SB376

PA 10-108

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Is there objection? Hearing none, Mr. Clerk, please call Calendar 534.

THE CLERK:

534. Calendar Number 534, Substitute for Senate Bill Number 376, AN ACT CONCERNING STATE GRANT COMMITMENTS FOR SCHOOL BUILDING PROJECTS, favorable report by the Committee on Finance, Revenue and Bonding.

DEPUTY SPEAKER GODFREY:

Representative Fleischmann.

REP. FLEISCHMANN (18th):

Mr Speaker, I move acceptance of the joint committee's favorable report and passage of the bill.

DEPUTY SPEAKER GODFREY:

Question is on passage.

Representative Fleischmann.

REP. FLEISCHMANN (18th):

Mr. Speaker, the Clerk is in possession of a strike all amendment, LCO 5734, previously designated Senate "A." I ask that the Clerk please call and I be given permission to summarize.

DEPUTY SPEAKER GODFREY:

Clerk is in possession of LCO 5734, previously identified as Senate Amendment Schedule "A." Will

Clerk please call.

THE CLERK:

LCO Number 5734, Senate "A," offered by Senator Gaffey and Representative Fleischmann.

DEPUTY SPEAKER GODFREY:

Any objection to summarizing?

Representative Fleischmann.

REP. FLEISCHMANN (18th):

Thank you, Mr. Speaker. Senate A contains everything that was originally contained in the underlying bill. In addition, some notwithstanding to allow various school districts to move forward on critical school construction projects. I move adoption.

DEPUTY SPEAKER GODFREY:

Question is on adoption. Will you remark further on Senate Amendment, Schedule "A?"

If not, let me try your minds. All those in favor signify by saying aye.

REPRESENTATIVES:

Aye.

DEPUTY SPEAKER GODFREY:

Opposed, nay. The ayes have it. The amendment is adopted.

Representative Fleischmann.

REP. FLEISCHMANN (18th):

Mr. Speaker, the Clerk is in possession of an amendment, LCO 5755, previously designated Senate "B." I ask that the Clerk please call and I be given permission to summarize.

DEPUTY SPEAKER GODFREY:

Clerk is in possession of LCO Number 5755, previously designated as Senate Amendment Schedule "B." Will Clerk please call.

THE CLERK:

LCO Number 5755, Senate "B," offered by Senators Debicella and Fasano.

DEPUTY SPEAKER GODFREY:

Is there objection to summarization? Hearing none, Representative Fleischmann.

REP. FLEISCHMANN (18th):

Mr. Speaker, Senate B that is now before us also involves a notwithstanding to allow for an important school construction project to move forward. I move adoption.

DEPUTY SPEAKER GODFREY:

Question is on adoption. Will you remark further on Senate Amendment Schedule "B?"

If not, let me try your minds. All those in favor signify by saying aye.

REPRESENTATIVES:

Aye.

DEPUTY SPEAKER GODFREY:

Opposed, nay. The ayes have it. The amendment is adopted.

Representative Fleischmann.

REP. FLEISCHMANN (18th):

Mr. Speaker, If there's no objection, I ask that this item be placed on consent.

DEPUTY SPEAKER GODFREY:

Without objection? Without objection, this item is moved to the consent calendar.

Representative Johnston.

REP. JOHNSTON (51st):

Mr. Speaker, I do object to it going on consent.

DEPUTY SPEAKER GODFREY:

There is an objection to moving this to the consent calendar. Will you remark further on the bill as amended?

If not, staff and guests, please come to the well of the house. Members, take your seats, the machine will be opened.

THE CLERK:

The House of Representatives is voting by roll call. Members to the Chamber. The House is voting by roll call. Members to the Chamber.

DEPUTY SPEAKER GODFREY:

Have all the members voted?

Folks, Representative Johnston has noted we're down to two hours, so please do not go far from the Chamber. Thank you.

If all the members have voted, the machine will be locked. Clerk, will take a tally. And the Clerk will announce the tally.

THE CLERK:

Senate Bill Number 376, as amended By Senate "A" and "B" in concurrence with the Senate.

Total Number Voting	147
Necessary for Adoption	74
Those voting Yea	146
Those voting Nay	1
Those absent and not voting	4

DEPUTY SPEAKER GODFREY:

The bill as amended is passed in concurrence.

Representative Olson.

REP. OLSON (46th):

SENATOR LOONEY:

Thank you, Mr. President.

Mr. President, if as the next item of business, would as the Clerk to call calendar page 7, Calendar 388, Senate Bill 376.

THE CHAIR:

Mr. Clerk.

THE CLERK:

Calendar page 7, Calendar Number 388, File Number 538, Substitute for Senate Bill 376, AN CONCERNING STATE GRANT COMMITMENTS FOR SCHOOL BUILDING PROJECTS, favorable report on the Committee on Education and Finance, Revenue and Bonding.

THE CHAIR:

Senator Gaffey.

SENATOR GAFFEY:

Thank you, Mr. President.

I move acceptance of the joint committee's favorable report and passage of the bill.

THE CHAIR:

Question before the chamber is acceptance and passage.

Do you care to remark further?

SENATOR GAFFEY:

Yes, Mr. President, thank you.

The Clerk is in possession of an amendment LCO Number 5734. If the Clerk would please call the amendment, I'd be granted leave of the chamber to summarize.

THE CHAIR:

Mr. Clerk, would you please call LCO 5734 to be designated Senate "A"?

THE CLERK:

LCO 5734 which has been designated Senate Amendment Schedule "A." It's offered by Senator Gaffey of the 13th District.

THE CHAIR:

Senator Gaffey.

SENATOR GAFFEY:

I move adoption.

THE CHAIR:

Question before the chamber is adoption of Senate "A"? Will you remark further?

SENATOR GAFFEY:

Yes, Mr. President.

Mr. President, this is -- the amendment becomes the bill. It is the annual school construction grant priority list. It includes a couple more projects then

what passed out of both the Education Committee and the Finance Committee, and I would urge the chamber to support the bill, Mr. President.

THE CHAIR:

Thank you, Senator.

Will you remark further on Senate "A"? Will you remark further?

Senator Fasano.

SENATOR FASANO:

Mr. President, just stand at ease for a minute, please.

THE CHAIR:

Chamber, please stand at ease.

(Chamber at ease.)

THE CHAIR:

Senate, please be in order.

Senator Gaffey.

SENATOR GAFFEY:

Yes, Mr. President. We are going to just pass this bill tempor -- temporarily as we await the arrival of one additional amendment, Mr. President.

THE CHAIR:

Without objection, so ordered.

Senator Looney.

Mr. President, thank you.

If that item might be passed temporarily, and if it might we -- might return to --

THE CHAIR:

Without objection, so ordered.

SENATOR LOONEY:

Thank you, Mr. President.

We might then return to calendar page 7, Calendar 388, Senate Bill 376, which was passed temporarily earlier.

THE CHAIR:

Mr. Clerk.

THE CLERK:

Returning to calendar page 7, Calendar Number 388, File Number 538, Substitute for Senate Bill 376, AN ACT CONCERN STATE GRANT COMMITMENTS FOR SCHOOL BUILDING PROJECTS, favorable report on Committee on Education, Finance, Revenue and Bonding.

When the bill was last before us, LCO 5734 was called and designated Senate Amendment Schedule "A."

THE CHAIR:

The Chair will recognize the gentleman from the lucky 13th District, Senator Gaffey.

SENATOR GAFFEY:

Thank you, Mr. President.

THE CHAIR:

You have the floor, sir.

