

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Bronx Borough President Ruben Diaz

Address: _____

I represent: _____

Address: 851 Grand Concourse

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 4/13/71

(PLEASE PRINT)

Name: RICHARD SHARR

Address: 203 W 86 ST

I represent: PUBLIC SCHOOL P.A. OFFICER

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 4/13/11

(PLEASE PRINT)

Name: Joseph Mugivan

Address: 231 Manorhaven Blvd Port Washington NY

I represent: Vesta Energy Consulting 11050

Address: Same Advocate for School Indoor

Please complete this card and return to the Sergeant-at-Arms Air Quality

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: April 13 '11

(PLEASE PRINT)

Name: Miranda Massie

Address: 151 W 30th St, 11th floor

I represent: NYCPI / NYCC

Address: 11

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☒ in favor ☐ in opposition
of Testy Date: _____

(PLEASE PRINT)

Name: Jean - Andre Sassine

Address: 218-02 103 Ave Queens Village

I represent: NY Commuter Change - PS 195Q

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: CELINE MUZZRATH / ROB GOTTHEIM

Address: 201 VARICK

I represent: CONGRESSMAN JERRY NADLER

Address: _____

Please complete this card and return to the Sergeant-at-Arms

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Date: _____

(PLEASE PRINT)

Name: VALERIE WALNICK

Address: 215 West 98th St 2D

I represent: PARENT

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 4/17/11

(PLEASE PRINT)

Name: Mary Barber

Address: 257 PH Ave So NYC 10016

I represent: Environmental Defense Fund

Address: ↓

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 4/13

(PLEASE PRINT)

Name: NANCY CLARK

Address: ASSISTANT COMMISSIONER

I represent: DEPARTMENT OF HEALTH & MENTAL HYGIENE

Address: _____

Please complete this card and return to the Sergeant-at-Arms

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☐ in favor ☐ in opposition

Date: 4/13/11

(PLEASE PRINT)

Name: Michelle Culla Lipkin

Address: 205 West End Ave

I represent: _____

Address: _____

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**THE COUNCIL
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Appearance Card

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☐ in favor ☐ in opposition

Date: _____

Name: Glenn Buchholz (PLEASE PRINT)

Address: gbuchholz@lutron.com

I represent: _____

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
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☐ in favor ☐ in opposition

Date: _____

Name: MIKE MCGUIRE (PLEASE PRINT)

Address: 266 W. 31st, FL 7 10018

I represent: MASON TENOR'S DISTRICT COUNCIL

Address: SAME

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: JOHN T. SITEA

Address: 44-36 VERNON BLVD, LIC, NY

I represent: NYC DOE

Address: 52 CHAMBERS ST

▶ Please complete this card and return to the Sergeant-at-Arms ◀

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

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☐ in favor ☐ in opposition

Date: _____

Name: ERIC GOLDSTEIN **(PLEASE PRINT)**

Address: 40 W 20 ST NY, NY

I represent: NATURAL RESOURCES DEFENSE COUNCIL

Address: _____

▶ Please complete this card and return to the Sergeant-at-Arms ◀

**THE COUNCIL
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Appearance Card

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Deputy Chancellor Kathleen Grimm

Address: NYC DOE

I represent: _____

Address: _____

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Jeffrey Shear

Address: NYC Dept. of Education/Tweed

I represent: _____

Address: _____

◆ Please complete this card and return to the Sergeant-at-Arms ◆

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☐ in favor ☐ in opposition

Date: 4-13-11

(PLEASE PRINT)

Name: Herman Merritt

Address: 16 Court St.

I represent: CSA - Political Affairs Director

Address: 16 Court St. Brooklyn

Please complete this card and return to the Sergeant-at-Arms

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THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: David Carpenter

Address: 5 UNIVERSITY PLACE

I represent: ADDALG NY

Address: Persepolis NY 12141

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 04/13/11

(PLEASE PRINT)

Name: Ahmed Cumberbatch

Address: _____

I represent: SEIU 32 BJ

Address: 101 Avenue of the Americas

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
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Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☒ in opposition

Date: 4-13-11

(PLEASE PRINT)

Name: PROF JACK CARAVANOS

Address: 333 E 55 ST NYC 10022

I represent: HUNTER College School of Public Hlth

Address: 425 E 25 ST NYC NY

Please complete this card and return to the Sergeant-at-Arms

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Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: DONALD McGeachy

Address: 341 A E 90th St. NY NY 10128

I represent: DONALD McGeachy Electric Co.

Address: 341 A E 90th St. NY 10128

Please complete this card and return to the Sergeant-at-Arms

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THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 4/13/11

(PLEASE PRINT)

Name: WILLARD WARREN

Address: 531 MAIN ST ROOSEVELT IS NYC

I represent: MYSELF- SEMI RETIRED LIGHTING CONTRACTOR

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 4/13/11

Name: Ross J Holden, VP General Counsel
(PLEASE PRINT)

Address: 30-30 Thomson Avenue

I represent: New York City School Construction Authority

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

Name: Paul Vieira
(PLEASE PRINT)

Address: 2045 Schenectady Ave

I represent: IDC Electric

Address: 1076 Castleton Ave

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL THE CITY OF NEW YORK

Appearance Card

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Date: _____

(PLEASE PRINT)

Name: Ed Olmsted, Industrial Hygienist

Address: 52 Broadway

I represent: UFT

Address: _____

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Anne Rabe

Address: Castleton, NY

I represent: Center for Env. Health + Justice

Address: Fells Church, VA

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 720112573 Res. No. _____

☒ in favor ☐ in opposition

Date: 4-14-11

(PLEASE PRINT)

Name: MAureen Fritch

Address: 4 Spinnaker Ct Northport NY

I represent: Fritch Construction Inc.

Address: 2 Railroad Ave E Northport NY

Please complete this card and return to the Sergeant-at-Arms

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Appearance Card

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Chris Proctor, Director of Health

Address: 52 Bway

I represent: UFT

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. T2011-2573 Res. No. _____

☐ in favor ☐ in opposition

Date: 4-13-11

(PLEASE PRINT)

Name: JOE VEGA

Address: 453 E 175 ST. Bronx NY 10457

I represent: PALANTE ELECTRICAL CONTRACTING CORP

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
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Appearance Card

I intend to appear and speak on Int. No. T2011-2573 Res. No. _____

☐ in favor ☐ in opposition

Date: 4-13-11

(PLEASE PRINT)

Name: Michele Cali

Address: 363 Pompey Ave ST ALY 10312

I represent: Calico Electrical Supply

Address: SAME

Please complete this card and return to the Sergeant-at-Arms

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☐ in favor ☐ in opposition

Date: 4/13/11

(PLEASE PRINT)

Name: Leon Tulton

Address: 140 Alcott Place, Bronx, NY 10475

I represent: PCB-Free School Coalition

Address: _____

Please complete this card and return to the Sergeant-at-Arms

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Edison Severino

Address: 30 Cliff St., NY, NY

I represent: LIUNA Local 78

Address: 30 Cliff St, NY, NY

Please complete this card and return to the Sergeant-at-Arms

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Date: _____

Name: Ross Holden (PLEASE PRINT)

Address: SCA

I represent: _____

Address: _____

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Date: _____

Name: ARIELLA MARON (PLEASE PRINT)

Address: DCAS

I represent: _____

Address: _____

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: MAIDA GALVEZ

Address: MOUNT SINAI

I represent: IGUSTAVE LEVY PLACE Box 1512

Address: NY NY 10029

Please complete this card and return to the Sergeant-at-Arms

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Alice Freund

Address: 18 Stanford Pl Montclair NJ

I represent: New York Comm for Occ ~~Health~~

Address: Health + Safety

Please complete this card and return to the Sergeant-at-Arms

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☐ in favor ☐ in opposition

Date: 4/13/11

(PLEASE PRINT)

Name: ERIN MCGILL

Address: 1 CENTRE ST

I represent: MANHATTAN BORO PRESIDENT SCOTT STRINGER

Address: 1 CENTRE ST NY NY 10007

Please complete this card and return to the Sergeant-at-Arms

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: ANNA VINCENTY

Address: _____

I represent: CONGRESSMAN JOSE E. SERRANO

Address: _____

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☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Shana Marks

Address: 233 Residway

I represent: CEJ

Address: _____

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**THE COUNCIL
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Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: April 13, 11

(PLEASE PRINT)

Name: ANNIE WILSON

Address: _____

I represent: SIERRA CLUB

Address: PO Box # 2430, NYC, NY 10009

◆ Please complete this card and return to the Sergeant-at-Arms ◆

**THE COUNCIL
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Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Eli Kent

Address: 30 Cliff St., NY, NY

I represent: Local 78

Address: 30 Cliff St., NY, NY

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**THE COUNCIL
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Appearance Card

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☐ in favor ☒ in opposition

Date: April 13th, 2011

(PLEASE PRINT)

Name: Castro, Regina

Address: 250 20th St BR, NY 11215

I represent: New York Communities for Change

Address: 2-4 Nevins St - BR 11217

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL THE CITY OF NEW YORK

Appearance Card

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☐ in favor ☐ in opposition

Date: 4/13/11

(PLEASE PRINT)

Name: LAURA HAIGHT

Address: 107 WASHINGTON AVE ALBANY NY

I represent: NYPIRG

Address: _____

◆ Please complete this card and return to the Sergeant-at-Arms ◆

TESTIMONY

New York City Council Hearing

New York City Council
Committee on Education
jointly with the
Committee on Environmental Protection

Presented on
Wednesday, April 13, 2011



The Council of School Supervisors and Administrators

Ernest Logan, President

Peter McNally, Executive Vice President

Randi Herman, Ed.D., 1st Vice President

16 Court Street
Brooklyn, New York 11241
(718) 852-3000
www.csa-nyc.org

Good afternoon, Chairman Jackson, Chairman Gennaro and distinguished members of the New York City Council Committees on Education and Environmental Protection. My name is Herman Merritt and I am a former New York City Principal and currently Director of Political Affairs for CSA. I am speaking on behalf of CSA leadership and 6,100 active members including Principals, Assistant Principals, Supervisors, Education Administrators, Day Care Directors and Assistant Directors.

I want to thank you for the leadership that you have shown by holding this hearing on an issue of critical importance to the students and staff of New York's public schools. Nothing is of more concern to a Principal than the health and safety of students and staff. When parents drop off their children at school, they are counting on Principals to protect the health, safety and well being of their sons and daughters. Staff has the same expectation about their own well being when they pass through the school door every morning. Principals know that teaching and learning is difficult and sometimes even impossible if the school environment is unsafe.

Principals take many steps to protect the health and safety of students, teachers and other staff. They develop a Safety Plan with procedures for any conceivable emergency. A building maintenance plan is developed with cleaning protocols including regular cleaning of vents to protect air quality. Principals even sample the food in the cafeteria daily as a measure of quality control. All of this is done to provide a safe and healthy environment for students and staff. How distressing then for Principals to discover that despite their good efforts many schools are not safe because they are contaminated with PCBs.

PCB (Polychlorinated biphenyl), a probable carcinogen, was used in a variety of products, including paints, caulks, insulation and electrical equipment in schools and other buildings between 1950 and 1978. PCBs are considered to be so dangerous that when they were found in the Hudson River in the early 1970's, the state of New York banned all fishing until 1976. Two years later, Congress actually banned production of PCBs. In 1983, the U.S. Environmental Protection Agency (EPA) declared a 200- mile section of the Hudson River to be a Superfund site and ordered the removal of sediment that contained this toxic substance. The cleanup continues today.

In addition, the EPA started a campaign in 2009 to educate communities about testing for and removing PCB-contaminated caulk. When testing a number of schools in a small pilot, they found that there were high levels of PCBs in the air, but the primary source was old fluorescent ballasts, not caulk. This caused the EPA to shift its focus from caulk to light ballasts. In November, 2010, they recommended that the city replace all pre-1979 light ballasts.

In February, 2011, the city announced a ten-year plan to replace all such light fixtures in schools. Subsequently, the EPA said that the 10-year time line was too long. Ballasts are more likely to leak as they get older and release PCBs into the air at high levels. Judith Enck, EPA's Regional Administrator said, "From our inspections, we've found that there's a problem with

leaking light ballasts and I'd be concerned with the problem lingering for a long period of time." CSA shares her concern.

The EPA has also said, "If lighting ballast is leaking PCBs at above a regulatory level of 50 parts per million, it is considered an exceedance and federal law requires the immediate removal and disposal of the ballast." During spot inspections of randomly selected schools, all inspected fixtures had high levels of PCBs with some samples more than **10,000 times** the federal threshold for removal.

What are the risks? The U.S. Centers for Disease Control (CDC) tells us that PCB exposure can disrupt reproductive function and in utero exposure can lead to neurobehavioral and developmental deficits in newborns and continue to affect these youngsters through school age. Other effects of exposure include liver disease, diabetes and deleterious effects on the thyroid and immune systems. Dr. Robert F. Herrick of the Harvard School of Public Health says, "The evidence of the toxic effects of PCBs is accumulating rapidly. The studies all seem to point in the same direction -- that PCBs are very potent developmental toxins."

We must understand that a student spends 1,400 hours in a classroom every year. A kindergartener will spend more than 8,000 hours in elementary school classrooms before leaving school in the 5th grade. Teachers will spend more than 7,000 hours exposed to PCBs if they stay in the same contaminated room for 5 years. We know that PCBs have different effects on different age groups and it is likely that our children are most vulnerable. It is also likely that an adult with a compromised immune system would be at considerably greater risk than others.

It is clear the City of New York's ten-year plan is inadequate to safeguarding human health, particularly the health of children. As one parent said, "You don't send your child to school thinking, 'my kid is going to be exposed to a chemical that is toxic enough that they ban it in building materials'." Intuition alone tells us that no member of the school community can tolerate the kind of lengthy exposure to PCBs that the city's plan allows. Neither the emotional stress nor the physical risk is tolerable.

CSA supports the proposed legislation of Assemblywoman Linda Rosenthal (A5374). This bill requires the replacement of lighting fixtures and lighting ballasts in buildings in New York City, constructed between 1950 and 1978. It requires that fifty percent of all replacement work be completed within three years and all other work within five years.

The city has argued that it would cost nearly \$1 billion to replace all the fixtures in compromised schools and might result in teacher layoffs. When it comes to our children, cost cannot be an excuse for leaving them unprotected. It is disgraceful and even laughable for the city to threaten teacher layoffs as the price for keeping our children healthy.

We also agree with Ms. Enck's suggestion that there could be city contracts for PCB removal, which don't entail upfront cost to the city. She says, "In this era of diminishing tax dollars, it is

strategic and wise for the city to be looking at private financing for such an essential energy conservation and public health protection initiative.” We know of one company, T.M. Bier and Associates that has expressed a willingness to do the work at no upfront cost in exchange for payments in subsequent years that would be based on the amount the schools save on their energy bills. The savings would be achieved through use of more efficient lighting. They could complete the entire project in three years.

Thank you for the opportunity to present testimony on this urgent issue. We support the efforts of the City Council to reduce the ten-year plan proposed by the city. Principals want to be able to look parents in the eye and tell them that their children’s school is safe.

Results from Schools Sampled for PCBs

Date Tested	School	Address	Boro	Total PCBs	ABOVE/BELOW EPA LIMIT
		Federal EPA Standard		50.00 PPM	EPA LIMIT
Jan-11	PS 126	175 W. 166th St.	Bronx	5,920.00 PPM	ABOVE
Jan-11	IS 61	98-50 50th Ave.	Corona, Queens	6,590.00 PPM	ABOVE
Dec-11	PS 16	80 Monroe Ave.	Staten Island	25,960.00 PPM	ABOVE
Dec-11	MS 53	1045 Nameoke St	Far Rockaway, Queens	41,100.00 PPM	ABOVE
Dec-11	PS 15	71 Sullivan St.	Red Hook, Brooklyn	56,900.00 PPM	ABOVE
Dec-11	PS 149	41 W. 117th St.	Manhattan	59,000.00 PPM	ABOVE
Jan-11	PS 83	219 E. 109th St.	Manhattan	94,000.00 PPM	ABOVE
Jan-11	IS 141	37-11 21 AVENUE	Queens	98,500.00 PPM	ABOVE
Jan-11	PS 12X / Lewis & Clark HS	2555 Tratman Ave.	Bronx	193,500.00 PPM	ABOVE
Jan-11	PS 195	253-50 149th Ave.	Queens	276,000.00 PPM	ABOVE
Dec-11	PS 56	170 Gates Ave.	Brooklyn	287,000.00 PPM	ABOVE
Dec-11	PS 332	51 Christopher Ave.	Brooklyn	325,000.00 PPM	ABOVE

Jean Andre-Sassine Testimony
For New York City Council Hearing on PCBs in New York City Public Schools
April 13, 2011

My name is Jean Andre-Sassine. I am a parent at PS 195 in Queens, with a 4th grade son and a 2nd grade daughter. I am also a board member of New York Communities for Change and the chairperson of the Queens chapter.

I had always thought of our school as being very well taken care of. The maintenance staff is always on the move, cleaning and making repairs. So, when I heard about the PCB issue, I figured my school was probably ok. At least I hoped there were no problems.

Then I heard that the city was refusing to test for PCBs. That gave me cause for concern. So I decided to check things for the sake of my children and for my own peace of mind.

The only choice was for us parents to do what testing we could ourselves. We got a small sample of caulk and had it sent to a certified testing lab.

Having done that, I was shocked to find out the caulk had such high levels of PCBs – 276,000 parts per million – the third highest of all the schools we managed to test. And that is just the caulk.

I reported the findings to the parents at the PTA in my school and the other parents couldn't believe it. We are all pissed off and wondering why the city won't test our schools thoroughly and guarantee a healthy environment for our kids. After all, our kids spend 8 hours a day in this building. So why would our kids have to sit another 5 to 10 years in the building before PCB containing lights get changed?

Curious that the mayor thinks 10 years is ok when our kids could have permanent damage to their health as a result of continual exposure. We appreciate the Speaker Quinn and EPA administrator Enck pushing for faster action.

But, we, my family and I, and the parents of PS 195 in Queens, are calling on the city to take action now: _Get the PCB-containing lights replaced within 2 years and thoroughly test every school.

I thank the City Council members here today for listening to our testimony and for taking this matter seriously. We love our children and work hard to keep them safe and healthy and help them get a good education.

We need the Mayor to treat our children with that same compassion, care and respect. The city needs to stop their delaying tactics and make sure that our children are in a safe and healthy environment while they are in our schools. The city should act quickly now to make up for lost time. Our kids can't be exposed for one day more than absolutely necessary.

Thank you.

Testimony of Regina Castro on behalf of New York Communities for Change
City Council Hearing on PCBs in NYC Public Schools
April 13, 2011

My name is Regina Castro. I am a parent of a District 75 student, a lifelong resident of Brooklyn and a parent leader of New York Communities for Change. Today I am speaking on behalf of the members of New York Communities for Change who live in all 5 boros.

Since last August, we – parents, members of NY Communities for Change - have been asking, begging, demanding that NYC do the right thing - replace the PCB-containing lights in our schools right away and test our schools for PCBs now.

As parents, we know how quickly our kids grow up – right before our eyes – and we know that we can't wait a few years to find out what our children are being exposed to. We need those answers NOW – before any more damage is done.

We called. We sent letters. We signed petitions. But the city did nothing – just sat on their hands and told us that they were going to wait until NEXT summer to test 2 more schools and THEN they would get around to making a plan to test the other 700 plus likely schools.

That was just too much! We had no choice but to take matters into our own hands. We got trained in how to take caulk samples. Each sample was sealed, labeled and then taken to be tested by a certified lab. .

We found 12 schools that tested way over the EPA limit of 50 parts per million – 6,000, 98,000, 325,000 parts per million PCBs in the caulk that we sampled.

These are very disturbing results in light of the long term health hazards for our children, our teachers, our custodians and the entire school community.

And then, when the EPA sampled the lights in some schools, EVERY school tested over the 50 PPM limit!. The EPA found hazardous conditions in every school that they spot tested - schools with 660,000 PPM and even 1 million PPM – pure PCBs. Can you imagine how profoundly disturbing that is?

Learning disabilities, asthma and cancer are associated with long term exposure to low levels of PCBs. Can you imagine the anger in our membership when they heard that the City planned to take 10 years to replace those lights?

Can you imagine what it means as parents and grandparents calculate how many more days their children will be exposed to this harmful chemical? 6-8 hours a day, 5 days a week, 9-10 months a year, for 3, 5, 7, 10 more years . That is a lot of exposure!

It makes no sense! Kids should be our priority. Period. They are our future. We are supposed to protect them!

We thank the City Council for listening to the pleas of parents and holding this important hearing. And we especially thank the 41 courageous City Council members who sent a letter asking that the lights be replaced within 2 years at most. We praise EPA administrator Judith Enck and Speaker Quinn for calling out the city on their ridiculous 10 year plan and pushing for a shorter time frame.

But, our kids need those lights out of the schools right now, TODAY!

We know it is not possible to do it today but, we also know that getting the lights replaced within 2 years is very possible – if, IF, the Mayor cares about our children. And though it is too long to expose our kids for 2 more years it is much better than 5 years or 10 years.

That is why, once again, we have been left with no choice.

Remember, this is only the lights!! It is a good first step but we haven't even begun to hear anything about a plan and timeline to test the caulk, the dirt, the dust and the air in our schools. We have to take matters into our own hands and the capable hands of New York Lawyers for the Public Interest. We are left with no choice but to sue the city to save our children

We need the lights replaced in our schools within 2 years and not a day longer. There needs to be an open and transparent process that involves parents (yes, parents), contractors, labor and the city to analyze just how quickly it can be done. And then our schools must be thoroughly tested and we need the city to stop dragging their feet and act quickly to get PCBs out of our schools.

We ask the Mayor, and all of you here today, are we really going to let our kids be exposed to toxic, cancer causing chemicals for 5 years when they don't have to be?



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Testimony on PCB Removal Plan
New York City Council
April 13, 2011
Ahmed Cumberbatch
SEIU Local 32BJ

Good afternoon, my name is Ahmed Cumberbatch and I am a union representative for the city's public school cleaners, who are members of 32BJ SEIU--the nation's largest property service union. We represent over 120,000 workers, in over eight states, including 5,000 New York City public school cleaners. Thank you for the opportunity to testify today on the Department of Education's plan to remediate PCB contamination in city schools.

Having worked as a school cleaner for over 13 years, and as a grandfather of children enrolled in the city's public school system, I know firsthand what is at stake if we do not adequately address this issue. Leaking light fixture ballasts and caulking linked to PCB contamination--were prevalent in the classrooms I cleaned decades ago. While the toxicity of PCBs has been deliberated, we should all be clear on the point that students and school workers in our city school buildings risk exposure to carcinogens, and immune and reproductive system disorders from PCBs.

32BJ applauds the progress the city has made in addressing the prevalence of PCB's in our schools. However, we remain concerned about the scope and timeframe of the city's PCB abatement program. We believe a more cost effective and comprehensive solution can be achieved. To avoid any potential health risk to our children, faculty and building cleaning staff, we urge the city to consider the following adjustments to its proposal for light fixture replacements:

First, the ten-year implementation schedule for replacement of light fixtures leaves intact sources of PCB contamination for a prolonged period. Experts in the industry have suggested that the city could replace the lights within two years and at a lower cost than its estimate of \$708 million. The sooner the city acts the closer we will be to the goal of a PCB free and energy efficient learning environment for all students.

Secondly, only addressing contamination from light fixtures is a partial fix to a problem that has also been linked to the caulking, which I believe is used to seal classroom windows and doors. The city's remediation should include air testing of school buildings after leaking light ballasts have been removed to ensure all sources of PCB contamination PCB levels have been reduced to acceptable thresholds by light replacement, if not then further measures need to be taken.

Finally, the city's proposal is far from comprehensive and should be revised so that all schools are tested for toxic levels of PCBs. According to the Wall Street journal, at least one school had PCBs greater than 10,000 times the federal threshold for removal. The city needs to implement a plan that is swift and thorough.

Incorporating these recommendations is essential to the development and execution of a successful remediation plan. A successful remediation plan is one that, as quickly as possible, makes all city classrooms safe places to learn and work. On behalf of the 5,000 New York City school cleaners and the millions of New York City public schools parents, we urge the city to revise its plan to address these concerns.

Thank you

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SENIOR WHIP

April 13, 2011

Chairman Education Committee Robert Jackson
Chairman Environmental Committee James Genarro
New York City Council
250 Broadway
NY, NY 10007

Dear Chairmen Robert Jackson and James Genarro:

Thank you for your kind invitation to submit testimony for today's City Council hearing on the toxic polychlorinated biphenyls (PCBs) that have been found in our New York City public schools. This is an important hearing on a subject that I care deeply about and I am pleased that the Council is taking the time to explore this issue in greater depth. I regret that because of my responsibilities in Washington, I am unable to be there to address the Council in person.

The problem of PCB-laden window caulking and light fixtures in our schools, and the danger that it poses to our schoolchildren, is a matter that I have been working to resolve through federal legislation and other efforts. Among other actions, I have written to the Administrator of the Environmental Protection Agency (EPA), Lisa Jackson, included language in appropriations legislation pushing EPA to conduct a study on PCBs, and directly questioned the EPA Administrator during a Congressional hearing. I have consistently urged that the EPA take direct action to protect our schoolchildren from these dangerous chemicals.

It is my understanding that the purpose of today's hearing is to specifically discuss the Department of Education's proposed plan to address PCB contaminated light ballasts through a ten year removal and replacement process. Although I am pleased that the City has finally agreed to a comprehensive removal plan, I believe that the proposed ten year timeframe is too long. Judith Enck, the EPA's Region II Administrator, has also indicated publically that this problem must be resolved in a shorter time span.

I was particularly pleased to see that so many members of this City Council signed a letter to Regional Administrator Enck expressing support for a strict two year plan to address this crisis in our City's schools. Today, I would like to also go on record in favor of having this problem, which is having such a direct impact on our schoolchildren, completely resolved in the next two years. It is my understanding that replacing these PCB containing light ballasts with more energy efficient light ballasts will not only mean that New York City schools will be updating to a safer technology, but there will also be a corresponding savings in energy costs. We cannot

waste any more time in focusing our efforts on addressing this threat to the health of our children. Parents have a right to expect that when they send their children to our schools, that they are sending them to learn in a safe environment. We must act quickly and we must act now.

I stand ready to assist in efforts to not only eliminate these PCB laden light ballasts from our schools, but also all other forms of PCB contaminants from our schools - including PCB-laden caulking. I know that the City Council is aware of the fact that PCBs were frequently used in the window caulking in our schools as well and I would hope that during a future hearing we could explore this safety problem in more depth.

Again, thank you for giving me this opportunity to testify on this issue of such importance to the health and safety of New York City's schoolchildren.

Sincerely,

A handwritten signature in black ink, reading "Jose E. Serrano", followed by a long horizontal line extending to the right.

Jose E. Serrano
Member of Congress



LINDA B. ROSENTHAL
Assemblymember 67th District

THE ASSEMBLY
STATE OF NEW YORK
ALBANY

FOR THE RECORD

CHAIR
Subcommittee on Mitchell-Lama

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**TESTIMONY OF NEW YORK STATE ASSEMBLYMEMBER LINDA B. ROSENTHAL
BEFORE THE NEW YORK CITY COUNCIL COMMITTEES ON EDUCATION AND
ENVIRONMENTAL PROTECTION ON NEW YORK CITY DEPARTMENT OF
EDUCATION'S PLAN TO INCREASE ENERGY EFFICIENCY AND
ENVIRONMENTAL QUALITY AT SCHOOLS, INCLUDING THROUGH THE
REMOVAL OF PCBs**

April 13, 2011

I am Assemblymember Linda Rosenthal, and I represent the 67th Assembly District, which includes the Upper West Side and parts of Hell's Kitchen/ Clinton. More than three years ago, in 2008, the United States Environmental Protection Agency (EPA) discovered the presence of polychlorinated biphenyls (PCB)-contaminated window caulking after a botched window-replacement project in P.S. 199 in my district, among other schools. After PCB's were discovered in the window caulking, testing revealed that lighting ballasts also contained PCBs, at much higher and more dangerous levels. Since then, I have been a strong advocate of immediate remediation of the problem, and introduced legislation, along with 43 cosponsors, in the New York State Assembly, A.5374, to require the New York City Department of Education (DOE) to replace 100% of all PCB-contaminated lighting ballasts in school buildings constructed or substantially renovated between 1950 and 1978 over the course of three to five years. In addition to the remediation, new testing of the affected school buildings must be conducted to ensure that the PCB problem has been thoroughly addressed. My legislation would codify into law the EPA's recommendations to the City on this issue.

