



Senate

General Assembly

File No. 320

February Session, 2022

Substitute Senate Bill No. 423

Senate, April 5, 2022

The Committee on Labor and Public Employees reported through SEN. KUSHNER of the 24th Dist., Chairperson of the Committee on the part of the Senate, that the substitute bill ought to pass.

AN ACT IMPROVING INDOOR AIR QUALITY IN PUBLIC SCHOOL CLASSROOMS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

1 Section 1. (NEW) (*Effective from passage*) As used in this section and
2 sections 2 to 6, inclusive, of this act:

3 (1) "Commissioner" means the Labor Commissioner or the
4 commissioner's designee;

5 (2) "Commission" means the Occupational Safety and Health Review
6 Commission established under section 31-376 of the general statutes;

7 (3) "Person" means one or more individuals, partnerships,
8 associations, corporations, limited liability companies, business trusts,
9 legal representatives or any organized group of persons;

10 (4) "Employee" means any person engaged in service to an employer
11 in a business of his employer;

12 (5) "Local or regional board of education" means local and regional
13 boards of education as used in title 10 of the general statutes and
14 includes regional educational service centers and state charter schools;

15 (6) "School facilities" means any permanent building or portable
16 building or structure or commercial space owned, rented, operated or
17 leased by boards of education and charters, including donated space,
18 used as a classroom or day care, or any other space for education
19 services including, but not limited to, classrooms, cafeterias, staff
20 lounges, staff offices, auditoriums, gymnasiums or libraries;

21 (7) "Heating, ventilation and air conditioning system" means the
22 equipment, distribution network and terminals that provide, either
23 collectively or individually, heating, ventilation or air conditioning to a
24 building;

25 (8) "School activity hours" means any time of day in which students
26 or school personnel occupy school facilities throughout the year;

27 (9) "ASHRAE Standard 62" means the most recent American National
28 Standards Institute/American Society of Heating, Refrigerating and
29 Air-conditioning Engineers Standard 62.1 entitled "ventilation for
30 acceptable indoor air quality";

31 (10) "Indoor air quality" means the overall potential health factors
32 within a school facility, including air quality, mold levels and other
33 potentially harmful toxins;

34 (11) "Routine indoor air monitoring program" means testing
35 procedures, testing protocols and testing frequency to ensure that
36 indoor air quality and the maintenance and operation of heating,
37 ventilation and air conditioning systems are in accordance with
38 ASHRAE Standard 62;

39 (12) "Public school temperature range" means a temperature from
40 sixty-eight degrees Fahrenheit to seventy-six degrees Fahrenheit;

41 (13) "Public school relative humidity range" means relative humidity

42 levels within twenty to sixty per cent;

43 (14) "Properly licensed heating, ventilation and air conditioning
44 contractor" means a contractor who is licensed in accordance with
45 chapter 393 of the general statutes;

46 (15) "Properly certified testing, adjusting and balancing technician"
47 means a technician certified to perform testing, adjusting and balancing
48 of heating, ventilation and air conditioning systems by the Associated
49 Air Balance Council, the National Environmental Balancing Bureau or
50 the Testing, Adjusting and Balancing Bureau, or individuals training
51 under the supervision of a Testing, Adjusting and Balancing Bureau
52 certified technician or a person certified to perform ventilation
53 assessments of heating, ventilation and air conditioning systems
54 through a certification body accredited by the American National
55 Standards Institute; and

56 (16) "Skilled and trained construction workforce" means a workforce,
57 managed in conformance with the Davis-Beacon of 1931 40 USC 3145,
58 et seq., as amended from time to time, in which at least sixty per cent of
59 the workers are graduates of or registered in and attending an
60 apprenticeship program registered with the Labor Department's office
61 of apprenticeship training.

62 Sec. 2. (NEW) (*Effective July 1, 2022*) (a) On or before August 15, 2022,
63 the Labor Department shall establish: (1) A mandatory public school
64 temperature range; and (2) a mandatory public school relative humidity
65 range. The temperature and relative humidity readings for public school
66 facilities shall be taken in a location or locations that are illustrative of
67 the highest and lowest temperature and relative humidity in the school
68 facility during school activity hours.