SENATOR GAFFEY:

I move acceptance -- move acceptance of the joint committee's favorable report and passage of the bill.

THE CHAIR:

Question before the chamber is acceptance and passage. Do you care to remark further?

SENATOR GAFFEY:

Yes, Mr. President.

Mr. Clerk is in possession of LCO Number 5734.

THE CHAIR:

Mr. Clerk.

THE CLERK:

Mr. President, LCO 5734 was previously called and designated Senate Amendment Schedule "A."

THE CHAIR:

Senator Gaffey.

SENATOR GAFFEY:

I move adoption -- move adoption.

THE CHAIR:

Question before the chamber is the adoption of Senate "A." Do you care to remark further?

SENATOR GAFFEY:

It's been previsly -- previously discussed, Mr. President.

THE CHAIR:

Any further remarks on Senate "A"? Any further remarks? If not, the Chair will try your minds.

All in favor of Senate Amendment Schedule "A," please indicate by saying aye.

SENATORS:

Aye.

THE CHAIR:

All those opposed say nay.

The ayes have it.

Senate "A" is adopted.

SENATOR GAFFEY:

Mr. President.

THE CHAIR:

Senator Gaffey.

SENATOR GAFFEY:

The Clerk is in possession of LCO Number 5755. If he'd please call the amendment.

THE CHAIR:

Would the Clerk please call LCO 5755 to be designated Senate "B"?

THE CLERK:

LCO 5755 designated Senate Amendment Schedule "B."

It's offered by Senator Debicella of the 21st District, et al.

THE CHAIR:

Senator Gaffey.

SENATOR GAFFEY:

I move adoption.

THE CHAIR:

Question before the chamber is adoption of Senate "B." Do you care to remark further?

SENATOR GAFFEY:

Yes, Mr. President.

This is one project that was inadvertently left off the -- the list when we received the prior amendment. I urge support.

THE CHAIR:

Are there any further comments on Senate "B"? Any further comments? If not, the Chair will try your minds.

All in favor please say aye.

SENATORS:

Aye.

THE CHAIR:

All opposed say nay.

The ayes have it.

Senate "B" is adopted.

SENATOR GAFFEY:

Mr. President, if you could have a roll call vote, please.

THE CHAIR:

Mr. Clerk, please announce a roll call vote has been ordered in the Senate.

THE CLERK:

Immediate roll call has been ordered in the Senate. Will all Senators please return to the chamber? Immediate roll call has been ordered in the Senate. Will all Senators please return to the chamber.

THE CHAIR:

The machine is open.

Senator LeBeau?

Will all members please check the board and make certain that your vote has been properly recorded. If all Senators have voted and all votes are properly recorded, the machine will be locked.

THE CLERK:

Immediate roll --

THE CHAIR:

The Clerk will read the tally.

THE CLERK:

The motion's on passage of the Senate Bill 376, as amended by Senate "A" and "B."

Total number of voting 35

Those voting Yea 35

Those voting Nay 0

Those absent and not voting 1

THE CHAIR:

The bill, as amended, is passed.

SENATOR LOONEY:

Mr. President.

THE CHAIR:

Senator Looney.

SENATOR LOONEY:

Yes, thank you, Mr. President.

Mr. President, would move for immediate transmittal to the House of Representatives of calendar page 7, Calendar 388, Senate Bill 376, as amended.

THE CHAIR:

Motion is for immediate transmittal. Is there objection? Is there objection? Seeing none, so ordered.

SENATOR LOONEY:

Yes, thank you, Mr. President.

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THE VOICE OF LOCAL GOVERNMENT

TESTIMONY

of the

CONNECTICUT CONFERENCE OF MUNICIPALITIES

to the

EDUCATION COMMITTEE

March 8, 2010

CCM is Connecticut's statewide association of towns and cities and the voice of local government - your partners in governing Connecticut. Our members represent over 93% of Connecticut's population. We appreciate this opportunity to provide testimony to you on issues of concern to towns and cities.

Raised Senate Bill 376 ***"An Act Concerning Authorization of State Grant Commitments for School Building Projects and Concerning Changes to the Statutes Concerning School Building Projects."***

This bill would fund certain school construction projects (1) listed on the Department of Education's School Construction Priority List, (2) seeking first reauthorization for which the scope has changed, and (3) seeking second reauthorization for which the scope has changed.

School construction projects lay the foundation for our education system. It is important, even in these tough fiscal times, that such projects continue forward. Not only do they ensure quality schools for our children, but they also mean jobs and a stimulus to the economy.

CCM urges the committee to ***favorably report*** this bill.

Raised Senate Bill 377 ***"An Act Concerning School Construction Projects."***

The bill would require a life-cycle cost analysis to accompany any school building project application.

CCM is not familiar with what the cost would be to complete a life-cycle cost analysis and is concerned that this may be a new un-funded mandate on local governments.

While this proposal may be laudable in purpose, towns and cities have recently suffered a $100 million cut in state aid in this biennium; the State is currently grappling with a $500-$700 million current year deficit; and, upwards of $3 billion deficits faces us in the out years. In addition, as local costs rise *ECS is expected to be "level-funded" with FY 08-09, and only due to federal ARRA funding.*

Until it can be determined that such a requirement will not increase the overall municipal costs, CCM urges the committee to ***take no action*** on this bill.

##

If you have any questions, please contact Kachina Walsh-Weaver,
Senior Legislative Associate of CCM, via email kwcaver@ccm-ct.org or via phone (203) 498-3026.

(E)

Education Committee
March 8, 2010

Testimony of Mark K. McQuillan, Commissioner of Education

ON

Raised Bills 379, 5421, 5425, 5426, 380, 376, 377, and 5422

Raised Bill 379: AN ACT CONCERNING VOCATIONAL-TECHNICAL SCHOOLS

The Department opposes in part and supports in part the provisions contained in Raised Bill 379, An Act Concerning Vocational-Technical Schools. While the Department understands and appreciates the General Assembly's concern for the technical high school system, the Department feels that many of the provisions in this bill will not address the issues at hand and, in fact, could potentially cause further harm. The Superintendent of the Technical High School System will expand on our position on this bill in her testimony however there are two provisions in the bill that directly impact the State Board of Education which I would like to address.

First, section 1 of this bill prohibits the State Board of Education from closing or suspending operations of any technical high school for more than six months unless a formal vote is taken. The Department firmly believes that I acted within my authority under section 10-95 of the General Statutes when I acted to suspend operations at J.M. Wright Technical High School last summer. However, we understand the General Assembly's desire for a procedural clarification on this issue moving forward and we support this provision of the bill.

Section 2 of the bill requires that two members of the State Board of Education have industrial trade or technical school experience. The Department supports this concept given the important role that the Board plays in overseeing the technical high school system. However, the Department has some concerns about the implementation of this provision given that the Board currently has twelve active members. We recommend that either the proposal be revised to expand the Board membership by two members or that the effective date be pushed back until July 2011, as five members of our Board are up for reappointment in March of 2011.

Raised Bill 5421: AN ACT CONCERNING EDUCATORS AND ADMINISTRATORS

The Department has concerns with Raised Bill 5421 which seeks to establish an alternate route to certification program for administrators and superintendents as well as to change current law to allow nonpublic school teaching experience to count towards teacher certification.

Section 2: Alternate Route to Certification for Principals and Superintendents

The Department opposes Raised Bill 5425, An Act Concerning Individualized Education Programs. This bill seeks to require that the State Board of Education develop a streamlined process for the administration of individualized education programs (IEP), including, creating an IEP form that clearly and adequately records all relevant information necessary for students in need of special education services.