PCBs are chemicals that were manufactured and widely used in buildings in the United States from the late 1920s through the 1970s. During that time, the potential health impacts of PCBs were not known, and they were used as electrical insulators in buildings because of their high tolerance to heat, low burn rate, and non-explosive properties. Any building that was constructed or substantially renovated prior to 1979 may be at risk for PCB contamination. According to the City, 772 schools were built during this time period and may contain PCB-contaminated lighting ballasts. In 1979, after years of use, PCBs were banned by the United States Congress because of their known toxic and suspected carcinogenic properties.

Since August 2010, nearly 35 years after their use was banned, the EPA has discovered the presence of toxic PCBs at levels well above the federal regulatory limit of 50 parts per million (ppm) in nearly 20 New York City public schools, including P.S. 199 in my district. According to the EPA, PCBs may cause cancer, are a neurotoxin that inhibits children's cognitive development and ability to learn, and are particularly dangerous for pregnant women. PCB exposure has been linked to hyperactivity and attention deficit disorder (ADHD), lower IQs, reduced learning capacity, and other cognitive deficits in children, whose absorption rate is

higher because they are smaller and still developing. Many teachers and school personnel have also been exposed over the years to the PCBs. While the potential dangers of PCB exposure are not imminent, the cumulative effects of long-term exposure pose serious dangers to health.

After months of testing by the EPA as well independent testing by concerned parents, and countless letters penned and news conferences organized by my office and the offices of some of my colleagues in the New York State Assembly, we are pleased that the City has finally recognized the magnitude of this problem and released a draft outline of a plan. Unfortunately, the City's plan does not go far enough or fast enough to rid NYC school buildings of PCB-contaminated lighting fixtures.

The plan outlines a ten-year city-wide energy efficiency plan that will have the peripheral effect of removing from NYC public school buildings PCB-contaminated lighting ballasts and fixtures. While "greening" NYC schools is certainly a laudable goal, and one I wholeheartedly support, the City's plan is lacking the urgency required to deal with the PCB problem. Ten years may be an acceptable timeline for energy efficiency upgrades and retrofits, but ten years is way too long for removal of toxic chemicals from our children's schools. I wonder how anyone from the Administration would choose to tell a parent that his or her child will have to sit in a school room for ten years, while being exposed to leaking PCBs, until that school can be remediated. It is the City's responsibility, indeed it is its moral imperative, to act swiftly and properly in this case.

There are several sources of funding available to the City to help finance the remediation program, including financing by energy service companies (ESCOs) and the New York Power Authority, both of which would enable the City to begin remediation without upfront costs. In addition to the ability of the City to secure upfront financing, the energy savings that would be realized by switching from old, inefficient lighting fixtures to new, energy efficient lighting fixtures would pay for itself in than two to seven years and would save an estimated 22%-46% in energy costs. And, a knowing failure to remove the PCB-contaminated lighting ballasts to remain in NYC public school buildings would constitute a violation of the Toxic Control Substances Act (TSCA), which carries with it potentially heavy fines.

The experts agree that long-term exposure to PCBs has been shown to cause many serious health problems. Allowing our children to sit in PCB-contaminated classrooms for upwards of ten years while we wait for the City to replace boilers and make other energy efficiency retrofits just doesn't make sense. Just tell a parent who is enrolling their child in kindergarten today in a school laden with PCBs that their child's school will not be made PCB-free for ten years, and I can't imagine finding anyone who would not be appalled. With energy efficiency, we are afforded the luxury of time, but such is not the case when it comes to PCB exposure. We must begin today on a swift path toward total PCB-remediation to ensure that New York City public schools are safe and healthy environments in which our children will learn and grow.

Thank you for the opportunity to present comments today.

For the Record

Testimony of Leon Tulton
Parent, Co-op City, the Bronx

Joint Oversight Hearing of the Committee on Education and Committee on
Environmental Protection
Public Hearing on PCBs in Public Schools

April 13, 2011

Good Afternoon Chair Person Jackson, Chair Person Gennaro and Council members of the joint Education and Environmental Protection Committees. My name is Leon Tulton and I am the father of a child who will soon be enrolled at PS 178 in Co Op City, which is our neighborhood school and has been identified as a school containing PCBs. It is also one of the PCB Pilot Study schools. I'm also a member of the New York City PCB-Free Schools Coalition, a group formed by parents and individuals concerned about the presence of Polychlorinated Biphenyls, also known as PCBs, in the City's public schools and the risk that the toxic chemical pose to students.

I'm here to demand two things from the City Council to protect my daughter. **First, the Council must demand that DOE replace PCB-tainted light fixtures in two years instead of the mayor's proposed 10 year plan. Second, the Council must demand that the Department of Education (DOE) conduct citywide testing of the public schools for all sources of PCBs.** Not neighborhood-wide or just those within a borough, but all the public schools in New York City. Even at low doses, PCBs are known to be harmful to human health. We shouldn't gamble with our kids' health during the eight years or more they spend in school by risking exposure to PCBs. While I understand that DOE must be fiscally responsible, I won't stand by and allow the agency to put a price tag of the health of our children, especially my daughter's. Ten years is unacceptable.

DOE's main responsibility is to provide a safe environment for our kids to learn and grow. Schools should not only be a safe haven from the violence outside, but from dangerous toxins inside as well. Ladies and gentlemen of the two committees, I urge you to join us in helping to protect the health of my daughter and all New York City school children by replacing PCB-tainted light fixtures within the next two years and then turning your attention to other sources of PCBs by conducting citywide testing of all public schools.

Thank you.

For the Record

Outline of remarks – Valerie J. Watnick
April 13, 2011
City Council Hearing on Citi-wide Light Ballast Replacement

My name is Valerie Watnick and I am the former Co-President of the PTA of PS 199. I am also a current parent and board member at PS 199 and a professor at Baruch College, teaching Environmental Law and Business Law. And I am a lawyer. I am the first author of a law review article reviewing the law and status of pcbs in schools nationally, published this past spring at the University of California, Davis Law School.

In the winter of 2007 -2008, PS 199 had undergone a window replacement by the School Construction Authority. The work was dusty – and many mornings, students and teachers had to clean their desks to begin working. In April of 2008, just as this window work was nearing completion, the Daily News reported that it had tested the caulk of some nine or ten schools and PS 199 had the highest concentration of PCBs in its caulking of all the schools tested by the Daily News. Parents began by asking questions, the first of which was – why had the SCA not tested the caulk before it began removing windows and creating all this interior dust. Why had the SCA not followed the NYS Health Dept.'s protocol for pcb containing materials in schools passed that prior summer of 2007. We also asked about light ballasts in various meetings since the EPA recommends that light ballasts be replaced if installed before 1978 when PCBs were banned by the EPA. We were told not to be concerned about the light ballasts and the fluorescent light fixtures.

The SCA performed air testing and wipe sampling following the window replacement project in winter '07-08 and the Daily News revelations. For those of you who don't know or remember the standards, the EPA has indicated that the safe standard for wipe samples is less than 1ppm. For air, less than 300 or 100 nanogram per cubic meters, 100 for kindergarten children and 300 for first through fifth grade. For unenclosed building materials, the safe standard is less than 50 ppms. We had numbers at PS 199 in air that in many rooms exceeded these levels by huge margins. Then, the school was cleaned, cleaned again, and the worst caulking-- meaning the most contaminated in the building – was removed or encapsulated, and air tests were repeatedly performed. But our numbers would not go down and stay down in terms of air samples during the school year 2009-10. And many of them remained above the EPA's Public Health Levels of 100 or 300 nanograms per cubic meter. Finally, the SCA tested the light ballasts and found that indeed they were contaminated with PCBs. In fact, some of them were leaking fluid that was pure PCBs – 1,000,000 ppm. And this fluid was literally directly over our children's and our teacher's heads. Over the summer of 2010, the SCA took these old light fixtures out, and low and behold, the numbers started to come down, even when the building was tested with windows closed.

Our children and staff were exposed when they cleaned dust, and then unnecessarily further so when the SCA did not promptly take out the fluorescent lights. The SCA played fast and loose -- exposing our children and teachers to PCBs. The PTA recently learned of test results that were kept from us that showed high levels of PCBs -- in the sink caulking in our classrooms. This, we learned, despite an ongoing dialogue with SCA and DOE, through a freedom of info Act by NYLPI. By letter dated today, we have asked that all of the sink caulking be tested and remediated immediately.

The light ballasts in schools across the city cannot wait ten years. It must be done over 2 years. Experience at PS 199 is that it makes a significant difference in air quality and the concentration of PCBs in the air – air that our children and teaching staff breathe every day they are in school. Our children cannot wait another decade.

Michelle Ciulla Lipkin
Testimony - City Council Hearing, April 13th

For the Record

Hello, my name is Michelle Ciulla Lipkin. I am President of the District 3 Presidents' Council and Co-President of the PS199 PTA.

After reviewing the NYC Schools Comprehensive Plan: Greener, Healthier Schools for the 21st century, I was certainly glad to see that the city is taking a step forward with energy efficiency and making a commitment to make our schools greener, something that is very important to us in District 3.

However, I find the inclusion of the PCB remediation in this plan to be misleading. I don't believe PCB remediation has a place in the city's energy efficiency plan. The removal of PCB contaminated lighting fixtures is a health and safety issue and to present it as part of an efficiency plan is deceptive. These are separate issues that should be addressed independently and with different timelines.

A ten year roll out to save energy and reduce operating costs is one thing -- no child is going to sick from high energy bills but a ten year roll out to remove dangerous toxins from schools jeopardizes the health and safety of a generation of NYC school children.

The report states that the city wants the PCB ballasts to be removed from schools in a "responsible and programmatic manner." This translates to me as "slow."

If we adhere to a 10-year timeline, my 8-year-old son could spend his entire middle school and high school career in a contaminated school.

I am not comfortable with this and the city shouldn't be either.

As a parent at PS199 – one of the schools in the pilot program, I have been closely involved with the issue of PCB contamination and all the advocacy and efforts we have had to put forth to get the issue addressed at our school. It has been a regular part of our lives at PS199 for the past 3 years and it continues.

We are tired of this issue not being addressed with the urgency it deserves. We need to take care of our kids NOW and make sure that their schools are as safe as they possibly can be.

Assembly Member Linda Rosenthal's bill sees the majority of the PCB contaminated light ballasts in schools changed in 3 years. I urge the City Council to get on board and push for a shorter timeline.

Thank you.



STATE OF NEW YORK DEPARTMENT OF HEALTH

Flanigan Square 547 River Street Troy, New York 12180-2216
www.health.ny.gov

*For the
Record*

Nirav R. Shah, M.D., M.P.H.
Commissioner

Sue Kelly
Executive Deputy Commissioner

April 4, 2011

Mr. Gary Altman
Legislative Counsel
Office of The Speaker
The Council of The City Of New York
New York, New York 10007

Dear Mr. Altman,

On behalf of New York State Commissioner of Health, Nirav R. Shah, M.D., M.P.H., I thank you for inviting him and staff members (as appropriate) to provide testimony at the hearing on the "DOE's Comprehensive Plan to Increase Energy Efficiency and Environmental Quality at Schools, Including Through the Removal of PCBs" to be held on April 13, 2011 by the New York City Council's Committees on Environmental Protection and Education. We believe that a comprehensive plan is a good starting point for any long-term project to address both energy efficiency and health concerns from PCBs in New York City public schools. However, neither Commissioner Shah nor Department of Health staff will attend or provide testimony at the hearing. If you have any questions, please contact Mr. James Clancy, Assistant Commissioner for Governmental and External Affairs, at (518) 473-1124.

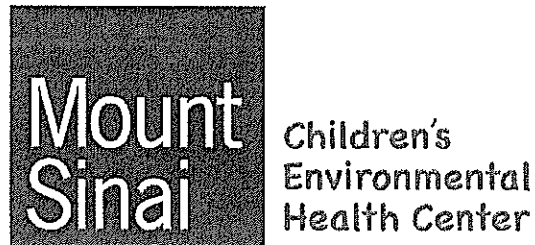
Sincerely,

Howard A. Freed, M.D.
Director
Center for Environmental Health

**TESTIMONY BEFORE THE COUNCIL OF THE CITY OF NEW YORK
COMMITTEE ON HEALTH**

CHILDREN'S ENVIRONMENTAL HEALTH CENTER

PCBs AND CHILDREN'S HEALTH



MAIDA P. GALVEZ, MD, MPH
Associate Professor
Director, Region 2 Pediatric Environmental Health Specialty Unit

PHILIP J. LANDRIGAN, MD, MSc
Ethel H. Wise Professor and Chair
Department of Preventive Medicine
Mount Sinai School of Medicine

April 13, 2011

We appreciate the invitation to discuss the health hazards of PCBs. I am Maida Galvez, MD, MPH, Director of the Region II Pediatric Environmental Health Specialty Unit. The testimony that I am presenting today reflects my views and those of my colleagues at the Mount Sinai Center of Excellence in Children's Environmental Health led by Dr. Philip Landrigan. The Director of the Center for Children's Environmental Health Research is Dr. Mary Wolff. Both are internationally recognized expert in PCBs.

In the face of growing economic challenges, an area for which there can be no compromise is children's health. There is an urgent need to invest in primary prevention strategies today in order to ensure the health of future generations to come. Children bear lifelong neurotoxic effects from PCB exposures.

We therefore urge the City Council Committee on the Environment to support a swift and timely removal of PCB containing light fixtures from the New York city school system, as soon as is feasibly possible. The body of evidence is clear. PCB exposure during developmentally sensitive windows such as pregnancy has long lasting effects on developing babies' brains. While this is not a medical emergency, there is no reason to delay removal of this known neurotoxin. We have the ability to prevent exposures to this toxic chemical in the places where children, expectant mothers and women of childbearing age spend a significant period of time.

Polychlorinated biphenyls (PCBs)

PCBs are a family of man-made organic chemicals used widely in building materials beginning in the 1940s. PCBs were used in coolants and insulating fluid in transformers, in electronics, in fluorescent lighting and air conditioners, in paint and cements as plasticizers and in sealants. PCBs resist burning and persist a long time. But because of this resistance to degradation, PCBs made over 40 years ago are still in the environment, and humans and animals are continuously exposed. Currently, low levels of PCBs are present in most Americans, including young children. Because of concerns of persistence in the environment as well as concerns about human health effects, a federal ban on the manufacture of PCBs was imposed in 1976 under the Toxic Substances Control Act (TSCA).

Children and Unborn Children are Uniquely Vulnerable to PCB Exposure

Exposure to PCBs in the environment can occur in three ways: (1) inhalation of PCBs in the air, (2) absorption of PCBs through the skin, and (3) ingestion of PCBs. Younger children are more likely to have this last type of exposure because they spend a lot of time crawling and playing on the ground where PCBs may have settled in dust. Also, younger children often put their hands or toys in their mouth and then swallow the dust. PCBs are not easily broken down or passed from the body. Levels of certain PCB congeners accumulate in the body over time. Half lives range from months to decades.

Developing babies in utero may be exposed to PCBs if pregnant mothers breathe, eat or touch things that contain PCBs. PCBs can readily pass from the mother to the developing baby via the placenta. PCBs may also concentrate in the mother's breast

milk. Mothers likely already have an existing body burden, but exposure to leaking light fixtures could increase this burden.

Health Effects of PCBs

Well-conducted, highly credible epidemiological studies demonstrate that babies born to mothers with elevated levels of PCBs in their bodies have diminished intelligence as measured by decreased I.Q. scores and motor delays. While a number of other health outcomes have been associated with PCBs, this is where the strongest body of evidence exists with respect to PCB exposures.

A Mount Sinai study led by Dr. Mary Wolff examined exposures of children who played with PCB-covered debris from a capacitor explosion in a midwestern city. The main route of exposure for these children was through dermal absorption. PCBs levels measured one month after the explosion were elevated in the four children. Blood levels of certain PCBs declined 11 months later while others remained the same. This study underscores the importance of dermal absorption as a route of exposure in children, the fact that some PCBs are more easily metabolized while others are quite persistent, and the need for safety precautions for vulnerable populations who may have direct contact to PCBs in old electrical equipment such as faulty light ballasts.

The EPA has determined that PCBs are probably cancer causing. Adults exposed to high levels of PCBs in their work, such as electricians, have been found to have a higher rate of cancer of the liver and biliary tract, but cancer in those people is still a rare event. Evidence exists for a link between PCBs and Non-Hodgkins Lymphoma in adults with non-occupational exposures to PCBs.

Protecting the Health of New York City School children, teachers and staff

PCBs at the levels found in schools in New York City today will not make any child or any teacher acutely ill. In fact, compared with air levels reported in some other studies, the limited air levels reported thus far in NYC schools have been quite low. Therefore, in this particular instance we would say certainly send your child to school. The benefits of going to school far outweigh any risk from PCBs in the school environment.

Now that PCBs have been discovered in leaking light fixtures in schools, it is clear that faulty fixtures need to be removed to prevent further exposure of children, teachers and other school staff. While this situation is not a medical emergency, there is still no reason to delay interventions. There are no safe thresholds for chemical exposure during pregnancy.

Summary

To best protect the health of the children, staff and families of New York City public schools, we advocate for swift and timely removal of PCB-containing ballasts, as soon as is feasibly possible. Prompt cleanup will minimize exposure to the PCB containing materials. The goal is to keep environmental exposures low to minimize risk. Of particular concern are students, teachers or staff that may become pregnant. It is important to emphasize in this removal that prudence should not be sacrificed in the interest of pace. Though we urge haste in the cleanup, the work needs to be done

carefully and methodically to avoid a release of more PCBs into the school environment or an increase in danger to the remediation workers. There is time to measure, evaluate and take appropriately focused, intelligent preventive action. An important component of this recommendation is that the work should only be done when children, pregnant women and women of childbearing age are not present in the buildings.



The City
University
of
New York

School of Public Health
At Hunter College
425 East 25th Street, New York, NY 10010

Environmental and Occupational Health Sciences
(212) 481-7569

April 13th, 2011

Committee on Environmental Protection
The City Council of New York, New York

RE: NYC Department of Education's Comprehensive Plan to Increase Energy Efficiency and Environmental Quality at Schools including through the Removal of PCB's

Dear Council Member James F. Gennaro and members of the Environmental Protection Committee:

I am here today to express my opinion regarding the implementation of the above-mentioned plan for the removal of fluorescent lighting fixtures containing the dielectric fluid, polychlorinated biphenyls or PCBs.

As background, I am a tenured Associate Professor and director of the Environmental and Occupational Health Sciences program at the CUNY School of Public Health located within Hunter College and have over 30 years experience in the field of environmental and occupational health assessments. Our program has been teaching and training professionals in the identification, evaluation and control of environmental and industrial health hazards since 1978 and has graduated over 600 students. Our alumni conduct environmental health assessments and workplace surveys throughout the US and abroad. This is my fourth appearance in front of the City Council having testified before on Lead Poisoning, Permitting of Air Monitoring Instrumentation, Automotive Idling regulations and now PCB containing ballasts in NYC Schools. On a personal note, I am born, raised and schooled in New York having lived in Washington Heights, Astoria, Flushing and now on East 55th Street in Manhattan.

The importance and obligation of the council in protecting the citizens of New York City is historic and indisputable. Numerous initiatives generated by this body have made NYC one of the safest and healthiest places to live; be it crime, disease eradication or cleaner streets. When problems affecting the citizens of New York are discovered, the Council and its members act and act quickly. In this context, I applaud your actions in holding these hearings and guiding NYC government into an appropriate response.

The toxicity of Polychlorinated Biphenyls has been scientifically established and will not be presented in my testimony. Specifically, I would like to comment on three aspects however; exposure to PCBs, population at risk and the timely removal of lighting fixtures with leaking dielectric fluid confirmed to be PCB.

1. Exposure

The primary exposure route presented in various reports and news outlets has been the volatilization of PCB oil from leaking lighting ballasts; meaning the liquid evaporates into a gas which can then be inhaled. While this is true, it should be understood that the oil itself is extremely non-volatile (much less so than mineral oil or even olive oil) and therefore should not be compared to a volatile organic material like gasoline or trichloroethylene (aka dry cleaning fluid). However, as temperature or air speed increases, so does the evaporation potential. Meaning a warm leaking lighting fixture will release more airborne PCB than a cool fixture. The point being, while leaking PCB ballasts on a ceiling 12 feet above a class of NYC

school children is unlikely to present a significantly elevated health risk, a chemical hazard is present and must be managed properly. Other routes of exposure are direct contact by maintenance staff, something that should not be underestimated. Additionally the PCB dielectric fluid is normally sealed within the ballast and should not leak out. If leakage occurs, then the integrity of the ballast has been compromised with eventual lamp failure. The point being, if the ballast is not leaking, exposure cannot occur. This latter point is essential in determining a control strategy.

2. Population at Risk

In conducting a chemical risk assessment all populations at risk should be considered. Unfortunately in the discussions around this issue it seems that school children dominate the risk equation. While this is understandable given the continuous development of their bodies and higher than average air, food and water intake, others are also at risk and should be considered. Teachers and school staff occupy these buildings and rooms for longer periods of time and leaking PCB containing lighting fixtures should also be considered an occupational health hazard. One group that seems missing entirely from the discussion is the school maintenance staff. These individuals are most at risk given their close contact with leaking fixtures and longer than usual hours on the job. I am concerned that leaking fixtures, which do not automatically get better with time, will continue to expose maintenance staff.

3. Timely Removal of Leaking Lighting Ballasts

Methodologies for approaching environmental or occupational health hazards have been defined and standardized for decades. The customary approach consists of: *Hazard Identification* followed by *Hazard Evaluation* then if necessary, *Control*. In the current situation, by and large, Hazard Identification and Evaluation have been conducted. The remaining issue is "how best to control or fix the problem". I believe most environmental and occupational health professionals would simply say "in a timely manner". In my professional opinion, the 10-year timetable for the completion of this hazard control action is NOT "in a timely manner" and frankly unacceptable.

Recommendation:

While I generally agree with the policy of targeting select schools with known leaking PCB lighting fixtures first, it's unclear to me how the remaining schools would be addressed. Instead of integrating this program with the PlaNYC Sustainability Initiative (i.e. energy efficiency goals), I strongly believe a distinct program to address the PCB leaking ballasts in NYC Schools needs to be developed and implemented. Essentially what I suggest is a program to find, assess and replace, as needed, all leaking fixtures. This may be reminiscent of US EPA's Asbestos in Schools Regulations of 1987 (i.e. AHERA). The compliance approach was (1) inventory building material (2) rank material and then (3) abate or repair damaged asbestos containing materials. It was an unambiguous approach with a clear endpoint; namely no damaged asbestos containing material in a school. The same approach should be used for all environmental hazards whether its lead paint, toxic products or PCB containing material: find, assess then control.

My specific criticism to the NYC Department of Education's proposal is the departure from this scientific approach. I realize there are almost 800 school buildings that need to be addressed but with a systematic, targeted approach, such a job can and should be completed in less than 5 years. Finally I am concerned with the lack of a clear emergency response plan for unintentional releases. Conditions in school buildings are ever changing and NYC must acknowledge this and be ready for an appropriate response such as a flood, fire, or an unintentional disturbance.

Sincerely:



Jack Caravanos, DrPH, CIH (Certified Industrial Hygienist)
Associate Professor of Environmental Health and
Program Director - EOHS MS / MPH degree programs



NATURAL RESOURCES DEFENSE COUNCIL

**Statement of the Natural Resources Defense Council
Before the New York City Council's
Environmental Protection and Education Committees
April 13, 2011**

Regarding Removal of PCB-containing Lighting Ballasts in New York City Public Schools

Good afternoon, Chairmen Gennaro and Jackson and members of the Committees.

My name is Eric A. Goldstein and I am New York City Environment Director at the Natural Resources Defense Council (NRDC). As you know, NRDC is a national, non-profit legal and scientific organization that has been active for more than four decades on a wide range of environmental issues including air pollution, environmental toxics and energy conservation. We have devoted special attention over the years to protecting the environment of the nation's largest city and the quality of life for its more than 8 million residents.

I am pleased to be here today to present NRDC's views on how best to address the complex issues surrounding environmental conditions in New York City public schools, and especially how the city can best move forward in reducing the risks to students posed by PCBs in out-dated lighting ballasts in hundreds of school buildings. My colleagues Ashok Gupta, Donna DeCostanzo and Ellie Tarlow were all involved in developing NRDC's testimony.

PCBs, or polychlorinated biphenyls, are toxic synthetic compounds that, despite their value in a variety of commercial uses, have over recent decades presented significant threats to public health and the environment. The US Environmental Protection Agency has linked PCB exposures to nervous and respiratory system problems, disruption of immune systems, hormone suppression and skin and eye irritation. EPA, the National Cancer Institute and the World Health Organization have classified PCBs as probable human carcinogens. Because of their chemical stability, PCBs persist in the environment once introduced; they also bio-accumulate and bio-concentrate in organisms, including humans.

Due to their high toxicity, PCBs are one of only a handful of chemicals whose manufacture and distribution in commerce have been completely or largely prohibited by Congress. The Toxic Substances Control Act banned the manufacture and distribution of PCBs under most conditions in 1976. And EPA has since developed a complex regulatory scheme to safeguard the American public from exposure to these pollutants.

Among other commercial uses, PCBs were used as coolants and insulators in lighting ballasts and other electrical equipment, due to their stability and heat-resistance, until their use was restricted

in the late 1970s. Nevertheless, hundreds of schools in New York City built or renovated before 1978 still have fluorescent lighting fixtures that contain – and may be leaking – PCBs. The typical life expectancy of fluorescent light ballasts is between ten and fifteen years, according to EPA, and after this life expectancy, ballast failure rates increase significantly. EPA has determined that all of the pre-1979 ballasts used in New York City public schools are now far beyond their life expectancies. And, as ballasts age, the likelihood that PCBs can leak and escape into the school environment continues to increase.

New York City and EPA Region II testing programs have revealed that the threat from PCBs in city public schools is not just theoretical. As part of a pilot study late last year, the city found that removal and replacement of failing lighting fixtures resulted in substantial reductions of PCB concentrations. And earlier this year, EPA conducted inspections at seven public schools throughout the city to assess whether lighting ballasts in those schools were leaking or had previously leaked. At each of the schools, EPA reports that at least two-thirds of the samples taken showed results that were above the agency's action limit. These inspections have lead EPA to conclude that "there is a prevalence of leaking PCB ballasts in the City's school system."

Partly in response to the EPA findings, the New York City Schools Chancellor and the Bloomberg Administration announced in late February a comprehensive plan to replace the out-dated school lighting ballasts and implement a range of energy-efficiency improvements and replace antiquated fuel oil burners at the same time. This is an excellent program that promises to reduce energy use, curb global warming emissions, and improve environmental quality throughout the public school system. As announced, the city's program would be implemented in 772 public schools over a ten year period.

The U.S. EPA, public health experts, elected officials and parents and teachers share the concern that the city's remediation program, while comprehensive in scope, proposes an implementation timetable that is simply too long. NRDC agrees. We believe that all elements of the Bloomberg Administration's comprehensive plan are important and should move forward together on an accelerated timetable.

Of course, any timetable is subjective and involves sometimes difficult trade-offs. But NRDC believes that taking ten years to replace the out-dated, PCB-laden lighting ballasts in our public schools does not fully reflect the urgency of the situation. At the same time, a two-year schedule, which some have proposed as an alternative, would not in our view provide enough time to design, plan, scale-up and implement the comprehensive program throughout the school system. For these reasons, NRDC has concluded that a five year timetable for completing the entire program properly balances the health imperative as established by EPA with practical realities of implementing the Administration's comprehensive lighting and energy-efficiency program in nearly 800 school buildings. In sum, we urge the Administration to move forward with its commendable school energy and lighting program on a five year timetable, and stand ready to work with the Department of Education, with the Mayor's office and with the City Council to assist in any way we can to achieve this positive outcome.

Shana Marks-Odinga

Testimony on behalf of the New York City Coalition for Educational Justice (CEJ) and the Alliance for Quality Education (AQE)

New York City Council Hearing

PCBs in New York City Public Schools

April 13, 2011

My name is Shana Marks-Odinga and I am a high school parent. Thank you to the Committee for holding this important hearing. My son attends Leadership and Public Service High School (M425). A visual inspection of our building was done and our principal was informed the only locations for T-12 fixtures are in the stairwells, our students use the stairwells. Our school has not been tested for PCB's.

I am an organizer for the Alliance for Quality Education, a statewide educational justice organization and a member of the NYC Coalition for Educational Justice (CEJ). CEJ is a parent-led coalition of 8 neighborhood organizations throughout the five boroughs of New York City. CEJ fights for excellent schools for all of our children and that includes healthy safe school buildings. Our members have children in many of the affected schools.

I am here today speaking on behalf of CEJ and on behalf of all our children to implore you to find a speedier process for testing and removing PCBs from our schools. It is hard to believe what we have heard- that the mayor thinks ten years is a reasonable time frame for replacing contaminated light fixtures. He would not allow his children to be in a school with high levels of PCBs. Why does he think it is okay for our children?