69 (b) (1) On or before June 30, 2023, the Labor Commissioner, in
70 consultation with the Commissioner of Education and the Secretary of
71 the Office of Policy and Management, or their designees, shall establish
72 a routine school indoor air quality assessment and ventilation
73 monitoring program that is consistent with the minimum requirements

74 of the ASHRAE Standard 62 and the provisions of this section for use
75 by local and regional boards of education. The Labor Commissioner
76 shall post the requirements of such program on the Labor Department's
77 Internet web site.

78 (2) The routine indoor air quality assessment and ventilation
79 monitoring program shall require any ventilation assessment be
80 performed by a certified Testing, Adjusting and Balancing technician or
81 mechanical engineer. The ventilation assessment shall verify whether
82 the existing mechanical ventilation system is operating in accordance
83 with design parameters, meets the requirements of the Labor
84 Department and follows the recommendations of the American Society
85 of Heating, Refrigerating and Air-Conditioning Engineers for
86 ventilation needs during the 2020 coronavirus disease pandemic. The
87 ventilation assessment for heating, ventilation and air conditioning
88 systems shall include: (A) Testing for maximum filter efficiency; (B)
89 physical measurements of outside air rate; (C) verification of operation
90 of ventilation components; (D) measurement of all air distribution inlets
91 and outlets; (E) verification of unit operation and that required
92 maintenance has been performed in accordance with ASHRAE
93 Standard 62.1 – 2019 Section 8 and Table 8-1; (F) verification of control
94 sequences; (G) verification of carbon dioxide sensors; and (H) collection
95 of field data for the installation of mechanical ventilation if none exist.

96 (3) The indoor air quality and ventilation assessment shall result in a
97 written report reviewed by a mechanical engineer and shall include
98 appropriate corrective actions needed for the mechanical ventilation
99 system or the heating, ventilation and air conditioning infrastructure,
100 including installation of appropriate filters, installation of carbon
101 dioxide sensors and additional maintenance, repairs, upgrades or
102 replacement.

103 (c) On or before July 1, 2024, and every three years thereafter, each
104 local and regional board of education shall conduct an indoor air quality
105 and ventilation assessment in a manner consistent with the Labor
106 Department's routine school indoor air quality assessment and

107 ventilation monitoring program established in this section. The written
108 assessment report shall be made available for public inspection, posted
109 on the local or regional board of education's Internet web site and
110 submitted to the Labor Department.

111 (d) The Labor Department shall require all local and regional boards
112 of education to make the appropriate corrective actions identified in the
113 ventilation assessment report. The corrective actions shall include
114 testing, adjusting and balancing the public school mechanical
115 ventilation system and, if necessary or cost effective, repair, upgrade or
116 replacement of the existing heating, ventilation and air conditioning
117 system or the installation of a stand-alone mechanical ventilation
118 system. The corrective actions identified in the ventilation assessment
119 may include general maintenance, reading and adjustment of
120 ventilation rates, filter replacement to meet a minimum efficiency
121 reporting value of at least thirteen, if equipment allows, while assuring
122 the pressure drop is less than the fan's capability, carbon dioxide
123 monitor installation or whole system installation or replacement.
124 Portable filtration and air cleaners shall be used only if the existing
125 heating, ventilation and air conditioning infrastructure cannot meet
126 minimum filtration and ventilation requirements or, as recommended
127 by a mechanical engineer, as supplemental enhancement to the
128 permanent heating, ventilation and air conditioning infrastructure
129 when the desired indoor air quality cannot be maintained with the
130 mechanical ventilation system or there are concerns with outdoor air
131 contaminants such as those created by wildfires and pollution.

132 (e) Any remediation, additions or alterations to a heating, ventilation
133 and air conditioning system shall be performed by a properly licensed
134 heating, ventilation and air conditioning contractor employing a skilled
135 and trained construction workforce consisting of journey persons and
136 registered apprentices, pursuant to title 31 of the general statutes, in
137 accordance with chapter 393 of the general statutes.

138 (f) All testing and certifications of a heating, ventilation and air
139 conditioning system shall be performed by a properly certified testing,

140 adjusting and balancing technician.

141 (g) The Labor Commissioner, in consultation with the Commissioner
142 of Education and the Secretary of the Office of Policy and Management,
143 or their designees, shall approve the routine indoor air monitoring
144 program at least every three years to ensure the efficacy of the program
145 and shall review the program in the event of a public health emergency
146 or other event potentially impacting indoor air quality in schools across
147 the state.

