



Testimony

of

Nancy Clark, MA, CIH, CSP

Assistant Commissioner

Bureau of Environmental Disease Prevention

New York City Department of Health and Mental Hygiene

before

New York City Council Committee on Environmental Protection

concerning

Indoor Air Quality: the Regulatory Landscape

September 27, 2010

250 Broadway
New York, NY

Good morning, Chairman Gennaro and Members of the Environmental Protection Committee. I am Nancy Clark, Assistant Commissioner for the Bureau of Environmental Disease Prevention at the New York City Department of Health and Mental Hygiene. Thank you for the opportunity to testify today on Indoor Air Quality. I am joined today by Chris D'Andrea, Deputy Director of the Health Department's Office of Environmental Investigations and Alyssa Preston from the Department of Environmental Protection.

In my testimony, I will provide an overview of pollutants that impact indoor air quality (IAQ), approaches to optimizing air quality in indoor environments, and agency roles in addressing IAQ concerns in New York City.

Background

Indoor Air Quality refers to the condition of air inside a home, school, workplace or other building environment. Indoor environments are highly complex and building occupants may be exposed to a variety of gaseous or particulate contaminants. Indoor air pollutants can be generated inside a building or enter a building from outdoor sources.

Contaminants that are generated in one part of a building can migrate to other parts through ventilation ducts, cracks and crevices, and natural openings such as windows and doors.

- Contaminants inside a building may be generated from a variety of sources, such as: household and commercial chemicals (like cleaning products, paints, adhesives, lubricants, pesticides and air fresheners); tobacco smoke; building materials; such as pressboard, furniture and carpeting; combustion products from cooking stoves and other fuel burning equipment; water-damaged building materials and microbial growth; and contaminants released by co-located business processes (for example, dry cleaners, print shops, and auto body repair shops).
- Outdoor pollutants that can enter a building include vehicle exhaust, smoke from fires, industrial emissions, chemical spills, construction and demolition activities, or tracked-in dirt.
- Poor ventilation may lead to buildup of odors and pollutants, uncomfortable temperature and humidity, and condensation.

Approaches to Optimizing IAQ

While some indoor air quality conditions can be associated with health effects (such as carbon monoxide poisoning or irritation from volatile organic compounds in paints), there is limited science and testing methods available for fully understanding the impact of indoor air quality on health. Despite uncertainty about what to measure and how to interpret what is measured, research shows that building-related symptoms are associated with building characteristics, including dampness, cleanliness, and ventilation characteristics.

The best way to protect people from exposures to indoor pollutants is to prevent or minimize exposure in the first place. Building owners can use several approaches, alone or in combination, to optimize indoor air quality, including:

- Installing and maintaining well-designed ventilation systems inside buildings.
- Identifying and substituting hazardous products with safer ones.
- Minimizing the amount of chemical products used.
- Using low-VOC (volatile organic compound) paints, adhesives, floor finishes and cleaners.
- Using building materials, such as carpets and furnishings with low off-gassing potential
- Restricting use of chemicals in businesses co-located in residential premises (such as the EPA 2020 phase out of perchloroethylene in co-located dry cleaners).
- Prohibiting tobacco use (NYC Smoke-Free Air Act)
- Implementing good building practices, such as using green cleaning products, repairing leaks and keeping buildings dry, and installing entry mat systems to capture particulates from foot traffic.

Addressing Indoor Air Quality Concerns

I would now like to review the City's current procedures for addressing indoor air quality and responding to complaints.

The City's response protocols to IAQ concerns allow for various types of responses depending on site-specific factors. Both the Health Department and DEP respond to IAQ complaints from the public. The Health Department receives IAQ complaints in residences and some other buildings. DEP responds to complaints that are related to impacts from emissions to outdoor air. Worker complaints are generally handled by federal and state worker protection agencies. Indoor air contaminants related to soil vapor intrusions are addressed by state agencies.

The New York City Health Code authorizes the City's Health Department to respond to complaints about public health nuisances, including investigating indoor air problems and ordering correction of nuisance conditions. The Office of Environmental Investigations (OEI) responds to complaints received by the Health Department. Each year, OEI receives over 6,000 complaints related to odors, carbon monoxide, dry cleaners, asbestos, construction dust, soot from boilers and other indoor air issues. As part of the City's overall approach, the Department provides education and guidance on how to address concerns about indoor air quality. Depending on the nature of the complaint, OEI may visit the building to investigate the problem or contact the building owner and may require the owner investigate and correct the problem. Responsible parties that do not comply with Health Department orders are subject to violations and fines.