We know this is a bad economic time but our children's health has to be a priority, otherwise what kind of city do we live in? Ten years means another whole generation of children exposed and therefore facing all kinds of negative effects- respiratory issues like asthma, leukemia, even lower IQ's. We thank Speaker Quinn and the Environmental Protection Agency (EPA) for stating that it has to be done in less than 5 years.

We join with parents across the City to demand that light fixtures get replaced in all 800 schools in two years. This feels like a reasonable amount of time that still gives a sense of urgency. Once lights are replaced, there will be cost savings because they will be more energy efficient. This is secondary to the health of our children but it is an added bonus.

And is it true that there is no plan to test all schools citywide for PCBs? I certainly hope not. This should start immediately.

And parents in every school must know when the testing is happening, what the results are, and what the plans are to address any high levels of PCBs.

Thank you.



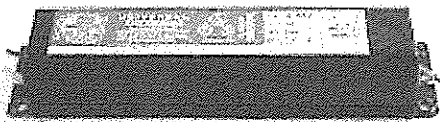
Sierra Club Atlantic Chapter Comments to the New York City Council, the Committee on Education and the Committee on Environmental Protection

Polychlorinated bi-phenyls (PCBs) in New York City school lighting systems.

April 13th, 2011

Yesterday I spoke with Trudy Silver. She is a music teacher at PS 112 in East Harlem. She expressed joy when describing the new lighting system recently installed in her classroom. Over the past few weekends, all the lighting has been replaced within the 3 floors in that school. The EPA PCB sampling summary (see attachment) had reported that 2 of the 3 samples taken from PS 112 exceeded the federal limit of 50 ppm (mg/kg). At present time the students and staff feel that they are in safe lighting environment. Also, the lighting quality has improved. All schools must have the PCB ballast lighting systems removed and replaced as quickly as possible.

The PCB ballasts are antiquated and dangerous. The EPA has banned the use of PCBs since 1979. These ballasts were designed for 10 to 15 years or 50 000 hours of use. These ballasts should have been phased out between 1984 to 1989. As ballasts age, they degrade and leak. The ongoing use of the PCB ballasts in the fluorescent lighting fixtures in New York City schools is a health and fire safety threat to children and school personnel.



The Sierra Club requests that the City Council pass a Bill that would require the Board of Education to remove the PCB hazard from all schools as expeditiously as possible within two years.

Thank you for your consideration of these Comments.

Sincerely

A handwritten signature in cursive script that reads "Annie Wilson".

Annie Wilson

Energy Committee Chair,
Sierra Club Atlantic Chapter

Post Office Box # 2430,
New York, NY 10009

energy@newyork.sierraclub.org



**MASON TENDERS' DISTRICT COUNCIL
OF GREATER NEW YORK
POLITICAL ACTION COMMITTEE**

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NEW YORK, NY 10018
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**Testimony of
Michael J. McGuire
before the Committees on Environmental Protection and Education
re: PCB contamination in New York City public schools
April 13, 2011**

Good afternoon Chairmen Gennaro and Jackson and distinguished committee members. My name is Mike McGuire and I am the Director of the Mason Tenders' District Council of Greater New York and Long Island Political Action Committee. The Mason Tenders' District Council is comprised of more than 15,000 members in six local unions of the Eastern Region of the Laborers' International Union of North America. These locals represent men and women working throughout the five boroughs and Long Island as building construction laborers, mason tenders, plasterer's helpers, office and professional personnel, demolition workers, recycling plant employees, high school teachers and, last, but not least, asbestos, lead and hazardous material abatement laborers.

Today I am representing Sean Brennan, Director of the Mason Tenders' District Council Training Fund, who could not be with us due to a death in the family.

Polychlorinated biphenyls, or PCBs, are a family of man-made chemicals that contain 209 individual compounds with varying levels of toxicity. PCBs are classified by EPA as carcinogens, particularly with regard to the liver. Reproductive and developmental effects may also be related to occupational exposure to PCBs. Studies show that irritations such as lesions, rashes, and burning eyes and skin can occur in PCB-exposed workers. Populations at high

risk of exposure to PCBs include people who work or live in buildings that have high concentrations of PCBs in the indoor air supply.

You'll note that pretty much everything I just stated was in regards to workers exposed to PCBs. The reason for this is two-fold: one as a union representative, I am concerned with the health of the workers who deal with PCBs. Two, virtually no data exists regarding long-term, chronic exposure to anyone but workers. And why would it? Who else could be exposed to levels of PCBs hundreds of times the permissible levels for eight hours a day or more? No one, except our children attending PCB contaminated schools.

In researching this topic, it is also disturbing to find that almost all of the information out there on proper remediation and abatement of PCB contamination deals with soil contamination and not occupied buildings. On top of that, the extent of worker protection recommendations in most PCB awareness training courses is "wear gloves" and "limit exposure to skin".

Fortunately, in Laborers' Local 78, the Asbestos, Lead and Hazardous Waste Abatement Workers' union, we have more than 1,400 members who already have training in dealing specifically with PCBs in buildings. Further, these workers are all licensed in asbestos abatement and have full training in hazardous waste remediation. In fact, our members undergo almost 4,000 hours of training to rise from apprentices to journeypersons.

Due to the lack of guidelines, this training takes on added importance. Our members are the best equipped and best skilled to deal with not just standard PCB abatement and remediation, but also emergency situations such as toxic spills or other unseen situations. Further, their training in proper containment and post-abatement and remediation clean-down procedures will ensure that the contamination is eliminated, not spread throughout an entire school building.

Obviously, PCB abatement work can not be done during school hours. Not only is it impractical, but it creates an even greater hazard for our children. The vast

majority of this work will be done over the summer, at night or on weekends. Let's imagine a scenario—and not a far fetched one—where several classrooms are being abated over a weekend. All is going well until Sunday afternoon when a ballast containing PCBs is dropped and shatters spreading PCB oil around the classroom. As this is highly concentrated PCB oil that is released from the ballast, the contamination level is likely multiplied by the hundreds or thousands beyond what was being abated. The worker runs to get towels or a mop to clean up the spreading pool of toxins. He or she mops it up, cleans down the mopped floor with dry towels, disposes of the mop water and towels and moves on with the job.

Now remember: PCBs in this case are oily liquids that are colorless to light yellow in color with no known smell or taste. If proper containment procedures have not been adhered to, the PCBs could be splattered all over that classroom with no way for the worker to recognize that fact. The worker runs to get a mop and towels, tracking PCB oil down the hallway. He or she mops and then dry wipes what the worker thinks is the contaminated area, actually likely spreading around as much of the PCBs as he is cleaning up. He then takes the PCB laden mop bucket and disposes of the water in the janitors slop sink.

What is the end result of this lack of proper training? The classroom in question is still contaminated. The hallway, stairwells, et cetera...wherever that worker ran to get the mop...are now contaminated. Anything that mop and bucket comes into contact with will now be contaminated. Instead of a properly abated classroom, you still have a classroom that is contaminated. You now also have stairways and hallways that are contaminated. Come Monday morning, when the kids are supposed to come back to school, there are now, four, six, eight classrooms offline because the hallways that lead to them are contaminated. Where do we place those hundreds of kids for however many days it takes to abate the hazard?

We believe that the best way to avoid any sort of scenario that exacerbates the situation and slows the process of ridding the schools of PCBs is stringent standards. Use of licensed environmental remediation contractors who employ properly trained workers is imperative. By properly trained workers we would urge the administration to adopt a standard of employing only those holding a current asbestos abatement license *and* having completed training in dealing with PCBs specifically in buildings.

This will ensure a workforce that is the most knowledgeable in terms of everyday environmental remediation, as well as emergency procedures. Ultimately, the work will be done in a more efficient manner, faster and with a degree of certitude that those classrooms have truly been remediated. Thank you.

Respectfully submitted,
Michael J. McGuire
April 13, 2011

Testimony of Edison Severino, Business Manager, LIUNA Local 78
At City Council Hearing on PCBs in Public Schools
April 13, 2011

LIUNA Local 78 is a Union of 4,200 environmental professionals. We are *the* Union that represents workers in the environmental clean-up industry.

Every day and every night, our signatory contractors and members go to work in buildings across the City, safely removing asbestos, lead, PCBs and multiple other types of contaminants.

Within days of the attacks on the Twin Towers, over two-thirds of our members responded, many working double-shifts. We cleaned the buildings around Ground Zero of the hazardous soup that had rained upon them, making Downtown Manhattan a livable, workable area again.

When the steam pipe exploded on 42nd Street, over 500 Local 78 members worked day and night, cleaning the surrounding buildings of the asbestos and toxic dust that had covered the area.

The first thing our members do upon arriving at work is put on Tyvek suits, respirators, and other protective gear. They must do this for their own safety.

And yet, their children are attending classes with PCB-containing ballasts (many of which have a history of leaking) and PCB caulk without any protection at all.

We call on the City to remove this hazard from the schools with all due haste, using the highest of safety standards.

Over 1,400 Local 78 members are trained specifically in professional and safe handling and removal of PCBs. Our nearly 200 signatory contractors are environmental experts. They have the experience to know exactly how to remove PCB-contaminated materials in a manner that ensures the safety of the school children and staff. And, if anything happens to go wrong during the removal process, our members and contractors know how to respond and resolve any problem to avoid contamination and ensure that the school room is clean, safe and ready for use immediately.

April 13, 2011

New York City Council Hearing

Testimony by:

Maureen Fritch, President

Fritch Construction Inc.

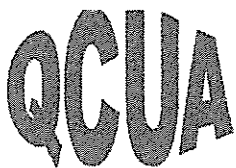
Good Afternoon, my name is Maureen Fritch, President of Fritch Construction and Founder / President Emeritus of Women Builders Council. As well as, a member of the New York City Department of Small Business Services M/WBE Advisory Board. I am here out of concern that the work that is related to PCB lighting replacement is to be removed from the supervision of New York City School Construction Authority and given to DCAS.

I have been a contractor working at the SCA now for approx 18 years. The SCA has been a leader in not just meeting the goals set forth for M/WBE's but has surpassed the goals year after year. The SCA puts a tremendous effort in bringing their projects in on time, under budget and most importantly safely. The contractors that work at the SCA go through a vigorous prequalification process which ensures that they have qualified and expert contractors performing in their city schools. Not to mention, numerous classes to ensure that the requirements for working inside the schools are met to the standards of professionalism that has come to be expected. With that being said, I speak with the knowledge of 18 years of experience working inside these city schools. It is imperative for a contractor to understand the dynamics which take place within the schools. A contractor must be able to not only perform their project on time, under budget and safely but must be able to understand the needs and concerns of the Principals, Custodians, UFT and the various Community Boards. The delicate balance that takes place during a project's duration is crucial and essential to the harmonious success of each project. NYCSCA M/WBE Prequalified Contractors have this experience. They understand the landscape, restrictions, safety issues, and process which allows the projects to be done in a timely and safely manner.

The M/WBE contractor community has felt this economic downturn probably more than any other business sector. If the City Council votes to remove this work from the SCA, it will further impede the growth and sustainability of the M/WBE firms that are prequalified at the SCA. Thus, taking the Mayors initiative 3 steps backwards. As you are well aware, through the new City Disparity Study, New York City Small Business Services, along with the Mayor have been working hard to increase Minority and Women owned business participation in the construction industry. I know that the City Council looks to support

these goals as well. That is why I am asking you today to ensure that the PCB lighting replacement projects stay with the "The Experts...The NYCSCA." This will help prevent hurting the M/WBE contractor community during this severe economic recession. As well as, ensuring that only prequalified M/WBE contractors will work on our city schools eliminating any possible turmoil in our schools.

In closing, if you want to ensure that these projects are completed safely, timely and within budget, while maximizing MWBE participation, then these projects should be completed by the SCA.



Queens Congregations United for Action

We are members of the Parents in Action group at Leonardo da Vinci (IS 61) school in Corona, Queens, and members of Queens Congregations United for Action. QCUA is a faith-based community organization made up of 9 congregations and schools in Northern Queens.

We as parents are very concerned about the high levels of toxic PCB's in our city's schools. PCB's are one of only 3 toxics that have been totally banned from schools and we are appalled that the Department of Education has been so slow to respond and take this seriously. This chemical can lead to many problems and sicknesses, including leukemia and other forms of cancer, learning disabilities, and others that can harm our children and limit their ability to learn! Due to the DOE's reluctance to test, we had to take matters into our own hands; we had our school independently tested – it revealed a level of over 6,900 ppm in the caulk – well over the EPA's limit of 50ppm! And we know there are other schools in the city with levels much higher!

The DOE responded with a plan to remediate the situation in 10 years – This is unacceptable! The whole job could be done in two years and should be done as quickly as possible – for the sake of our children, our teachers, our families.

We urge the DOE to do the following in all at-risk schools and do it in two years:

1. Change the old light fixtures immediately
2. Fix any broken ventilation systems
3. Test the schools completely for PCB's – the air, dust, caulk, and lights – and clean any contamination

Thank you,

Parents in Action Group at IS 61
Queens Congregations United for Action

A handwritten signature in black ink, appearing to be 'S. P. Z.' or similar, with a stylized flourish.

A handwritten signature in black ink, appearing to be 'Amato'.



Vesta Lighting

Energy Consulting
Municipal

JOSEPH MUGIVAN

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Testimony To The New York City Council

Wednesday, April 13, 2011

DOE's Comprehensive Plan
to Increase Energy Efficiency
and Environmental Quality at Schools
Including Through the Removal of PCBs

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April 13, 2011

Dear Honored Members of the New York City Council,

It is a pleasure to return to testify before your Committee after a long absence. I regularly gave testimony to this Council relating to issues of school indoor air quality over the years due to my experiences as a teacher and witness to the hidden consequences of environmental exposure in the school system.

I have assisted and participated with the Council members on identifying possible dangerous toxic situations relating to school construction and questionable sitings of schools in various neighborhoods including my own since 2004.

In the same time I have become involved in my own municipal energy consulting company where I brought LED Lighting to Nassau Community College and work with the New York Power Authority on a project to cover the campus with solar panels.

I am affiliated with the Illuminating Engineering Society and a member

of the Federal Energy Departments Municipal Solid State Lighting Consortium.

While we meet today to address the serious issue of removing PCB ballasts from the public schools, we also recognize the exciting potential for the latest technologies on energy savings.

My main concern about the PCB lighting removal is that we do not make a bad situation worse. We cannot just hand over this project to the lowest bidder who promises to complete the contract in a few years. There are many variables, standards and accounting requirements and the issue of subcontracting needs to be transparent with long term oversight.

I have assembled a potential consortium of companies that will be here tomorrow and are widely recognized as capable of coordinating this new Manhattan Project. Such a consortium could assist in coordinating all of the City and State agencies involved where varying agendas may exist. I have reached out to these companies for their support:

Philips Lighting and Finance
Jacobs Engineering
Johnson Controls
Lutron Electronics
Environmental Services Companies
The Illuminating Engineering Society

We come to the issue of Cost for this project.

The original estimate for this project by the City was 1 billion dollars and then was reduced to 700 million dollars with a time frame of 10

years. Philips financing has just completed a school in Texas and the energy saving will cover the project's cost in 30 months.

If we move back to the original estimate by the City of 1 billion dollars we can estimate that an additional 10 months would be required.

It would seem that going from 30 months to 40 months would be a prudent way of removing the PCBs in less than 5 years for the safety of the children of New York City.

The issue of relating toxic exposure to children's health needs is difficult, as I experienced when I was terminated as a teacher while trying to get air quality testing in my classroom and my school. My school had been built on a toxic site without any environmental impact statement and workers at the site were permanently disabled. Vapor intrusion barriers were never turned on. Following my termination the City Council members called for a complete whistleblower investigation in the case. The administration has failed to act on this law.

The Chancellor indicated that the Environmental Protection Agency inspected a suspected source but a recent FOIL request to the EPA indicates that no such inspection occurred and that the agency had no knowledge of the situation.

Such a record of poor environmental vigilance, where the health and safety of teachers and children are at stake, lead me to the opinion that New York City agencies need to follow the lead of a private consortium reporting directly to the EPA as we move ahead with the removal of PCB ballasts and window caulking.



This is why I am looking to create a private consortium for this project.

Feel free to ask any questions or contact me for additional information or documentation.

The Philips Financing Solution

- ▶ Philips & DLL recognize this challenge and can offer:
 - Lighting/Energy Project Financing
 - ▶ 100% project financing including equipment, installation, disposal of old assets, labor costs and freight
 - ▶ Customizable terms from 12 to 60 months, which can be structured around energy saving produced by the new system
 - ▶ Unique programs for Commercial and Government end-users
 - ▶ Customer can take depreciation benefits on the new system immediately
 - ▶ DLL handles all of the documentation and make the process completely painless
 - ▶ Progress Payment structure available for large, labor intensive projects

Benefits of Financing – Your GOVERNMENT Customers

- ▶ Conservation of cash and credit lines
- ▶ Usually does not require voter approval
- ▶ Fully compliant with local bidding/RFP processes
- ▶ Efficient underwriting & documentation processes
- ▶ 100% Financing
 - Equipment, installation costs and disposal are all included in one convenient, fixed monthly payment.
- ▶ Payments can be structured around energy savings, budget cycles and or months in operation (i.e. school districts)

Philips provides a total solution – One Stop Shopping

Tax-Exempt Municipal Lease vs. Bond

TAX EXEMPT LEASE

- ▶ VERY SIMPLE EFFICIENT PROCESS (1 WEEK)
- ▶ DOES NOT REQUIRE VOTER APPROVAL
- ▶ 3 DOCUMENTS TO EXECUTE
- ▶ RATES 4% - 5%
- ▶ LIGHTING SPECIFIC PROJECTS

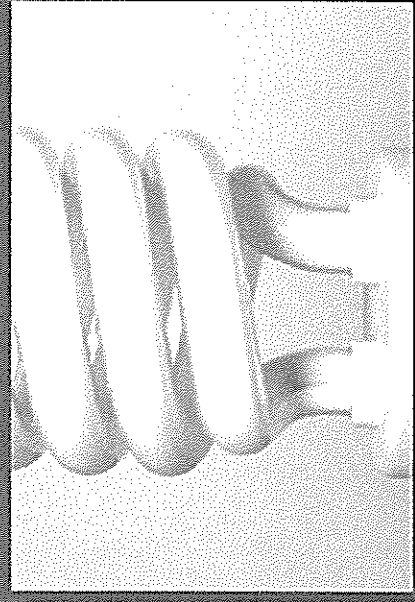
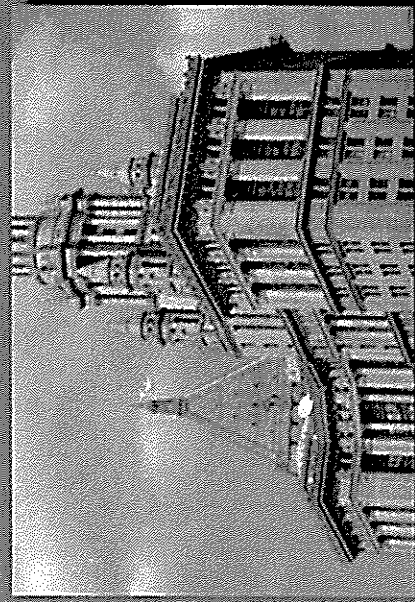
BOND ISSUANCE

- ▶ LENGTHY PROCESS – UP TO 1 YEAR
- ▶ REQUIRES VOTER APPROVAL (LONG TERM DEBT)
- ▶ EXHAUSTIVE DOCUMENTATION
- ▶ RATES 4% - 5.75%
- ▶ LOAN STRUCTURE CAN INCLUDE DISCRETIONARY PROJECTS

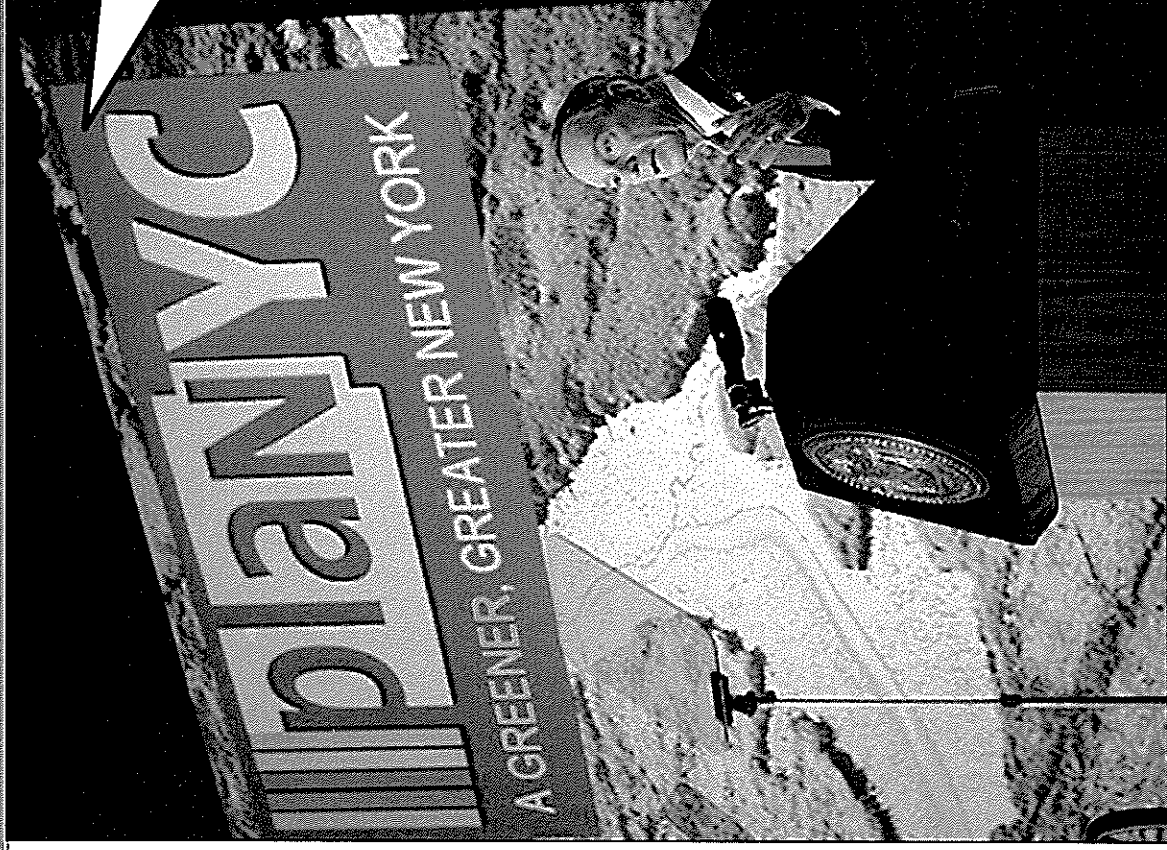
AN ATTRACTIVE ALTERNATIVE TO BOND DEBT FOR GOVERNMENT

NYC Schools Comprehensive Plan: Greener, Healthier Schools for the 21st Century

February 18, 2011
Discussion Document



Plan to build on commitment for a greener, greater NYC that runs efficiently and innovatively



PlaNYC Sustainability Goals

- Improved air quality
- Clean, reliable energy
- Climate action
- ...and more

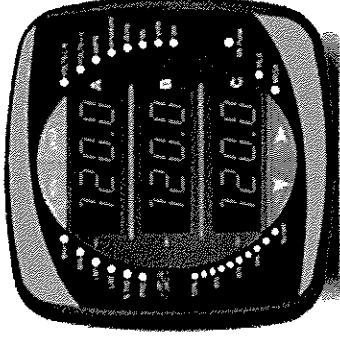
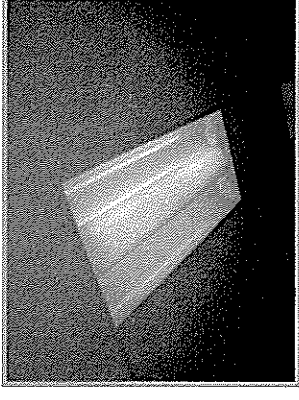
NYC Simplicity & Other 3rd Term Goals

- Innovative
- Efficient
- Better, Cheaper, Faster

Plan: upgrade NYC schools to be greener and healthier with 21st century technology

- Find and implement all cost-effective energy efficiency opportunities **in over 770 of the City's oldest schools***
- Fix or replace out-dated equipment and install new technologies
 - Lighting
 - Boiler upgrades
 - Insulation
 - Other HVAC improvements
 - Occupancy sensors
 - Smart meters & sub-meters
 - Other control systems
- Complete implementation in the next 10 years

* In compliance with Greener, Greater Buildings legislation



Progress to make schools greener and healthier to date

- **Since the mid-1990s, the City has completed energy efficiency retrofits in 239 school facilities.** In each instance ballasts were replaced with those that do not contain PCBs. This effort has led to 27,788 metric tons reductions in greenhouse gas emissions (CO₂e) and millions of dollars in energy cost savings.
- **In addition, the City currently has energy efficiency projects underway at 90 schools.**
 - 33 in design and/or construction
 - 57 energy audits in progress; these will become comprehensive retrofits
- To support the City's retrofit and energy conservation program, the NYC Department of Education (DOE) has started to roll out an **Energy Efficiency Operations & Maintenance (O&M) Program** citywide.
 - Objective of O&M Program: enhance energy efficiency of City municipal buildings, including schools, through no and low cost changes including, repairing, maintaining, and operating equipment more effectively, increasing training and awareness, and providing management oversight, accountability and transparency.
 - Over 300 custodial engineers have been trained, with the goal to have all trained by 2013.
 - 72 school buildings participate in Peak Load Management to protect NYC's electric grid on the hottest summer days.
 - DOE's Sustainability office is introducing energy conservation curriculums to students, offering professional development on energy conservation for teachers, and spearheading various energy efficiency pilot programs.
- **Benchmarked all schools using US EPA's Portfolio Manager.**
 - NYC Department of Education is the first school district in the country to achieve this!
 - EPA Portfolio Manager is a tool that measures the total electricity, natural gas, steam, and fuel oil consumed in a building and adjusts for other factors – location, building type, year of construction, number of workers, gross square footage – to give buildings an energy efficiency rating. It gives the City a detailed profile of building energy use, make comparisons among buildings, and help identify which are operating inefficiently.

Work is currently underway at schools that contain PCB-era ballasts

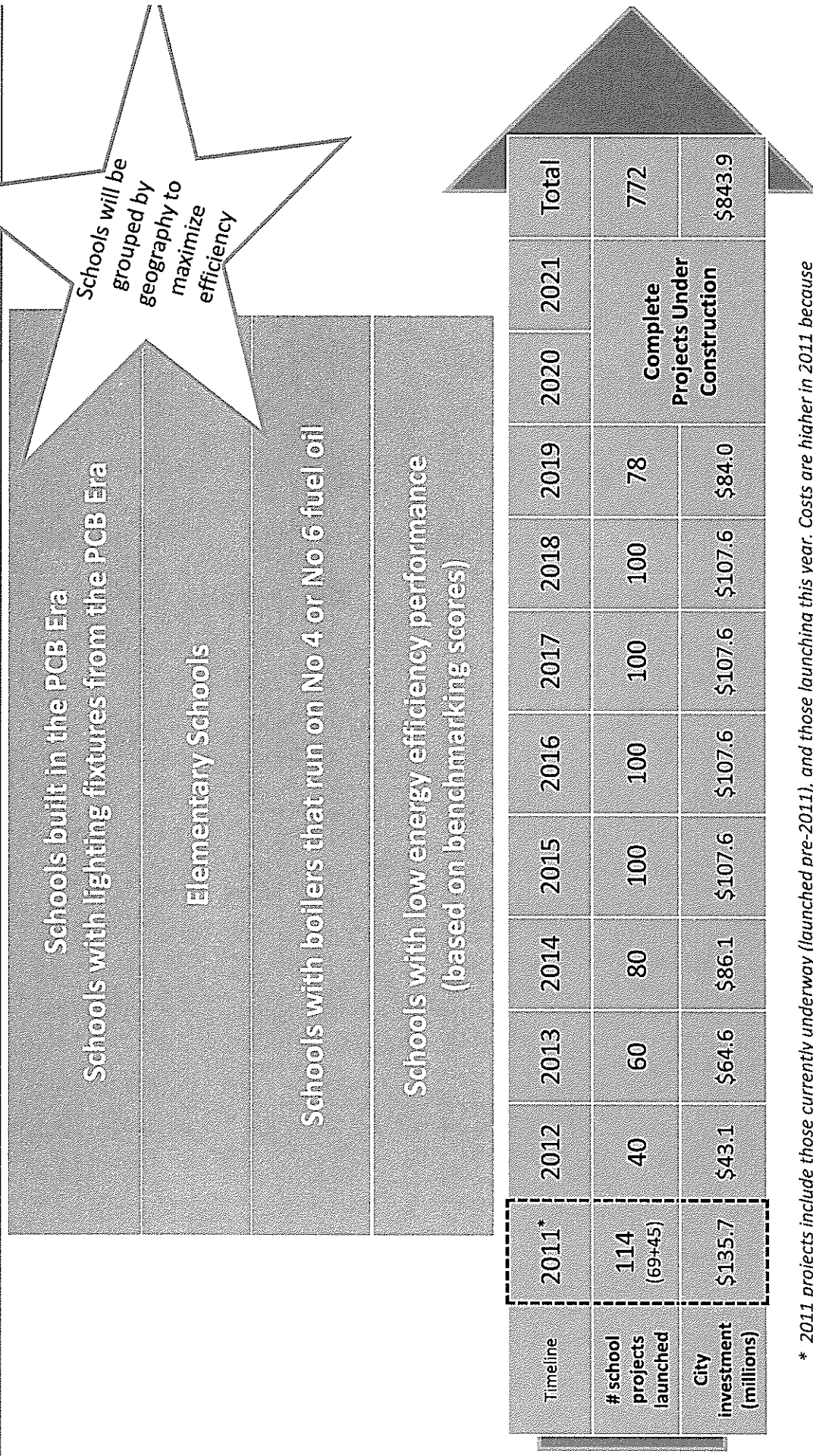


NYC has identified 772 schools that potentially contain lighting ballasts with PCBs and plans lighting replacement projects at them all. This year, the City will begin replacements at 114 schools and lay the foundation for a streamlined process to complete the remaining 658.

