCIAL AND INDUSTRIAL BUILDINGS: ASSESSMENT & MITIGATION

The Vapor Intrusion Problem

Vapor intrusion is a growing environmental concern for commercial, industrial, and residential buildings. Volatile organic compounds (VOCs) from contaminated soil and groundwater can migrate upwards through cracks, gaps, and pores in the soil and foundations and into the building. These vapors negatively impact the indoor air environment and may result in health hazards to the building in occupants.

Vapor Intrusion in Commercial Buildings

Vapor intrusion in commercial buildings presents a unique challenge for mitigation/remediation. Designs that are effective in solving vapor intrusion problems in residential buildings may not be appropriate for commercial facilities. For example, there may be considerable variation in spatial distribution and contaminant concentration under large commercial buildings. The construction and use of the building affects not only the health risks, but also the relevant clean up levels. There may also be other factors to consider when evaluating the remediation methods for a commercial property, such as the potential for reuse or redevelopment of the site.

Possible Solutions

Source removal is the most thorough way to mitigate vapor intrusion; however, this is not always possible. At sites where the source of contamination cannot be completely eliminated because of the potential risks, costs, or building design, other techniques may be implemented. Methods can include:

- Installing a vapor barrier between the building's interior and soil/groundwater forcing vapors to vent to the atmosphere;
- Adapting the existing ventilation system; and
- Sealing potential entrances for vapors (e.g., foundation cracks, holes in concrete floors, small gaps around pipes and utility lines, and sumps).

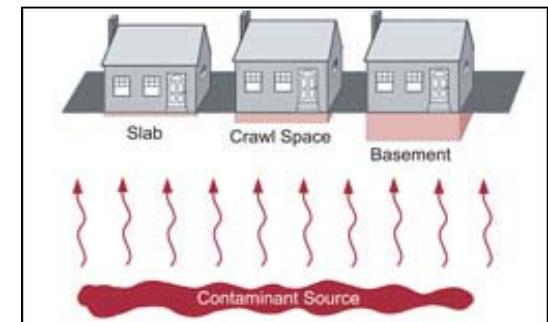
AGENDA

- 9:00 Registration and Continental Breakfast**
- 9:30 Welcome and Introductions**
Jennifer Griffith – NEWMOA
Kelly Pennell – Brown University
- 9:45 EPA Update on Vapor Intrusion:
EPA/OSHA Policy for Commercial/Industrial Buildings
and Practical Uses of the Vapor Intrusion Database**
Helen Dawson – EPA, Region 8
- 10:30 Break**
- 10:45 Update on Brown University's 3D Vapor Intrusion Model:
Research Results and Practical Implications**
Kelly Pennell – Brown University, Providence, RI
- 11:30 Observed Sub-slab to Indoor Air Attenuation Factors for
Industrial and Commercial Buildings**
Denis Conley — Haley & Aldrich, Rochester, NY
- 12:15 Lunch (provided)**
- 1:15 HVAC Primer:
How HVAC Systems Work and Implications for Vapor
Intrusion**
Steven Caulfield — Turner Building Sciences, Harrison, ME
- 2:15 Break**
- 2:30 Commercial Mitigation Case Studies & Lessons Learned**
David Folkes – EnviroGroup, Denver, CO
- 3:15 Strategies for the Evaluation of the Vapor Intrusion
Pathway and Background Indoor Air Concentrations**
Denis Conley – Haley & Aldrich, Rochester, NY
- 4:00 Adjourn**

WORKSHOP OBJECTIVES

Vapor intrusion is a rapidly developing field of science and policy. Thus, vapor intrusion mitigation has become an important environmental issue for regulators, industry, and the public. The overall objective of this workshop is for attendees to learn about vapor intrusion assessment and mitigation issues specific to commercial and industrial buildings, including:

- EPA and OSHA policies for evaluating the risks of vapor intrusion for workers in commercial or industrial buildings, as well as new tools and modeling techniques developed by Brown University for evaluating vapor intrusion.
- How vapor intrusion mitigation solutions for industrial and commercial buildings differ from those used for residential sites and what the practical implications are.
- An overview of vapor intrusion mitigation technologies and actions at various commercial sites, including case studies.



WHO SHOULD ATTEND

- Consultants; local, state and federal regulatory staff; and facility representatives who deal with waste sites, including the following programs:
 - Brownfields
 - Voluntary Site Cleanup
 - USTs
 - RCRA Corrective Action
 - Superfund
 - Federal Facilities
- Massachusetts Licensed Site Professionals (LSPs), Connecticut Licensed Environmental Professions (LEPs), Professional Geologists (PGs), Professional Engineers (PEs), and other professional organizations.
- Public stakeholders and academic researchers in the field.