148 (h) Local and regional boards of education shall be responsible for the
149 ongoing maintenance of heating, ventilation and air conditioning
150 systems in a manner enabling such systems to continually maintain
151 indoor air quality and temperature and humidity ranges in school
152 facilities during school activity hours in accordance with standards
153 adopted by the Labor Department pursuant to this section. Each local
154 and regional board of education shall participate in the United States
155 Environmental Protection Agency's Air Quality Flag Program for
156 Schools.

157 (i) Each local and regional board of education shall close a school for
158 the day if the mandated public school temperature range cannot be
159 maintained by the school for two or more consecutive school activity
160 hours. Any school closure required pursuant to this subsection shall not
161 result in diminishment of pay for any board of education employee or
162 any employee contracted to work for such board of education that was
163 scheduled to work on such day or days.

164 (j) On or before June 30, 2026, and each year thereafter, each local and
165 regional board of education shall have in place a heating, ventilation
166 and air conditioning system capable of being in full compliance with the
167 indoor air quality, temperature and humidity monitoring program
168 standards established pursuant to subsection (b) of this section and shall
169 operate and maintain such system in accordance with such standards.

170 Sec. 3. Subsection (b) of section 10-283 of the 2022 supplement to the
171 general statutes is repealed and the following is substituted in lieu

172 thereof (*Effective from passage*):

173 (b) (1) Notwithstanding the application date requirements of this
174 section, at any time within the limit of available grant authorization and
175 within the limit of appropriated funds, the Commissioner of
176 Administrative Services, in consultation with the Commissioner of
177 Education, may approve applications for grants and make payments for
178 such grants, for any of the following reasons: (A) To assist school
179 building projects to remedy damage from fire and catastrophe, (B) to
180 correct safety, health and other code violations, (C) to replace roofs,
181 including the replacement or installation of skylights as part of the roof
182 replacement project, (D) to remedy a certified school indoor air quality
183 emergency, (E) to install insulation for exterior walls and attics, (F) to
184 purchase and install a limited use and limited access elevator, windows,
185 photovoltaic panels, wind generation systems, building management
186 systems, a public school administrative or service facility or portable
187 classroom buildings, provided portable classroom building projects
188 shall not create a new facility or cause an existing facility to be modified
189 so that the portable buildings comprise a substantial percentage of the
190 total facility area, as determined by the commissioner, [or] (G) for school
191 security projects, including, but not limited to, making improvements to
192 existing school security infrastructure or installing new school security
193 infrastructure, or (H) for the installation, remediation or replacement of
194 heating, ventilation and air conditioning systems necessary to
195 continually maintain indoor air quality and temperature and humidity
196 ranges in school facilities during school activity hours in accordance
197 with standards adopted by the Labor Department pursuant to section 2
198 of this act.

199 (2) Not later than seven calendar days following the discovery of a
200 reason described in subparagraphs (A) to (F), inclusive, of subdivision
201 (1) of this subsection, the superintendent of schools of a town or regional
202 school district shall notify the Commissioner of Administrative Services
203 in writing of such reason in order to be eligible for a grant under this
204 subsection. Such superintendent shall submit an application to the
205 commissioner not later than six months following such notification in

206 order to receive a grant under this subsection.

207 Sec. 4. (NEW) (*Effective from passage*) (a) Any local or regional board
208 of education, regional educational service center or charter school
209 commencing a project to remediate, replace or install a heating,
210 ventilation and air conditioning system shall be considered to be in
211 compliance with the provisions of subsection (j) of section 2 of this act.

212 (b) Any local or regional board of education or charter school eligible
213 for reimbursement for school construction projects pursuant to chapter
214 173 of the general statutes, that submits a completed application to
215 remediate, replace or install a heating, ventilation and air conditioning
216 system to continually maintain indoor air quality and temperature and
217 humidity ranges in school facilities during school activity hours, shall
218 be considered to be in compliance with the provisions of subsection (j)
219 of section 2 of this act.