The Department of Environmental Protection addresses impacts from emissions to the outside air and responds to complaints about construction activities and other outdoor sources of air pollution. DEP enforces the City's Air Code and requires certain businesses to restrict air emissions and to obtain permits for operation of certain chemical processes. For example, DEP requires all dry cleaners that use perchloroethylene (PERC) to obtain an air permit. The New York State Department of Environmental Conservation also regulates dry cleaners that use perchloroethylene, requiring these businesses to use specific equipment and safe work practices to prevent exposures to building occupants, and have a trained operator.

In summary, the Health Department and DEP have in place comprehensive and flexible protocols for responding to complaints related to indoor air quality in occupied buildings. In addition to these City resources, there are numerous tools and guidance documents available to the public on preventing and addressing air quality problems from federal, state and local agencies, including the EPA, State Department of Health, and Department of Health and Mental Hygiene.

We appreciate the opportunity to testify and happy to answer questions you may have.

ENVIRONMENTAL CONTRACTORS ASSOCIATION

**TESTIMONY
TO
NEW YORK CITY COUNCIL – ENVIRONMENTAL COMMITTEE
AND
COUNCILMAN JAMES F. GENNARO**

SEPTEMBER 27, 2010

“INDOOR AIR QUALITY: THE REGULATORY LANDSCAPE

ENVIRONMENTAL CONTRACTORS ASSOCIATION

TESTIMONY TO NYC COUNCIL – ENVIRONMENTAL COMMITTEE

TOPIC: “INDOOR AIR QUALITY: THE REGULATORY LANDSCAPE

September 27, 2010

The member contractors of the ECA would like to commend the NYC Council’s Environmental Committee for taking the lead in addressing the public safety issue of unregulated indoor air quality.

While we cannot control the outside environment, we can control the quality of the environment indoors, where we spend the majority of our time, in the apartment buildings that we reside in, the office buildings in which we work and the many other buildings that we occupy in our daily lives.

At some time in the future indoor air will be regulated. Since the City has a proven record of leadership in creating legislation such as the new Building Code and NYC DEP’s CDA process, we are confident that the City will seize the opportunity to continue to offer the highest quality standards of protection to the public against all environmental hazards.

All of the elements of a successful program are out there and all that is needed is for it to be properly formatted. We know the hazards. We also know that knowledgeable building owners do address their environmental concerns and that the City of New York is concerned about its environment and the health of its residents and the negative impact that it has on the economy of the city when not properly addressed.

The first objective is to establish attainable goals. Provide regulations which address the immediate problems and not have others regulate with ambiguous legislation that just add to the confusion and provide a reason for non-compliance. Without the uniform standards, we allow the unscrupulous, uninsured contractors who work with untrained technicians to prey on building owners who have no way of knowing which contractors offer services with properly trained and technically equipped workers and contractors who are fully insured to take total responsibility for their work.

The proposal to set industry-wide, uniform standards for remediation and training of personnel in environmental clean-ups is beneficial to the City due to the fact that many hazards presently go undetected, or if detected, leave the

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public and workers at risk due to inadequate remediation efforts. Workers who lack training may not be aware that what they are cleaning may be hazardous to themselves and the public.

With the creation of uniform standards for remediation, worker protection, public protection and testing, we can look toward a future defined by enhanced environmental health and safety.

It is important to note that many environmental hazards that pose potentially serious health and safety risks are currently unregulated. Some of these hazards, such as flood damage, may create toxic mold or, if the water is contaminated, it may release harmful or deadly bacterial like legionella (Legionella disease) or E-Coli. PCB, like lead contamination, may be the equivalent to asbestos for health risks, but it has a more damaging effect on children; and yet asbestos is regulated and PCB's are not. Influenza, like H1N1, can run rampant through schools and workplaces without any clear and defined means to disinfect and protect. The Centers for Disease Control and prevention (CDC) estimates that each year in the United States there are about 1.7 million nosocomial infections in hospitals and 99,000 associated deaths, with direct costs (at 2004 prices) ranging from \$10,500 to \$111,000 per case. With these numbers, conservative estimates of the total direct costs of these bacteria infections are above \$17 billion. Reduction of such infections forms an important component of efforts to improve healthcare safety. As the uniform services (fire and police) are on-call to protect the public, so should they be protected from invisible threats caused by environmental hazards, such as was experienced during the steam pipe explosion on 42nd Street and Lexington Avenue, where the first responders and the public were exposed to contaminants without their knowledge.

Of utmost importance is respiratory protection. Respiratory protection, specifically, and proper protective equipment, in general, should be required as a precautionary measure when potential environmental hazards are suspected. After exposure occurs, it is sadly too late to repair the damage to personal health and well being. It is essential that environmental health and safety is proactive and that an overall conservative approach is maintained at all times.