- Out of the City's 90 active energy efficiency school projects, 69 are at schools that contain PCB-era ballasts and involve replacing the ballasts
 - 26 in design and/or construction
 - 43 energy audits in progress
 - In total, these projects will cost \$90.7 million and result in \$10.6 million in energy savings (and remove nearly 75,000 ballasts)
- Additionally, the City is undertaking 45* lighting-only projects at schools that were determined to require immediate attention. The lighting in these schools will be replaced by the end of 2011.
- These energy efficiency projects will continue through existing contracts; however, to ramp up these efforts and to implement the NYC Schools Comprehensive Plan, the City is pursuing additional contracting capacity. In 2011, the City will:
 - Release initial Request for Proposals (RFP) for **Energy Savings Performance Contracting (ESPC)** at twenty schools by Summer 2011
 - Incorporate lessons learned from the first round of projects to create standard RFP and contract templates to be used to ramp up the use of ESPC significantly
 - Release 2nd round RFP for an additional 20 schools in Fall 2011
 - Projects with the ESPC contracts will launch at these first 40 schools in 2012 (*see chart on next page*)

** 45 is an approximate maximum number and may fluctuate between 35 and 45 schools. To be consistent, the remainder of the presentation uses the number 45 even though it remains a moving target.*

Strategy: prioritize schools with greatest opportunity and need for environmental improvement



* 2011 projects include those currently underway (launched pre-2011), and those launching this year. Costs are higher in 2011 because projects include some of the largest schools with higher retrofit costs and include accelerated lighting projects to address leaks.

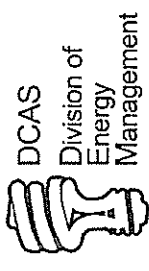
What goes into a lighting project?

Step 1: Identify inefficient lighting fixtures (lamp + ballast), including T12 fluorescent lamps with magnetic ballasts (some of which may contain PCBs).

Step 2: Remove the entire lighting fixture and install a new efficient PCB-free lighting fixture and occupancy sensor, including T5 or T8 fluorescent lamps with (non-PCB) electronic ballasts and metal halide fixtures.

Step 3: Properly dispose of or recycle old fixture components in a safe and speedy manner in compliance with all state and federal regulations.

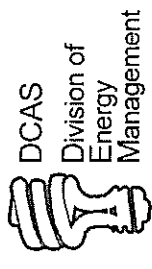
The City will keep the public informed about our progress



The City understands that demonstrating progress on the Plan will improve its success and overall implementation.

- Through the Pilot Study and other PCB related projects, the City has continually demonstrated an openness about the presence of PCBs in school buildings both to EPA and to the public.
- The City will continue this openness in implementation of the Plan by creating a website that the public can visit to learn about upcoming and completed projects and track the City's progress as a whole.
- As it stages the work that is required in each building the City will work with school communities to ensure that they are informed about the work and its progress.
- City officials will continue to attend meetings at schools and Community Education Councils and answer questions about the City's overall approach to this issue.

PCB Removal a priority, as part of a strategy to make schools healthier



- The City believes that outdated PCB ballasts should be removed from schools in a responsible and programmatic manner.
- Note that PCB air levels in tested schools are in general low, and even where found to be above EPA's guidance level, remain well below the levels of lifetime exposure found to be associated with health concerns.
- Published medical opinion and environmental testing confirm that the levels of PCBs identified in New York City public schools do not present an immediate health risk to students and staff.
- Therefore, to promote the cleanest and healthiest school environment, the City believes that efforts to phase PCB ballasts out of schools should be undertaken in connection with comprehensive energy retrofits. Lighting retrofits, which reduce energy consumption and energy costs, can be used to financially leverage measures that will also lead to substantial reductions in greenhouse gases responsible for global warming and in fine particulate matter, scientifically linked to respiratory illness and mortality.

Result: Improved Schools

Greener

- More energy efficient
- Reduced emissions of global warming gases
- Reduced emissions of air pollutants
- Removal of lighting with PCBs

Healthier

- Improved comfort and air quality from upgrades to heating and ventilation systems
- Enhanced lighting levels for students and teachers

21st Century

- Installation of smart metering and monitoring technologies
- Improved ability to control energy use, climate, and comfort
- Installation of sensors that turn off lights in empty rooms

Achieved through

budget-friendly

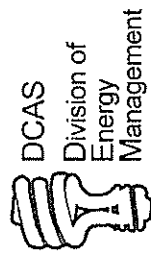
approach that will

result in annual

cost savings

to the City

Comprehensive Plan = Greener + Healthier



NYC Schools Comprehensive Plan will reduce greenhouse gas emissions (GHG) by more than 200,000 metric tons CO₂e

- This represents 13% of City government's goal to achieve a 30% reduction by 2017
- Equivalent to removing 40,000 cars from the road
- Equivalent to the energy use of 16,600 single family homes

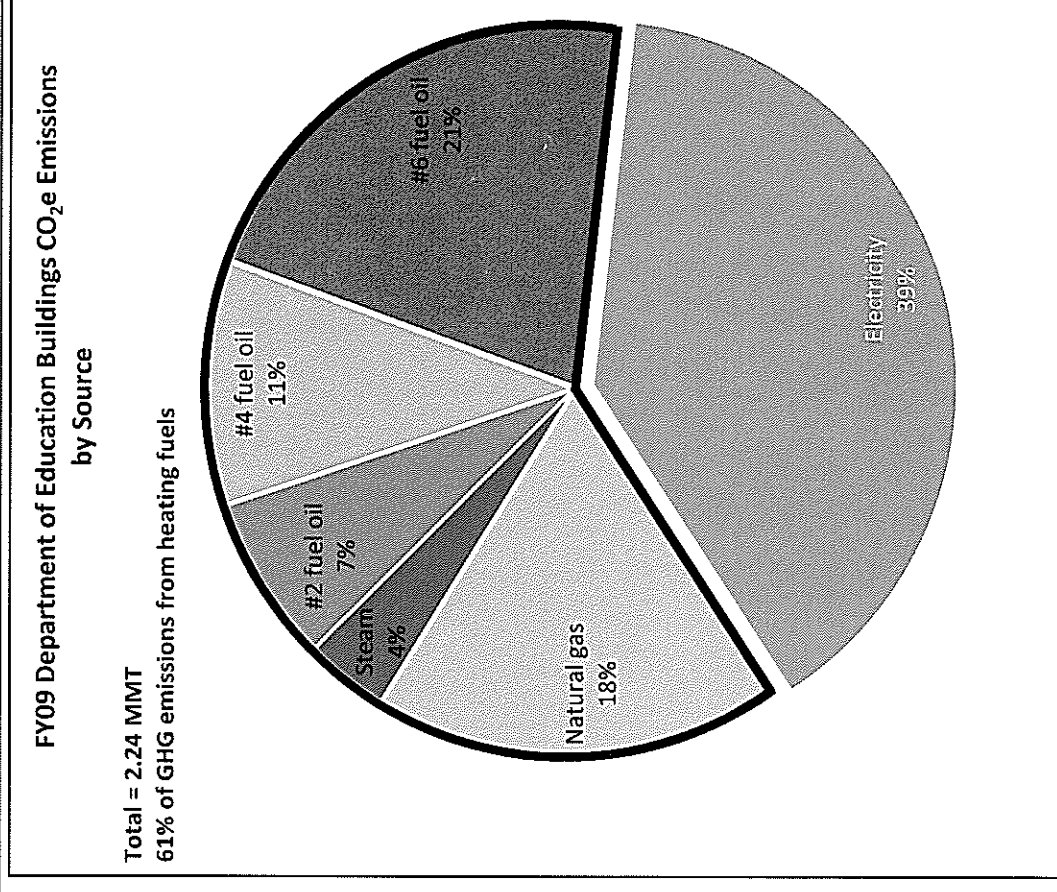
The improved efficiency of heating systems and the replacement of No. 4 and No. 6 fuel oil furnaces will improve air quality by reducing emissions of the following air pollutants:

- Fine Particulate Matter (PM_{2.5}), also known as soot: 7 tons; *~annual emissions from 21,000 cars*
- Nitrogen Oxide (NO_x): 72 tons; *~annual emissions from 8,000 cars*

#4/#6 fuel burning boiler replacements in up to 287 schools result in immediate health benefits.

Additionally, the NYC Schools Comprehensive Plan will:

- Put NYC schools on track to comply with the City's new heating oil regulations
- Remove and properly dispose of nearly 500,000 PCB ballasts

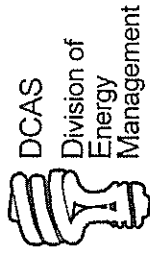


...and includes installation of 21st Century Technology

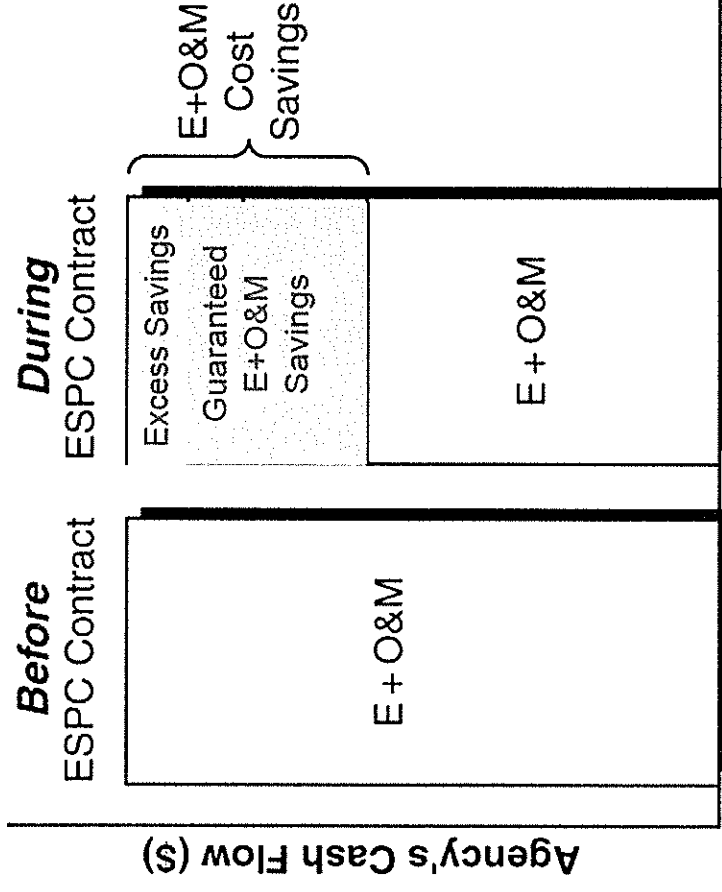
To ensure energy efficient operations over the life of the energy performance contract and into the future, we will install 21st Century technologies:

- Occupancy sensors as part of the lighting system upgrade
 - Sensors turn off lights when classrooms are unoccupied
 - Sensors contain dual-technology sound and motion detectors to ensure lights are switched off only when the space is unoccupied
- Install metering and monitoring technologies
 - Real-time data allows facility operator to make informed decisions about energy operations
 - Meters will be used to verify energy cost savings
- Equipment controls and Building Management System (BMS), where appropriate
 - Install or optimize a building's BMS for optimal control and operability
 - Transition to direct digital controls, where cost-effective
 - Ensure existing controls are programmed correctly and are functioning as designed

The Comprehensive Plan uses a fiscally Responsible approach, leading to City savings



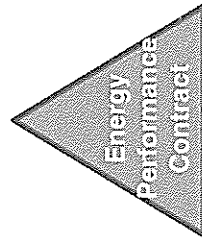
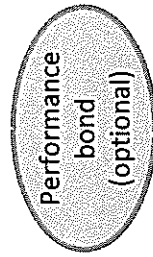
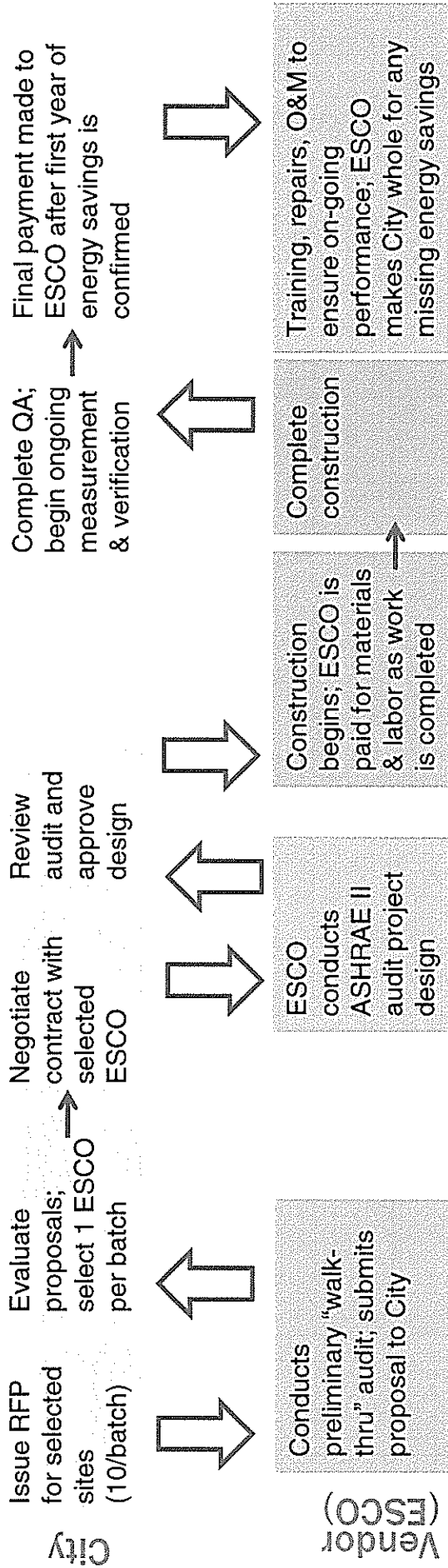
- Since 2008, City has transitioned from lighting-only projects to comprehensive projects to achieve deeper emissions reductions in a fiscally responsible way.
 - Reduces wasted costs associated with various project teams returning to buildings for incremental improvements
 - Allows for deeper energy savings, saving the City more money on energy bills
 - Has greater environmental benefits
- The NYC Schools Comprehensive Plan continues to follow this trend while expanding the City's capacity to address more facilities more quickly through additional contracting mechanisms
- With increased capital investment in schools, the City gains operational savings through energy savings and reduced emergency operational costs



Source: USDOE Federal Energy Management Program (FEMP) ESPC Training Program

- **Energy savings performance contracting (ESPC)** is a mechanism that allows the City to ensure that it achieves and maintains energy savings.

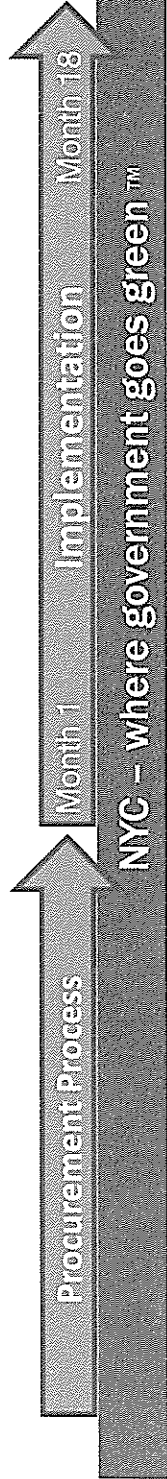
Energy Performance Contracting: How does it work?



Contract guarantees energy savings projections will be met and guarantees project cost will be within 115% of proposal. Contract registered with Comptroller, \$0 encumbered. If energy savings are not met at any time during contract period after construction completion, ESCO pays City back.

City can require ESCO to procure its own performance bond to ensure ability to repay City in case performance guarantee not met; even if company were to go out of business

Contracts



April 13, 2011

My name is Glenn Buchholz. I have worked in the lighting and lighting controls industry for 16 years. I specialize in applying light control solutions that improve the functionality of spaces, increase occupant comfort, and reduce energy consumption all at the same time.

This is a unique and complex project because the school buildings and individual classrooms involved are all different. As you change the lighting fixtures and the remove the pcb ballasts in these spaces, a huge opportunity lies before us to provide the right lighting for each individual space. Proper lighting can have the ability to facilitate learning by making students more comfortable. The key to doing this is making the lighting controllable so that you can set the right levels for the right students doing the right task at the right time.

Two light control strategies for this project are occupancy sensing and daylight harvesting. Occupancy sensing will turn off the lights when no one is in a space and can be easily implemented throughout this project. As for daylighting, most classrooms are built with daylight to enhance student performance. This presence of daylight reduces the need for electric light so a daylight sensor can adjust the lights in the space to maintain a target light level in the space. These controls can be combined with dimming ballasts which allow for full range light control from 100% light output down to 1% light output from each fixture. Otherwise, the options for the new light fixtures will only be 100% or 0%.

The time to implement light control in our schools is when the lighting is changed to minimize cost. Additionally, many of these controls utilize wireless technology which makes installation cost effective and will not slow down this project. Daylighting typically results in 15-20% energy savings, and occupancy sensing often results in 20-25% energy savings in these applications.

In August 2010, we installed occupancy sensors in 8 classrooms at PS71 in Brooklyn. The feedback from this installation has been excellent.

In closing, it is my recommendation that lighting controls are an integral part of this project as they are one of few energy saving initiatives that will actually make students more comfortable to facilitate learning while they save energy.

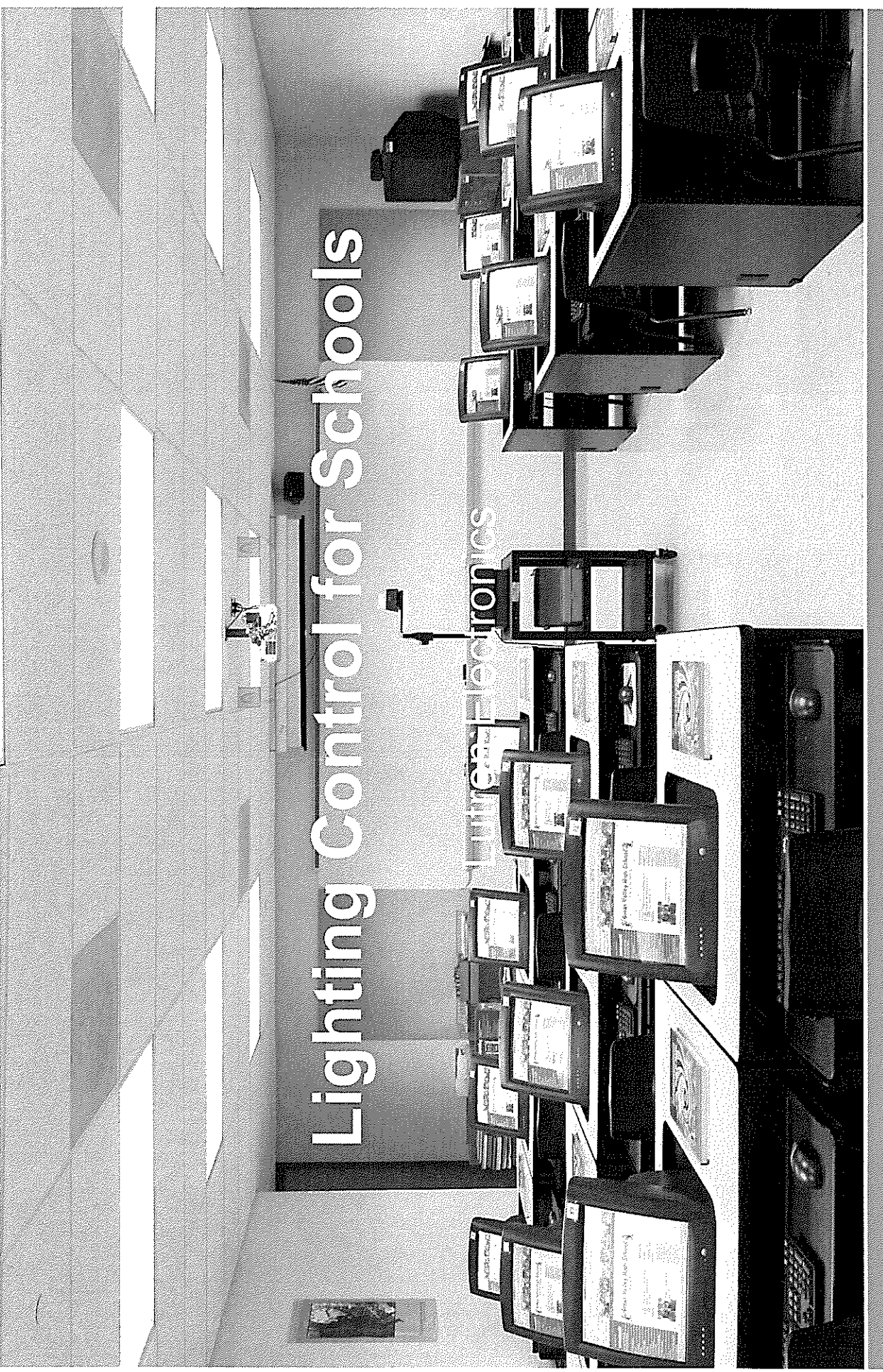
Respectfully Submitted,



Glenn Buchholz
Northeast Area Sales Director
Lutron Electronics

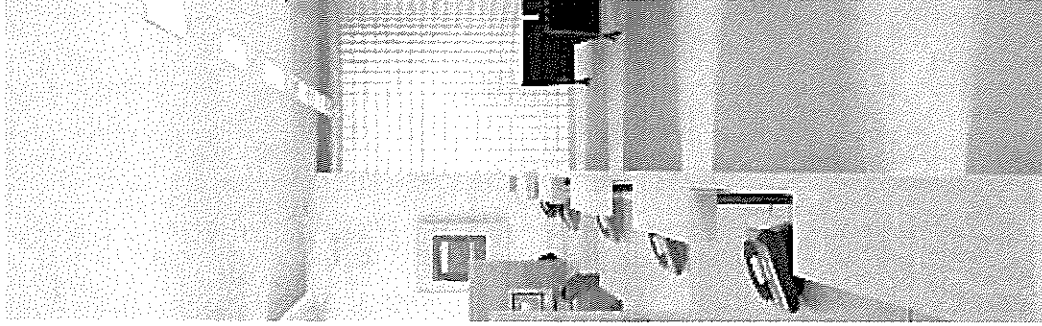
Lutron | K-12 Education

Lighting Control Solutions



Lighting Control Solutions

Lighting Control Strategies



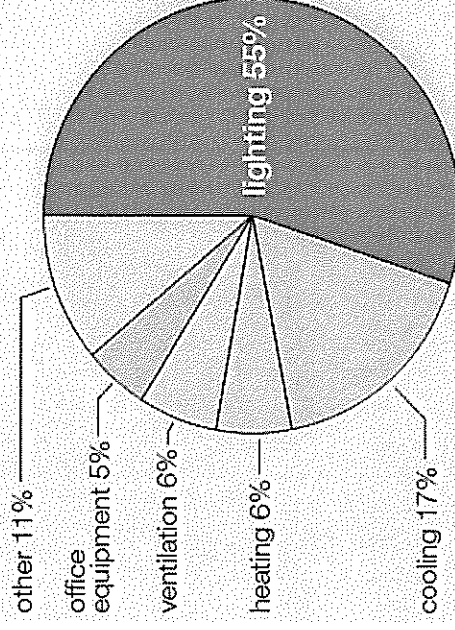
- Astronomic time clock control
- Occupant sensing
- Daylight harvesting control
- High-end tuning of light levels
- Personal, individual lighting controls
- Total building lighting control
- Peak kW demand management
- Integrate to Smart Grid

Lighting Control Solutions

Lighting Control in the K-12 Classroom

- Improving student performance
 - Daylight and views are correlated with increased student performance
 - Various tasks require different light levels
- Increasing technology in the classroom
 - Lighting control can reduce or eliminate glare and improve screen contrast
 - Individual zone control allow for more activities in the classroom
- Rising energy costs and operational costs
 - Lighting accounts for 35-55% of electricity consumption
 - Lighting control can reduce consumption by 50% or more

Electricity consumption in education



Source: "Electricity Consumption by End Use," Energy Information Administration Office, Energy Statistics for the U.S. Government.

Lighting Control Solutions

Improving Student Performance

- Students need different light levels for different tasks:

Task	Light Level
Handwritten	40-50 fc
Keyboards	15-30 fc
Monitors	3-5 fc
Reading	40-50 fc

Lighting Control Solutions

The Problem-Classrooms

Wasted Lighting Energy:

- Building are over-illuminated
- Don't take into account daylight
- Lights left at full-on in vacant spaces or after operating hours



“Most buildings don’t deliver the right amount of light where and when it is needed. Lighting is often set at a ‘worst case’ level, which is usually higher than desired.” -- Stephen Selkowitz LBNL

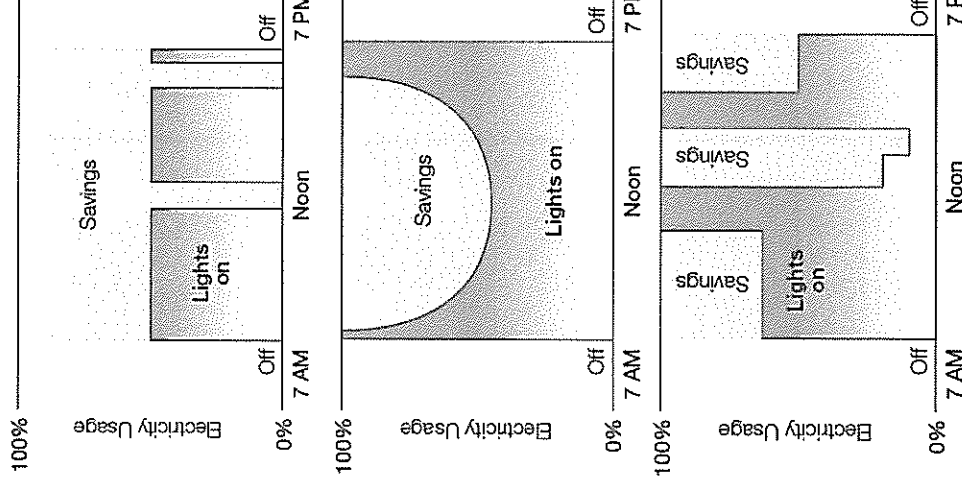
Lighting Control Solutions

Lighting Control Strategies

What technologies are available to address these needs?