The process in which an IEP is reviewed, revised and developed is governed by federal law under IDEA to which the Department of Education is bound. Therefore, the Department has little to no flexibility to amend the process for administering such IEP. In addition, the IEP form already includes an exhaustive list of required elements as identified in IDEA. The State Department provides a model IEP form for use in the public schools. The state IEP form has been reviewed and revised with each successive congressional reauthorization of the Individuals with Disabilities Education Act to ensure all of the elements required by the IDEA as well as by state statute and regulation are included in the form and that the form is user friendly. The Department convenes stakeholder groups periodically to address required changes to the IEP as per revisions to IDEA and already has a stakeholder group scheduled for this summer to convene to examine any further required changes as well as to examine revisions that would be helpful for its implementation.

As such, the Department must oppose this bill as unnecessary and overly burdensome.

Raised Bill 380: AN ACT CONCERNING EARLY CHILDHOOD EDUCATION CREDENTIALING

The Department opposes Raised Bill 380 which seeks to require the Department use unexpended school readiness funds to provide professional development to school readiness staff for the purpose of satisfying the new staff qualifications requirements, effective in 2015. Current law already requires the Department to develop a continuing education program for the staff of school readiness programs, under section 10-16p(b). In addition, the new staff qualifications currently in statute and effective in 2015 require school readiness classrooms to be staffed with teachers who hold (1) a bachelor's degree from an accredited higher education institution in early childhood education, child development, or a related commissioner-approved field; or (2) a teaching certificate with a special education or early childhood endorsement. A professional development program offered by the Department is not going to assist school readiness staff in achieving that goal.

As such, the Department opposes Raised Bill 380 and reiterates it support for Raised Bill 275, An Act Concerning Staff Qualifications for School Readiness Programs for 2015.

Raised Bill 376: AN ACT CONCERNING AUTHORIZATION OF STATE GRANT COMMITMENTS FOR SCHOOL BUILDING PROJECTS AND CONCERNING CHANGES TO THE STATUTES CONCERNING SCHOOL BUILDING PROJECTS

Raised Bill 376 contains the school construction priority list that the Department of Education submits annually to the General Assembly for approval. The Department of Education supports this bill.

ECHO

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MISSION
To safeguard the health and well-being of the environment and its inhabitants.

March 8, 2010

SB376

Senator Gaffey, Representative Fleischmann and other Members of the Education Committee, my name is Carolyn Wysocki and I am submitting testimony in strong support of specific changes to statutes concerning school building projects that would make the repair and replacement of school HVAC systems eligible for reimbursement.

In January, 1992-15 years ago ECHO was formed as a statewide non-profit, advocacy, support, education and referral organization for people with Multiple Chemical Syndrome (MCS) and for others who care about its prevention. We are one of the first organizations in Connecticut linking environmental issues and public health and our MCS members are living proof of the linkages between the environment and health. MCS is a disorder in which people develop increased reactions to various chemicals and other irritants in the home school or work environments.

Several of our member are teachers who have become ill due to poor Indoor Air Quality in their respective schools. ECHO has supported the "Tools for Schools Program" and the use of non-toxic cleaning products as preventive measures to make the school a safer and healthier environment for the children, teachers and other who may use the school for various activities. Another component to having good IAQ is an maintain a good functioning HAVC system

Superintendents and Boards of Education have a difficult job deciding on which items to include or postpone when preparing their budgets. Berlin School District is an example of a band aid approach over the past 15 years to fix the IAQ problems at the McGee School.. Now it is costing Berlin some 7 Million dollars for a new HVAC system. See attached article from "The Herald" As noted in the article I applaud the Town of Berlin for its attempts to correct the problem but it was at a high cost in the end.

Preventing others from getting MCS and becoming ill from poor Indoor Air Quality is why ECHO thinks it is crucial that HVAC systems be added to the school buildings projects list for reimbursement.

Sincerely,

Carolyn Wysocki
President, ECHO

The Herald

Berlin gives green light for $7M McGee air quality project

Tuesday, January 19, 2010 10:27 PM EST

By SCOTT WHIPPLE
Staff Writer

BERLIN — Following a public hearing in council chambers, the Town Council voted Tuesday evening to appropriate $6,950,000 for indoor air quality and ventilation system improvements at Catherine McGee Middle School.

The council also unanimously authorized the issuance of $6,950,000 in bonds to meet this appropriation.

The council's action came after several months discussion and debate over ways to address the issue of air quality at the school. Parents had complained that poor ventilation was causing health problems for their children.

Ceiling lighting and tiling will be replaced. Drainage will be improved. Floor adhesives will be replaced as necessary. In short, McGee school will get a major new cooling system.Town officials are now authorized to seek temporary loans in the anticipation of proceeds from the bonds. Responding to a public information session Jan. 12, further testing will be done by a consulting firm for carbon dioxide, carbon monoxide, humidity, temperature, mold, fungi and dust particles. Test results will be available on the town's Web site.

Town Engineer Art Simonian said testing will continue until construction begins in June. To minimize interruptions construction will take place in phases during summer months.

"This project is not simply a cleaning or upgrade," Simonian said. "We're installing a new system, one that meets current codes and standards."

He added that the coil design of the present ventilation system makes cleaning difficult. Because of its limitations, even with cleaning, the system falls 60 percent below today's environmental standards. A staff will be trained to maintain and troubleshoot the system.

"Training and maintenance is well within our budget," Simonian said.

Carolyn Wysocki said she wanted to give the town a big hand.

"I've been following this issue for 15 years," she said. "I'm glad to see these problems will be resolved. Seven million dollars is a lot of money, but you can't put a price on our children."

She stressed that the town needs to use non-toxic products in its school system.

The council also voted to waive the bidding process for a contract with Automated Building Systems of Glastonbury in the amount of $44,240. Funds would be used to upgrade the energy conservation and management systems for all five schools.

John Pajor, public building maintenance superintendent, said the present system is 19 years old and can no longer be serviced. In 2007, a similar motion to replace the system was proposed and defeated.

"At that time the cost was $29,000," said Pajor, who feared the cost of upgrading could go even higher than $44,240. "Upgrades are now essential for health and safety concerns and to promote energy conservation and reduce future energy costs."

He explained that Automated Building Systems has the hardware, software and manpower to monitor the system.

Following a series of questions from Councilor David Evans concerning comparative system "benchmarks," Pajor replied that "the price would be 10n times more if we have to replace this system with that of another [company's]. Their system is tried and true. We can tell by a 10th of a degree the temperature in a classroom."

Testimony Regarding RSB 376: An Act Concerning State Grant Commitments for School Building Projects and Concerning Changes to the Statutes Concerning School Building Projects

Senator Gaffey, Representative Fleischmann and other members of the Education Committee, my name is Joellen Lawson and I am submitting testimony in strong support of specific changes to statutes concerning school building projects that would make the repair and replacement of school HVAC systems eligible for reimbursement.

I am the founder and Honorary President of the Connecticut Foundation for Environmentally Safe Schools (ConnFESS) as well as a board member for the Healthy Schools Network, Inc., a national 501©3 research, information, education and advocacy organization located in Albany, New York.

ConnFESS is a state-based nonprofit organization dedicated to promoting policies, practices and resources that protect school occupants from preventable environmental health hazards. At the state level, ConnFESS is a member of:

1. The Connecticut School Indoor Environment Resource Team (CSIERT) coordinated by the State Department of Public Health
2. The Coalition for a Safe and Healthy Connecticut

In February 2010 ConnFESS revised its School Ventilation Position Statement which is attached to my testimony. As we begin the endorsement process, organizations such as CT Parent Teacher Association (CT PTA), American Lung Association of CT (ALACT), CT Sierra Club, CT Occupational Safety and Health (COSH) and Ecological Health Organization (ECHO) have already endorsed it. Many others are expected to do so soon.