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It is the intent of the recommendation to establish industry-wide standards through regulation, education and training. The establishment of such standards would also be of great importance in the event of city-wide emergencies such as a major flood, hurricane or influenza outbreak. With standards in effect, all workers responding to an environmental emergency will have the same training and meet the same standards. This will allow for greater protection of workers and the public from potentially harmful environmental exposure. Each technician must pass established certified courses encompassing instruction in proper remediation of all environmental hazards and proper use of protective equipment. It is also possible to create an umbrella standard which would incorporate training for all hazards.

An EPA economic analysis of repairs performed at an elementary school showed that if \$370 per year over 22 years (a total of \$8,140) had been spent on preventive maintenance, \$1.5 million in repairs could have been avoided. Other than the elimination of health risks, there would be significant financial benefits to building owners:

- Licensed, trained remediation companies will assume the liability and owners will not be exposing their workers and the public to hazards that might make them seriously ill, or in extreme cases, cause death.
- Insurance companies are proponents of uniform standards because illnesses from contaminated indoor air decrease and, in rare instances, law suits brought on to a building owner would be easier to defend when remediation was done by a trained professional.
- Remediation done by workers who have been professionally trained eliminates the problem and reduces the chances of a re-occurrence – eliminate the cost of multiple clean-up visits.
- Since responsible owners are already requiring the use of well-trained, well-equipped remediation workers, working with the City to create uniform standards would allow them to participate in the structure and breadth of the standards.

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We thank Chairman James Gennaro and the Environmental Committee of the NYC Council for the opportunity to submit our recommendations for legislative consideration with respect to developing uniform standards for the remediation of environmental hazards. We appreciate your review of the written testimony and the messages of those that have testified and look forward to working with the City to develop health and safety measures that will assure public protection.



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Testimony

to

New York City Council

Committee on Environmental Protection

Regarding

OVERSIGHT OF INDOOR AIR QUALITY: THE REGULATORY LANDSCAPE

September 27, 2010

Claire L. Barnett

Executive Director, Healthy Schools Network

... for children ... health ... environment ... education ... and communities ... since 1995

Good afternoon and thank you Councilman Gennaro and members of the New York City Council's Committee on Environmental Protection.

My name is Claire Barnett and I am founder and executive director of Healthy Schools Network, Inc., a national 501c3 not for profit environmental health organization that advocates for healthier school facilities and healthier children. Healthy Schools was founded in 1995 to ensure that New York State and City had reform policies, laws and regulations to make sure that "every child and school employee has an environmentally safe and healthy school that is clean and in good repair" - a policy adopted by the New York State Board of Regents and the American Public Health Association, and others. Since then, we have built coalitions, and collaborated with parent, labor, environment, health and education groups to secure statewide and city root reforms and funds for school facilities. We have also spearheaded national campaigns on school environments, and shaped new federal policies and programs in this important but too often ignored field.

"America's largest unaddressed environmental public health crisis for children"

Lloyd Kolbe, PhD, founding and now former Director,
federal Centers for Disease Control's Division of Adolescent and School Health, 2006

IAQ in schools is a profound child environmental health and justice issue. Children breathe more air per pound of body weight than adults and cannot identify hazards, articulate exposures and health symptoms, or remove themselves from harm's way. Children spend more than 90% of their time indoors; half of their awake time may be inside a school. US EPA estimates that half of all schools are plagued by IAQ problems, and that indoor air is 2- 5 times and can be up to 100 times more polluted than outdoor air. Yet 55 million children attend 130,000 schools nationwide in buildings that may have serious IAQ problems that adversely affect child health, attendance, achievement, and even suspension rates.

The quality of indoor air is not a simple issue: it is dependent on multiple interacting variables, such as how a building was sited, designed, constructed, operated and maintained (water leaks lead to mold infestations), cleaned, occupied (at or over-capacity), hazardous products in use, and by nearby sources of pollutants. To address the multiple layers that contribute to indoor pollution in schools, we have therefore engaged in many successful campaigns, a few of which are noted below.

Our first win in New York was to secure \$125 million Clean Air in Schools provisions in the state's 1996 Environmental Quality Bond Act that helped replace 300 dirty coal-fired boilers in New York City schools with cleaner more efficient heating systems, a campaign we undertook with NRDC, LCV-NY, UFT, and many other groups. We also shaped and won comprehensive statewide laws to promote healthy indoor environments in schools, including the protection of occupants in school under renovation; and, laws restricting pesticide use in schools, banning elemental mercury in schools, and banning para-dichloro-benzene cake toilet deodorizers in schools (*hint: they smell like moth balls because they continuously emit that pesticide and are known 'asthmagens', that is, they cause asthma*). Interestingly not all are education law reforms, some efforts target environment, health, and/or energy.