220 Sec. 5. (NEW) (*Effective July 1, 2022*) (a) Each superintendent for a local
221 or regional board of education, regional educational service center or
222 charter school shall:

223 (1) Designate an individual within each local and regional board of
224 education to be responsible for receiving and reporting to the
225 superintendent complaints of mold, evidence of pest infestation,
226 hazardous odors or chemicals and poor indoor air-quality;

227 (2) Make available on the district's Internet web site the procedure for
228 any party to file such complaint with the designated individual;

229 (3) Duly forward any such complaints, in writing, to each bargaining
230 agent representative representing members who work or visit the
231 affected building, including, but not limited to, teachers, paraeducators,
232 nurses, custodians, administrative staff and bus workers; and

233 (4) Report complaints, in writing, to the corresponding board of
234 education at either the next regularly scheduled meeting or within sixty
235 calendar days, whichever is earlier.

236 (b) Any indoor air quality complaint filed under subsection (a) of this
237 section shall be investigated by local and regional boards of education,
238 including documentation of any physical symptoms exhibited by
239 students, staff or visitors, including, but not limited to, urgent care
240 referrals, blood test, an OSHA 301 form or incident report forms,
241 workers' compensation claims and the testing of any visible substance,
242 including, but not limited to, mold, chemicals, pest droppings,
243 infestations or other such substance, for the presence of a health hazard.
244 Upon confirmation of the presence of a health hazard, the local or
245 regional board of education shall notify the Labor Department's
246 Division of Occupational Safety and Health of such hazard, and the local
247 and regional board of education shall create and implement a plan for
248 remedying such hazard.

249 (c) No employer that is a local or regional board of education,
250 regional education service center or state charter school shall retaliate
251 against, discipline or terminate any employee for filing a complaint or
252 reporting conditions regarding indoor air quality under section 5 of this
253 act.

254 (d) Any employee of a local and regional board of education, regional
255 educational service center or state charter school who believes that such
256 employee has experienced discrimination, retaliation, discipline or
257 termination by his or her employer for filing a complaint or reporting
258 conditions regarding indoor air quality under section 5 of this act may
259 submit a complaint alleging such violation in accordance with section
260 31-379 of the general statutes.

261 Sec. 6. Subsection (a) of section 10-283b of the 2022 supplement to the
262 general statutes is repealed and the following is substituted in lieu
263 thereof (*Effective from passage*):

264 (a) On and after July 1, 2011, the Commissioner of Administrative
265 Services shall include school building projects for the Technical
266 Education and Career System on the list developed pursuant to section
267 10-283. The adoption of the list by the General Assembly and
268 authorization by the State Bond Commission of the issuance of bonds

269 pursuant to section 10-287d shall fund the full cost of the projects. On or
 270 after July 1, 2011, the Commissioner of Administrative Services, in
 271 consultation with the Commissioner of Education, may approve
 272 applications for grants to assist school building projects for the
 273 Technical Education and Career System to remedy damage from fire
 274 and catastrophe, to correct safety, health and other code violations, to
 275 replace roofs, to remedy a certified school indoor air quality emergency,
 276 for the installation, remediation or replacement of heating, ventilation
 277 and air conditioning systems necessary to continually maintain indoor
 278 air quality and temperature and humidity ranges in school facilities
 279 during school activity hours in accordance with standards adopted by
 280 the Labor Department pursuant to section 2 of this act, or to purchase
 281 and install portable classroom buildings at any time within the limit of
 282 available grant authorization and to make payments on such a project
 283 within the limit of appropriated funds, provided portable classroom
 284 building projects do not create a new facility or cause an existing facility
 285 to be modified so that the portable buildings comprise a substantial
 286 percentage of the total facility area, as determined by the Commissioner
 287 of Administrative Services. Such projects shall be subject to the
 288 requirements of chapters 59 and 60.

This act shall take effect as follows and shall amend the following sections:		
Section 1	<i>from passage</i>	New section
Sec. 2	<i>July 1, 2022</i>	New section
Sec. 3	<i>from passage</i>	10-283(b)
Sec. 4	<i>from passage</i>	New section
Sec. 5	<i>July 1, 2022</i>	New section
Sec. 6	<i>from passage</i>	10-283b(a)

Statement of Legislative Commissioners:

In Section 2(g) "other potentially" was changed to "other event potentially" for clarity; in Section 2(h) and (i), "boards of education" was changed to "board of education" for proper grammar; and in Section 5(d), "Any employee of local and regional boards of education, regional educational service center and state charter school who believe that such employee has experienced discrimination, retaliation, discipline or

termination by their employer" was changed to "Any employee of a local and regional board of education, regional educational service center or state charter school who believes that such employee has experienced discrimination, retaliation, discipline or termination by his or her employer" for consistency and proper grammar.