While preparing this testimony I was struck by the realization that in 2010 we will mark the tenth anniversary for both the release of the Connecticut CASE (CT Academy of Science and Engineering) Report on Indoor Air Quality in CT Schools and the permanent closure of the former McKinley School in Fairfield. My twenty-three year teaching career ended in a disability retirement due to permanent, chronic and debilitating health conditions that medical experts attribute to exposure to indoor air pollution at the former McKinley School.

Attached to my testimony is a summary of six statements taken from the CASE report issued in July 2000 that focus on the critical relationship between heating, ventilation and air conditioning (HVAC) systems and indoor air quality (IAQ). When HVAC systems are properly designed, maintained and operated they can significantly dilute and flush out indoor air pollutants. According to the 2000 CASE Report: "The most important direct cause of poor air quality is inadequate fresh air ventilation regardless of what other factors may contribute to this condition" and poorly designed, operated, and maintained HVAC systems accounted for the majority of indoor air quality problems in Connecticut's schools. In some cases the HVAC system has actually become a source of contamination. Such a potential scenario is well described in an article that appeared in the Journal of School Health in 2007 which said: " Indoor air pollution can originate within buildings' heating, ventilation, and air conditioning equipment (HVAC equipment) through microbiological growth in drip pans, duct work coils and humidifiers; improper venting of combustion products; and dust debris in duct work."

McKinley became a national poster child for the consequences of severe mold contamination and deferred maintenance. The most serious school indoor air quality problems, like those found in McKinley, usually involve the interaction of moisture incursion, poor ventilation, and contamination from a variety of biological and chemical sources. Mold contamination combined with inadequate air circulation was a recipe for a disaster at McKinley. Ventilation issues at McKinley received far less attention and publicity than the mold infestation did.

In January 2001, Turner Building Sciences submitted its Initial HVAC and IAQ Evaluation to the Fairfield Board of Education. This evaluation stated: "The current minimum ventilation rates of the tested classrooms are well below the guidelines recommended by ASHRAE. At current ventilation recommendations, Classroom 109 could handle a population of 6, Classroom 202 a population of 2, Classroom 218 a population of 12 and classroom 117 a population of 7." (ASHRAE refers to the American Society of Heating, Refrigerating, and Air Condition Engineers) These were standard sized classrooms that had been used by many more students than these IAQ experts deemed was acceptable. Such inadequate ventilation is also disconcerting because:

1. School buildings are one of the most densely occupied indoor spaces. Four times as many occupants per square foot are found in schools compared to office spaces.

2. Children who are the majority of school occupants are more vulnerable to the harmful effects of indoor air pollution by virtue of their size, behaviors, increased metabolic rates and developing organ systems. They take in more air relative to their size than adults do. Children breathe more rapidly and inhale more pollutants per pound of body weight.

The Turner Building Science evaluation of McKinley not only demonstrated inadequate ventilation throughout numerous wings of the school, but also found more problems with how the HVAC system in the Media Center was maintained and operated. Pervasive mold had contaminated the carpets, books and other materials housed in the Media Center. Turner Building Science remarked that such mold growth could have been greatly reduced if the ventilation system had been run year round to control excessive humidity. In addition this report stated: "The HVAC should have its casing liner replaced before the space is reoccupied. The current liner may be dispersing fiberglass fibers into the occupied space." In other words as a result of neglect the HVAC had itself become a source of contamination. Fiberglass can cause rashes and respiratory irritation.

Turner Building Science recommended further engineering studies be conducted to allow for the upgrade or replacement of McKinley's ventilation system. This never happened because the estimated costs to remediate all of McKinley's IAQ problems was equal to or exceeded the cost of dismantling and rebuilding the school which ultimately came to a price tag of about $28 million dollars. A crucial lesson to be learned from the McKinley story is that it costs less to prevent HVAC and IAQ issues or correct them as soon as they are identified than to fix them when they become more complex, serious and expensive. Over the long term this school community suffered all the consequences the US EPA's Indoor Air Quality Tools for Schools Kit warns about:

1. An unfavorable learning environment that reduced the performance and effectiveness of students, teachers and staff and increased absenteeism

2. Negative publicity damaged the school's and the administration's public image
3. Polarization throughout the school district
4. Strained relationships among parents, teachers and the school administration
5. Accelerated deterioration and reduced efficiency of the school's physical plant
6. Created liability issues as over eighty people reported health problems. Some experienced short symptoms of sick building syndrome. Others still have health challenges as a result of developing long-term permanent "building related illnesses." I lost 50% of my lung function.

More than six years after the passage of An Act Concerning Indoor Air Quality in Schools physicians continue to link the onset and exacerbation of asthma and other lung diseases as well as allergies and sinus infections to unhealthy environmental conditions in schools with poorly designed, maintained and operated HVAC systems. Unfortunately, even when ventilation problems are identified, districts tend to delay, postpone or ignore the need for HVAC repairs and upgrades because as the 2000 CASE report noted: "Connecticut laws permit reimbursement only for code corrections, new construction, or new features added to existing facilities. However, costs of repair of existing facilities (e.g. Cleaning and repairing HVAC systems) are not eligible at this time."

School districts like Westport and Berlin had known for at least a decade that there were school facilities in need of HVAC repair and upgrades. Both districts have recently budgeted for such repairs and upgrades and deserve praise for finally taking this step. However, it is also necessary to recognize that:

1. During the time that these improvements were delayed school children, teachers and staff reported cases of sick building syndrome and building related illnesses.
2. Actions taken to budget for HVAC repairs and upgrades were greatly influenced by highly vocal and persistent advocates in each school community.

Superintendents and Boards of Education have a difficult job especially when they must balance and prioritize many complicated and competing needs when preparing budgets. When the state does not reimburse for HVAC upgrades and repairs one might erroneously assume that a school's HVAC system is not vital component to creating a healthy and productive learning environment.

School districts that implement an active, ongoing IAQ management plan such as Tools for Schools are much more likely to be educated about the benefits of optimal ventilation systems. Those who have taken advantage of the free training offered by the CT Department of Public Health on school IAQ will be much more familiar with no or low cost ways to achieve energy efficiency while also sustaining healthy indoor air quality. It is not known for sure how many districts currently utilize a written indoor air quality management plan to inform decisions about capital budget requests. Anecdotal feedback tells us the level of commitment, competence and consistency in effectively employing an IAQ management plan varies. Some school districts are doing a better job than others. There are school districts that are not implementing any IAQ program and are not in compliance with the 2003 IAQ for Schools Law.

The good news is that over the last decade advancements in HVAC technology can make it easier to balance energy efficiency, optimal indoor air quality and cost savings. It is possible to have healthier people and a healthier planet without busting one's budget. The U.S. EPA's Design Tools for Schools (www.epa.gov/iaq/schooldesign/hvac.html) explains how engineers can design HVAC systems that are:

1. cost competitive with traditional ventilation designs
2. provide the appropriate quality and quantity of outdoor air
3. lower energy costs
4. simplify maintenance

During the past ten years an even more robust body of research explains how inadequate air exchange can significantly impair the comfort, health and productivity of our school children and personnel. The prominent role HVAC systems play in creating healthy and productive learning environments is documented in scientific literature published by:

1. The US Department of Education (2004)
2. Centers for Disease Control (2006)
3. National Academy of Sciences (2006)
4. Indoor Environmental Department of the Lawrence Berkeley National Laboratory (web site initially posted in April 2008)
5. World Health Organization (2009)
6. Federal Interagency Committee on Indoor Air Quality (Feb. 2010)

The overall consensus derived from these resources is that school buildings need:

1. Optimal ventilation rates (ASHARE standards or better.)
2. Frequent and thorough inspections of HVAC systems - at least once a year.
3. Ongoing upgrades, maintenance and repair of HVAC systems on a timely basis.