Further benefiting New York City school children and personnel, we secured a provision in New York City law (Local Law 86/05 - green-build) resulting in the School Construction Authority (SCA) developing its Green School Guide; in 2005, we secured a state executive order and law requiring all state agencies and all public and private schools to use certified green cleaning products, an enormous policy and practice advance that prevents a big source of indoor air pollution and saves money: green cleaners are cheaper than conventional products. In June 2010, New York City Department of Education issued Building Services Circular 8-2009/10 to the Custodial Engineers

on how to meet the state's landmark green cleaning law that opened the door for similar laws that have been enacted in nine states, and that are pending in a dozen more.

We have been deeply honored to testify before the US Senate Environment and Public Works Committee, lead both congressional and White House briefings on school environments, and by two US EPA national awards for promoting Indoor Air Quality in Schools. Today, we are also pleased to partner with US EPA to coordinate National Healthy Schools Day each year; in April 2010 we spurred over 70 events in 25 states, plus DC and Canada. In April 2006, the City Council Proclaimed National Healthy Schools Day in New York City.

Oversight of Indoor Air Quality: the Regulatory Landscape -- *in Schools*

At a **building-level**, valuable features of IAQ work are:

- educated building occupants, parents, and administrators who know the importance of IAQ to children's health, attendance, and achievement in school and the relevant laws or regulations
 - *No systematic efforts at education have taken place in years*
- a "feedback loop" for parents and building occupants, so that as building issues arise (and they always do), there is a widely understood and used system of reporting problems and resolving them.
 - *A 1997 state law requiring districts and schools to have environmental health and safety committees is an avenue accessible to personnel*
- environmental/occupational public health services to provide support and interventions for children and personnel
 - *Occupational health services are present for personnel. But children outnumber adults by about 8 to one in schools and are more vulnerable to hazards than the adults around them. There are no tracking or intervention services for children. This deprives schools, parents, and the public of a full understanding of the impacts of IAQ on educational outcomes, unnecessarily adds to the pediatric asthma epidemic, and escalates health care costs. Example: post 9/11, after persistent occupational health complaints from UFT members, NIOSH conducted an onsite health hazard evaluation covering some 300 personnel in Stuyvesant High School; NIOSH found new onset illnesses due to pollutants in the workplace. No agency assessed the impacts on the 3,000 school children, including over two dozen children in the same facility with special education needs, some with pre-existing breathing problems.*

System-wide, there must be a full review of existing laws and regulations and their implementation in schools, educational efforts citywide, and further reductions in the use of toxic materials and products inside schools, as well as new oversight to protect vulnerable children:

- New York City department
- ts of health, education, and environment should form an "interagency working group on IAQ in schools" and within 90 days provide to the Council
 - an accessible and easily understood 'agency road map' that identifies important laws and regulations on school environments and a time-lined action plan to educate school constituency groups, community boards, and especially parent and child health and civil rights advocacy organizations.
 - new environmental public health services for children (and their parents) who are affected or suspected of being impacted by indoor pollutants found in schools
 - this includes collecting, tracking and reporting public health complaints arising from schools, and onsite investigations of school IAQ problems that assess how children are being affected.

- New York City Council should support the closing of SCA's "leasehold loophole". SCA maintains that leasehold facilities are exempt from site reviews; yet infamously, NYC schools have been sited in former dry cleaning plants and electronics factories, with resulting costs to occupant health and costs to administration. These are completely avoidable and self-inflicted costs and the loophole must be closed.
- New York City Council should ensure that its schools "buy-green" and cost-effective materials, equipment, and products. New York State EO 4 on Green Procurement (2008) has already documented tens of millions of dollars in savings. NYC schools can avail themselves of that opportunity, meanwhile PlaNYC should apply to the Department of Education's purchasing and to the development of operations of all facilities.

In support of this testimony, I am attaching:

- Public comments to US EPA on its Advance Notice of Proposed Rule-Making on PCBs in School Caulk.
- *"Who's In Charge of Children's Environmental Health at School?"*, New Solutions, Vol 20(1) 3-23, 2010, Paulson and Barnett
- **Sick Schools 2009** a national collaborative report released last December by over 35 contributing organizations, with state by state data and policy profiles
- Flyer on comprehensive statewide school environment regulations
- Poster on green cleaning
- NYC Council's National Healthy Schools Day Proclamation, April 2006
- *Green Schools*, National Academy of Sciences, 2006, excerpts on deliberate attributes for designing healthy schools

Thank you again for your interest and invitation to provide testimony today. I encourage you to continue to continue this line of exploration and increase your efforts to protect children from pollutants where they live, learn and play.