- Automated Occupancy Control
 - Notice tuning and high-end trim savings
- Automated Daylight Dimming
- Manual Control – let teachers set the right light level for the right activity

Combining all 3 strategies gives you the greatest savings and highest performance

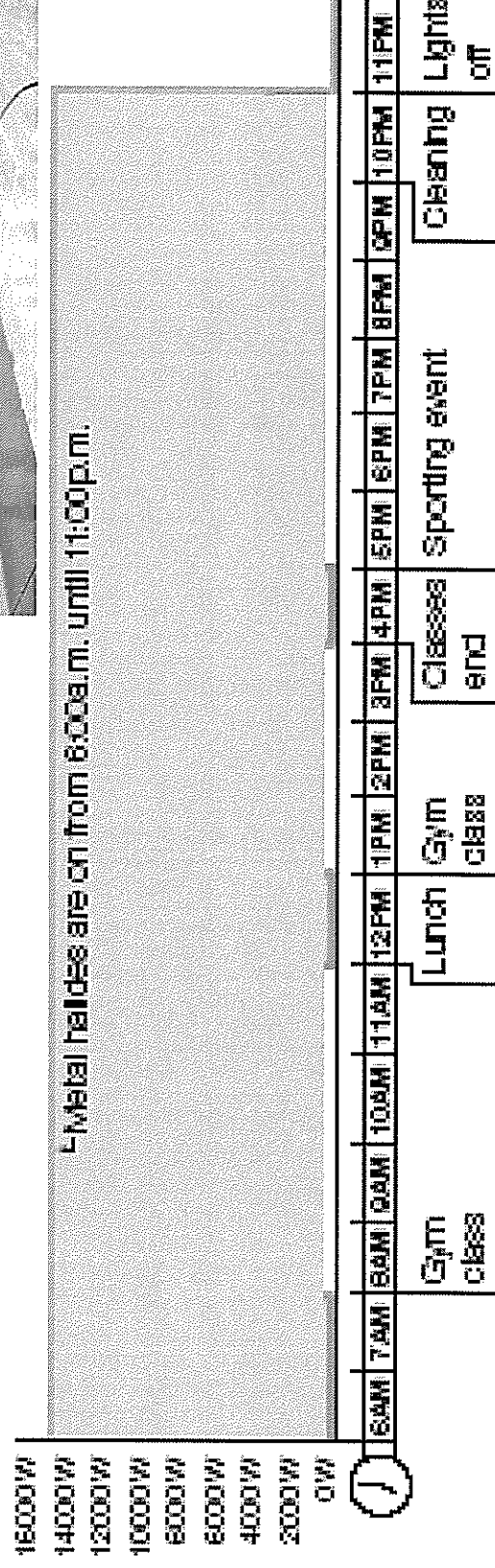
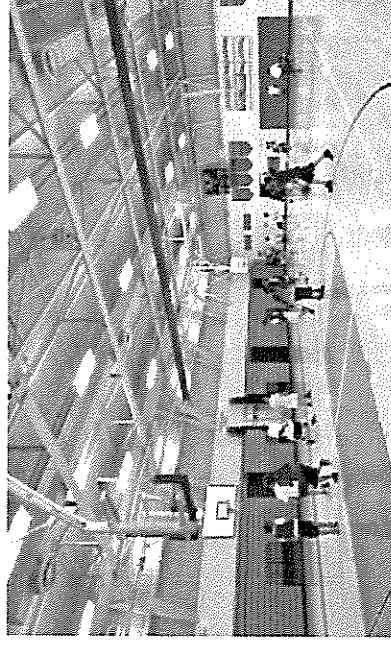


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Lighting Control Solutions

The Problem - Gymnasiums

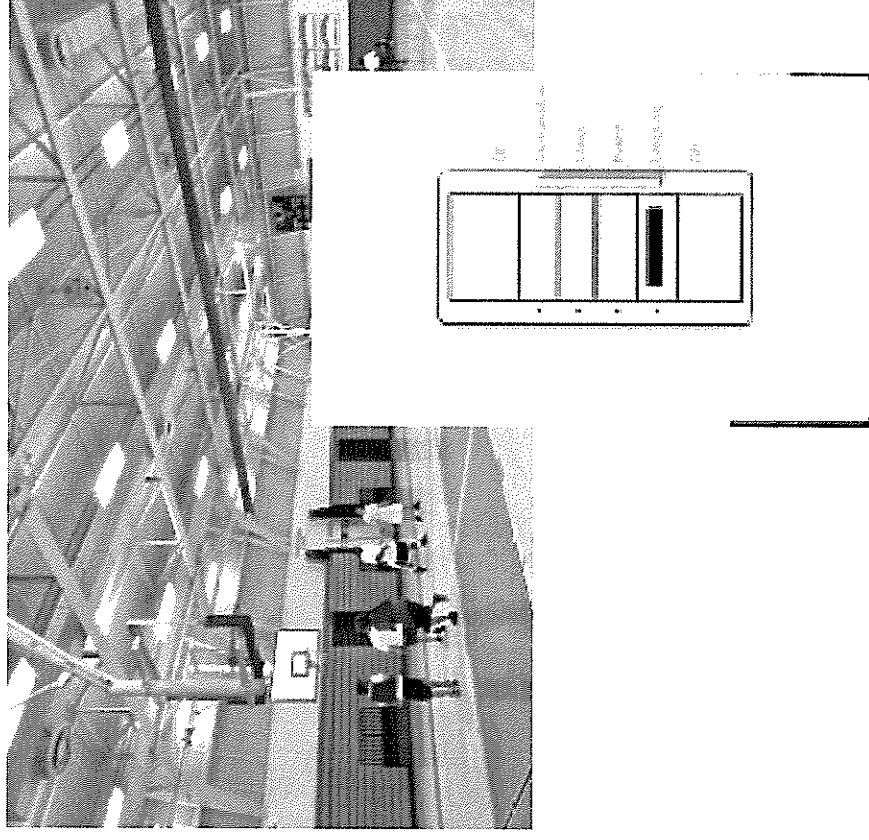
- Many Gymnasiums continue to use MiH fixtures
 - High wattage
 - Limited controllability



Lighting Control Solutions

The Solution

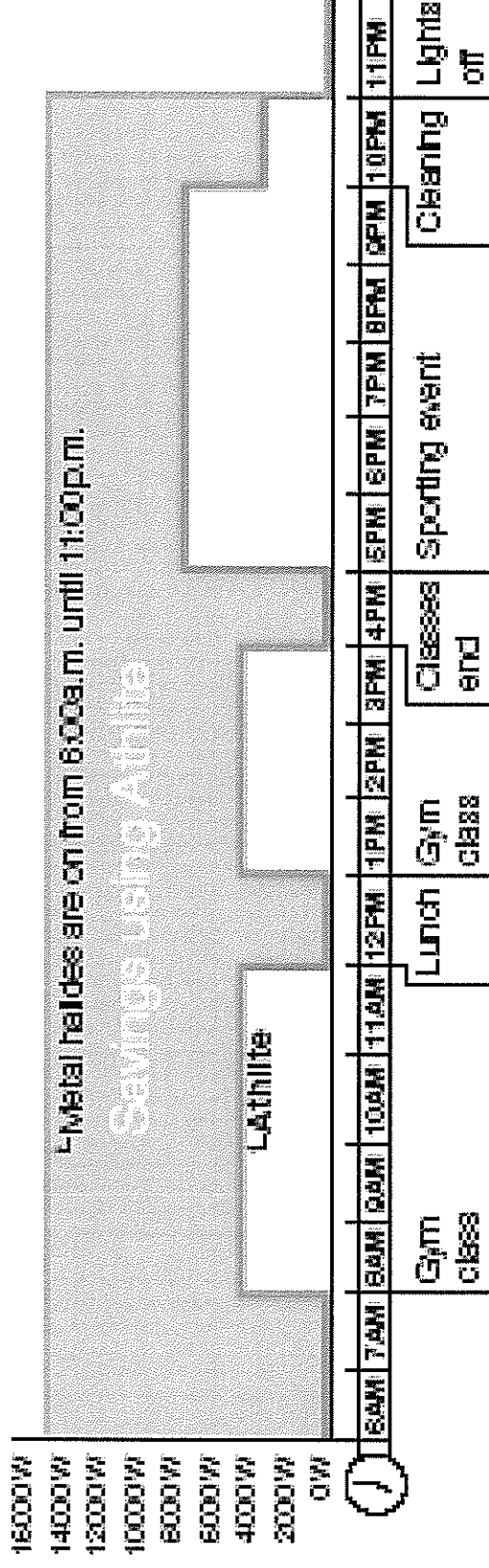
- Retrofit existing metal halide lights in gymnasiums with high bay, controllable fluorescent fixtures
 - Enormous energy savings
 - Complete controllability of the space



Lighting Control Solutions

The Solution – Dimmable High-Bay Fluorescents

- Save 70-80% of gym's electricity consumption



TESTIMONY
OF THE
UNITED FEDERATION OF TEACHERS

NEW YORK CITY COUNCIL OVERSIGHT HEARING
ON THE DOE'S PLAN TO INCREASE
ENERGY EFFICIENCY
AND ENVIRONMENTAL QUALITY
AT SCHOOLS, INCLUDING THE REMOVAL OF PCBS

APRIL 13, 2011

Good afternoon, Councilman Gennero, Chairman Jackson and distinguished members of these two committees. My name is Chris Proctor and I am the Director of the Safety and Health Department for the United Federation of Teachers (UFT). Thank you for this opportunity to testify before you today.

The officers and members of the UFT believe that safe, healthy school environments are a fundamental right. It is the reason that we invest resources in health and safety and have health and safety staff stationed in every borough to support school communities citywide. We underscore our commitment by working closely with our colleagues at the Department of Education (DOE) and the School Construction Authority (SCA) to provide a safe learning environment for all students and staff.

The idea that hundreds of our schools may contain elevated levels of PCBs is a scary prospect for parents and educators alike. The idea that the DOE does not seem to see the urgency in fixing this problem is even scarier.

What's more, approximately 420 of our schools have boilers that burn No. 4 or No. 6 fuel oil. No. 4 and No. 6 fuel heating oils, which are the heaviest cut from petroleum refining, are tarlike. Combustion of these fuel oils produces a higher amount of air pollution compared to other fuel oils and air pollutants generated by cars and trucks.

We take these health threats in our schools very seriously, and we have several recommendations today that we hope the Council will support.

PCBs

PCBs are toxic and known to cause cancer and birth defects (affecting birth weight, short-term memory and learning). They aren't easily broken down and tend to accumulate in a person's body over time.

The U.S. Environmental Protection Agency (EPA) has established recommended airborne exposure levels (benchmark levels) for PCBs in schools. These levels are designed to protect children and staff from chronic, long-term exposure to low levels of airborne PCBs.

For background purposes, it is important to know how we got to this point. The School Construction Authority conducted the first phase of a pilot study in three schools during the summer of 2010. The purpose of the study was to evaluate the risk of PCB exposure to school occupants caused by caulking that contained PCBs.

The study found classrooms with airborne levels of PCBs above EPA health guidance levels for schools. But instead of the caulking, the EPA found that old lighting fixtures containing ballasts with PCB-laden oil were the significant problem. When the SCA removed and replaced the broken and leaking light fixtures, their air testing results showed substantial reductions in airborne levels of PCBs in all three pilot school buildings.

In subsequent meetings with the DOE and the SCA in early September 2010, we urged them to immediately develop a plan to remove and replace these pre-1979 fluorescent lighting fixtures citywide. The DOE and the SCA insisted that there was no money for such a plan and argued that furthermore the pilot study should be completed before considering such a plan.

Since that time, the EPA has inspected additional schools for leaking light fixtures, and a handful of independent tests have also been conducted. The findings have supported the conclusions of the initial pilot study. For its part, the DOE asked custodians to do their own visual inspections of lights, but that effort has been completely ineffective. The DOE has also been reluctant to conduct air sampling.

Bowing to increasing public pressure, the city in February finally decided to allocate \$700 million to replace light fixtures in nearly 800 school buildings citywide over the next 10 years, as part of a broader effort that involves other energy-efficient retrofits and upgrades.

While the city's plan is a good first step, we are very concerned about the 10-year timeline, which we feel is much too long for our children to wait. We believe the decision to replace the old light fixtures over 10 years is based on funding and not on a scientific assessment of the health risk. It's misleading to suggest to the public that there is no imminent risk. Consider this:

- The PCB-containing light ballasts are 40 to 60 years old and are already significantly past their expected functioning life span. The parts for these lights are being phased out entirely. (The manufacture of the ballasts for these lights was phased out in July 2010 and the manufacture of the bulbs will be phased out in July 2012).
- Any given ballast in these old fixtures is likely to overheat and burn out within the 10-year period proposed for replacing them. It happens all the time, and when it does, the ballast releases smoke that contains PCBs, causing a period of elevated exposure.

- The EPA's inspections in seven New York City public schools to date revealed leaking PCBs in light fixtures in the majority of the light fixtures that the EPA disassembled and inspected. This suggests that a large fraction of the PCB ballasts have already failed and leaked. Those ballasts will continue to release small amounts of PCBs over time until they are removed. There is the potential for skin contact if the PCBs leak out of the light fixture onto the floor, carpeting or whatever is below the light fixture.
- The presence of PCB ballasts in school buildings presents a unique exposure risk. The older New York City schools that are most likely to have PCB-containing light fixtures typically have little or no mechanical ventilation and often rely on windows for ventilation.

BOILERS

Beyond PCBs, another pressing concern is the boilers in approximately 420 schools that burn No. 4 or No. 6 fuel heating oil. Buildings use these oils because they are cheap compared to other fuel oils, but they produce a higher amount of air pollution compared to other fuel oils because of their tar-like consistency.

No. 4 and No. 6 fuel oils contain higher amounts of sulfur than other fuel oils, and combustion produces sulfur dioxide, which is corrosive and a respiratory irritant. Combustion also produces black smoke that is high in soot and polyaromatic hydrocarbons (coal tars) which, when inhaled, are linked to lung and skin cancers. The American Lung Association notes that exposure to these pollutants may lead to lung and heart conditions, contributes to asthma and can cause a significant decrease in life expectancy.

To put all of this in context, here are some key statistics to consider:

- The New York Community Air Survey (NYCCAS), as part of PlaNYC, found that 1 percent of the city's buildings contributed 86 percent of the city's heating oil soot pollution.
- These 10,000 buildings include large residential, commercial and institutional buildings, including the 420 New York City public schools that burn No. 4 and No. 6 heating oil.
- According to the Environmental Defense Fund, "overall these residential, commercial and institutional heating systems release 50 percent more soot and 17 times more sulfur dioxides than cars and trucks on New York City's roads."
- Also according to the Environmental Defense Fund, "switching from No. 6 oil to No. 2 heating oil reduces particulate emissions by about 95 percent, sulfur dioxide emissions by about 68 percent and nitrogen dioxides by about 65 percent."

RECOMMENDATIONS

The city has taken a few good first steps with regard to PCBs and boilers. We are happy that funding has been allocated to start the removal of the toxic light fixtures and to replace up to 287 boilers that use No. 4 or No. 6 fuel oil. However, much more needs to be done – and done soon.

With regard to PCBs, the prudent course of action is to expedite the removal and replacement of pre-1979 light fixtures citywide. We strongly urge an aggressive removal plan beginning immediately. We believe the removal of all PCB-containing light fixtures can be done in two years and certainly no more than five years. The first step would be an air sampling program in the 770 targeted schools. Levels of PCBs in air can be measured in representative areas inside a school to rank schools with the goal of giving priority to those schools where action should be taken soonest.

With regard to boilers, the DOE's New York City Schools Comprehensive Plan states that the DOE will replace boilers that burn No. 4 or No. 6 fuel oils in up to 287 schools in the next 10 years. Meanwhile, the Five Year Capital Plan Proposed Amendment from February allots \$136 million for conversions of boilers in some schools, targeting those in areas with high asthma rates, without a specific plan of action or a solid timeline. It is not clear whether the 10-year New York City Schools Comprehensive Plan includes the money or the number of the boilers in the Capital Plan or whether it is in addition to the 287 boiler replacements. This needs to be clarified. Furthermore, what is the DOE's plan for the remaining 133 schools with old toxic boilers? We strongly urge the DOE and the SCA to develop a comprehensive two to five year plan for converting all these boilers, starting with converting all No. 6 boilers to dual fuel gas/No. 2 oil boilers.

Our school communities throughout the city need this work on PCB-containing light fixtures and old boilers done as quickly as possible. This will not only greatly benefit the health of our school communities, but of all New Yorkers.

###



THE CITY OF NEW YORK
OFFICE OF THE PRESIDENT
BOROUGH OF MANHATTAN

SCOTT M. STRINGER
BOROUGH PRESIDENT

**Testimony of Manhattan Borough President
Scott M. Stringer**

Before the New York City Council
Committee on Environmental Protection and Committee on Education,
Regarding Energy Efficiency and Environmental Quality at Schools and
The Removal of PCBs

April 13, 2011

Thank you Chairperson Gennaro of the Committee on Environmental Protection and Chairperson Jackson of the Education Committee for holding this important hearing on the Department of Education's Plan to increase energy efficiency and environmental quality at schools, including through the removal of Polychlorinated Biphenyls (PCBs).

PCBs are highly toxic chemicals used in lighting ballasts and caulk in City schools built prior to the 1970s. Prolonged exposure to PCBs is known to result in a broad range of health problems, including infertility, cancer, immune system impairment and diminished I.Q. These dangerous chemicals have no place in buildings where children spend more than a third of their lives each day.

In recent months I have stood with New York City public school families, representatives from the Environmental Protection Agency (EPA), advocates, and other elected officials to demand that the City immediately begin removing lighting fixtures in the 772 school buildings where we know PCBs exist and are potentially causing harm to our City's children. After months of pressure from the community, the City finally agreed this February to address the problem via a new "energy efficiency and environmental quality plan." The proposed plan calls for PCB remediation over the course of the next 10 years. It also outlines a 20 year plan to upgrade boilers in 287 schools that burn #4 and #6 heating oils, which recent research suggests may cause genetic mutations in offspring, and increase the risk of asthma in children whose mothers have had exposure to these heating oils.

While I am pleased that the City finally agreed to take action to protect the health of students and school staff in schools, the proposed timeframes for remediation are far too long. Assembly Member Linda Rosenthal has proposed state legislation requiring the replacement of 50 percent of all affected light fixtures within 3 years, and of the remainder within 5 years. I think this is a much more prudent timeframe. In addition, I think it bears repeating that the decision to replace these lighting fixtures originally emerged from the need to guard children's health and safety from toxins, not merely the desire to "go green." This is relevant because the EPA's original testing for PCBs in 5 pilot schools citywide focused on identifying the existence of the toxins in

caulk—something which is not, to the best of my knowledge, included in the City's energy efficiency and environmental quality plan. It remains unclear what plan, if any, is in place to address the problem of PCBs in caulk. It is also unclear what the plan is for replacing boilers that burn dangerous heating oils at some 200 additional schools that are not part of the DOE's energy efficiency and environmental quality plan.

I recommend that the DOE explore alternatives to its current 10 year remediation process for PCBs. The City should consider the cost-cutting measure of developing a public-private partnership with independent contractors, who would complete necessary PCB remediation at their own cost in exchange for a percentage pay-out of the City's energy savings over a set number of years. Such a proposal was first made public by T.M. Bier & Associates, in a letter to Council Member Vincent Ignizio.

The advantages to this model are threefold. First and most importantly, it will allow for the safe removal of contaminated lighting fixtures and ensure the health and safety of students who are otherwise in harm's way. Second the City would save \$708 million in upfront costs which could then be diverted to other crucial capital needs, such as creating more desperately needed seats for schools and reducing class sizes. Third, it would create new jobs in the local green-collar economy, where electricians currently face a 30% employment rate, as reported by Crain's New York this February.

Furthermore, the DOE's plan to replace boilers burning #4 and #6 heating oil in schools should be extended to all schools with these boilers, not just the 287 in the DOE's current energy efficiency and environmental quality plan. Replacement should occur as soon as possible, to curb any further, unnecessary risks to the health and safety of both children and adults in affected schools.

We simply cannot wait another 10 to 20 years to remove poisonous materials from our schools. The City's 1.1 million public school students rely on us to look out for their best interests. Their safety and health must be a top priority.

Thank You.

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**NYC Council PCB Remediation Plan Oversight Hearing
Testimony of Congressman Jerrold Nadler
April 13, 2011**

In February of this year, the City of New York announced a comprehensive plan to remediate polychlorinated biphenyls (PCBs) from 772 public schools throughout the five boroughs. This was major progress in a years-long campaign that I have been part of from the beginning, together with a coalition of parents, advocates, union members, and other elected officials. Along with securing active oversight from the U.S. Environmental Protection Agency (EPA), I led the New York City Congressional delegation in calling for increased testing and prompt remediation of our schools. The subsequent tests carried out by EPA produced incontrovertible evidence that hundreds of schools are contaminated at levels dramatically above federal guidelines.

I am pleased that we have finally taken a first major step toward addressing this danger in the City's schools. In agreeing to a comprehensive remediation, the City has at last acknowledged the health threat posed by PCB-laden light ballasts on school children, teachers and staff and has affirmed that inaction is no longer an option.

Unfortunately, the City's plan proposes replace the light ballasts in an astounding 10 years. Ten years is an intolerable window of exposure for children, and I have called repeatedly for a maximum time frame of 2-5 years to complete the remediation.

"The EPA, the nation's foremost authority on PCB contamination and remediation, is firmly on our side. Judith Enck, the EPA's regional administrator for New York, has asserted plainly that 'ten years is too long,' and has publicly called for a five year time frame. Ten years falls far short of treating the health risks with the seriousness and urgency that our school kids deserve. We simply cannot allow class after class of children to sit in these classrooms for the next decade.

Every month, we have seen more schools tested, only to reveal staggering levels of PCBs. In one of those schools, P.S. 306 in Brooklyn, tests of several rooms revealed PCBs at over one million parts per million, which makes the sample pure PCBs.

The dangers of PCB exposure are well-documented, and the science is crystal clear -- so much so that Congress banned the chemicals in 1976. PCBs are a known neurotoxin and a fertility toxin, making exposure for children and pregnant women particularly dangerous. The EPA, the International Agency for Research on Cancer, and the National Toxicology Program of the National Institute of Health have all determined that PCBs are a probable human carcinogen. Expert environmental health physicians and scientists have linked PCBs to cardiovascular, endocrine, immune and cognitive disabilities.

Prenatal and early childhood exposure shows serious risks, including ADHD, increased aggression, and the concerns already mentioned. Children can be exposed to PCBs by breathing contaminated air, in addition to ingesting PCB-contaminated food and coming into physical contact with PCBs. The longer that a child breathes air containing these toxins, the more intense their exposure becomes, and the more risk they bear of developing a serious health condition -- or simply of not reaching their full developmental potential.

I believe that it is critical that the PCBs be remediated in our children's schools far more quickly than the decade currently proposed by the City. I certainly understand the logistical work required to test and remediate nearly 800 schools. However, we cannot treat our children as guinea pigs and ignore the dangers of long-term exposure. Once the initial RFPs are released and templates are created, which should—according to the City's plan—happen within 2011, the pace of remediation should accelerate significantly over the City's proposal. A time frame of two to five years is more than reasonable, given the willingness of both the EPA and the New York State Power Authority to provide technical assistance, the existence of energy service companies (ESCOs) that are willing to consult on and complete the remediation, and—most importantly—the urgency of dealing with these dangerous chemicals.

Additionally, in an effort to help cities like ours finance the substantial cost of remediating PCBs, I have introduced federal legislation -- the Safe Schools, Health Kids Act with Reps. Joe Crowley (D-Queens) and Jose Serrano (D-Bronx) -- which would provide one possible avenue. This federal legislation could augment a variety of existing funding sources, including contracting with the ESCOs which are eager to provide up front funding and realize profits through energy efficiency savings from the replacement of the old energy-guzzling light fixtures.

There are some good things about the City's plan that should remain in place as we accelerate the pace of the project: We must, as the plan proposes to do, prioritize the replacement of leaking ballasts. And we must prioritize schools based on their population and the years built, all of which may affect levels of PCB exposure and the impacts on the students. Older ballasts are more likely to develop leaks, and the younger children are when exposed, the more dangers PCB pose, as reflected in the EPA's higher standards for air safety for younger children.

We cannot wait ten years for the amelioration of these hazardous chemicals in our children's schools. PCBs must be removed quickly and efficiently. Long term delays in the face of established science are disconcerting, and remind me of the years following the attacks of 9/11 when irresponsible authorities -- both City and federal -- told us the air around Ground Zero was safe to breathe, when it obviously was not. As I said repeatedly for nearly ten years after 9/11, government should have been the people's protector then, and I insist that it learn history's lessons by acting honestly and appropriately now.



Center for Health, Environment & Justice

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

Public Hearing

on

**DOE's Comprehensive Plan to Increase Energy Efficiency and
Environmental Quality at Schools Including Through Removal of
PCBs**

April 13, 2011

Testimony of

Anne Rabe

Center for Health, Environment & Justice

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Good Afternoon. I am Anne Rabe, and I work for a national organization, the Center for Health, Environment & Justice or CHEJ. CHEJ is one of the leading groups in the country on toxic chemical and hazardous waste issues. Our Executive Director, Lois Gibbs, was a community leader who organized the relocation of over 800 families away from the infamous Love Canal toxic waste site in Niagara Falls in the late 1970's which ultimately led to the creation of the Federal Superfund program. For 30 years, CHEJ has worked with New York communities exposed to toxic hazards, including many community and parent groups concerned about schools impacted by air pollution and hazardous waste sites.

We appreciate the opportunity to testify at this hearing on the New York City Department of Education's Plan to Increase Energy Efficiency and Environmental Quality at Schools Including through Removal of PCBs.

In the interests of preventing children and school personnel from being exposed to an especially hazardous chemical, CHEJ strongly urges the DOE to amend its plan to institute a two year timeframe for removing and replacing all PCB containing light ballasts, including an aggressive plan to test all schools that have may have the old toxic lights.

The two year timeframe recommendation is based on some key health and economic facts.

First, children are much more vulnerable and sensitive to toxic exposures. They consume more food and water, and breathe more air per pound, than do adults. Also children are still growing and their immature systems are less able to handle toxic exposures. For example, children absorb about 50% of the lead to which they are exposed, while adults absorb only 10–15%. Children's unique vulnerability to toxic chemicals is well-established in the scientific literature and supported by federal agencies, such as the Environmental Protection Agency.

Second, environmentally linked diseases in children are on the rise in America and every effort should be made to eliminate toxic exposures to children to turn around this disturbing trend. Cancer is the number one disease-related cause of death in children. Childhood learning disabilities, hyperactive behavior and asthma have soared nationwide.

Third, PCBs pose a serious health risk, especially to sensitive populations like children. PCBs are highly toxic compounds that were banned by Congress in 1978 to protect human health. Both the Environmental Protection Agency and the International Agency for Research on Cancer have determined that PCBs are probably carcinogenic to humans. According to the federal Agency for Toxic Substances & Disease Registry, studies have found that exposure to PCB can cause the following health impacts: liver damage, anemia, acne-like skin conditions, liver, stomach, and thyroid gland injuries, behavioral alterations, depression and fatigue, irritation of the nose and lungs and

gastrointestinal discomfort . (<http://www.atsdr.cdc.gov/PHS/PHS.asp?id=139&tid=26>, *ATSDR Toxicological Profile on PCBs*)

The city should not subject children and teachers to eight more years of exposure to a chemical that substantially increases cancer risks and can cause many other injuries.

It is economically feasible for the City to complete the PCB removal work in two years because they can have contractors remove PCB containing lighting ballasts with no upfront costs. Basically, in exchange for providing the financing needed to install the energy-saving ballasts, a contractor is paid the amounts saved for a specified period of time. This is common place in green contracting and thus it eliminates any financial argument against instituting a two-year timeline.

EPA has stated that, "If a lighting ballast is leaking PCBs at above a regulatory level of 50 parts per million... federal law requires the immediate removal and disposal of the ballast..." All of the schools that the EPA has inspected have had leaking light fixtures exceeding this regulatory threshold set by the federal Toxic Substances Control Act (TSCA) and it is likely that this trend will be found across all New York City schools with PCB contaminated ballasts. Most recently, at PS 45 in Bushwick, the levels were more than 10,000 times higher than the TSCA cutoff level.

A two year time frame to remove and replace old, leaking, and dangerous light fixtures will greatly reduce children's exposure to PCBs and is the only timeframe that is health protective and responsible.

Thank you for considering our comments.



**Testimony of Laura Haight
Senior Environmental Associate
New York Public Interest Research Group
Before the Committees on Environmental Protection and Education
of the New York City Council
On the DOE's Comprehensive Plan to Increase Energy Efficiency
and Environmental Quality at Schools**

April 13, 2011

Good afternoon, Chairman Gennaro, Chairman Jackson, and members of the Environmental Protection and Education Committees. My name is Laura Haight and I am Senior Environmental Associate of the New York Public Interest Research Group. NYPIRG is New York's largest nonprofit environmental and consumer advocacy organization, with more than 20 offices across the state, including chapters in each of the five boroughs. NYPIRG has a long history of working to protect the public from exposure to toxic chemicals such as PCBs.

Thank you for this opportunity to share our concerns about the City's proposed Comprehensive Plan to Increase Energy Efficiency and Environmental Quality at Schools. While we applaud the city's goal of "greening" the city's schools to be healthier and more energy-efficient and support the overall plan, we believe the proposed timetable and approach for replacing light fixtures that contain PCBs is dangerously deficient.

As you know, the U.S. Environmental Protection Agency (EPA) has found alarmingly high levels of PCBs in indoor air in all of the schools they have tested so far, and has traced them to lighting fixtures that contain PCBs. We disagree with the City's view that these PCB exposures do not pose an "immediate health threat." In three quarters of the samples taken so far, PCB concentrations in the indoor air in classrooms have exceeded federal TSCA levels. While perhaps this hasn't merited evacuating schoolrooms as might be required after a mercury spill, it is a very serious problem. Prolonged exposure to PCBs in air, even at low concentrations, can have a range of adverse health impacts, particularly for younger children and for pregnant workers in those schools.