The Lawrence Berkeley Laboratory launched its IAQ Scientific Findings Resource Bank (IAQ SFRB) in 2008 to provide concise regularly updated summary information that is well supported by scientific research on the impacts of building ventilation on health and performance. Fact sheets are posted on Implications for Good Ventilation Practices, Ventilation Rates and Respiratory Illness, Ventilation Rates and Sick Building Syndrome Symptoms, Ventilation Rates in Offices and Schools, as well as Ventilation Rates and Office work Performance which can be found at www.iaqscience.161.gov/vent-info.html.

Last July when the World Health Organization published its guidelines for indoor air quality, an entire chapter was devoted to Moisture Control and Ventilation. This chapter discussed the affects of

ventilation design, installation, repair and operation on temperature, humidity, control of asthma, triggers such as mold and dust mites, the comfort and health of occupants and the structural integrity of buildings.

The Indoor Air Quality Guide (Best Practices for Design, Construction and Commissioning) developed by the Federal Interagency Committee on Indoor Air Quality (February 3, 2010) stressed that:

1. "Good IAQ is part of sustainability. It ain't just energy efficiency."
2. IAQ impacts on design decisions are not always appreciated or considered early enough in the design process
3. The top 4 reasons for IAQ Problems involve a "Failure to address IAQ during design, construction and commissioning."

To some degree regulations for the CT High Performance Building Construction Standards for State Funded Buildings (approved in 2009) do address these concerns raised in this Feb. 2010 presentation and companion CD.

As legislation is crafted to address HVAC systems and IAQ it is important to be cognizant of the following factors:

1. Unlike IAQ laws in California and Maine, Connecticut statutes do not require all schools to conduct annual HVAC inspections
2. Strong requirements for HVAC design, operations and maintenance have been established by CT's High Performance Building Standards for State Buildings and the 2003 IAQ for schools law. These should be reviewed and incorporated into legislative language.
3. The Connecticut State Department of Education's School Facilities Survey (ED050) does not have specific questions that track compliance with existing statutes that require:
    a. Operating HVAC systems continuously during the hours in which students and staff occupy school facilities
    b. Staff training on ventilation system for optimal energy efficiency and superior IAQ.
    c. Keeping HVAC maintenance records on file for five years.

When existing statutes are not being adequately audited for compliance an inherent underlying message is conveyed that they are not very important and become, in reality, "optional". When this mindset takes hold school officials become complacent and disengaged from the ongoing vigilance and planning that must be in place to avoid an IAQ crisis.

We hope the Education Committee will incorporate legislative language that reflects an understanding of how quality ventilation is key to a quality education. ConnFESS enthusiastically supports making the upgrade and repair of HVAC systems eligible for school construction reimbursement as long as minimum standards are established in order for school districts to qualify for such funding. ConnFESS recommends that these minimum requirements include:

1. Selected regulations from the CT High Performance Building Standards that specifically deal with energy efficiency, ventilation, IAQ and the commissioning of building systems.

2. Local school districts must commit to:

    a. Providing documentation that proves compliance with existing and new IAQ /HVAC statutes.

    b. Maintaining a written indoor air quality management plan based on the US EPA's Indoor Air Quality Tools for Schools Programs or its equivalent to be directed by a designated IAQ coordinator.

    c. Participating in free training when it is offered by the State Department of Public Health related to HVAC and IAQ.

In addition, we respectfully request that this legislation also require:

1. All Connecticut schools to annually inspect HVAC systems and post these inspections on school and/or school district web sites.

2. The State Department of Education to revise the School Facilities Survey to include specific questions that clearly track existing and new statutes dealing with ventilation, energy efficiency and IAQ, as well as the commissioning of building systems.

These recommendations are designed to improve accountability, transparency and to encourage the implementation of research based best practices. Without these minimum standards in place for all Connecticut schools as well as those aimed at school districts that would apply for funding of HVAC repair and upgrades, the State of Connecticut could inadvertently reward neglect and poor management of school facilities.

As our state moves to decrease school construction grants due to more limited bonding and debt service capacity, we support legislation that will make smaller projects to upgrade and repair HVAC systems eligible for reimbursement because such allocations could:

1. Promote:
    a. Job growth
    b. Use of green technologies in schools
    c. Cost savings through energy efficiency
    d. Increased public awareness of the substantial role of HVAC systems in creating healthier, safer, and more productive learning environments
    e. Proven benefits of superior IAQ such as improved test scores, attendance, and teacher retention

2. Protect:
    a. The health of our students, teachers and staff from sick building syndrome and building related illnesses
    b. The considerable long-term local and state investments made in our school facilities
    c. The environment by reducing greenhouse gas emissions

3. Prevent:
    a. Accelerated deterioration and reduced efficiency of a school's physical plant
    b. Negative publicity that damages a school's public image
    c. Strained relationships between parents, teachers, administration and school officials
    d. Liability issues and workers compensation claims
    e. Serious IAQ problems that could force the closing of a school

We applaud the Education Committee for its ongoing leadership in advancing school environmental health policy. ConnFESS and its partners are ready to assist in any way we can to ensure passage of legislation that would strengthen current statutes and amend those needed to make school HVAC and upgrades eligible for reimbursement. Thank you for this opportunity to submit testimony and your consideration of our suggestions.

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February 2010 School Ventilation Position Statement

INTRODUCTION

The U.S. EPA has consistently ranked indoor air pollution among the top five environmental risks to public health. Indoor air can be five to 100 times more polluted than outdoor air.

School indoor air quality (IAQ) can be especially problematic because:

1. School buildings are one of the most densely occupied indoor spaces. Four times as many occupants per square foot are found in schools compared to office spaces.

2. Children who are the majority of school occupants are more vulnerable to the harmful effects of indoor pollutants by virtue of their size, behaviors, increased metabolic rates and developing organ systems.

3. Many normal, everyday school activities emit pollutants (e.g. ozone from copying machines and chemicals in art and science supplies).

4. Optimal ventilation systems have rarely been installed in schools due to pressures to reduce design and construction costs as well as a lack of awareness of the key role a ventilation system has in diluting and flushing out the concentration of indoor pollutants.

In 2003, PA 03-220: An Act Concerning Indoor Air Quality in Schools was passed by the Connecticut State Legislature by a nearly unanimous vote. Strong support for this law was generated by the conclusions of the Connecticut Academy of Science and Engineering (CASE) 2000 Report, Indoor Air Quality in Connecticut Schools, as well as three years of compelling testimony by children and adults whose health had been irrevocably harmed by poor indoor air quality (IAQ) in schools.