Center for Health, Environment & Justice

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**New York City Council
Committee on Environmental Protection**

**Public Hearing: "Oversight of Indoor Air Quality: The Regulatory
Landscape"**

***Michael Schade, PVC Campaign Coordinator
Center for Health, Environment & Justice (CHEJ)***

September 26, 2010

Good afternoon, Chairman Gennaro and members of the committee. Thank you for the opportunity to testify today.

My name is Mike Schade and I am a Campaign Coordinator with the Center for Health, Environment & Justice, a national environmental health organization that works extensively on toxic pollution issues. We have worked on environmental health issues in NY State for almost 30 years, starting with the work of our Founder Lois Gibbs who led the successful battle to relocate over 900 families away from the Love Canal toxic waste dump in Niagara Falls.

In my testimony today, I will speak to the problem of indoor air quality issues and highlight one key area we believe warrants attention from the Committee: phthalates and VOC's released from vinyl (or PVC) building materials in schools.

Today's sealed and insulated buildings often result in indoor air that is actually more polluted than the air outside for children in schools and homes. In short, indoor air pollutants can inhibit a child's ability to concentrate and learn in school, as children are uniquely vulnerable to toxic chemicals.

Americans spend on average 90% of their time indoors. The US EPA has ranked indoor air pollution 4th in cancer risk among the top 13 environmental problems analyzed. The World Health Organization has also ranked it a major risk to human health. Indoor concentrations of VOC's have often been found to be greater than outdoor concentrations. For example a nationwide study by the US EPA found indoor levels of VOC's up to ten times higher than those outdoors— even in locations with significant outdoor air pollution sources.

There are many indoor air quality issues facing NYC today such as PCB's in schools and vapor intrusion from dry cleaners. The major indoor air quality issue I will focus on is PVC plastic -- a commonly used plastic that's widespread in our city's schools. It's found in flooring, carpeting, roofing, piping, office supplies like computers and many other products purchased every year by city schools.

PVC flooring and other PVC products can contribute to poor indoor air quality as they can off gas VOC's and highly hazardous chemicals of concern: phthalates. A study by the state of California found forty chemicals off-gassing from PVC flooring. Another study found PVC flooring could emit chemicals for a period of at least nine months, indicating a persistent risk of toxic exposure. A study I co-authored investigating the "new shower curtain smell" from vinyl shower curtains found just one new vinyl shower curtain can release over 100 VOC's into indoor air in just one month.

Phthalates are chemicals used to soften PVC products such as flooring, which can be released from PVC into the air inside schools and other buildings. The phthalates cling to dust and can then be ingested by children and teachers. Over 90% of all phthalates are used in PVC products such as flooring in schools. They are among the most ubiquitous synthetic chemicals in the environment – and are widely recognized as major indoor pollutants.

Phthalates have been found in indoor air and dust, in human urine, blood and breast milk. In fact almost every single person in this room likely has measurable levels of phthalates in their

bodies. An extensive study of 2,500 individuals found metabolites of at least one phthalate in 97 percent of those tested. Phthalates are highest in women and children ages 6 to 11.

A study by researchers at Columbia University of pregnant women in New York City found phthalates in 99% to 100% of maternal personal air samples – and also found them in their bodies. Once a pregnant woman is exposed, the fetus can also be exposed as phthalates can cross the placenta. That's why today, even babies are being born pre-polluted with phthalates.

This is of great concern because the federal Department of Health and Human Services (DHHS) has determined that the phthalate DEHP may reasonably be anticipated to be a human carcinogen. The US EPA has determined that DEHP is a probable human carcinogen. The U.S. National Toxicology Program Expert Panel came out with a major report that found the phthalate DEHP poses a risk to human development and fertility.

Some phthalates have been linked to reproductive problems including shorter pregnancy duration, early puberty and premature breast development in girls, genital deformities, deteriorated semen quality, and low sperm counts in men. Some studies have also found a correlation between phthalates and obesity, a growing problem for children here in NYC. Many of these health issues are on the rise – for instance a new study found that early puberty in girls doubled in a decade and one in ten girls are starting to develop breasts by age seven.

In recent years, a number of studies have also found a correlation between phthalates emitted from PVC building products and asthma. Asthma is a serious, sometimes life-threatening respiratory disease that is the most common chronic illness among school age children nationwide and in New York State. Asthma is a leading cause of missed school among children and is the most common cause of hospitalization for children 14 years and younger. Phthalates released from PVC flooring and other building materials in schools appear to be contributing to this asthma epidemic.

One new study even found a connection between phthalates being released from vinyl flooring and autism. The study found that children who live in homes with vinyl floors, which can emit phthalates, are twice as likely to have autism.