While the City's proposed comprehensive plan to retrofit city schools has a great deal of merit, it is fundamentally flawed because it fails to recognize the urgency of the health threat posed by PCBs. We are pleased that the City is committing to replace all the old light fixtures rather than

going through the time-consuming and costly process of testing each classroom first. This is a prudent course of action, since given the test results so far it is likely that most of the older lighting fixtures would fail this test. Moreover, replacing these fixtures with newer, more energy-efficient lighting fixtures will save the city money.

However, while NYPIRG supports the City's overall plan to make the City's 772 schools cleaner and greener, we cannot wait that long to remove these dangerous and leaky fixtures from children's classrooms. These are not merely inefficient lighting fixtures that need to be replaced at some point to save energy. They are a serious health threat that needs to be fixed as soon as possible. Now that the City is aware of this problem, it has the responsibility to address it as a health threat and not as mere building maintenance and upgrades.

We do not understand why the City refuses to first go in and replace the light fixtures in all the schools, and then proceed with the other upgrades they have proposed. Under the City's plan, which takes a school-by-school approach, it will be ten years before this urgent and easily solveable problem is addressed. Even if the City is able to keep to this schedule, allowing children and workers to continue to be exposed to PCBs in indoor air for such an extended period of time is untenable.

We would support the City's plan if it were separated into two phases, first, replacing the light fixtures, and then proceeding to the comprehensive school-by-school retrofits. There is every reason to believe that all of the lights can be replaced in the next two to three years if the City commits to this course of action right now. That is what we urge the City Council to press for.

Thank you for this opportunity to testify today.

**Statement of Environmental Defense Fund At The
City Council Oversight Hearing On
NYC Schools Comprehensive Plan**

April 13, 2011

Good afternoon, my name is Mary Barber, and I am the Campaign Director for Environmental Defense Fund' (EDF) New York region. EDF is a national non-profit organization based in New York City that represents over 500,000 members.

EDF supports the City Council's and the Administration's goal of healthier and greener schools for our children and believes that the overall approach provided by the NYC School's Comprehensive Plan (hereafter "the Plan") is positive. The bulk of New York City's 1200 schools are aging plants with multiple physical and environmental issues that need to be addressed as soon as possible. The Plan's focus on the "whole" school with an emphasis on the three major issues of PCB remediation, dirty heating oil conversion and energy efficiency upgrades acknowledges the interrelatedness of the solutions and makes sense.

According to the Plan, there are 772 schools that potentially contain lighting ballasts with PCBs, known to have reproductive, developmental and endocrine effects. According to the Department of Education, 405 schools burn highly polluting No. 6 or No. 4 heating oil that emits high levels of soot and nickel pollution which aggravates asthma, can cause heart and lung disease, increases the risk for certain cancers and can even cause premature death.

Overall, the buildings in New York City that burn dirty heating oil generate more soot pollution than all the cars and trucks in the city *combined*, and we believe a clear and transparent schedule for upgrading the more than 400 schools that burn this oil is essential. According to the NYU Law School Institute for Policy Integrity, an estimated 259 deaths annually in New York City can be attributed to the soot pollution from heating oil. EDF has mapped the nearly 10,000 buildings burning dirty oil here: www.edf.org/dirtybuildings. And a recent NY1 report includes a list of schools that burn the dirty oil: http://www.ny1.com/content/top_stories/135414/ny1-exclusive--hundreds-of-city-schools-use-dirty--dangerous-heating-oil

The Plan's ten-year timeline to change out the lighting fixtures in order to remove any threat of PCB contamination also includes upgrading 287 of the No. 6 and No. 4 oil-burning schools to burn a cleaner fuel. These heating oil upgrades represent huge progress, as the City's soon-to-be-released DEP rule phasing out No. 6 and No. 4 heating oil use in buildings includes a compliance agreement process that could allow schools and some other buildings to burn dirty heating oil potentially for decades.

EDF appreciates the enormous management and financial challenge the City must undertake to make our schools healthy and efficient. Ten years is a long time. But again, ten years in the context of dirty heating oil is much better than decades, so long as the resources are in fact in place to reach that goal. Given the extraordinary health benefits from fast action, we must ask: if sufficient funds were available, could the Administration do better than ten years to execute this entire plan? For a child starting kindergarten today, ten years is a long time to wait.

We urge all levels of government to work together to accelerate the upgrades and develop a five-year plan. With sufficient funding in place to make this happen, it would be a good faith start to address these multiple health issues more quickly than originally planned. However, it will not be in the best interest of the City's school children or our neighborhoods if an accelerated PCB removal schedule creates logistical challenges that result in a longer-than-ten-year phase out of No. 6 and No. 4 oil in 287 schools.

There are a number of ways that the Administration and the City Council can help achieve this accelerated goal.

1. Allocate the capital funds necessary to fund the entire plan at a more aggressive rate.
2. Ensure transparency throughout the timeline, for example by holding regular hearings on the progress of the Plan
3. Support the elements of the plan that provide information to the public, including the proposed website to document and map upcoming and completed progress. This is a great idea and could be enhanced by meeting with stakeholders prior to the website's development to ensure that it addresses their priority concerns.

We appreciate the opportunity to testify today and, again, are keenly aware of the logistical and budgetary challenges in addressing these very important health issues. The health case for fast action is urgent, and we appreciate your attention to these matters. We look forward to working with both the City Council and the Administration to help improve the health of all New Yorkers.

DOES THE MAYOR'S PLAN TO RID NY CITY SCHOOLS OF PCBs ADEQUATELY ADDRESS THE HEALTH RISKS TO NY CITY PUBLIC SCHOOL STUDENTS?

Testimony Offered Upon Invitation to the

*New York City Council
Committee on Environmental Protection*

Hearing on:

"DOE's Comprehensive Plan to Increase Energy Efficiency and Environmental Quality at Schools Including through the Removal of PCBs"

*Dr. John Tharakan
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Good Afternoon.

My name is John Tharakan. I am a professor of chemical engineering at Howard University and I have been involved in fundamental research on the potential for the use of biological technologies to transform PCBs into harmless end products of biologically mediated transformation. In my laboratory, my research has focused on the use of microorganisms and earthworms to biologically mediate the transformation of PCBs into non-hazardous compounds that can be then safely disposed of into the environment. All our research has taken place in the laboratory and has investigated the potential of these various technologies. We have applied both microbial and earthworm based systems to remediate PCB contaminated sludge from a hazardous waste site in our laboratories.

As a professor of engineering science, my expertise is not in the actual modalities or causality of the health impacts of PCBs – that we leave to the epidemiologists, biologists and clinicians. From the engineering science, we can understand and model the release, transport, transformation and eventual fate of the PCB compounds as they are slowly released into our environment, challenge the developing bodies of our school children. What are the possible amounts of PCBs that students, teachers and staff may be exposed to and what are the likely levels such exposures might occur at.

To understand this, one must first appreciate that PCBs have a long history. It is important for all of us to appreciate the pervasive industrial use of these PCB compounds, which when first created were

seen as the answer to many chemical processing problems. Polychlorinated biphenyls, or PCBs, are a class of highly stable organic compounds with good electrical insulating and dielectric properties. They are flame retardant, they are insulators, they make process fluids flow well, they keep plastics from hardening too fast or too slowly, they make paint flow better, they keep caulk pliant so it can be applied well, they were part of various types of electrical fixtures because of their insulating properties, they were, in short, almost everywhere. More than 1.5 billion pounds of PCBs were manufactured in the United States prior to cessation of production in 1977.

As an aside, some of the common items in which we would likely find PCBs include:

- Mineral-oil filled electrical equipment such as motors or pumps manufactured prior to July 2, 1979
- Capacitors or transformers manufactured prior to July 2, 1979
- Plastics, molded rubber parts, applied dried paints, coatings or sealants, caulking, adhesives, paper, asbestos, sound-deadening materials, insulation, or felt or fabric products such as gaskets manufactured prior to July 2, 1979
- Fluorescent light ballasts manufactured prior to July 2, 1979
- Waste or debris from the demolition of buildings and equipment manufactured, serviced, or coated with PCBs
- Waste containing PCBs from spills, such as floors or walls contaminated by a leaking transformer.

Of course, as Rachel Carson showed almost fifty years ago, PCBs were causing problems to fish, birds and wildlife. Over the years we have discovered the various adverse health effects of exposure to PCBs. We now know that exposure to PCBs have long-lasting harmful effects. They are so stable that, released into the environment, they can persist for decades. Once ingested by organisms, they accumulate in tissues (being fat soluble, they pass into fatty tissue; being non-water soluble, they cannot readily be excreted). They become more concentrated as they move up the food chain, ultimately causing deleterious health effects in humans. PCBs are considered one of the twelve most hazardous persistent organic pollutants (POPs) in the world, banned by almost all developed economies.

The negative health effects of PCB exposure are multifold. They are carcinogenic, shown to have caused liver cancer and melanoma. PCBs induce immunologic effects including immuno-suppression and swollen thymus glands. They have effects on the reproductive system, causing reduced birth weights, stillbirths and unwanted abortions. PCBs can affect the nervous system, with debilitated neurological function and short term memory. Finally, they have demonstrated serious endocrine system disruption. Perhaps, the most telling and important piece of evidence garnered from statistical analyses

of public health data is that these adverse health effects are seen even at the low levels (~2 ug/ml) found almost ubiquitously in human breast milk.

It is thus clear that to protect the young school-going population's health from such a pervasive and diversely harmful family of chemical compounds, PCB levels that our children are exposed to should not just be reduced or minimized, **they should be eliminated**. This should be done as fast as possible with the best possible removal and remediation technologies at our disposal, in the safest, most contained and controlled manner possible.

I came here to testify in April of 2009. At that time, I was dismayed to hear testimony that seemed to first suggest that there was no PCB problem in NYC Public Schools, that this was a figment of paranoid parental intervention; I also heard testimony that suggested that even if there were PCBs to be detected inside NYC Schools, the levels were too low to be harmful.

I am glad to see that the Department of Education and the NYC Schools have now acknowledged the problem, worked with the EPA to develop a remediation and clean-up plan and are working to implement this. The NYC Schools Comprehensive Plan for greener, healthier schools for the 21st century is well developed **except for one thing**. The timeline of 10 years for complete implementation is too slow. In the plan, the DOE and NYC Citywide Administrative Services promise improved air quality, clean and reliable energy through various strategies including replacement of lighting fixtures and ballasts and commit to transparency and keeping the community informed during the implementation. This is a wonderful change to see from two years ago.

There are however, some items in the NYC Green Plan (NYCGP) that I would caution about and recommend re-thinking and re-evaluation. The NYCGP claims that PCB air levels are "in general low, and even where found to be above EPA's guidance level, remain well below the levels of lifetime exposure found to be associated with health concerns". The NYCGP further claims that "published medical opinion and environmental testing confirm that levels of PCBs identified in NYC public schools do not present an immediate health risk to students and staff".

I wish this were true in the absolute sense. Unfortunately, the most recent data that I have seen (Feb 28, 2011 testing of Lighting Ballasts from PS 306) shows PCB levels well above permissible limits. While it is true that these are in the lighting ballasts, such high levels would also lead to high levels in the air as PCBs do volatilize and their volatilization increases with temperature, and lights that are on are generally quite hot!

So the leaking light ballasts that the EPA has rightfully and justifiably expressed concerns about, will quite possibly lead to net PCB exposures to affected children that may be well above permissible limits over the next ten years. This would be especially harmful for children in the schools that will be remediated at the tail end of the proposed plan. Furthermore, even as there might be published medical opinion that “confirms” that PCB levels in NYC schools do not present an immediate health risk, there is also published medical evidence that would “confirm” that the PCB levels in some of the schools that some of the children are exposed to do present an immediate health risk. Without addressing this problem in a comprehensive plan that covers **all** affected schools in a safe, efficient and timely manner, we will definitely be placing this fine city’s public school children at elevated and unnecessary risks of the multiple possible adverse health impacts from PCB exposure.

In summary, I would affirm the recommendation of Dr. Judith Enck, EPA’s regional administrator in New York when she stated that ten years is too long. NYC Public Schools and the Department of Education should be able to get it together to do make NYC Schools safe for all school children, staff and teachers in half that time.

SOME ADDITIONAL BACKGROUND:

Polychlorinated Biphenyls (PCBs):

PCBs are a group of synthetic chemicals that were developed in the thirties and forties and used, as mentioned before, in a vast array of industrial and commercial applications. It would be hard to find industrial products from between 1950 and 1975 that didn't have PCBs in them. These aromatic compounds of carbon, hydrogen and chlorine, have chemical and physical characteristics that lent themselves to use in these diverse applications. PCBs are excellent insulators, have great dielectric properties, are flame retardants and improve the physical characteristics of so many industrial fluids, such as transformer oils, paints, coatings, plastics and, window caulking. Literally, millions of miles of window caulking, containing fairly high levels of PCBs by today's Environmental Protection Agency (EPA) standards, were used throughout the fifties, sixties and much of the seventies, before PCB use was banned in 1977, and manufacturers had to come up with something else to keep caulk pliant. Hence, it's likely that any building built in that time period has window caulking which has high levels of PCBs, unless the windows were replaced in the 1980's or later. If a replacement were to have taken place, and it were not conducted in a manner and protocol compliant with hazardous waste regulatory requirements, there would have been very high potential for significant release of PCBs into the environment with the dust and debris created as old windows were pulled or cut out along with the PCB-containing window caulking. After the window replacement, if adequate clean-up was not conducted, significant amounts of PCBs would remain as dust and debris and these would slowly have dispersed their way into the local environment.

There are over 200 possible different PCB compounds, referred to as congeners, depending on the number of possible chlorines. PCBs were manufactured under various trade names such as Aroclor[USA], Phenoclor, Pyralene[France], Clophen [Germany], Kanechlor [Japan] and Sovols[former USSR]. In the United States, Aroclors were the most commonly used PCB preparations. Health concerns arose from PCBs suspected toxic and carcinogenic properties, as well as its endocrine disruptive effects, including effects on the immune system, reproductive system, nervous system, and endocrine system. PCBs were also found to bio-accumulate in the food chain, with concentrations increasing by several orders of magnitude at succeeding trophic levels. PCBs are also passed from the mother to the fetus through placental blood and to the baby via breast milk. In animal studies, PCBs caused severe atrophy of primary and secondary lymphoid organs, and caused pancytopenia, cachexia, immunosuppression, and tumor promotion. Studies to characterize the immunotoxic action of the PCBs were primarily focused on the antibody response. PCB exposure and effects on antibody response have been demonstrated in guinea pigs, rabbits, mice, and rhesus monkeys. These factors, combined with growing awareness of the fragility of the environment, resulted in the banning of PCB production in 1977 in the US. The US EPA has set maximum contaminant levels (MCL) for PCBs of 0.0005 milligram per liter of drinking water (0.0005mg/l) and considers anything with more than 50 mg/kg (50ppm) as a hazardous waste. The Food and Drug Administration (FDA) requires that milk, eggs, other dairy products, poultry fat, fish, shellfish, and infant foods contain not more than 0.2-3 parts of PCBs per million (ppm) parts of food.

Treatment and Remediation Technologies:

The ubiquitous and pervasive problem of PCB contaminated sites has lead to the development and implementation of numerous treatment technologies to remediate these contaminated sites. These have primarily included burial in hazardous waste secure landfills and incineration in various types of combustion systems. Unfortunately, burial in landfills is only a method of containment, and PCBs can

escape by volatilization, leakage and leeching. Incineration accomplishes the required degree of destruction but at great cost and always with the risk of release of dioxin and other products of incomplete combustion. Novel biological transformation and degradation of technologies for PCBs remediation is being researched but these technologies have not been successfully applied on a large scale. Some isolated and engineered aerobic micro-organisms can cometabolically biodegrade lower chlorinated PCB congeners. Sequential of anaerobic and aerobic biological treatment of PCBs has shown some promise in lab scale experiments and is being investigated for possible field application.

PCBs in the Schools

Between 1960 and the late 1970's well over a hundred public school buildings were constructed across the five New York burroughs. And all the windows in these buildings had window caulking with very high levels of PCBs. If the caulking is left undisturbed and was painted and/or sealed over during renovations, it's probably contained any PCBs, although some experts believe PCBs can still leach out of caulking and get airborne.

If the windows were replaced, and many buildings had windows replaced in the 80's and 90's to make the buildings more energy efficient, the caulking would have had to be pulled out and/or cut out. If the renovation was conducted under plastic curtains with complete clean up and wipe down of all surfaces, much of the PCBs would have been contained in the construction debris which likely landed up in a regular municipal land fill because construction debris is not automatically considered hazardous, although the debris from window replacements probably should be. Barring such an efficient, clean and thorough replacement procedure and follow-up, PCBs are going to turn up in school soil samples, playground samples and swipe/wipe samples, not only in public schools, but in samples from most building constructed during the 50's, 60's and 70's.

Probably as a result of prior renovations, PCBs are also being detected at unacceptable levels (well above the level at which a material would be deemed hazardous) in soil samples from public school playgrounds. All these tests and their results have gotten parents understandably concerned. They have called for all public schools to be tested, including testing of the window caulk, soil samples and air and wipe/dust samples.



NEW YORK COMMITTEE FOR OCCUPATIONAL SAFETY AND HEALTH

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Testimony of the
New York Committee for Occupational Health and Safety (NYCOSH)

New York City Council Committee on Environmental Protection and
Committee on Education

Oversight Hearing on the Department of Education's Comprehensive
Plan to Increase Energy Efficiency and Environmental Quality at
Schools, Including Through the Removal of PCBs

April 13, 2011

Alice Freund, CIH, MSPH

On behalf of the New York Committee for Occupational Safety and Health, better known as NYCOSH, I would like to thank the committee for the opportunity to testify on the City's plan to remove PCB containing light fixtures from the public schools. I am a certified industrial hygienist with a Master's Degree in Public Health and a member of NYCOSH. NYCOSH is an independent, non-profit, union-based health and safety organization with offices in New York City and Hauppauge. NYCOSH is made up of over 200 local unions and other labor and community organizations as well as several hundred individual workplace safety and health activists, public health professionals and advocates, and concerned citizens. Among the unions we work with are those representing the school teachers, school custodial staff and private remediation workers.

Our testimony will address and support the following issues with regard to PCBs in light fixtures:

- PCBs in schools constitute a significant health risk for the following reasons: they cause serious chronic health effects, they have been found in air and on surfaces at levels above health-based guidelines, and, unless removed, staff and students will inhale them, ingest them, and absorb them through the skin, for many years.
- The 10-year time frame proposed by DOE for removal of PCB-containing light ballasts is inadequate in terms of eliminating or reducing exposure to PCBs. From a public health perspective a 2-year expedited time frame is more in line with the seriousness of the health risks involved.
- Staff or students who may become pregnant are at particularly high risk. Maintenance and remediation workers would be expected to have the highest exposure levels because they routinely handle and disturb materials that contain PCBs. Young children are more likely to absorb PCBs by ingestion and skin contact.
- The contribution from other potential sources of PCBs, including caulks, paints and PCB-contaminated materials, such as mortar, bricks, and soil, should be assessed and addressed.
- In general, the PCBs in schools issue should be addressed in a similar fashion as asbestos. An inventory of the locations, concentrations, and conditions of PCB containing materials in schools should be established and a plan made for removal or managing these materials in place.
- Attention must be paid to the training and protection of the workers who are performing remediation.
- Finally, public health agencies need to evaluate the risk to the public of PCB's in other commercial, institutional and residential buildings.

NYCOSH believes that the presence of damaged light ballasts in the public schools presents a serious public health threat and we advise that the risk be addressed as quickly as possible. A period of two years would limit the exposure of workers and children to a far lower exposure than the 10 year time frame that the Mayor proposes, and is more in line with the nature of the risk, which includes long term and lasting adverse health effects to occupants and their offspring.

In my testimony today I plan to explain why the current situation is serious enough to warrant prompt removal. However, I do not have the knowledge with which to judge what is feasible for the City. I will leave that to other members of our coalition. I would also like to take this opportunity to address other steps that should be taken to reduce PCB exposures to children, staff, maintenance, and remediation workers in the schools.

How serious is the problem?

The health risk to staff and students from any chemical depends on several factors. Among the most important are the relative toxicity of the chemical and the dose to the person. The dose depends on the concentration in the environment, the ability of the chemical to get from the environment into the person's body (route of entry), the ability of the body to eliminate the chemical, and the length of exposure time. By addressing these factors we can assess the seriousness of the hazard.

Toxicity

Although PCBs are not toxic in the sense that they will quickly harm you, they are highly toxic when one looks at chronic effects. There are actually more than 200 types of PCB compounds, each called a congener, and each one has a unique toxicity. The compounds in light ballasts, caulking, and paints are mixtures and contain many different PCB congeners, including ones known to be highly toxic. Compared, on a weight by weight basis, to other well known toxic chemicals, PCB mixtures are more toxic than inorganic arsenic, methyl mercury and benzene, for example.

How are these chemicals toxic? PCBs cause well recognized toxic effects in animals and humans including cancer, and adverse immunological, neurological, reproductive and hormonal effects. PCBs concentrate in lipid rich tissues like fat and in breast milk. They also readily cross the placenta and reach the developing baby. My colleague, Dr. Maida Galvez, will focus on the adverse developmental effects from exposure in the womb and breast milk, which are probably the most significant exposures. More than one study of workers has shown increased levels of liver cancer related to PCB exposure. A recent study of children has associated PCBs with childhood leukemia. Evidence exists for a link between non-occupational exposure and non-Hodgkin's lymphoma in adults. In humans PCBs have been shown to cause lowering of the immune response. They interfere with proper nervous system development in humans. They affect thyroid hormone levels in humans and have been implicated to effect growth. They have been associated with elevated blood pressure, serum triglycerides and serum cholesterol in humans.

I wish I could say with certainty none of these effects would be seen at the levels encountered at the contaminated schools in New York City, but I can not. Unfortunately this is not a simple calculation because most of the studies have looked at different congeners or combinations of PCB congeners in the environment, they have measured different ones in the air or food or in the blood, and PCBs in the environment vary by source and by evaporation rate. No one has looked for long term health effects in children or adults with exposures from light ballasts. Studies that

have shown effects of PCBs on children at very low doses are mostly based on exposure in the womb or from breast milk, which most likely reflect dietary exposures of the mothers. Nevertheless, the United States Environmental Protection Agency (EPA) has derived a dose that they believe protects occupants from immune problems for different age students and to staff, at levels that correspond to a certain daily dose of PCBs, based on the most sensitive effects on animals and predictions of how this applies to humans over the long term. And this health based guideline level has been exceeded in many of the City's classrooms that were tested in the pilot studies. Because there have been many studies of toxicity in humans and animals since the daily doses were derived, the EPA has spent the last few YEARS revising that number and are expected to issue a new guidance level, based on more recent studies, in the near future. That should make the risk estimates even more precise.

Dose: Environmental concentrations and routes of entry

The second part of the risk question is what is the dose to staff and students and workers? The dose will depend on the environmental concentration in air and on surfaces, how easily it enters the body, and finally, the length of exposure. There are three ways PCBs can enter the body: breathing, skin absorption and ingestion. As stated above, we know the air concentration measured in classrooms results in a dose that exceeds the health-based risk guideline of the EPA. Concentrations in the breathing zone of maintenance workers when they work close to, or disturb, PCB containing material are likely to be even higher than these classroom levels.

However the dose to the students and staff from the PCBs in the school is actually higher than what they get from just breathing the air, because all the pathways add up. If PCBs are in the air they will definitely be on surfaces, as well. They are oily or waxy chemicals that can slowly evaporate. And once they evaporate (turn into a gas) they also condense (turn back into a liquid). They will condense onto airborne particles as well as directly onto desks, floors, walls and other surfaces. Unlike other chemicals like lead or asbestos that are stopped by the skin, PCBs go right through the skin, because of their oily nature, and from there they enter the blood stream. So skin contact is an important route of exposure. Yet the added dose from exposure to contaminated surfaces in the schools has not been adequately evaluated.

The EPA has derived health-based guidelines for AIR levels which are based on health studies, but they are not using a similar methodology for surface contamination. Rather they are using the old clean-up criteria in the original 1977 TOSCA regulations that were based on factors other than health. Following the World Trade Center disaster the EPA, Department of Health and Mental Hygiene, and other agencies calculated surface PCB guidelines based on cancer risk. These health based guidelines are sixty times lower than the criteria being used in the schools today and were lower than many levels reported as preliminary results last year. So I believe we should assume a significant dose from skin exposure. Maintenance workers would be expected to have skin contact with materials containing very high levels of PCBs such as damaged light ballasts, contaminated light fixtures, and other PCB containing materials such as caulking and paint.

The third route of exposure is ingestion which is primarily a problem for young children with hand to mouth behavior. Young children can contaminate their hands from PCB laden dust or from PCBs that condense on surfaces.

On the subject of ingestion, I would like to address the incorrect notion that doses from indoor air are minor compared to dietary doses. The EPA correctly points out those dietary exposures have declined greatly in the last few decades. Children inhaling levels at the EPA guidance level, typical of what has been measured in some City's schools, would be getting 5 times as much PCBs from the school air alone than they would get from their diet.

Dose: Length of exposure

An important determinant of dose is the length of exposure. This brings us to the question under consideration today: for how long do we keep exposing staff and students? Although the officials have stated that there is "no immediate risk", this phrase can be misleading.

PCBs accumulate in the body because they are not easily eliminated. Depending on the congener it can take from days to up to 10 years to eliminate PCBs from the body. So for each period of time one is exposed there is some risk involved, although the effects may not be seen until the distant future. A small length of exposure, another week, month or year, is simply that; a relatively smaller time compared to the number of years upon which the guidelines are based (school years for children and decades for workers). Some of the school staff have probably already been exposed for many years, or even decades. Some children may have been in contaminated classrooms for several years.

We know that PCBs have accumulated already in some students and certain workers exposed to PCBs in contaminated buildings. Elevated blood levels of the lighter congeners that evaporate most readily have been found in students in a school in Germany contaminated by caulking which contained PCBs. Teachers in caulk-contaminated German schools have also been found to have elevated blood levels. Increases in blood levels have been observable at air levels above 1,000 ng/m³. Construction workers who removed contaminated caulking in Scandinavia have been found to have elevated blood levels of PCBs.

A final comment on toxicity is that the same people who are exposed to PCBs are exposed to low levels of other chemicals, such as pesticides and flame retardants, that act on some of the same enzymes and hormones as PCBs. These could possibly cause additive effects.

Exposing occupants for another 10 years not only increases the current risk, but increases the chance of new leaks and fires due to the increased age of the ballasts and their likelihood of failure. Fires from overheated ballasts can expose occupants and workers to even higher levels than normal, and can therefore cause considerable disruption and expense, as the school deals with decontamination. Fires can also convert the PCBs into even more toxic compounds, like dioxin.

According to the pilot tests that were conducted in 3 schools, the biggest reduction in exposure may come from removal of damaged light fixtures. Removing these fixtures reduced levels by

one- half to two- thirds. Removal of fixtures that are not damaged, but contain PCBs, is important in preventing future leaks and fires.

Exposure Reduction

Remediation MUST be done by well trained personnel, using work practices that will minimize their own exposure and those of occupants. Commonly touched surfaces must be cleaned with detergents known to remove PCBs. Ventilation systems or windows must be used to bring in the amount of outdoor air that is required by code. Children must be given time to wash their hands before they eat.

We wish to emphasize some other steps that we think must be taken immediately, as well:

The City must systematically identify other sources (caulking, paint, contaminated materials, etc) and develop a comprehensive plan with a timeframe to remediate sources that contribute significantly to staff and student exposure.

The City must have a plan to address the maintenance and work procedures for contact with potential sources that are left in place. This should be addressed in a similar fashion as the asbestos in schools issue has been for several decades. That is, an inventory of the locations, concentrations, and conditions of PCB materials in schools should be established. A matrix for an operations and maintenance (O and M) program needs to be formulated, including identifying, sampling, and assessing PCBs, establishing action levels, and guidance for safe management of PCBs in-place, or their expedited removal, as warranted. We know from our experience with asbestos, that exposures are particularly likely to occur during renovations, if these materials are not properly identified in advance.

The City should do small studies to assess the effectiveness of its control measures to reduce PCBs from both air and contaminated surfaces they should assess the exposure of remediation workers.

Finally, public health agencies must assess the risks to the public of PCBs in non-school buildings. We know that there is potential for PCBs to be present in other City buildings, as well as other residential and commercial buildings. According to the NYC Department of Environmental Protection, PCB containing paint was used in the construction of DEP facilities at a time when this paint was available to all City agencies in their central stores. Surveys must be conducted to assess risk in other government buildings as well as residential and commercial buildings.

Summary

In conclusion, we urge the City to take immediate steps to reduce exposures of staff and students to elevated PCBs levels found in schools. And we urge a comprehensive, public health driven approach, to identify and abate other significant sources of PCBs in New York City buildings.