According to the 2000 CASE report on school IAQ, "The most important direct cause of poor air quality is inadequate fresh air ventilation regardless of what other factors may contribute to this condition." Other factors contributing to indoor air pollution come from chemical sources (e.g. formaldehyde from new flooring or furniture or volatile organic compounds used in cleansers or paints) as well as biological sources (e.g. bacteria, fungi and molds found in water damaged walls, carpeting and ceilings). **The report also emphasized that poorly designed, operated and maintained HVAC systems (Heating, Ventilation and Air Conditioning Systems) accounted for the majority of indoor air quality problems in Connecticut's schools.**

The importance of optimal ventilation rates in school settings cannot be overemphasized. Research has proven that inadequate air exchange affects the health, productivity and achievement of school children and employees. A major conclusion of a 2006 study conducted by the National Academy of Science was:

"The reduction of pollutants loads through increased ventilation and effective filtration has been shown to reduce the occurrence of building – associated symptoms (eye, nose and throat irritations; headaches; fatigue; difficulty breathing; itching and dry irritated skin) and to improve the health and comfort of building occupants."

Elevated carbon dioxide levels indicate inadequate oxygen is being provided to school occupants by a building's ventilation system. When carbon dioxide levels reach 1,000 parts per million (3 times more than what is normally found in the atmosphere), drowsiness, headache and an inability to concentrate ensue. Studies have shown high levels of carbon dioxide impair the ability to perform tasks involving concentration, calculation and memory. When ventilation problems were corrected in a 1996 European study involving 800 students in eight schools, test performance improved.

According to a recent Centers for Disease Control and Prevention (CDC) survey summarized in the October 2007 Journal of School Health, more than half (57.4%) of U.S. states require school districts or schools to conduct periodic inspections of HVAC systems. However, it is not known how many states have an oversight mechanism to verify compliance with this requirement.

It is critical to ensure that indoor air pollution is not being caused by and/or spread throughout the school building by a contaminated HVAC system. This essential point was expressly articulated in this recently published article when it stated: "Indoor air pollutants can originate within the building's heating, ventilation and air conditioning (HVAC) equipment through microbiological growth in drip pans, duct work, coils, and humidifiers; improper venting of combustion products; and dust or debris in ductwork."

PROBLEM

More than six years after PA03-220 was enacted, new cases of building related illnesses among school children and employees are still being reported in communities across Connecticut. Physicians have linked the onset of asthma and other lung diseases, allergies and sinus infections to environmental conditions in school facilities that have poorly designed, operated and maintained heating, ventilation and air conditioning systems.

Current state reimbursement for school districts is reserved for code violations, roof replacement, new construction and extensive renovations or additions to existing buildings. Local districts do not upgrade, repair or maintain ventilation systems as often or as thoroughly as is needed because these costs are not eligible for school construction grants.
It is highly unlikely that the repair or upgrade of a ventilation system alone would fulfill the criteria set out in Section 3 of PA03-220 (CT General Statutes 10-282(19)) for "an indoor air quality emergency." If a school were to receive funding in this way it is probable that school occupant health and productivity has already been adversely impacted. **This approach to funding encourages a crisis intervention rather than a prevention approach to managing indoor air quality issues.**

Sections 2, 6 and 7 of PA03-220: An Act Concerning Indoor Air Quality in Schools address HVAC system issues. Section 2 (CT General Statutes 10-220(d)) requires that facilities constructed, extended, renovated or replaced on or after January 1, 2003 conduct a uniform inspection and evaluation of heating, ventilation and air conditioning systems using a program such as the US EPA's Indoor Air Quality Tools for Schools Program. This inspection must take place prior to January 1, 2008 and every five years thereafter. The results of this inspection must be made available for public inspection at a regularly scheduled local or regional board of education meeting.

Unlike IAQ laws in California and Maine, Connecticut statutes do not require all schools to perform annual HVAC inspections. The 2000 CASE report on school IAQ specifically recommended that HVAC systems in CT schools be inspected annually. In order to adequately protect school children and employees from harmful indoor air pollution exposure, all Connecticut schools need to conduct a basic inspection of HVAC systems annually. This basic inspection does not need to be time consuming or costly and can detect or correct minor problems before school occupants are negatively affected. For example, such a basic inspection would ensure that all air intakes and exhausts are open, operating and unobstructed and that no intake is situated in a way that would bring contaminants into the building from other sources such as exhaust vents, standing water or idling vehicles. More comprehensive inspections that may involve balancing of HVAC air handling and ventilation systems need only occur every five years. Requirements for basic annual inspections in contrast to those conducted every five years need to be defined and tracked for compliance.

Section 6 of PA03-220 (CT General Statutes 10-291) states that the CT Department of Education shall not approve a school building project for new construction, extension, renovation or replacement unless plans include a plan to ensure that building maintenance staff are or will be trained in heating, ventilation and air conditioning systems with specific training relative to indoor air quality. School officials do not present a plan to the CT Department of Education. They are not asked in their application or the School Facilities Survey (ED050) to specify:

A) What training was provided?
B) When the training was presented?
C) Who conducted the training?
D) How mastery of skills was assessed?

The superintendent, architect and engineer sign an "Indoor Air Quality Certification" form to indicate that they are in compliance with these requirements. No further auditing or oversight is done before school districts receive state funding for new construction, extension, renovation or replacement of a school building.

Section 7 (CT General Statutes 10-231(e)) stipulates that effective July 1, 2003 each local and regional school board shall ensure that its HVAC (Heating, Ventilation and Air Conditioning) systems are maintained and operated at the prevailing maintenance standard at the time of its installation or renovation of such system.

The current prevailing standard was developed by the American Society of Heating, Ventilation and Air Conditioning Engineers (ASHRAE). It requires minimum rates of fresh outdoor air exchanges into buildings based on specific occupancy patterns. Section 7 also insists that:

A) HVAC systems be operated continuously during the hours in which students and school personnel occupy school facilities.
B) HVAC maintenance records be kept on file for at least for five years.

It is not known how many Connecticut schools do or do not meet ASHRAE ventilation standards. The CDC's 2006 School Health Policies and Programs Study (SHPPS 2006) found that of the 424 out of 720 school districts nationally who responded to their questionnaire, only 37% required their school districts to meet ASHRAE ventilation standards.

The CT SDE's School Facilities Survey (ED050) does not have questions that would track:

A) How many CT schools meet ASHRAE ventilation standards
B) Whether or not HVAC systems are operated as specified by PA03-220
C) Whether or not HVAC maintenance records are kept for five years as is required by PA03-220

SOLUTION

Pass legislation that will:

1. Require all CT schools to conduct annual HVAC inspections and post the results of these inspections on school and/or school district websites.

2. Revise the SDE School Facilities Survey (ED050) to include more specific questions dealing with existing statutes that require:
   - Operating HVAC systems continuously during the hours in which students and school personnel occupy school facilities
   - Keeping HVAC maintenance records for 5 years
   - Staff training on ventilation system for optimal energy efficiency and superior IAQ

3. Make the upgrade and repair of school ventilation systems eligible for school construction reimbursement grants provided that the upgrade is done to high energy efficiency and ventilation standards, and that documentation verifying this is provided.

4. Establish minimum standards that school districts who upgrade or repair HVAC systems must meet to be funded by the state of Connecticut, such as following selected regulations from the High Performance Building Standards for State Funded Buildings dealing with ventilation systems and indoor air quality.

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The Connecticut Academy of Science and Engineering (CASE) Report on Indoor Air Quality in Connecticut Schools, July 25, 2000

Statements Regarding Indoor Air Quality and HVAC (Heating, Ventilation and Air Conditioning) Systems:

1) "The most important direct cause of poor air quality is inadequate fresh air ventilation regardless of what other factors may contribute to this condition."

2) Poorly designed, operated and maintained HVAC systems accounted for the majority of indoor air quality problems in Connecticut's schools.

3) Annual inspection of school HVAC systems should be required.

4) "Poor maintenance and operation by untrained personnel exacerbate indoor air problems related to HVAC systems."

