

IEQ NEWS



We care about indoor air

Fall 2008

Indoor Environmental Quality

Issue #9

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What's New?

Guidelines for Alteration, Renovation or Construction Activities in Occupied Buildings

<http://www.ct.gov/dph>

Upcoming Events

CPHA Annual Meeting November 14
Water's Edge Resort, Westbrook, CT

In the News

2008 State Honor Roll: Asthma and Allergy Policies for Schools.

<http://www.statehonorroll.com>

Environmental and Occupational
Health Assessment Program
Indoor Environmental Quality Unit
Marian Heyman Joan Simpson
Brian Toal Kenny Foscue

Phone: 860-509-7740

Fax: 860-509-7785

Email: joan.simpson@ct.gov

J. Robert Galvin, MD, MPH, MBA
Commissioner

<http://www.ct.gov/dph>



FOCUS: SCHOOL IEQ

Why is school IEQ important?

- Every day, approximately 20% of the U.S. population occupies school buildings. That is over 53 million students and 7 million staff. A study by the CT Academy of Science and Engineering (CASE) found that up to 70% of CT schools have indoor environmental quality problems (IEQ).
- Exposures to IEQ problems have important public health implications. There are 14 million lost school days each year due to asthma-related absences, many due to asthma triggers found in schools. Allergies account for another 2 million lost school days. The National Institute of Occupational Safety and Health (NIOSH) identifies adult onset asthma as the leading health hazard for teachers. Addressing asthma and allergy triggers in schools is an important intervention in the overall effort to combat the asthma epidemic.
- Children spend a lot of time at school. They are especially susceptible to pollutants because their bodies are small and growing.
- Increasing evidence points to a relationship between poor school IEQ and poor academic performance.



Potential IEQ Pollutants in School:

- Mold
- Dust & Dirt
- Animal dander
- Insects & rodents
- Pollen
- Bacteria & Viruses
- Particulates
- Carbon Monoxide
- Pesticides
- Cleaning products
- Formaldehyde
- Volatile organic compounds (perfumes, air fresheners, paints)
- Vehicle exhaust
- Tobacco smoke
- Lead
- Radon
- Asbestos



What contributes to the problem?

- Age and design of schools
- Dense population of classrooms
- Deferred maintenance
- Normal school activities that can generate pollutants (refer to box at right)

What can be done to improve IEQ in schools?

- Control moisture
- Form a *Tools for Schools* Team
- Conduct regular maintenance & cleaning
- Assure adequate ventilation
- Eliminate or reduce exposure to pollutants



Technically Speaking: High Performance Schools



High Performance Schools (HPS) are designed to be energy and resource efficient, comfortable, well lit, and to contain the amenities needed for a quality education. The HPS model covers the total life cycle of the building, from design/build to operations and maintenance. An integrated, whole building approach is used during the planning and building phases.

The benefits of a High Performance School include:

- Heightened student performance
- Reduced operating costs
- Better student & teacher health
- Reduced indoor & outdoor environmental impact

Several high performance building guidance documents have been written based upon the California Collaborative for High Performance Schools (CHPS) model. In Connecticut, CHPS-NE is an alternative to meeting state-mandated energy efficiency and sustainability goals.

The U.S. Green Building Council has a program called *LEED for Schools*. LEED (Leadership in Energy and Environmental Design) is a rating system for new construction and major renovation projects in K-12 educational spaces. It addresses issues such as classroom acoustics, master planning, and mold prevention.

Connecticut is taking steps to replace our aging infrastructure. Public Act 07-242 requires that newly built schools costing \$5 million or more and using \$2 million or more of state money or renovations using \$2 million or more of state money must employ HPS techniques. The HPS regulation is currently being developed by the Office of Policy and Management. The effective date of this regulation is January 1, 2009.

More information can be found at:

- <http://www.buildgreenschools.org/leed/>
<http://www.epa.gov/iaq/schooldesign/highperformance.html>
<http://www.chps.net/national.htm>

Literature Review



Greening America's Schools: Costs and Benefits, Gregory Kats, October 2006 A Capital E Report
Seventeen studies document the relationship between improved air quality and health. Health impacts looked at include asthma, flu, respiratory problems and headaches. All of these separate studies found **positive health impacts** ranging from 13.5% to 87%. <http://www.cap-e.com/>

Helpful Web Links



http://www.epa.gov/region1/children/pdfs/healthy_schools.pdf: EPA Healthy Schools: Lessons for a Clean Educational Environment booklet.
<http://www.healthyschoolscampaign.org>: Healthy Schools Campaign. Information on the environment and school wellness.

CONN-OSHA



The State of Connecticut Department of Labor Division of Occupational Safety & Health (CONN-OSHA) is charged with oversight of the health & safety of the state and municipal workforce under the Occupational Safety and Health Act.

CONN-OSHA conducts both compliance and consultation inspections. A consultation is initiated by an **employer** request. The consultation process involves a site visit and a written report. Citations or penalties are not issued, however, employers must agree to correct any serious hazards identified.

A compliance inspection is initiated by an **employee** complaint. The compliance process is regulatory and can result in penalties including fines.

The CONN-OSHA staff works with schools upon request. Call 860-263-6900 or

<http://www.ctdol.state.ct.us/osha/aboutosh.htm>

Getting Students Involved in School IEQ



There are many ways to involve students in learning about the school environment.

High School- Serve as member of the TfS team; contribute to the school IEQ webpage.

Middle School- Write letters to school board; compile data and map locations of IEQ issues.

Elementary School- Chart room temperatures; make posters

Examples of IEQ curricula & activities can be found at:

- <http://www.epa.gov/iaq/childrenshealth.html>
<http://www.niehs.nih.gov/health/scied>



Tools for Schools: UPDATE

It is that time of year to think again about *Tools for Schools* (TfS). Over **750** schools in **147** school districts have implemented the program! Many of these districts have reported positive outcomes. Seven CT districts have won national EPA awards: Hartford, Hamden, Waterford, Region 5, Ridgefield, North Haven, & Norwich.

For a map of CT districts who have implemented TfS, click on the link below:

http://www.ct.gov/dph/LIB/dph/Environmental_Health/EOHA/pdf/tfs_map.pdf.

If your town does not have a TfS team, encourage the school administration to contact DPH.

It is crucial that schools maintain their program for long-term success. Suggestions include:

- Have a fall "kick-off" meeting of your TfS teams to plan this year's activities.
- Have a Refresher Training if it has been sometime since your district was trained. Contact DPH.
- Have an "Advanced Training Workshop" for custodians and maintenance staff. Contact DPH.
- Make sure to "communicate, communicate, communicate"! Use the district web site, newsletters, and/or emails to keep everyone informed about TfS team activities, IEQ issues and plans to address them.