TESTIMONY OF DAVID O. CARPENTER, M.D.

ON THE HEALTH EFFECTS OF POLYCHLORINATED BIPHENYLS (PCBs) IN SCHOOLS

My name is David O. Carpenter. I am a public health physician who received my medical training at Harvard Medical School. I was previously the Director the Wadsworth Laboratories of the New York State Department of Health, and then later the Dean of the School of Public Health, a collaborative endeavor of the Department of Health and the University at Albany. I have been involved in study of health effects of PCBs for many years, working particularly with a Native American population in northern New York, an Alaskan Native population in northern Alaska and residents of Anniston, Alabama, where PCBs were manufactured, and residents of all of New York who live near to hazardous waste sites containing PCBs.

PCBs were useful but very dangerous chemicals, whose manufacture was stopped in the US in 1976 by the Toxic Substances Control Act (TSCA). However they remain present in various forms in older buildings, such as schools. TSCA requires that any materials containing or leaking PCBs at a concentration of 50 ppm or higher be immediately removed. EPA regulation 761.30 states "PCBs at concentrations of 50 ppm or greater present an unreasonable risk of injury to health with the United States." The only exception is for PCBs in a totally enclosed container. "No persons may use any PCB, or any PCB Item regardless of concentration, in any manner other than in a totally enclosed manner within the United States."

People are exposed to PCBs by three routes, ingestion, dermal absorption and inhalation. Because most fish and animal fats have some PCBs, ingestion is usually considered the major route of exposure. Dermal absorption was a significant route of exposure in the past among workers with dermal contact with PCBs, but is not likely a major route today unless one gets PCB-containing oil on your body. In schools the most important route of exposure is inhalation. PCBs evaporate slowly. PCBs are a mixture of a variety of distinct chemical compounds, called congeners, and the congeners differ based on how many chlorine molecules are found around the biphenyl rings and at what position they are located. Those congeners with fewer chlorines are more volatile than those with more, and so the pattern of PCBs that one inhales differs from that of the parent mixture.

A total of 772 schools have been identified as being likely to contain lighting ballasts with PCBs. The problem with the leaking ballasts was discovered in the pilot program designed to determine whether PCB release from caulk was a problem. These studies showed that caulk was and is a problem (Herrick, 2010), but that leaking ballasts was an even greater problem. While only a small percentage of schools have been inspected for leaking ballasts to date, among those that have been the great majority, and in some cases every one, of ballasts have been found to be leaking and to have PCB levels above the regulatory limit 50 ppm. Some of the leaking ballasts had PCB concentrations as high as 670,000 ppm! Such findings necessitate immediate removal and disposal of these leaking ballasts. However even if all of the leaking ballasts are replaced and properly remediated, there may still be accumulation of PCB in air coming from contaminated caulk.

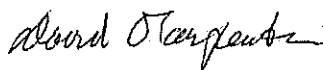
There are two compelling reasons for immediate removal of leaking ballasts. Firstly removal of leaking ballasts is required by the law, and because such a high percentage of old ballasts have been found to be leaking, it is essential that all PCB-containing ballasts be removed as quickly as possible. Secondly, the health effects associated with exposure of children, teachers and school staff are serious and merit immediate removal of these sources of contamination.

The health effects known to be associated with exposure to PCBs include cancer (Cogliano, 1998), suppression of immune (Weisglas-Kuperus et al., 2000) and thyroid (Schell et al., 2008) function, elevated risk of cardiovascular disease (Goncharov et al., 2008), hypertension (Goncharov et al., 2010) and diabetes (Lee et al., 2010). PCBs also function to alter the sex hormone systems, and have been found to lower the age at which a girl reaches puberty (Denham et al., 2005) and be associated with a reduction in the levels of the male hormone, testosterone (Goncharov et al., 2009). However the greatest concern in a school setting is that PCBs cause a reduction in the ability to learn and remember (Schantz et al., 2003). Children who were exposed to PCBs before birth through maternal consumption of PCB-contaminated fish were found to have a 6.2-point IQ deficit as compared to children not exposed (Jacobson and Jacobson, 1996).

It is totally unacceptable to have elevated levels of PCBs, which cause a reduction in ability to learn, in the air in schools, which are there to have children learn. The more volatile, lower-chlorinated PCB congeners are the ones that are known to be the most neurotoxic. Studies on teachers working in PCB-contaminated schools in Germany have found that their blood showed elevations in the lower-chlorinated PCB congeners that were present in the air (Schwenk et al., 2002), provided proof that humans working in an environment with elevated air-borne PCBs absorb them. Studies with animals have demonstrated that inhalation was a more efficient route of exposure to PCBs than ingestion, and that animals breathing PCB-contaminated air not only accumulated the PCBs but also demonstrated toxicity of several organs (Casey et al., 1999). Other studies on the neuropsychological effects of chronic low-dose exposure to PCBs reported a trend towards increased attentional and emotional complaints, including reduced alertness and increased tiredness (Peper et al., 2005). A study that related blood concentrations of different PCB congener groups on cognitive function in New York adolescents found that those with fewer chlorines showed the strongest relationship to poorer function on IQ tests (Newman et al., 2009). This result is consistent with the conclusion that those congeners that are more volatile have a greater neurotoxicity than do those that are less volatile,

There is no such thing as a "safe" level of PCBs. Concentrations of PCBs commonly found in the general US population has been clearly shown to result in adverse effects on thyroid hormone levels (Schell et al., 2008), time that a girl reaches puberty (Denham et al., 2005), blood pressure (Goncharov et al., 2011), and poorer performance on cognitive tests (Newman et al., 2006).

Prior to any pre-remediation of ballasts or caulk, some of classrooms within the three pilot schools had PCB levels that even exceed the OSHA standard for occupational exposure of adults of $1,000 \text{ ng/m}^3$, and the majority of classrooms exceeded the 300 ng/m^3 standard set by EPA Region 2 for students between the ages of 6 and 12 years of age. Even the current EPA standards of 50 ppm and 300 ng/m^3 are levels based on cancer risk, not cognitive or endocrine effects. It is critical that sources of PCBs in air in schools be identified and remediated and that this be done as quickly as possible.



9 April 2011

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TESTIMONY
OF THE
UNITED FEDERATION OF TEACHERS

NEW YORK CITY COUNCIL OVERSIGHT HEARING
ON THE DOE'S PLAN TO INCREASE
ENERGY EFFICIENCY
AND ENVIRONMENTAL QUALITY
AT SCHOOLS, INCLUDING THE REMOVAL OF PCBs

APRIL 13, 2011

Good afternoon, Councilman Gennero, Chairman Jackson and distinguished members of these two committees. My name is Chris Proctor and I am the Director of the Safety and Health Department for the United Federation of Teachers (UFT). Thank you for this opportunity to testify before you today.

The officers and members of the UFT believe that safe, healthy school environments are a fundamental right. It is the reason that we invest resources in health and safety and have health and safety staff stationed in every borough to support school communities citywide. We underscore our commitment by working closely with our colleagues at the Department of Education (DOE) and the School Construction Authority (SCA) to provide a safe learning environment for all students and staff.

The idea that hundreds of our schools may contain elevated levels of PCBs is a scary prospect for parents and educators alike. The idea that the DOE does not seem to see the urgency in fixing this problem is even scarier.

What's more, approximately 420 of our schools have boilers that burn No. 4 or No. 6 fuel oil. No. 4 and No. 6 fuel heating oils, which are the heaviest cut from petroleum refining, are tarlike. Combustion of these fuel oils produces a higher amount of air pollution compared to other fuel oils and air pollutants generated by cars and trucks.

We take these health threats in our schools very seriously, and we have several recommendations today that we hope the Council will support.

PCBs

PCBs are toxic and known to cause cancer and birth defects (affecting birth weight, short-term memory and learning). They aren't easily broken down and tend to accumulate in a person's body over time.

The U.S. Environmental Protection Agency (EPA) has established recommended airborne exposure levels (benchmark levels) for PCBs in schools. These levels are designed to protect children and staff from chronic, long-term exposure to low levels of airborne PCBs.

For background purposes, it is important to know how we got to this point. The School Construction Authority conducted the first phase of a pilot study in three schools during the summer of 2010. The purpose of the study was to evaluate the risk of PCB exposure to school occupants caused by caulking that contained PCBs.

The study found classrooms with airborne levels of PCBs above EPA health guidance levels for schools. But instead of the caulking, the EPA found that old lighting fixtures containing ballasts with PCB-laden oil were the significant problem. When the SCA removed and replaced the broken and leaking light fixtures, their air testing results showed substantial reductions in airborne levels of PCBs in all three pilot school buildings.

In subsequent meetings with the DOE and the SCA in early September 2010, we urged them to immediately develop a plan to remove and replace these pre-1979 fluorescent lighting fixtures citywide. The DOE and the SCA insisted that there was no money for such a plan and argued that furthermore the pilot study should be completed before considering such a plan.

Since that time, the EPA has inspected additional schools for leaking light fixtures, and a handful of independent tests have also been conducted. The findings have supported the conclusions of the initial pilot study. For its part, the DOE asked custodians to do their own visual inspections of lights, but that effort has been completely ineffective. The DOE has also been reluctant to conduct air sampling.

Bowing to increasing public pressure, the city in February finally decided to allocate \$700 million to replace light fixtures in nearly 800 school buildings citywide over the next 10 years, as part of a broader effort that involves other energy-efficient retrofits and upgrades.

While the city's plan is a good first step, we are very concerned about the 10-year timeline, which we feel is much too long for our children to wait. We believe the decision to replace the old light fixtures over 10 years is based on funding and not on a scientific assessment of the health risk. It's misleading to suggest to the public that there is no imminent risk.

Consider this:

- The PCB-containing light ballasts are 40 to 60 years old and are already significantly past their expected functioning life span. The parts for these lights are being phased out entirely. (The manufacture of the ballasts for these lights was phased out in July 2010 and the manufacture of the bulbs will be phased out in July 2012).
- Any given ballast in these old fixtures is likely to overheat and burn out within the 10-year period proposed for replacing them. It happens all the time, and when it does, the ballast releases smoke that contains PCBs, causing a period of elevated exposure.

- The EPA's inspections in seven New York City public schools to date revealed leaking PCBs in light fixtures in the majority of the light fixtures that the EPA disassembled and inspected. This suggests that a large fraction of the PCB ballasts have already failed and leaked. Those ballasts will continue to release small amounts of PCBs over time until they are removed. There is the potential for skin contact if the PCBs leak out of the light fixture onto the floor, carpeting or whatever is below the light fixture.
- The presence of PCB ballasts in school buildings presents a unique exposure risk. The older New York City schools that are most likely to have PCB-containing light fixtures typically have little or no mechanical ventilation and often rely on windows for ventilation.

BOILERS

Beyond PCBs, another pressing concern is the boilers in approximately 420 schools that burn No. 4 or No. 6 fuel heating oil. Buildings use these oils because they are cheap compared to other fuel oils, but they produce a higher amount of air pollution compared to other fuel oils because of their tar-like consistency.

No. 4 and No. 6 fuel oils contain higher amounts of sulfur than other fuel oils, and combustion produces sulfur dioxide, which is corrosive and a respiratory irritant. Combustion also produces black smoke that is high in soot and polyaromatic hydrocarbons (coal tars) which, when inhaled, are linked to lung and skin cancers. The American Lung Association notes that exposure to these pollutants may lead to lung and heart conditions, contributes to asthma and can cause a significant decrease in life expectancy.

To put all of this in context, here are some key statistics to consider:

- The New York Community Air Survey (NYCCAS), as part of PlaNYC, found that 1 percent of the city's buildings contributed 86 percent of the city's heating oil soot pollution.
- These 10,000 buildings include large residential, commercial and institutional buildings, including the 420 New York City public schools that burn No. 4 and No. 6 heating oil.
- According to the Environmental Defense Fund, "overall these residential, commercial and institutional heating systems release 50 percent more soot and 17 times more sulfur dioxides than cars and trucks on New York City's roads."
- Also according to the Environmental Defense Fund, "switching from No. 6 oil to No. 2 heating oil reduces particulate emissions by about 95 percent, sulfur dioxide emissions by about 68 percent and nitrogen dioxides by about 65 percent."

RECOMMENDATIONS

The city has taken a few good first steps with regard to PCBs and boilers. We are happy that funding has been allocated to start the removal of the toxic light fixtures and to replace up to 287 boilers that use No. 4 or No. 6 fuel oil. However, much more needs to be done – and done soon.

With regard to PCBs, the prudent course of action is to expedite the removal and replacement of pre-1979 light fixtures citywide. We strongly urge an aggressive removal plan beginning immediately. We believe the removal of all PCB-containing light fixtures can be done in two years and certainly no more than five years. The first step would be an air sampling program in the 770 targeted schools. Levels of PCBs in air can be measured in representative areas inside a school to rank schools with the goal of giving priority to those schools where action should be taken soonest.

With regard to boilers, the DOE's New York City Schools Comprehensive Plan states that the DOE will replace boilers that burn No. 4 or No. 6 fuel oils in up to 287 schools in the next 10 years. Meanwhile, the Five Year Capital Plan Proposed Amendment from February allots \$136 million for conversions of boilers in some schools, targeting those in areas with high asthma rates, without a specific plan of action or a solid timeline. It is not clear whether the 10-year New York City Schools Comprehensive Plan includes the money or the number of the boilers in the Capital Plan or whether it is in addition to the 287 boiler replacements. This needs to be clarified. Furthermore, what is the DOE's plan for the remaining 133 schools with old toxic boilers? We strongly urge the DOE and the SCA to develop a comprehensive two to five year plan for converting all these boilers, starting with converting all No. 6 boilers to dual fuel gas/No. 2 oil boilers.

Our school communities throughout the city need this work on PCB-containing light fixtures and old boilers done as quickly as possible. This will not only greatly benefit the health of our school communities, but of all New Yorkers.

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For the
record

Chairman Councilman James Gennaro and Council Committee Members,

PCB'S IN SCHOOLS

TESTIMONY OF

ENVIRONMENTAL CONTRACTORS ASSOCIATION

APRIL 13, 2011 HEARING

The Environmental Contractors Association of NY has chosen not to take part in the panel process, but is very pleased to offer our written testimony regarding today's hearing. As you know, the Environmental Contractors Association (ECA) has been proud to partner with the Council and Mayor Bloomberg's Administration in its efforts to promote the highest protection and safety to workers and the public. We were proud to support the Mayor and the Council in the passage of the Construction Demolition and Abatement standards in 2009 that vastly improved overall safety in these critical areas. We were very fortunate to be asked to participate in the process before adoption so our vast expertise in proper environmental remediation could make the area of Construction Demolition and Abatement safety a virtual model for any jurisdiction in the country. The open process promoted one common agenda; very simply promote safety in every instance as outlined by the legislation ultimately signed into law by the Mayor with the complete support and endorsement of Speaker Quinn and the entire City Council. Chairman Gennaro and this Committee played a major role in making these standards something of which we can all be proud. We commend you all for those groundbreaking efforts.

The reason we have chosen not be part of any panel discussion today is quite simple. The critical issue involving PCB's in schools is one of great sensitivity requiring a balanced negotiation between the various Federal and Local Agencies. The ECA believes that process would only be compromised by anything we could say with respect to policy. We believe the Mayor has offered a \$700+ million, 10 year plan to deal with the issue. We also believe that the Federal EPA has it's own interpretation of the issue. We are hopeful that a meaningful dialogue between the City and Federal officials will result in a strategy that is protective, and mutually accepted to ensure a responsible result. It would be quite easy for the ECA to stir the pot of controversy by stating that all should be remediated without any consideration for the facts and reality. After all, environmental remediation is our primary business. We are not about to put our business interests ahead of good common sense and decency, as that would violate the core values of our Association. We're very certain that all parties want to ensure that the children and parents are fully protected. During this critical negotiation, the last thing anybody should want is to create hysteria and confusion for those very same children and parents that depend on public officials to protect them. The ECA is ready, willing and most able to play a major role in dealing with potential remediation areas as the ultimate policy dictates. Our proven history of leadership in environmental remediation is something we've earned, and strive to maintain every day. The ECA members not only have unmatched expertise in the field of environmental remediation, but also follow the etiquette that all work is handled with worker and public safety as our number one priority. That was, is and always will be what the ECA stands for in its core mission.

We feel strongly that level-headedness, not driven by emotion, guide the process of policy-making. History is a great teacher, as we only need to point to the many issues of controversy that grasped the City in Lower Manhattan, post 9/11. The issue of air quality was a subject of much debate. In the end, reasonable minds governed by the facts, allowed Lower Manhattan to rebound and realize its full potential, while the public was fully protected. Many jumped to opine with unfounded statements that the sky was falling, and all were at risk. That in itself, provided heightened anxiety levels that intruded on all community residents, young and old. This very same Mayor, the Council, Federal EPA and others were instrumental in guiding us through that very dark period in history. They sensibly negotiated a strategy that resided in facts rather than sound bites and innuendo. That's clearly what is needed here in addressing the issue before us today. The ECA feels certain this same guiding principle will find the light of day, allowing all to protect the children and parents in dealing with this issue. We must not let emotions scare and intimidate the parents and children as the policy is responsibly put in place. That would be a sure sign of irresponsibility to the very same people we are trying to shelter and protect.

Again, the easy and selfish position for the ECA would be to simply remediate it all with no consideration of fact and reality. That is not what the ECA is about. We are an Association proud to do business in NYC and have a moral obligation, first and foremost, to protect its citizens who depend on our services. We thank you for affording us the opportunity to submit our testimony, and look forward to lending our full support to all involved in the future.

Respectfully submitted,

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TESTIMONY OF RUBEN DIAZ JR.,
BRONX BOROUGH PRESIDENT
AT THE JOINT HEARING OF
THE NEW YORK CITY COUNCIL COMMITTEE ON EDUCATION AND
COMMITTEE ON ENVIRONMENTAL PROTECTION
APRIL 13, 2011

I'd like to thank Council Member Jackson, the chairperson of the Committee on Education, and Council Member Gennaro, the chairperson for the Committee on Environmental Protection, for jointly sponsoring a hearing on the extremely important issue of PCB contamination in New York City public schools buildings and for inviting me to present testimony. I also want to thank all of the Council Members who are members of these committees for their attendance today. The City Council has provided tremendous leadership on this issue and deserves much praise and acknowledgment. I think we all agree that there is nothing more important than educating our children in a safe environment, one where they will not be harmed by environmental hazards such as PCBs. It is my sincere hope that this hearing will prove useful to the Council's further understanding of the issue and lead to the comprehensive actions required to eliminate this serious threat.

As you will hear from environmental experts later today, PCBs are one of the most toxic chemicals ever created by man and are very destructive to human health. PCBs are so toxic that the manufacture of PCBs was banned by Congress in 1978. As part of the ban, materials containing PCBs in amounts greater than 50 parts per million and that are not "completely enclosed" must be immediately remediated. PCBs accumulate in human tissue and blood and are linked to cancer and damage of the reproductive, neurological, endocrine and immune systems. Moreover, the risks associated with PCB exposure are far more severe for children. Scientific studies have linked exposure to PCBs to a permanent and irreversible reduction in IQ, shortened attention span and an increase in disruptive behavior in children, effects that are the antithesis to a productive school environment. There is no excuse or explanation anyone could make that would justify exposing our children and school staff to this poison.

Despite the 1978 ban on PCBs, they continue to pose health risks because they are present in pre-ban construction materials and lighting fixtures that contaminate our public schools. From 1950 until the 1978 ban, PCBs were commonly added to window, door and joint

caulking to make them more elastic. PCBs were also added to the oil in fluorescent lighting ballasts as a fire retardant and conductant. PCB-laced caulking can emit vapors and crumble into dust particles that contaminate the air and ventilation systems that our children and school workers are exposed to every day through breathing, oral ingestion or skin contact. In addition, lighting ballasts leak PCB-laden oil onto lamps, which then vaporize the PCBs into the air. PCBs may also spill onto floors and be tracked all over the building.

And there is no doubt that our schools have a serious problem with PCB contamination. Every battery of tests conducted on our schools looking for PCBs has shown contamination that greatly exceeds the 50 parts per million ban. In 2008, the *Daily News* conducted independent tests of window caulking in nine schools and found serious problems in six. Shortly thereafter, the DOE discovered PCB contamination exceeding 50 ppm in window caulking in 19 additional schools during the course of window replacement projects and PCB contamination in soil adjacent to contaminated window caulking at 20 schools. The pilot testing conducted in three schools by DOE last summer found serious PCB contamination in the air and in the lighting ballasts and caulking at each school. The EPA was so concerned by the severe contamination found in the lighting ballasts that the EPA's Region 2 office conducted tests of lighting fixtures in seven City schools and found extremely serious PCB contamination problems in all of the schools. Recently, parents conducting independent tests in 12 City school buildings also found serious PCB contamination at all of the buildings. Given these findings, it more than reasonable to conclude that every City school built between 1950 and 1980 has a serious problem with PCB contamination.

And what has been the response of the Bloomberg Administration to this extremely serious health threat? Denial and refusal to provide for a timely solution to the problem. Since the publication of the *Daily News* articles in 2008, my office has been pushing the Bloomberg Administration and the EPA to deal forthrightly with this problem. At first, DOE denied there was any problem at all with PCBs in the schools. Now, after overwhelming evidence has proved that a serious problem exists, DOE wants parents and school workers to believe that there is no "immediate health threat" posed by the serious PCB contamination. Because the City refuses to commit to a timely and comprehensive testing of all of the 750 City schools built between 1950 and 1980 we have no idea how serious the problem is in each of those schools. So how can the DOE say there is no immediate threat when they have no idea? I ask each of you on the committees: what do you say to a parent whose child will potentially be exposed to toxic PCB fumes and dust for eight hours a day for years? Or to teachers and maintenance workers that have already been working in these schools for twenty or more years at a time? Don't worry about it? There's no immediate health threat? And what do you say to the environmental

experts who are telling us we have a very serious problem that needs to be taken care of with all due haste? Just tell them they're wrong? This is what DOE is doing which is simply a travesty.

DOE needs to implement a program that deals with PCB contamination with the seriousness it deserves. The City should and must execute the following program:

- 1) Replace all lighting fixtures in City school buildings known, or assumed, to contain PCBs within the next two years;
- 2) Develop and execute a plan to test all window and door caulking and other necessary building materials in City school buildings built between 1950 and 1980 for PCB contamination within the next two years utilizing testing standards no less strict than applicable EPA standards;
- 3) At buildings where PCB contamination is found, test for:
 - a. air and particle contamination in the room containing contaminated material;
 - b. PCB contamination in the brick and mortar and soil adjacent to any contaminated materials; and
 - c. PCB contamination in the school's central heating, ventilation and cooling system, if any; and
 - d. Develop a remediation plan and remediate any PCB contamination found in a City school building within six months of its discovery utilizing applicable EPA cleanup standards.

A comprehensive and timely program of testing and remediation is the only proper solution for this problem.

What is most troubling to me is that the Bloomberg Administration's response to this problem seems to be based primarily on monetary considerations and not the safety of our children and school employees. While it's been established without any doubt that the lighting fixtures in the schools pose a grave threat and that all the fixtures in the schools could be replaced within two to three years, the City originally wanted to take ten years to replace them. Why 10 years? A ten-year period will allow the City to spread the costs of a replacement program over time and lower the financial impact on the City for the next few budget cycles. It will also allow the City to wrap the light fixture replacement into an overall energy savings plan for each school, plans that haven't been developed yet and will take years to do. The City claims

that immediate fixture replacement will cost much more money when not included as part of a comprehensive energy savings plan.

I now understand that a proposal to replace the lighting fixtures over a five-year period is being discussed at the suggestion of the EPA. My response is that five years is still too long. This is not responsible leadership – balancing the City’s checkbook at the expense of the health of our children and teachers. This is not acceptable behavior for an agency responsible for educating our children and keeping them safe from harm.

Another example of the DOE’s obsession with costs is its response to the tests conducted by the EPA on the lighting fixtures. One of the schools tested by the EPA for PCB contamination in the lighting fixtures was PS 68 in the Bronx. In January, the EPA tested lighting fixtures in 11 rooms at PS 68 and announced that they had found leaking ballasts in 9 rooms with PCB contamination that exceeded the 50 ppm limit. In some of the fixtures, pools of PCB-laden oil were found outside of the ballasts being cooked by the lights. Despite this, DOE didn’t start work on replacing the lighting fixtures at PS 68 until the middle of March and may not be finished until sometime in May. Why so long? Despite the severity of the contamination, SCA has not hired enough lighting replacements teams to finish the work in a more timely manner. In addition, the lighting fixtures have not been replaced in 3 other schools where the EPA found PCB contamination because of the shortage of lighting replacement teams.

It is also apparent that the Bloomberg Administration wants to take as many years as possible to test and clean our school buildings of other sources of PCB contamination, such as PCB-laden caulk, in order to spread the costs over a longer period of time. This is not acceptable.

Given the Bloomberg Administration’s utter failure to properly deal with this problem, I strongly encourage the City Council and its members to ratchet up its pressure on the Bloomberg Administration until it agrees to replace the lighting fixtures at the target school buildings within the next two years and to execute a timely and comprehensive evaluation and remediation program. I promise to continue this fight with you.

Once again, thank you for your leadership and inviting me here today.

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MANAGEMENT

Opening Statement—Robert Jackson Joint Hearing on PCBs in Schools by the Environmental Protection; Oversight and Investigations; and Education Committees April 29, 2008

Good afternoon and I'd like to add my welcome to those of you attending today's joint oversight hearing by the Environmental Protection and Education Committees on "DOE's Comprehensive Plan to Increase Energy Efficiency and Environmental Quality at Schools, Including Through the Removal of PCBs."

A previous joint oversight hearing on PCBs in our Schools was held on April 29, 2008 by the Council's Committees on Environmental Protection, Oversight & Investigations and Education. We held that hearing in response to an investigation by the *New York Daily News* which revealed the presence of PCBs in caulking around windows and doors in 8 out of 9 schools tested, 6 of which contained levels of PCBs considered unsafe according to federal standards. Back in 2008, we thought the scope of the PCB problem was limited to just the 266 schools built or renovated in the 1960s and 70s, when PCBs were a common ingredient of caulking used in construction. We now know that the problem of PCBs in schools is far more widespread.

As of February 19, 2011, the EPA had tested 10 schools, and found elevated levels of PCBs in all of them. At each school, at least two-thirds of the samples taken showed results above the regulatory limit of 50 ppm. At PS 53 in Staten Island and at PS 45 and PS 306 in Brooklyn, one or more samples showed results above 100,000 ppm, which means that the material sampled was 10% PCBs. At PS 306 in Brooklyn, two samples showed a result of approximately 1,000,000 ppm, or 100% PCBs, and another was 95% PCBs!

In the wake of these findings, and after months of pressure from advocates and parents, City officials announced on February 23, 2011 a plan to replace light fixtures containing PCBs as part of a comprehensive plan to increase energy efficiency and environmental quality in 772 public schools over the next 10 years. This is totally unacceptable to me, as Chair of the Education Committee and parent of 1.1 million school children! Under the comprehensive plan, all of the 772 schools will receive energy audits and lighting replacements, while additional upgrades, including the replacement of outdated boilers that use No. 4 and No. 6 fuel oil, will take place where necessary.

As mentioned earlier by my colleague, PCBs have been demonstrated to cause a variety of adverse health effects. PCBs have been shown to cause cancer in animals and are classified as probable human carcinogens. The effects on children may be far worse than for adults. Some researchers believe that exposure to PCBs is responsible for the increase in the number of children with ADD and ADHD in recent years.

All of us are concerned about, and all of us are responsible for, the health of the City's children and youth. However, the DOE thinks that the best course of action is to remove PCB-containing light fixtures over a 10 year period. Further, the DOE has outlined no plans to remove caulking around windows and doors in school buildings before such time as renovations are needed. In short, the DOE wants us to "trust them" that there is no risk to the health and safety of children and staff of 772 schools from PCB contamination. This is **absolutely absurd and unbelievable!**

Unfortunately, in post 9/11 New York City, we've seen far too many people become ill or die from exposure to chemicals after officials assured the public that there was no danger. We cannot afford to gamble with the health and well-being of our 1.1 million schoolchildren or the teachers, principals and other staff that work in City school buildings! That is why I, along with 40 other Council Members, sent a letter to the EPA urging them to require the City to complete replacement of PCB-containing light fixtures in 2 years. Many advocates and parents are also calling for a 2-year timeline for lighting replacements. A number of energy contractors have been quoted in the press saying that such a timeline is feasible. In addition, some contractors have offered to do the work in return for the expected energy savings over a fixed time period. It seems that would provide an opportunity to both speed up the process and save scarce capital dollars for needed boiler replacements and to increase capacity for our growing enrollment! We'll be asking the Administration today for their reaction to these offers.