In addition to the VOC's and phthalates released from vinyl flooring – its maintenance also contributes to poor indoor quality. PVC flooring requires the use of toxic cleaners and strippers to keep it durable and shiny, which also contributes to poor indoor air quality. This wax and strip maintenance has long been a source of health concern due to the toxic VOC's used in the maintenance products.

In responses to these hazards, major corporations like Target, Wal-Mart, Nike and Apple are going PVC-free. Over 100 healthcare institutions across the country are reducing the use of phthalates and PVC. The government is also beginning to act. In 2008, President Bush signed legislation banning phthalates such as DEHP in children's toys. While phthalates have been banned from PVC toys, they're still widespread in PVC products like flooring used in schools.

We know this is a serious environmental health and indoor air quality problem here in NYC, and we do have opportunities to begin correcting this. Safer and cost-effective alternatives are

readily available. For the past few years, we've published reports for parents and purchasers to find safer alternatives to PVC in our Back to School Guide to PVC-Free School Supplies.

Here in NYC, elementary and secondary schools, as well as higher education institutions, accounted for 56% of the value of all NYC institutional construction starts between May 2008 and April of this year, and construction of new education facilities totaled \$2.3 billion in value. The New York City Department of Education has commitments for approximately \$9 billion over the next four years to modernize its teaching facilities while adding 30,000 new seats in 56 buildings across all five boroughs.

This represents a major opportunity to address this critical indoor air quality in our city's schools – as when schools are being built or renovated – the City can wield its purchasing power to buy safer cost-effective PVC-free building materials that are healthier for indoor air quality and our children's health.

Thank you for the opportunity to testify today.

**Testimony of
DAWN PHILIP
on behalf of
NEW YORK LAWYERS FOR THE PUBLIC INTEREST
before the
NEW YORK CITY COUNCIL COMMITTEE ON ENVIRONMENTAL
PROTECTION
Oversight Hearing on
INDOOR AIR QUALITY
September 27, 2010**

Good afternoon Chairman Gennaro and other members of the Committee on Environmental Protection. My name is Dawn Philip, and I am a staff attorney in the Environmental Justice Program at New York Lawyers for the Public Interest (NYLPI). NYLPI is a nonprofit civil rights law firm formed in 1976 to address the unmet legal needs of New Yorkers. In 1991, NYLPI formed its Environmental Justice Program to represent communities facing disproportionate environmental burdens. Our organization represents a number of community groups facing issues related to the siting of schools on contaminated properties around New York City and the presence of PCB-contaminated caulking in public schools. I'd like to focus my comments today on these two issues as they directly relate to indoor air quality.

Poor indoor air quality is a significant children's environmental health issue. Children take in more food, drink, and air per pound of body weight than adults due to the rapid growth and development of major body systems. During their critical developmental years, children are less suited to repair damage caused by toxins in the air and their physical environment. Consequences of exposure to toxins can include irreversible organ damage, immune dysfunction, or reproductive impairment.¹ In low-income communities of color, connections between indoor air quality and health impacts are even more pronounced. Children in these communities are disproportionately exposed to indoor and outdoor toxins and are therefore at increased risk asthma, lead poisoning, and developmental disabilities.

Given the connection between indoor air and children's health, strong indoor air quality standards are critical, especially in our public schools where children spend a significant amount of their lives. Indoor air quality in public schools is an issue I often encounter in my work on contaminated school sites. Currently, the Department of Education (DOE) and the School Construction Authority (SCA) build and lease schools on contaminated sites due to a number of factors including the scarcity of cheap, clean land in the City and

pressures to cut costs while responding to the school overcrowding crisis. Unfortunately, loopholes in state law and lack of public oversight in the school siting process increase the likelihood that children will be exposed to toxic chemicals in the classroom. The SCA, for example, does not subject leased school sites on contaminated property to any public review either by the City Council or any entity outside of the DOE. Many of these sites are on brownfields where exposure to toxic chemicals inside and outside of the classroom from insufficient clean-ups are the daily concerns of parents, teachers, and school staff. In terms of the regulatory landscape, in most cases, there is no independent oversight of the school selection and environmental review process by the Department of Environmental Conservation (DEC). Consequently, many issues that affect indoor air quality such as vapor intrusion from contaminated soil and groundwater often go unidentified and unaddressed.

Even when sites are sufficiently cleaned-up, indoor air quality issues can and do persist. Failure to properly maintain and monitor engineering controls, problems with ventilation and air conditioning systems, and excessive use of cleaning chemicals can trigger a host of health problems. Recent research suggests that a school's physical environment can play a major role in cognitive development and academic performance. Increasingly, studies demonstrate a connection between improvements in indoor air quality — either from increased outdoor air ventilation rates or from the removal of pollution sources — and improved performance of children and adults.