5) "Connecticut schools are heated, ventilated and air conditioned using a variety of HVAC systems. These systems are often selected based on cost and are therefore usually inadequate in many respects."

6) "Connecticut laws permit grant reimbursement only for code corrections, new construction or new features added to existing facilities. However, costs for the repair of existing facilities (e.g. cleaning and repairing of HVAC systems) are not eligible at this time."

Testimony to comment on raised bill SB 376 An Act Concerning Authorization of State Grant Commitments for School Building Projects and Concerning Changes to the Statutes Concerning School Building Projects.

My name is Kerry Swift. I am a member of the Connecticut Foundation for Environmentally Safe Schools (ConnFESS), and the parent of three children in Brookfield Public Schools. The ConnFESS School Ventilation Position Statement that was recently revised states, "Optimal ventilation systems have rarely been installed in schools due to pressures to reduce design and construction costs as well as a lack of awareness of the key role a ventilation system has in diluting and flushing out the concentration of indoor pollutants." Over the last seven years I have observed first-hand the truth of this statement. Unfortunately, the promise of optimal ventilation in our high school still remains unrealized.

Early in 2003, our town was asked to vote for an addition/renovation to Brookfield High School, due to growing population and to bring the school into code compliance. The school had originally been built in a series of five additions beginning in 1959, with the last area added in 1974. The building was sorely in need of renovation, and a broad committee of stakeholders was pulled together to develop a plan for the school. Considerable time and public input was spent developing what came to be called the "Consensus Plan"

The brochure asking for an affirmative vote for this "Consensus Plan" was mailed to every household in Brookfield. One of the bullet-pointed benefits listed on this brochure reads: "Fresh, clean air ventilation and circulation throughout building."

Brookfield has a strong choral and band program. Unfortunately, the rooms that house these popular programs at the high school are small for the number of children and windowless. Due to numerous delays, major construction was still taking place during my oldest daughter's freshman year of high school. I especially heard complaints regarding the hot, stuffy conditions in her chorus room. As a fundraiser, the teacher was even selling cold bottled water to the desperate children. As conditions in the room didn't improve into her sophomore year, I began to question where our "fresh, clean air ventilation" was and how a room that often held classes of 40 to 50 kids, who are expected to sing, could be so difficult to breathe in.

In answer to my persistent questions, I was shown a copy of the schematics for the renovation. The "fresh, clean air ventilation" was really only a refurbishment of existing air handlers, all of which were over or approaching forty years old. I was

shocked to see that even this refurbishment of these old air handlers was listed as an "add alternate", and as such, was one of the first items deleted when the project came in over budget after the first bids were opened. Even worse, as part of the construction it had been deemed necessary to remove some of the rooftop ventilation units and these had not been replaced.

My daughter is now winding down her senior year. She loves to sing and is still a member of chorus. After years of constant complaints from students, parents and the teachers regarding the stuffy conditions of the windowless choral and band rooms, the administration finally admitted months ago that the ventilation unit which serves this area is broken beyond repair. They are hoping to replace this unit this summer. However, they aren't guaranteeing this will be done as it's listed last on the capital list for this year, meaning if the budget is cut at all, this item will be pushed off for another year.

It is my firm belief that if ventilation upgrade/replacement was a reimbursable item, we would have our "fresh, clean air ventilation and circulation" in the high school. Instead, we are left with old inefficient units in some places, units that don't work at all in others, and in some areas, ventilation units have been removed with no plans for replacement.

As a result of my experience I am requesting that legislative language be added to SB 376 that will make school HVAC repair and upgrades reimbursable while including the Proposed Components for CT HVAC Legislation for Schools that I have attached to my testimony. Thank you for your consideration of this important issue.

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Proposed Components for CT HVAC Legislation for Schools

As legislation is crafted to address HVAC systems and IAQ it is important to be cognizant of the following factors:

1. Unlike IAQ laws in California and Maine, Connecticut statutes do not require all schools to conduct annual HVAC inspections
2. Strong requirements for HVAC design, operations and maintenance have been established by CT's High Performance Building Standards for State Buildings and the 2003 IAQ for schools law. These should be reviewed and incorporated into legislative language.
3. The Connecticut State Department of Education's School Facilities Survey (ED050) does not have specific questions that track compliance with existing statutes that require:
    a. Operating HVAC systems continuously during the hours in which students and staff occupy school facilities
    b. Staff training on ventilation system for optimal energy efficiency and superior IAQ.
    c. Keeping HVAC maintenance records on file for five years.

When existing statutes are not being adequately audited for compliance an inherent underlying message is conveyed that they are not very important and become, in reality, "optional". When this mindset takes hold school officials become complacent and disengaged from the ongoing vigilance and planning that must be in place to avoid an IAQ crisis.

ConnFESS enthusiastically supports making the upgrade and repair of HVAC systems eligible for school construction reimbursement as long as minimum standards are established in order for school districts to qualify for such funding. ConnFESS recommends that these minimum requirements include:

1. Selected regulations from the CT High Performance Building Standards that specifically deal with energy efficiency, ventilation, IAQ and the commissioning of building systems.
2. Local school districts must commit to:
    a. Providing documentation that proves compliance with existing and new IAQ /HVAC statutes.
    b. Maintaining a written indoor air quality management plan based on the US EPA's Indoor Air Quality Tools for Schools Programs or its equivalent to be directed by a designated IAQ coordinator.

c. Participating in free training when it is offered by the State Department of Public Health related to HVAC and IAQ.

In addition, we respectfully request that this legislation also require:

1. All Connecticut schools to annually inspect HVAC systems and post these inspections on school and/or school district web sites.

2. The State Department of Education to revise the School Facilities Survey to include specific questions that clearly track existing and new statutes dealing with ventilation, energy efficiency and IAQ, as well as the commissioning of building systems.

These recommendations are designed to improve accountability, transparency and to encourage the implementation of research based best practices. Without these minimum standards in place for all Connecticut schools as well as those aimed at school districts that would apply for funding of HVAC repair and upgrades, the State of Connecticut could inadvertently reward neglect and poor management of school facilities.

As our state moves to decrease school construction grants due to more limited bonding and debt service capacity, we support legislation that will make smaller projects to upgrade and repair HVAC systems eligible for reimbursement because such allocations could:

1. Promote:
    a. Job growth
    b. Use of green technologies in schools
    c. Cost savings through energy efficiency
    d. Increased public awareness of the substantial role of HVAC systems in creating healthier, safer, and more productive learning environments
    e. Proven benefits of superior IAQ such as improved test scores, attendance, and teacher retention

2. Protect:
    a. The health of our students, teachers and staff from sick building syndrome and building related illnesses
    b. The considerable long-term local and state investments made in our school facilities
    c. The environment by reducing greenhouse gas emissions

3. Prevent:
    a. Accelerated deterioration and reduced efficiency of a school's physical plant
    b. Negative publicity that damages a school's public image
    c. Strained relationships between parents, teachers, administration and school officials
    d. Liability issues and workers compensation claims
    e. Serious IAQ problems that could force the closing of a school

We thank the Education Committee for proposing legislation that acknowledges the vital role school HVAC systems play in creating healthy and productive learning environments.