LAB *Joint Favorable Subst. -LCO*

The following Fiscal Impact Statement and Bill Analysis are prepared for the benefit of the members of the General Assembly, solely for purposes of information, summarization and explanation and do not represent the intent of the General Assembly or either chamber thereof for any purpose. In general, fiscal impacts are based upon a variety of informational sources, including the analyst's professional knowledge. Whenever applicable, agency data is consulted as part of the analysis, however final products do not necessarily reflect an assessment from any specific department.

OFA Fiscal Note

State Impact:

Agency Affected	Fund-Effect	FY 23 \$	FY 24 \$
Labor Dept.	GF - Cost	562,493	542,756
State Comptroller - Fringe Benefits ¹	GF - Cost	198,797	203,767
Treasurer, Debt Serv.	GF - Cost	Significant	Significant

Note: GF=General Fund

Municipal Impact:

Municipalities	Effect	FY 23 \$	FY 24 \$
Local and Regional School Districts	STATE MANDATE ² - Cost/Revenue Gain	Potential Significant	Potential Significant

Explanation

The bill, which establishes a school indoor air quality assessment and ventilation monitoring program and expands allowable non-priority list expenses to include installation, remediation, and replacement of HVAC systems to comply with temperature and humidity ranges established within the bill, represents a significant cost to the state and potential cost and revenue gain to municipalities.

¹The fringe benefit costs for most state employees are budgeted centrally in accounts administered by the Comptroller. The estimated active employee fringe benefit cost associated with most personnel changes is 40.53% of payroll in FY 23.

² State mandate is defined in Sec. 2-32b(2) of the Connecticut General Statutes, "state mandate" means any state initiated constitutional, statutory or executive action that requires a local government to establish, expand or modify its activities in such a way as to necessitate additional expenditures from local revenues.

Program Development and Implementation Costs

The bill requires the Department of Labor (DOL), in consultation with the Office of Policy and Management and the State Department of Education, to establish the school air quality program by June 30, 2023, post the requirements on DOL's website, review the program every three years or in the event of a public health emergency, and ensure compliance. In order to accommodate these requirements, DOL would need six positions (one Occupational Health and Safety Manager, two Occupational Hygienists, and three Occupational Health and Safety Officers) at a total annualized cost of \$706,523 (\$502,756 for salaries and \$203,767 in fringe benefit costs). Additionally, DOL would incur costs for overhead, supplies, and equipment (including six indoor air quality instruments and a velometer) at a cost of \$72,000 in FY 23 and \$40,000 in FY 24.

Program Compliance Costs

Under the requirements of the bill, municipalities need to install HVAC systems to keep temperature and humidity within allowable ranges. Results of the 2021 School Facilities Survey³ show that 31% of responding school districts have indicated that all district facilities are air conditioned across the district and approximately 40% of schools were reported to have central air for the full facility. Those schools without universal air conditioning will likely need some level of HVAC installation or upgrade in order to avoid the school closure mandate. This results in a cost to those municipalities, which may be partially reimbursed by the state under the expanded school construction program (see details below).

The bill requires local and regional school districts to close for the day if the mandated public school temperature range cannot be maintained for two or more consecutive school activity hours and prevents any staff member from a pay reduction who was scheduled to work on that day.

³<https://portal.ct.gov/-/media/DAS/Communications/Communications-List-Docs/Special-Reports/SCG1050-School-Survey-Report.pdf>

This could result in an additional cost to local and regional school districts associated with paying hourly employees for days the school was closed. The cost to the district would be dependent on the number of staff and days the school must remain closed.

Additionally, the bill establishes a complaint and investigation process related to mold, evidence of pest infestation, hazardous odors or chemicals, and poor indoor air-quality. This could result in additional costs to local and regional school districts associated with staff time and resources necessary for the investigation. The costs to districts would be dependent on the severity of and the steps required to investigate the complaint, but are anticipated to be significant.

School Construction Program

The school construction program is funded using General Obligation (GO) bonds, in two large tracts: priority list projects (i.e., larger projects approved in legislation) and non-priority list projects. Non-priority list projects currently include emergency items, such as fire or catastrophe damage, leaking roofs, or code violations. The bill expands the non-priority list projects to include HVAC upgrades necessary to maintain temperature and humidity within allowable ranges.