Another and related issue NYLPI has been addressing for several years is the alarming presence of PCB's in New York City public schools. PCB's are a class of highly toxic compounds linked to cancer and damage to the reproductive, neurological, endocrine, and immune systems, even at low levels of exposure. Importantly, because PCB's spontaneously volatilize into air, inhalation is a major exposure pathway and leads to a greater intake of PCBs than ingestion.ⁱⁱ Since April 2008, NYC has been home to a series of community efforts by a broad and diverse coalition, called the NYC Coalition for PCB-Free schools, to eliminate PCB's in schools.

In response to these efforts, earlier this year the DOE and the United States Environmental Protection Agency (EPA) entered into a groundbreaking agreement, under which the DOE would implement a pilot study of five NYC schools to determine the level of PCB's contamination in schools and generate a city-wide remediation plan. Although we questioned the ability of such a limited study to adequately assess the extent of PCB's contamination in schools, we recognized the national importance of DOE's conducting this study.

Unfortunately, the initial results confirmed our previous concerns and raised new ones. The results of the three schools tested so far found dangerously high levels of PCB's in the air and also revealed high PCB levels in sources other than window caulking--of particular concern were the high levels of PCBs in light ballasts. These results reveal the urgent need for the DOE to perform comprehensive PCB's testing across the city to adequately identify all sources of PCB's contamination. We look forward to working

with the City Council in demanding that the DOE work with the City, State, and Federal government to initiate a quick and thorough response to these alarming results.

In addition to these two issues, NYLPI is beginning to assess the significant indoor air quality issues in the home. Children living in substandard housing suffer from asthma at more than three times the rate of children living in adequate housing. Exposure to indoor toxins such as lead, mold, and pesticides contribute to the high asthma rates and can be addressed in part, by landlords making timely repairs.

Based on our work on children's environmental health issues in NYC schools, we know that reducing exposures to indoor environmental contaminants requires rigorous indoor air quality management practices. We urge the Council to push for stronger indoor air quality standards throughout the City.

Thank you for holding this timely hearing and for the opportunity to testify.

ⁱ Landrigan, P.J., Carlson, J.E., Bearer, C.F., Cranmer, J.S., Bullard, R.D., Etzel, R.A., Groopman, J., McLachlan, J.A., Perera, F.P., Reigart, J.R., Lobison, L., Schell, L., and Suk, W.A. (1998) "Children's health and the environment: A new agenda for preventive research." *Environmental Health Perspectives* 106 (Supplement 3): 787-794, June.

ⁱⁱ Currado, Gianmarco, et al., 2008. Comparison of Polychlorinated Biphenyl Concentrations in Indoor and Outdoor Air and the Potential Significance of Inhalation as a Human Exposure Pathway. *Environmental Science & Technology* 32(20).



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Testimony of Eli Kent

at the Committee on Environmental Protection meeting

re: Oversight - Indoor Air Quality: The Regulatory Landscape

Good afternoon Chairman Gennaro and distinguished committee members. My name is Eli Kent. I represent Local 78 of the Mason Tenders' District Council of Greater New York and the Laborers International Union of North America. Local 78 is comprised of 4,300 professional asbestos, lead, and hazardous waste abatement workers. I come to speak to you today about Indoor Air Quality and the minimal regulatory framework controlling the cleanup of hazardous building conditions in New York City.

Indoor Air Quality, or the lack thereof, is a problem that has been a serious concern for health experts for more than a quarter of a century. In a 1984 report, the World Health Organization estimated that as much as 30% of new and renovated buildings had indoor air quality problems. For decades now, the buildings that we live and work in, where we spend the vast majority of our time, have been built using myriad materials that are hazardous to our health, such as asbestos, lead, PCBs and other toxic chemicals. These substances cause long-term, chronic, and, at times, fatal illnesses, such as lead poisoning, mesothelioma and asbestosis.

Meanwhile, our buildings often present ideal conditions for the growth and promulgation of bacteria, molds, pollen, and viruses that cause Sick Building Syndrome (SBS), according to the US EPA. These contaminants may breed in stagnant water that has accumulated in ducts, humidifiers and drain pans, or where water has collected on ceiling tiles, walls, carpeting, or insulation. Their inhalation by building occupants leads to various ailments, such as allergies, asthma, hypersensitivity pneumonitis, and irritation of the eyes, skin, nose, throat and lungs. Inhaled mold spores can even establish colonies inside of people with compromised immune systems. One indoor bacterium, *Legionella*, causes both Legionnaire's Disease and Pontiac Fever.