Testimony on Bill No. SB 376: An Act Concerning State Grant Commitments for School Building Projects and Concerning Changes to Statutes Concerning School Building Projects

March 8, 2010

Members of the Education Committee:

Our names are Michael and Amanda Gebicki, and we are the parents of a child who became ill during her occupancy in King's Highway Elementary School ("King's Highway" or "KHS") in Westport, CT. In order to protect our daughter's health, her doctors all recommended that she no longer attend school in the King's Highway building - a building with a long history of ventilation and mold problems. We are following her doctors' recommendations and are sending her to a private school in Norwalk, CT. Her symptoms, which included chronic severe sinus infections and pneumonia, have disappeared since she left KHS and she no longer needs to take daily medication for her respiratory issues. We are fortunate that we can afford to send our daughter to private school – other families cannot.

King's Highway has a well-documented history of severe ventilation problems that date back almost a decade. A 2002 "Evaluation of Existing Ventilation Air System for Kings Highway School" found that multiple areas of the school, including common areas used by all students like the gymnasium and auditorium had "no controlled ventilation whatsoever." Carbon dioxide tests, used to determine whether classrooms have adequate ventilation, have regularly documented unacceptable carbon dioxide levels in excess of 1,000 parts per million (3 times more than what is found in the atmosphere) in several KHS classrooms.

Why does all of this matter?

First and foremost, according to the United States Environmental Protection Agency ("EPA"), "HVAC systems that are improperly operated or maintained can contribute to sick building syndrome (SBS)." Not coincidentally, along with the its long history of inadequate ventilation, King's Highway also has a long and unfortunate history of teacher and student health complaints with symptoms ranging from bloody noses, eye irritation and persistent headaches to recurring sinus infections, asthma and pneumonia. Such complaints date back well into the 1980s. The asthma rate in our daughter's class was 41% (4 1/2 times the national average) and 52% of the students in her class were absent more than 10 days (an excessive absenteeism rate which is more than 10 times greater than that reported by the CDC for similar northeastern school districts).

Secondly, elevated levels of carbon dioxide caused by poor ventilation have been linked to health symptoms and impaired performance. When carbon dioxide levels reach 1,000 parts per million, as has long been the case at King's Highway, drowsiness, headaches and an inability to concentrate ensue. Studies have shown that high levels of carbon dioxide impair the ability to perform tasks involving concentration, calculation and

memory. Conversely, when ventilation problems were corrected in a 1996 European study involving 800 students in eight schools, test performance improved.

The Westport Public School District is one of the wealthiest school districts in the United States. Westport spends a staggering $15,600 per student annually. However, it deferred funding essential ventilation improvements at King's Highway multiple times over the last 10 years. This year, after several children and teachers applied for school transfers for health-related reasons, pressure from the community forced the Board of Education to approve over $2 million to address ventilation issues at the school. Relatively speaking – Westport was lucky – we had the money. Most school districts cannot afford multi-million dollar HVAC repairs or replacements - particularly in this financial climate – and as a result, such districts will continue to defer funding essential ventilation repairs and replacements indefinitely.

Essential repairs and replacements of HVAC systems are generally not "visible" to the public and expenditures for such important projects are often deferred in favor of more tangible items like textbooks and high-tech "smart boards." Making costs for repairing or replacing heating ventilating and air conditioning systems in schools eligible for purposes of calculating eligible costs for school building project grants will encourage and enable school districts to make timely repairs and replacements of such systems. As set forth above, maintaining adequate ventilation is an important factor in occupant health and student performance.

While we believe that making costs of repairing or replacing heating, ventilating and air conditioning systems in schools eligible for purposes of calculating eligible costs for school building projects, we also believe that taxpayer dollars should not be disbursed without requiring the recipients of such funds to meet certain minimum standards, like the High Performance Building Standards for State Funded Buildings dealing with ventilation systems.

As representatives of parents of school-aged children in your districts, we strongly urge you all to add language to Bill No. SB 376 that deals with repairs and replacements to HVAC systems and to establish minimum standards that school districts must meet to be funded by the State of Connecticut.

Thank you in advance for your consideration of our testimony.

Respectfully.

Michael & Amanda Gebicki
3 Cherry Lane
Westport, CT 06880
(203) 227-7552

Testimony on Bill No. SB 376: An Act Concerning State Grant Commitments for School Building Projects and Concerning Changes to Statutes Concerning School Building Projects

March 8, 2010

Members of the Education Committee:

Our names are Brendan and Alison Reilly. We live in Westport, CT and are the parents of five adopted children aged ten years to 2 months old. Our concern regarding the proper maintenance of HVAC systems in schools began in 2007 when our doctors informed us that our oldest child, Aidan, should not attend his school, King's Highway Elementary School because they believed his lung capacity and immune system were adversely impacted due to his exposure to contaminants in the building. We were shocked that our child's school building – a building that was supposed to be a safe place for him to learn and grow – could be making him sick.

We did everything we could to protect our son in his school environment. Alison sat on a town committee dedicated to investigating and improving the condition of King's Highway. We were dismayed when reports uncovered by the committee revealed that the Superintendent had known for several years that King's Highway had severe ventilation problems. He claimed that he had "addressed" this serious problem by adding "ventilation repairs and improvements" to the capital forecast. Unfortunately, the essential repairs to our school's ventilation system were pushed back numerous times over the next several years. Finally, this year after our son and several other students and teachers filed health complaints, the King's Highway community pressured the Board of Education to expedite funding for the ventilation system.

We appreciate the Board's long overdue approval of funds for the King's Highway ventilation system. However, the funding came too late for our son. A year and a half ago his doctors informed us that he should not go to King's Highway as they believed that the conditions in the building were making him sick. We followed their recommendations and moved Aidan to a private school. This impacted not only Aidan, but our entire family. We are, after all, a family and we stick together. This meant that our two other school-aged daughters also had to make the transition from public to private school. While we are thrilled that our son's health has improved dramatically since he left King's Highway, moving our three children to a private school has been a tremendous and unexpected financial expense to our family.

When Alison served on the town committee, she learned that school districts often defer essential maintenance projects because such repairs and improvements are viewed as costly and "invisible" to parents and voters. Unfortunately, such projects are often deferred for decades resulting in the deterioration of facilities and public health crises. King's Highway paid hundreds of thousands of dollars in remediation costs and recently budgeted over $3 million for improvements to its ventilation system – an enormous amount of money in a dire fiscal environment. Our town and its taxpayers could have

avoided much of this expense if the ventilation problems at King's Highway had been addressed in a timely manner. One of the fundamental findings of our town maintenance committee was: "In worst-case scenarios, deferred maintenance can result in a building component's failure (—breakdown status). The expense to repair such failing components can be as great as 15x the non-deferred cost (*Gaeslin's Inverse-Square Rule for Deferred Maintenance*)." Kings Highway Elementary School Special Maintenance Committee: Report of Investigations and Recommendations Into Mold and Air Quality (March 2008) pg 45. Luckily, Westport has the funds necessary to improve the ventilation system at King's Highway. Other school districts in Connecticut would not be able to pay such an exorbitant sum of money to repair or replace their schools' HVAC systems.

As set forth above, there are other costs too – human costs. Deferred maintenance at King's Highway caused several of the teachers and students, including our son, to suffer adverse health symptoms such as respiratory infections asthma and decreased lung capacity, chronic headaches and bloody noses.

We believe that making costs of repairing or replacing heating, ventilating and air conditioning systems in schools eligible for purposes of calculating eligible costs for school building projects will encourage and allow school districts across Connecticut to properly address these important repairs and replacements properly in a timely manner.

As representatives of parents of school-aged children in your districts, we strongly urge you all to add language to Bill No. SB 376 that deals with repairs and replacements to HVAC systems and to establish minimum standards that school districts must meet to be funded by the State of Connecticut.

Thank you in advance for your consideration of our testimony.

Respectfully,

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