Non-priority list projects are allowed at the discretion of the Commissioner of Administrative Services within available resources of the program. As of March 1, 2022, the unallocated bond balance available under the school construction authorization is \$636 million, with another \$550 million effective under current law to start FY 23. The bill is expected to result in an increase in the use of GO bond funds for non-priority list reimbursable expenses, which would expedite anticipated debt service from existing bond authorizations.

The bill does not change GO bond authorizations relevant to the program. However, those funds are necessary to support both priority list and non-priority list projects. The most recent estimate by the Department of Administrative Services indicated approximately \$2.6 billion worth of outstanding long-term liability for current grant

commitments, to be paid over the next several years.⁴ The expanded use of current authorizations for HVAC upgrades through the non-priority list program will necessitate increased bond authorizations for the program in the future, which will increase long-term debt service costs.

Specific costs for eligible projects, including the marginal increase from expanded eligibility, can only be determined as project expenses are incurred by municipalities and state reimbursements are sought and offered.

The Out Years

The annualized ongoing fiscal impact identified above would continue into the future subject to inflation, the number of complaints and investigations, and the terms of any bonds issued for the school construction program

⁴<http://143ld24rzjx265ftv4dyehdx-wpengine.netdna-ssl.com/wp-content/uploads/2021/12/CTState04a-FIN.pdf>

OLR Bill Analysis**sSB 423*****AN ACT IMPROVING INDOOR AIR QUALITY IN PUBLIC SCHOOL CLASSROOMS.*****SUMMARY**

This bill requires the labor commissioner, in consultation with the education commissioner and Office of Policy and Management (OPM) secretary, to establish a school indoor air quality assessment and ventilation monitoring program (i.e., “school air quality program”) by June 30, 2023, for use by local and regional boards of education, regional educational service centers (RESCs), and state charter schools. The school air quality program requires these entities to conduct ventilation assessments that include a number of detailed steps. Under the bill, the Department of Labor (DOL) must require school districts, RESCs, and state charter schools to make the appropriate corrective actions identified in the report resulting from the ventilation assessment.

Under the bill, a certified testing, adjusting, and balancing technician or mechanical engineer must perform the ventilation assessment. The assessment must verify whether the existing mechanical ventilation system is operating in accord with design parameters, meets DOL’s requirements, and follows the recommendations of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) for ventilation needs during the 2020 coronavirus disease pandemic. The written report produced by the assessment must include any corrective actions needed for a school’s mechanical ventilation system or the heating, ventilation, and air conditioning (HVAC) infrastructure.

By June 30, 2026, and each year thereafter, each school must have an HVAC system in full compliance with the school air quality program standards, but any board of education, RESC, or state charter school will

be considered in compliance with the bill’s requirements if it has started a project to remediate or replace an HVAC system.

Among other related provisions, the bill also:

1. makes certain school HVAC projects eligible to receive state reimbursement grants;
2. establishes standards regarding the mandatory closing of schools if building temperatures are not met for specified periods (within a range of 68 to 76 degrees Fahrenheit);
3. details steps schools must take to establish a complaint process related to indoor air quality; and
4. makes a conforming change in the school construction law for grants to the Connecticut Technical Education and Career System (CTECS, formerly the technical high school system).

Under the bill, “indoor air quality” is the overall potential health factors within a school facility, including air quality, mold levels, and other potentially harmful toxins.

EFFECTIVE DATE: Upon passage, except the sections creating (1) the school air quality program and related requirements and (2) the complaint process are effective July 1, 2022.

§§ 1 & 2 — SCHOOL AIR QUALITY PROGRAM

The bill requires the labor commissioner, in consultation with the education commissioner and OPM secretary (or their designees), to establish the school air quality program by June 30, 2023, for use by boards of education, RESCs, and state charter schools. The program must be consistent with the bill’s requirements and the minimum requirements of the ASHRAE Standard 62.

Existing law requires local and regional boards of education to maintain their HVAC systems in compliance with the prevailing standards, such as Standard 62, when the HVAC system is installed or

renovated. It further requires school districts to keep HVAC system maintenance records for five years (CGS § 10-231e). Another existing law requires districts to adopt and implement an indoor air quality program that provides for ongoing maintenance and facility reviews necessary for the maintenance and improvement of the indoor air quality of their facilities (CGS § 10-220(a)).

