



General Assembly

February Session, 2022

**Substitute Bill No. 423**



**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*