We're here today to get additional information from the DOE and other City agencies with regard to their "Comprehensive Plan to Increase Energy Efficiency and Environmental Quality at Schools" and answers to some key questions. In addition, we will also hear testimony from experts on PCBs as well as unions, advocates, parents and others regarding their concerns.

FOR THE RECORD

STATEMENT OF AMERESCO

David J. Anderson, Executive Vice President, Business Development and Director
Michael T. Bakas, Senior Vice President, Renewable Energy

BEFORE

THE COMMITTEE ON ENVIRONMENTAL PROTECTION AND THE COMMITTEE ON
EDUCATION
APRIL 13, 2011

Chairman Gennaro, Chairman Jackson and other City Council Members, thank you for providing Ameresco the opportunity to share with you our energy and environmental experience as it relates to the City's priority to ensure the health and well-being of over one million students in this city.

As one of the largest comprehensive independent energy solutions providers in North America, Ameresco stands with you as a resource in finding solutions that better the environmental health and operational efficiency of your schools.

Over the past decade, Ameresco has designed and implemented over \$5 billion worth of energy and environmental solutions, benefiting school districts, municipal, state and federal agencies, in addition to public entities, non-profits and commercial manufacturing clients nationwide.

As an engineering-based Energy Service Company (ESCO), Ameresco has delivered energy solutions to repair ailing energy infrastructure, providing long-term cost-efficiency, sustainability, energy, economic and environmental security for the future. Ameresco has also incorporated into its solutions innovative renewable energy strategies that provide new forms of green, clean, sustainable power that have a positive impact on the local environment.

Through comprehensive energy efficiency and alternative energy solutions, Ameresco has served over 2,000 federal, state and municipal clients, including 113 school districts and 27 school districts in the State of New York. Combined, Ameresco has provided energy services to nearly 1,000 education structures at K-12 schools, community colleges and universities in North America.

Nearly the entirety of these energy solutions have been provided through self-funded Energy Savings Performance Contracts, also known as ESPCs. These projects partner a public entity, such as a municipality, with an Energy Service Company (ESCO) to develop, design and implement a self-funding energy efficiency project. Under an ESPC, the ESCO arranges for the third-party financing that provides the up-front capital required for the

project's implementation. This project is designed to pay for itself over a specified period. In the State of New York, this period typically does not exceed 18 years.

By reducing energy consumption at its building facilities, a public entity can significantly save on its overall energy costs (between 20 to 30 percent on average) and can redeploy the avoided utility expenses to implement a comprehensive energy efficiency upgrade at no up-front capital cost through an ESPC.

Congress first authorized ESPCs in 1985 when legislation was signed into law that enabled federal agencies to implement what was then known as shared energy savings agreements as outlined in the Consolidated Omnibus Budget Reconciliation Act, Public Law 99-272. To date, over 550 ESPCs have been implemented in the federal sector of which Ameresco has designed and implemented approximately 40 percent of federal ESPC solutions.

The Department of Energy (DOE) reports that the 550 self-funding projects implemented at the federal level have saved the federal government \$11 billion in energy costs in the past three decades. In addition, ESPCs have provided to federal agencies \$9.6 billion in deferred energy infrastructure costs.

Equally as important, DOE reports that ESPCs have saved the nation's government 30.2 trillion BTUs annually or enough energy to power a city of almost one million residents every year.

ESPCs were created by Congress as a means to attract third-party investments and expertise to federal energy infrastructure needs, and since the 1980s states and municipalities have followed suit in implementing ESPCs.

Furthermore, ESPCs enable public entities to implement comprehensive energy infrastructure projects that yield energy savings of which are guaranteed by an ESCO. In addition, ESPCs provide unique measurement and verification benefits to a public entity that are also otherwise unavailable through most traditional capital expenditure procurements thereby ensuring the persistence of energy savings.

In addition, ESPCs also have a proven track record in delivering a high-level of cost-efficiency in the implementation of a project, on a time compressed basis, as ESCOs have streamlined the design and construction of these projects over the past 25 plus years.

Over time, ESPCs have been found to defer long-term operation and maintenance (O&M) costs as those expenditures are rolled into the overall cost of the project over its finance term. Additionally, equipment performance is not jeopardized over these 25 years as the ESCO delivers O&M services each and every year to ensure that the savings materialize and persist.

For these reasons, public entities large and small enter into ESPCs of all sizes. The State of New York authorized state, municipal and agency authorities to enter into ESPCs to meet their energy needs. Ameresco has designed and implemented nearly \$150 million in energy solutions in the state, including a \$14.7 million Energy Saving Performance Contract at the New York City Housing Authority (NYCHA). This project replaced over 10,000 inefficient lighting fixtures with compact fluorescent light bulbs, in addition to implementing other energy efficiency measures.

Currently in Aiken, South Carolina, Ameresco has the largest Energy Savings Performance Contract (ESPC) in the nation's history. This \$795 million biomass project at the Department of Energy's Savannah River Site will be the largest publicly operated biomass facility in the United States upon its completion at the end of this year.

This large-scale renewable energy project will reduce greenhouse gas emissions by 100,000 tons annually while saving the federal government over \$35 million annually for a period of 20 years. Paid for through the energy savings produced over its contract term, the biomass facility is being constructed to replace one of the larger carbon emitters in the South Carolina: a deteriorating, inefficient 50-year-old coal burning power plant and its adjoining oil-fired boilers.

Government entities have found that ESPCs deliver a unique comprehensive environmental and economic value. The ESPC industry is a robust sector throughout the United States with a proven track record of successfully implementing these types of projects at all levels.

For New York City, an Energy Savings Performance Contract is one option of which the City can choose to implement the PCB lighting retrofit at its schools. ESPC projects, of which Ameresco and other industry leaders have implemented, have included extensive lighting retrofits at structures similar to those where the City plans to implement lighting replacements over the next ten years.

Specifically, Ameresco has had first-hand experience in the removal and remediation of PCB ballasts through its numerous federal, state and municipal projects. At each project where PCB removal has been included in the scope, Ameresco has drafted a unique PCB Lighting Hazmat Plan to ensure the safe identification, removal, replacement and disposal of PCB containing fixtures.

Simply put, more than not, Ameresco has encountered PCB removal in its lighting projects at public buildings. In fact, on projects where Ameresco has been tasked to complete lighting retrofits the majority of customers have requested that Ameresco assist with the removal and disposal of mercury containing fluorescent lamps and PCB/DEHP laden ballasts. During the implementation of these projects, fluorescent lamps and ballasts removed from the buildings are secured in proper containers for shipping to a qualified disposal company. As part of the remediation process, the customer is given a copy of the manifest identifying the products sent for proper disposal.

Ameresco has completed these services in facilities across the United States and in Canada across the hospital, university, military, educational, government and public housing sectors.

Energy infrastructure upgrades such as these deliver a combined environmental and economic sustainable value for the long-term. Specifically, by replacing PCB ballasts in over 700 schools, New York City has a unique opportunity to ensure the health of its students and the long-term energy and cost-efficiency of its lighting.

By replacing and upgrading these fixtures with more energy efficient fixtures, the City will remove PCB exposure in classrooms, drastically reducing electric consumption while reducing carbon emissions in and around the City's schools.

With that said, the net positive benefit of this undertaking is genuinely titanic due to both the environmental health improvements and significant energy efficiency gains. In addition, the City has a unique opportunity to reduce its overall energy "spend" by implementing this lighting retrofit alone.

In order to address this health and environmental issue, there are varied approaches for project implementation the City could consider, including two ESPC project designs:

- A **lighting-only ESPC** could retrofit the lighting fixtures, eliminate PCB exposure, reduce energy consumption and pay for itself over a short term. In addition, this project would include follow-up inspections, measurement and verification, and additional third-party maintenance following the project's implementation. As part of this project, the City could use some of the energy savings to hire additional City staff to oversee the ESCOs selected to implement the ESPC. Again, this ESPC approach delivers budget neutral value while expediting the implementation of the lighting retrofit at the City's schools.
- A **more comprehensive ESPC** could retrofit the lighting fixtures, eliminate PCB exposure, reduce energy consumption and leverage the energy savings from the replacement of the lighting fixtures to replace select #4 and #6 oil-fired boilers in the schools. Again, this ESPC approach would be at no upfront cost to the City and would pay for itself over a period of time. This project would include follow-up inspections, measurement and verification, and additional third-party maintenance following the project's implementation (all paid for by the project's energy savings). The project could be designed by an ESCO to include two implementation phases. The first phase would implement the lighting retrofit at the City's schools, followed by a second phase that would utilize the energy savings from the lighting retrofit to afford the replacement of the boilers during a phase two installation. This comprehensive ESPC approach would ensure that the solutions to address the health and environmental issues are prioritized and

achieved during the project's first phase while delivering other needed infrastructure improvements to the benefit of the City's schools. Similar to a lighting-only ESPC, the City of New York could use some of the energy savings to hire additional City staff to oversee the ESCOs selected to implement the ESPC.

Traditionally municipalities are more familiar with the design/bid procurement process over the ESPC process. However, there are three main factors typically considered when comparing the two:

Capital: Under an ESPC, a third party provides the upfront capital to implement the project. Payments are made by the municipality to the third party, in arrears, as the savings are generated (whereby, the savings cover the payments). The typical design/bid approach requires the municipalities to issue bonds upfront to pay for projects.

Time: ESPCs can typically be implemented in a shorter timeline than the typical design/build procurement process. Once an ESCO is selected through a competitive process they are not subject to the many hurdles, approvals and requirements that a municipality faces throughout the traditional procurement process. In addition, typically ESCOs are able to assign more project management resources to the effort in order to efficiently implement the project more expeditiously than a municipality has access to.

Savings: Under an ESPC, ESCOs must issue a guarantee of energy savings for the entire contract term of the project. As a result, the ESCO typically performs maintenance services on the new equipment and performs annual measurement and verification of the savings to ensure the persistence of savings over a period of time as stipulated in the contract. This is not the case in the design/bid approach and that is why the industry typically sees a significant erosion of savings generated under the design/bid approach as it lacks long-term measurement and verification services.

In addition, there are other unique differences to consider when contrasting a traditional procurement to an ESPC, such as the length of guarantee for the installed energy equipment, energy expertise of design staff, contract flexibility to address project changes, and the constraints of limited up-front capital tied to a traditional procurement.

New York City can contrast how these differences relate to this particular project in the short and long-term. For many municipal governments, capital constraints are the most immediate challenge to implementing a project, and considerations for long-term maintenance, operation and oversight are also regarded when selecting an ESPC approach.

The Washington State Department of General Administration has a detailed side by side analysis contrasting these differing approaches that may be helpful in comparing the two:

This chart is available online: <http://www.ga.wa.gov/EAS/epc/whatis.htm>

COMPARISON OF ENERGY PERFORMANCE CONTRACTING WITH CONVENTIONAL PROCUREMENT PROCEDURES

STANDARD PROCUREMENT SPEC AND BID EVERY PHASE OF IMPLEMENTATION	ENERGY PERFORMANCE CONTRACT COMPETITIVE NEGOTIATIONS FOR PROFESSIONAL SERVICES
1. Usually requires a capital budget authorization.	1. Utilizes existing appropriated utility budget line item to pay all project costs.
2. Extended completion time due to need to obtain budgetary approvals from Agency, Governor and Legislature. Time for completion can vary from 2.5 years to 6 years. Increased costs can vary from 3-15% due to inflation.	2. Third party financing is available, which allows the public building owner to construct projects sooner. Time for completion for an average project will be 18 months from project conception. No increased costs due to inflation.
3. Project is funded by State issued bonds which are repaid over a 30 year period using tax exempt financing.	3. Project is funded by State Treasurer lease-purchase financing or Municipal Lease (tax exempt or capital) financing which is repaid over a 10 year period.
4. These projects seldom qualify for utility rebates since the programs are normally over before the projects are funded.	4. EPC maximizes utility financial participation in the project. This reduces the amount to be financed or allows additional conservation projects to be implemented.
5. Long term energy savings are, rarely, if ever guaranteed. Staff turnover, lack of ongoing training, lack of energy conservation expectations, and maintenance failures often kill project performance.	5. ESCO provides guarantee of performance, monitors and verifies energy consumption, and trains staff to achieve long term project performance. Energy savings are guaranteed by the ESCO.

6. Comfort and lighting performance standards are seldom a part of any construction contract with a hardware vendor.	6. EPCs typically contain a performance definition and guarantee of lighting and comfort conditions.
7. Change Orders are common practice because of misinterpretation or funding availability and scope of project do not match.	7. No change orders unless Owner elects to increase project scope within cost effectiveness criteria.
8. Separate phases of project implementation diffuses the source of responsibility for effective performance and often results in disputes over liability for non-performance.	8. A single point of financial and technical accountability for total project performance is standard.
9. Equipment is guaranteed to be free from defects for one year from substantial completion.	9. EPC guarantees the project functions as designed, maintains specific comfort conditions, saves energy and saves dollars over the life of the Agreement with the ESCO.
10. Incremental project implementation often leads to eliminating cost effective retrofits due to inadequate funds, limited staff time, and overly narrow or biased project specifications.	10. Performance contractors consider all cost effective retrofits and secure financing for all feasible improvements. The costs of other needed capital improvements may be underwritten from any additional utility cost savings generated by the project.
11. Most public institutions can not afford to pay for top notch technical energy staff nor can they afford to train existing staff.	11. ESCOs internalize technical expertise in order to guarantee project performance.
12. Capital energy projects must compete with other capital priorities in an environment of limited budget resources.	12. EPCs are not financed through a capital process. Funding is available from ESCOs, lenders and State Treasurer. Performance guarantees are designed to cover the costs of project financing, ongoing guarantees, and monitoring and

	verification of savings.
13. There is no direct reward to managers or staff for reducing energy costs.	13. Compensation to the ESCO is tied directly to project performance and provides a very tangible financial incentive for reducing energy costs.
14. New project responsibilities can bring risks of non-performance and technical errors due to lack of internal technical expertise.	14. Willingness to accept technical responsibilities and risks is tied to direct financial rewards which are based on project performance.
15. The operations and maintenance budgets of public institutions are usually under funded resulting in comfort problems, equipment breakdowns, lack of staff training, and wasted energy.	15. ESCOs cannot afford to under fund any functions critical to protecting their investment and meeting the performance guarantees contained in the contract.
16. When project construction is accepted by staff, there is no guarantee that future improvements will be made to respond to changing conditions.	16. ESCOs have a strong incentive to respond to changes in technology, utility rates, and building requirements to maintain the guarantee of project performance over the term of the contract.

Ultimately, it is up to New York City to decide which project implementation approach best addresses the needs of this particular project. Every project has unique factors particular to its scope and customer objectives.

Approach aside, we understand from the commitment of the committees before us, that the goal of this project will remain unchanged to ensure the environmental health of New York City's children and young adults who are educated and inspired within the City's classrooms.

For this reason, as you move forward in the consideration of this project, Ameresco is pleased to share its best-practices as it relates to the delivery of energy and environmental solutions. We appreciate this invitation to share our ESPC insights and we look forward to serving as a resource of industry information to the committees in the future.

FOR THE RECORD

Statement of
U.S. Environmental Protection Agency, Region 2
Submitted to the Council of the City of New York
Committee on Environmental Protection and Committee on Education
for the April 13, 2011 Hearing on
The New York City Department of Education's Comprehensive Plan to Increase Energy
Efficiency and Environmental Quality at Schools, Including the Removal of PCBs

Thank you for the opportunity to comment on the issue of PCBs in lighting ballasts in New York City's public schools. This is a topic that has gained increasing public attention in recent months, and we would like to take this opportunity to explain EPA's involvement in the matter, and express our concerns. We feel that the length of time the City has allotted to remove and replace all PCB-containing lighting ballasts is too long. We recommend that the lighting replacements be completed in no more than five years.

In January 2010, EPA announced an agreement with New York City to conduct a pilot study in five public schools. The initial goal of the study was to better understand the problem caused by PCBs in caulk, and to evaluate strategies for reducing potential exposure to PCBs throughout the entire school system. During the summer of 2010, the New York City School Construction Authority took extensive air, dust and soil samples in and around three of the five pilot schools. Test results found PCBs levels in the air above established health-based benchmarks in areas of each of the three schools. They also found PCBs in the soil around the schools.

In these three pilot schools, New York City began work to find and remediate the sources of PCB contamination. It was determined that widespread leaking PCB-containing lighting ballasts were contributing to the elevated levels of PCBs in the air. These older, PCB-containing lighting ballasts had been in use over an extended period and eventually failed, causing the PCB-containing material inside the ballasts to leak out and subsequently contribute to the elevated levels of PCBs in the air that children and school staff breathe.

PCBs have been demonstrated to cause a wide variety of adverse health effects. PCBs cause cancer in animals, as well as a number of serious non-cancer effects on the immune, reproductive, nervous and endocrine systems. EPA has determined that PCBs are a probable human carcinogen. Congress banned the manufacture of PCBs in the United States in 1977 because of their toxic effects. Congress also banned the use of PCBs, except in a totally enclosed manner or authorized by EPA. However, a large number of fluorescent light ballasts that were installed prior to the ban may contain PCBs and may still be in use in schools.

The typical life expectancy of these ballasts is ten to fifteen years. All of the pre-1979 ballasts in lighting fixtures that are still in use are now far beyond this life expectancy, increasing the risk of leaks, rupture or even fires, which pose health and environmental hazards. If a lighting ballast is leaking PCBs above the regulatory level of 50 parts per million (ppm), it is considered an exceedance. To be in compliance with federal law, the ballast must be immediately removed from use and disposed of, along with PCB-contaminated materials, at an EPA-approved disposal facility.

In an effort to inform school administrators and maintenance personnel, as well as the public about this issue, EPA released national guidance on December 29, 2010 recommending that schools remove older PCB-containing lighting ballasts.

Shortly after the release of the guidance, teachers at PS 36 in Staten Island became concerned about lighting fixtures that had leaked an oily substance onto the floor in two classrooms several years earlier, and informed their union representatives. EPA sent inspectors to the school, who conducted oversight as the City took samples in two locations where the ballasts had leaked onto the floor. Results showed PCB concentrations well above the EPA regulatory limit of 50 ppm.

In January and February 2011, EPA conducted seven targeted inspections at public schools in Manhattan, Brooklyn, Staten Island and the Bronx to evaluate lighting ballasts that may contain PCBs and determine if they were leaking or had leaked in the past. Overall, 145 samples were taken of material that appeared to have leaked from lighting ballasts. Out of this total, 113 samples showed results that are above the EPA regulatory limit of 50 ppm. At each school, at least two-thirds of the samples taken showed results above the regulatory limit. At PS 53 in Staten Island and at PS 45 and PS 306 in Brooklyn, one or more samples showed results above 100,000 ppm, which means that the material sampled was 10% PCBs. At PS 306 in Brooklyn, two samples showed a result of approximately 1,000,000 ppm, or 100% PCBs, and another was 95% PCBs.

Throughout the course of our inspections, EPA recommended that New York City develop a plan for assessing and addressing leaking ballasts in its schools city-wide. On February 23, 2011, the New York City Department of Education announced its "Comprehensive Plan to Increase Energy Efficiency and Environmental Quality at Schools." The Plan calls for the removal and replacement of all PCB lighting ballasts in 772 schools over the course of ten years. The Plan is also intended to result in complete energy audits and retrofits, which are expected to reduce the City's greenhouse gas emissions by more than 200,000 metric tons per year.

EPA recognizes this plan as a step in the right direction. However, we have been consistent in saying that ten years is too long for the removal of all PCB-containing lighting fixtures throughout the school system. EPA inspections indicate that there is a prevalence of leaking PCB ballasts in the City's school system. EPA believes that the lighting fixtures should be removed from these 772 schools in no longer than five years—and that the City can and should take steps to achieve this.

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**Testimony of Deputy Chancellor Kathleen Grimm
on NYC's Comprehensive Plan: Greener, Healthier Schools for the 21st Century**

Before the NYC Council Committees on Education and Environmental Protection

April 13, 2011

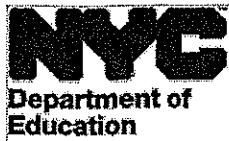
Good morning, Chair Jackson, Chair Gennaro, and all the members of the Education and Environmental Protection Committees here today. My name is Kathleen Grimm and I am the Deputy Chancellor of the Department of Education's Division of Operations. Joining me today are Jeffrey Shear, my Chief Operating Officer; Ross Holden, General Counsel for the School Construction Authority; Nancy Clark, Assistant Commissioner for the Bureau of Environmental Disease Prevention at the Department of Health and Mental Hygiene (DOHMH) and Ariella Maron, Deputy Commissioner for the Division of Energy Management at the Department of Citywide Administrative Services (DCAS).

We are pleased to be here with you this afternoon to discuss the City's Comprehensive Plan: Greener, Healthier Schools for the 21st Century—an unprecedented effort to dramatically increase energy efficiency and improve environmental quality in 772 public schools, including the removal and replacement of all polychlorinated biphenyl (PCB) containing lighting fixtures throughout the entire school system.

We take the presence of PCBs in schools seriously, and we recognize that many in the school community are concerned about the potential health impacts of learning and working in a building that has materials that contain PCBs. To this end, we have made a concerted effort to meet with individual school communities, elected officials and other concerned parties to discuss this issue and share the City's plans to address it.

There has been a great deal of progress since April 29, 2008, the last time we testified before the City Council on the issue of PCBs in building materials. In June 2010, we began undertaking what remains the first and only pilot study in the country to evaluate the presence of PCBs in building caulking, the extent to which PCBs are present in the school environment, and the best ways to remediate caulking with PCBs. I would like to share two important findings as a result of this work.

First, we learned that the PCB air levels measured in City schools have generally been very low and within the margin of safety used by the U.S. Environmental Protection Agency (EPA) to set guidelines for PCBs in air. The EPA guidance levels for PCBs in air in schools were developed with a large margin of safety, so that a person exposed for an entire lifetime will be exposed to only one three-hundredth of the lowest amount thought to cause health problems. At the levels measured in schools, there is no immediate health concern, and it is unlikely there would be any adverse health effects from long term—or even lifetime—exposure to these air



levels. These conclusions are supported by DOHMH and existing scientific studies, which have not shown PCB exposures from building materials to be detrimental.

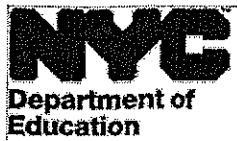
Second, we learned that lighting ballasts in older-style fluorescent light fixtures are a more important source of PCBs than caulk. Between 1950 and 1978, fluorescent light fixtures with PCB-containing ballasts were installed in thousands of buildings throughout the country, including City school buildings. Each ballast contains a very small amount of PCB-containing oil – one to one and a half ounces – and as these ballasts age; this small quantity of PCBs can leak out of the ballast enclosure.

To address these pilot study findings, the City developed the Comprehensive Plan, under which energy audits will be conducted, lighting upgrades made (including the replacement of light fixtures with PCB ballasts all affected school buildings) and other cost-effective energy conservation measures implemented. This includes, but is not limited to, boilers upgrades at a total cost of \$850 million.

On February 23, 2011, the City announced its Comprehensive Plan to remove and replace all lighting fixtures within ten years in the 772 school buildings that currently have lighting fixtures with PCB ballasts. The unprecedented scope of this plan cannot be understated; no other City in the United States has attempted to do anything near this scale. The cost of the plan, estimated at \$850 million, which includes \$708 million recently added by the Mayor, is a profound commitment in a time of fiscal restraint. We will spend nearly three times as much per year as the annual average spent by Pennsylvania, the state that has done the most energy performance contracting in the entire nation. And the ten-year timeline—an aggressive, voluntary schedule given the magnitude of the task—is far more accelerated than steps being taken by any other school district in the rest of the country

Under the Plan, the City will contract with energy service companies (ESCOs) or other vendors to complete comprehensive energy audits and retrofits over a ten-year implementation period. The work will include the replacement of all lighting fixtures that may contain PCBs with energy efficient—PCB free—lighting systems as well as other energy saving installations.

The Plan gives top priority to building-wide replacements at all sites where any ballast leak has been observed. To this end, we have instructed all of our building custodians to perform periodic visual inspections for ballast leaks. The latest protocol on how to conduct these visual inspections incorporated the specific recommendations of EPA and the United Federation of Teachers (UFT). As a result of these inspections and seven (7) buildings inspections conducted by EPA, ballast leaks have been observed in fixtures in 43 buildings. All of the fixtures exhibiting signs of current or past leakage were replaced immediately. The remainder of the light fixtures in these buildings will be replaced within one year of the inspection, with the vast majority completed by the end of this calendar year. Work has already been completed in five (5) of the buildings inspected by EPA or brought to its attention (PS 11 and PS 13 in Brooklyn, the PS 112 tandem building in Manhattan, and PS 36 and PS 53 on Staten Island). Furthermore, we are encouraging school communities to report any suspected ballast leaks they



may observe. Any such schools brought to our attention with confirmed ballast leaks will be advanced in priority for light fixture replacement.

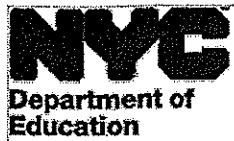
After buildings with observed leaks, the Plan prioritizes school buildings constructed between 1950 and 1966 and elementary schools in accordance with guidance offered by EPA. The EPA found that the “magnetic” ballasts used in buildings constructed during this period were more likely to leak than the “electronic” ballasts that were used between 1967 and 1978. Within five years—by the end of 2016—we expect to complete work in the older elementary schools. We expect lighting replacement in secondary schools constructed between 1950 and 1966 will be completed by 2017.

The Plan will also build upon the City’s achievements to make schools greener and healthier with 21st century technology. Energy savings will be realized by such measures as replacing boilers that burn No. 4 and No. 6 heating oil with boilers that use cleaner No. 2 fuel oil or natural gas, where indicated by an energy audit. And we know the public health benefits of this investment will be substantial: we estimate that our plan will reduce greenhouse gas emissions by up to 200,000 metric tons, the equivalent of removing 40,000 cars from the road. In addition, the reduction in air pollutants linked to illness and early deaths from heart and lung disease as well as asthma can have significant public health benefits.

To develop this Plan, we have consulted with several large, experienced energy firms, as well as other energy experts. The following factors contributed to the development of our 10-year timeline to complete this work: the scope of potential retrofits; the fact that most work on these buildings will have to be done after school hours, over the weekend, and on holidays, when school is out of session for an extended period of time; and the likelihood that environmental remediation, including asbestos containment will have to be done as part of many of these projects.

The importance of asbestos remediation in developing the Plan’s timeframe cannot be overstated. All schools inspected by EPA have shown the presence of asbestos in the insulation of the lighting fixture wiring. As you are aware, when asbestos is identified, special containment protocols must be followed, which prevents work from being performed in the evenings. Instead, this work can only be conducted on weekends and holidays. We understand that the presence of PCBs in school buildings is a serious concern to parents and staff, and we share their desire to address this issue as quickly as possible. That said, we need to ensure that the plan that refrains from unnecessarily disrupting the educational priorities of a school system responsible for 1.1 million children.

We understand that EPA has submitted testimony today recommending that the City remove the light ballasts within five (5) years. To address this, let me say first that the City has been working very closely with EPA on PCB-related issues for three (3) years and we take their recommendations and guidance very seriously. However, on this particular issue, we believe that EPA is severely underestimating the complexity of performing work of this type in school buildings – processes in which we are uniquely experienced. We also note that EPA’s guidance



issued last December does not impose any timeframe for removing intact ballasts; in fact, EPA's current regulations allow intact ballast to remain in place indefinitely. We continue to urge EPA to develop a thoughtful and consistent national policy to address this issue, rather than merely address it in a piecemeal fashion in different parts of the country.

However, let me be clear – the City has no issue with continuing to take the lead; we simply want to proceed in a responsible manner that we believe will yield the best results. With that said, we fully intend to continue our collaboration with EPA, which has been productive.

We are eager to proceed with implementation of the Plan. And we've recently issued a Request for Qualifications and Expression of Interest or RFQEI to attract vendors who can perform the lighting replacement work and implement other energy conservation measures in our schools. A Request for Proposals (RFP) will then be issued on or about June 1st.

I would like to underscore that the 10-year timeframe outlined in the Plan, is our most aggressive estimate of when work can be completed based on current understanding and the unprecedented nature and scale of the project. We will continually evaluate the progress and cost of the plan as it is implemented. Based on the results of our first phase of projects, we will revisit our timeline within three years, and if it's possible to accelerate the schedule, we will do so.

In addition, we will continue to inspect the affected schools on a regular basis and immediately address leaks or other conditions that could suggest an elevated health or safety risk. We will also work closely with the City's Health Department to ensure that we have the latest data on PCBs and any other environmental issues that could pose a health risk. The City's Comprehensive Plan is ambitious and achievable, and we will regularly update you on our progress as we implement it, and include an update in our annual amendment to the five-year capital plan.

I look forward to continuing to work with all of you and want to thank you again for the opportunity to be with you today. With that, I am happy to take your questions.