Under the bill, the labor commissioner must post the program requirements on DOL's website. ASHRAE Standard 62 means the most recent American National Standards Institute/American Society of Heating, Refrigerating and Air-conditioning Engineers Standard 62.1, entitled "ventilation for acceptable indoor air quality."

The bill requires the labor commissioner, in consultation with the education commissioner and OPM secretary, to (1) approve the school air quality program at least every three years to ensure its efficacy and (2) review the program in the event of a public health emergency or other event potentially impacting air quality in schools.

Ventilation Assessment and Report (§ 2(b))

A certified testing, adjusting, and balancing technician or mechanical engineer must perform ventilation assessments under the school air quality program. The assessment must verify whether the existing mechanical ventilation system is operating in accordance with design parameters, meets DOL requirements, and follows the ASHRAE recommendations.

The bill includes specific items that must be in the HVAC system assessment, including the following:

1. testing for maximum filter efficiency,
2. physical measurements of outside air rate,
3. verification of ventilation components' operation,
4. measurement of all air distribution inlets and outlets,

5. verification of unit operation and performance of required maintenance in accordance with ASHRAE Standard 62.1,
6. verification of control sequences,
7. verification of carbon dioxide sensors, and
8. collection of field data for the installation of mechanical ventilation if none exist.

A mechanical engineer must review the written report produced by the assessment. The report must include any corrective actions needed for a school district's mechanical ventilation system or HVAC infrastructure. Corrective actions can include (1) installation of appropriate filters or carbon dioxide sensors and (2) additional maintenance, repairs, upgrades, or replacement.

Required Corrective Actions (§ 2(d))

DOL must require all boards of education, RESCs, and state charter schools to make the appropriate corrective actions identified in the assessment report. The corrective actions must include testing, adjusting, and balancing the school mechanical ventilation system and, if necessary or cost effective, repair, upgrade, or replacement of the existing HVAC system or the installation of a stand-alone mechanical ventilation system.

The corrective actions identified in the assessment may include the following:

1. general maintenance, reading, and adjustment of ventilation rates;
2. filter replacement to meet a minimum efficiency reporting value of at least 13, if equipment allows, while assuring the pressure drop is less than the fan's capability; and
3. carbon dioxide monitor installation or whole system installation or replacement.

The bill requires portable filtration and air cleaners to be used only if (1) the existing HVAC infrastructure cannot meet minimum filtration and ventilation requirements or (2) recommended by a mechanical engineer, to enhance the permanent HVAC infrastructure when the desired indoor air quality cannot be maintained with the mechanical ventilation system or there are concerns about outdoor air contaminants (e.g., due to wildfires or pollution).

Three-Year Assessment Schedule (§ 2(c))

Starting by July 1, 2024, and every three years thereafter, each board of education, RESC, and state charter school must conduct a school air quality assessment consistent with the program established in the bill. The written assessment report must be available for public inspection, posted on the entity's website, and submitted to DOL.

Contractors and Technicians (§ 2(e) & (f))

The bill requires any remediation, additions, or alterations to an HVAC system to be performed by a properly licensed HVAC contractor. The contractor must employ a skilled and trained construction workforce, consisting of journey persons and registered apprentices in accordance with state law governing apprenticeship programs and journey person-to-apprentice ratios at worksites. The bill further requires that at least 60% of the workers are graduates of, or registered in and attending, a DOL-registered apprenticeship program.

Also, all HVAC system testing and certifications must be performed by a properly certified testing, adjusting and balancing technician.

Duty to Maintain HVAC Systems (§ 2(h))

Under the bill, each board of education, RESC, and state charter school is responsible for the ongoing maintenance of HVAC systems in a manner that continually maintains indoor air quality and temperature and humidity ranges in school facilities during school activity hours in accordance with DOL standards (see below). Each board of education, RESC, and state charter school must participate in the federal Environmental Protection Agency's Air Quality Flag Program for

Schools.

Temperature Ranges and Closing Schools (§ 2(a) & (i))

The bill requires each board of education, RESC, and state charter school to close a school for the day if the school cannot maintain the mandated public school temperature range for two or more consecutive school activity hours. If this happens, it cannot lead to a pay reduction for any board employee or board-contracted individual who was scheduled to work on that day.