Building fires create a perfect storm of environmental hazards. The fire allows the toxic chemicals contained within our building materials to escape and contaminate the air. And the water used to put out the fire accumulates on walls, ceilings and floors, creating ideal conditions for mold and bacteria to grow.

One salient example of the repercussions of this toxic soup of chemicals and bacteria is the health conditions of Local 78 members following the cleanup in and around Ground Zero after the attacks on the World Trade Center. Nearly two-thirds of our membership at the time worked cleaning up the buildings throughout Downtown Manhattan, making the area habitable again. Today, according to the Mt. Sinai World Trade Center Medical Monitoring and Treatment Program, nearly half of these workers suffer from ailments such as decreased lung capacity, chronic headaches, mental health issues, severe allergies, gastrointestinal problems, lung cancer, etc. While the World Trade Center is a dramatic example, cleanup workers are working in similar conditions, mini Ground Zeros, on a daily basis in buildings throughout the City.

The tight regulation of asbestos abatement by both New York State and New York City has transformed the work from an epidemic waiting to happen to an industry of professional workers and contractors who do their job in a serious and safe manner. While the health effects of improper cleanup of other environmental hazards might not be as drastic, they are serious, often chronic, and a danger to the health of New Yorkers and to the City's economy. The regulatory landscape for this hazardous and meticulous work is weak at best, and often it is non-existent. As the regulations currently stand, workers can and do put themselves and the public in harm's way by sweeping millions of live toxic mold spores into a building's ductwork, or soaking up a Legionella laden puddle and using the same mop to contaminate a building's hallways, bathrooms and other public areas.

Consider the fairly common circumstance of a leak in a building's basement which wets the sheetrock. Sheetrock, or rather the glue that binds the paper backing to the gypsum, is one of the favored breeding grounds for toxic mold colonies. Mold spores float in the air. If a worker who is abating the toxic mold does not properly contain the area, spores will spread throughout the building. Often, untrained workers run a building's HVAC system in order to ventilate the area in which they are performing the hazardous remediation (for comfort's sake). This sends mold spores rocketing through the building's ductwork, potentially contaminating the entire building. Live mold spores act like seeds, forming new mold colonies where they find the right conditions.

Without a proper regulatory framework, rather than abating dangerous environmental conditions, these unregulated cleanup companies often make matters worse. Any time work is performed that has the potential of harming not only the workers but also the general public, the highest order of performance should be mandated.

In Local 78's never-ending quest for safe work practices, we have found proper and thorough training to be one of our greatest allies. The Mason Tenders Training Fund provides top-notch training to all Local 78 members at their state-of-the-art facility in Long Island City, with an emphasis on minimizing the dangers that hazardous materials present. We find that when workers are properly trained and use industry best practices, the health risks of working with hazardous materials are greatly reduced.

While workers and supervisors without the proper training can and do create disastrous conditions, fully-trained professional workers and contractors working in a well-regulated industry approach each job with the proper protective equipment and with a full expertise of the proper containment procedures necessary to protect the building's occupants.

In short, the regulatory framework needs to be built nearly from the ground up. For the sake of Local 78 members, for the workers who do not have union training and protection, and for the general public, I applaud Chairman Gennaro, and this committee for considering this important issue, and encourage you to take action as soon as possible. Thank you.



It is important that the city set standards for remediation and training for workers engaged in environmental clean-ups for mold and/or other bio toxins. By setting uniform standards for training and certification the city will be protecting both the health of the individual worker and that of the general public.

Improper remediation can result in spreading contaminants around rather than cleaning them up. For instance, forgetting to close off the HVAC system before you begin remediation activities can result in contaminating a much wider area or even an entire building. Not setting up a proper containment area can result in workers not engaged in cleanup activities or members of the public being exposed.

Untrained workers can easily endanger their own health as well as members of the public by engaging in unsafe work practices. A worker leaving the containment area without removing their protective clothing can easily spread contaminants into previously uncontaminated areas. Improper use of respiratory protection can result in workers engaging in potentially risky activities without having the proper protection.

At a minimum workers training should include information

- regarding potential health effects related to exposure to various contaminants
- regarding proper remediation techniques
- on training and information regarding the use of the least toxic products, such as using, heat to get rid of bed bugs, soapy water for mold, vacuuming to remove roaches, limiting the use of disinfectants in hospitals to areas of need.
- regarding the level of PPE required and how to use it correctly
- regarding training on emergency procedures i.e. floods

We also strongly advocate that workers at a minimum receive basic worker safety training (OSHA 10)

This is not a new idea. The current (2008) NYCDOH mold guidelines and the (2005) National Institute of Environmental Health Sciences guideline for the Protection of Workers Engaged in Remediation Activities both advocate for worker training.



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