Under the bill, “public school temperature range” is a temperature from 68 to 76 degrees Fahrenheit, and the “public school relative humidity range” is relative humidity levels within 20% to 60%.

The bill requires DOL, by August 15, 2022, to establish mandatory public school temperature and humidity ranges. The temperature and relative humidity readings for public school facilities must be taken in a location or locations that are illustrative of the highest and lowest temperature and relative humidity in the school during school activity hours. “School activity hours” means any time of day in which students or school personnel occupy school facilities throughout the year.

§§ 2(j) & 4 — DEADLINE FOR COMPLIANCE WITH SCHOOL AIR QUALITY PROGRAM

Under the bill, by June 30, 2026, and each year thereafter, each board of education, RESC, and state charter school must (1) have HVAC systems in their schools that can fully comply with the bill’s school air quality program standards and (2) operate and maintain the systems in accordance with the standards.

Under the bill, any board of education, RESC, or charter school starting a project to remediate, replace, or install an HVAC system is considered in compliance with the bill’s requirements, including the June 30, 2026, deadline. The bill deems compliant any board or state charter school that submits a completed school construction project application to remediate, replace, or install an HVAC system to maintain indoor air quality.

§ 3 — STATE REIMBURSEMENT GRANTS FOR HVAC SYSTEMS

By law, the administrative services commissioner, within the limits of available funds, can approve school construction grants under certain emergency situations outside of the standard application deadlines.

The bill makes the installation, remediation, or replacement of HVAC systems necessary to maintain indoor air quality and temperature and humidity ranges in school facilities in accordance with DOL's standards eligible to receive state reimbursement for eligible costs under this emergency provision.

Under existing law, the emergency provision is used to remedy damages due to fire, catastrophe, and code violations, among other things. Existing law also allows it to be used to remedy a certified school indoor air quality emergency, which can only be declared by the public health commissioner in specific situations.

§ 5 — COMPLAINTS AND INVESTIGATIONS

The bill requires each board of education, RESC, and state charter school to designate a staff member to be responsible for receiving and reporting to the superintendent (or appropriate person in the case of an RESC or charter school) complaints of mold, evidence of pest infestation, hazardous odors or chemicals, and poor indoor air quality. The complaint process must be posted on the school's or district's website.

Under the bill, each entity must forward complaints to (1) the appropriate board at either the next regularly scheduled meeting or within 60 days, whichever is earlier, and (2) any bargaining agent representing workers at the affected building.

The relevant board of education, RESC, or state charter school must investigate the complaint, including documentation of any physical symptoms shown by students, staff, or visitors.

The bill includes the following as possible documentation:

1. urgent care referrals;
2. blood tests;
3. an OSHA 301 form or incident report forms;
4. workers' compensation claims; and
5. testing of any visible substance, including mold, chemicals, pest droppings, infestations, or other substances, for the presence of a health hazard.

If there is a confirmed health hazard, the board, RESC, or state charter school must (1) notify DOL's Division of Occupational Safety and Health and (2) create and implement a plan to remedy the hazard.

The bill bans retaliating against, disciplining, or terminating any employee for making an air quality complaint or reporting conditions on indoor air quality. Any employee of a board of education, RESC, or state charter school who believes that he or she has experienced discrimination, retaliation, discipline, or termination for these reasons may submit a complaint with DOL alleging the violation under the state CONN-OSHA law against retaliation for health and safety complaints.

§ 6 — SCHOOL AIR QUALITY AND CTECS

The bill makes the installation, remediation, or replacement of HVAC systems needed to continually maintain indoor air quality and temperature and humidity ranges in school facilities eligible to receive grants for the full cost of these projects for CTECS schools. To be eligible, the system must comply with DOL's standards under the bill. As a state-owned and -operated system, CTECS receives grants to cover 100% of the costs of these projects (unlike school districts, who must pay a portion of the project costs depending upon a formula that uses the property wealth of the town).

BACKGROUND

Related Bills

sSB 428, (§ 1), favorably reported by the Education Committee,

establishes a grant program to reimburse boards of education for projects to improve indoor air quality in school buildings.

HB 5479, favorably reported by the Public Health Committee, requires the Department of Public Health to establish an indoor air quality monitoring program for public schools.

COMMITTEE ACTION

Labor and Public Employees Committee

Joint Favorable

Yea 12 Nay 0 (03/22/2022)