

1 AN ACT concerning education.

2 **Be it enacted by the People of the State of Illinois,**
3 **represented in the General Assembly:**

4 Section 5. The School Code is amended by adding Section
5 2-3.196 as follows:

6 (105 ILCS 5/2-3.196 new)

7 Sec. 2-3.196. School ventilation.

8 (a) As used in this Section:

9 "Active classroom" means any room currently being used for
10 any duration of in-person instruction of 4 or more students at
11 a time.

12 "ASHRAE" means the American Society of Heating,
13 Refrigerating and Air-Conditioning Engineers.

14 "Certified assessor" means:

15 (1) a certified technician; or

16 (2) a person who is certified to perform ventilation
17 verification assessments of heating, ventilation, and air
18 conditioning systems through a certification body
19 accredited by the American National Standards Institute.

20 "CADR" means clean air delivery rate.

21 "Certified technician" means a person who is certified as
22 a Testing, Adjusting, and Balancing Bureau Technician by the
23 International Certification Board and accredited to comply

1 with ISO/IEC 17024, which is the conformity assessment
2 regarding general requirements for bodies operating
3 certification of persons, by the American National Standards
4 Institute in Testing Adjusting and Balancing or another
5 nationally recognized certifying body accredited to ISO/IEC
6 17024 in testing adjusting and balancing.

7 "CFM" means cubic feet per minute.

8 "dBa" means decibels.

9 "HEPA" means High Efficiency Particulate Air.

10 "HVAC" means Heating, Ventilation, and Air Conditioning.

11 "Mechanical engineer" means a professional engineer
12 licensed as a mechanical engineer by the Department of
13 Financial and Professional Regulation who has professional
14 experience with heating, ventilation, and air conditioning
15 systems.

16 "PM2.5" means particulate matter at 2.5 microns or less.

17 "PM10" means particulate matter at 10 microns or less.

18 "PPM" means parts per million.

19 "UV" means ultraviolet.

20 "Skilled and trained construction workforce" means a
21 workforce in which at least 40% of the workers are graduates of
22 or registered in and attending an apprenticeship program
23 registered with the workforce solutions department or an
24 apprenticeship program to which the department has granted
25 reciprocal approval for the applicable construction
26 occupation.

1 (b) The State Board shall require all school districts to
2 supply all active classroom instructors, all school staff and
3 administration, and district leadership with an educational
4 document, in a PDF and a physical format, explaining at a
5 minimum the values of good indoor air quality, including
6 peer-reviewed research demonstrating effects of poor and good
7 indoor air quality, an explanation of airborne transmission of
8 pathogens and other airborne substances, a basic explanation
9 of air changes per hour and relation to outdoor air and
10 filtered air, best practice recommendations for the portable
11 air cleaner and the air quality monitor, including guidance on
12 theory, function, placement, and operation of the monitor. The
13 document shall be developed with the assistance of a major
14 independent and nonpartisan approved organization recognized
15 as a subject matter expert in the field of air quality, such as
16 a local ASHRAE chapter. This document shall be created and
17 supplied to schools within 3 months of the effective date of
18 this amendatory Act of the 103rd General Assembly.

19 (c) Subject to appropriation, the State Board shall
20 require all school districts to ensure that all active
21 classrooms that are not mechanically ventilated have at least
22 2 properly functioning windows, or one window in situations
23 where only one is present, that can open and can safely stay
24 open. School districts must be in compliance with this Section
25 within 6 months of the effective date of this amendatory Act of
26 the 103rd General Assembly.

1 (d) Subject to appropriation, the State Board shall
2 require all school districts to ensure that all active
3 classrooms are equipped with an air quality monitor that:

4 (1) is installed and operating within one month
5 following delivery;

6 (2) remains in the active classroom until classroom is
7 no longer an active classroom;

8 (3) is an air quality monitor that has been determined
9 by the State Board to be suitable, by the State Board
10 seeking out and obtaining a written statement noting that
11 the capabilities of the monitor in question are sufficient
12 to serve the purposes described in this Section, from a
13 major independent and nonpartisan organization recognized
14 as a subject matter expert in the field of air quality,
15 such as a local ASHRAE chapter. The written statement
16 shall minimally address suitability of: the selected
17 monitor's measurement technology, calibration
18 specifications, and manufacturer stated accuracies and
19 ranges;

20 (4) measures, at a minimum, carbon dioxide and PM2.5.
21 Selected monitors are recommended to also measure carbon
22 monoxide, PM10, volatile organic compounds, temperature,
23 and humidity;

24 (5) displays, at a minimum, carbon dioxide readings
25 through a display on the device or other means, such as on
26 a computer or cellular phone application;

1 (6) is corded and does not rely solely on batteries
2 for power;

3 (7) is to be located between 3 and 6 feet above the
4 floor and at least 5 feet away from doors, operable
5 windows, or human occupants;

6 (8) connects via a wired or wireless connection to
7 other applicable monitors so as to permit recording of
8 data which includes at least the maximum carbon dioxide
9 concentrations for a period of at least one year, as well
10 as remote access to current air quality readings through a
11 computer or cellular phone application; and

12 (9) provides notification through a visual indicator
13 on the monitor, or other alert such as electronic mail,
14 text message or cellular phone application, when the
15 carbon dioxide levels in the classroom have exceeded a PPM
16 level recommended to the State Board in writing by a major
17 independent and nonpartisan organization recognized as a
18 subject matter expert in the field of air quality, such as
19 a local ASHRAE chapter.

20 Each school shall record all incidents where the
21 recommended PPM level was breached in a classroom and maintain
22 those records for at least 5 years.

23 Any supplied air quality monitor under this subsection may
24 not be shared between active classrooms.

25 If devices matching the criteria described in this
26 subsection are unavailable, the State Board shall contact a

1 major independent and nonpartisan organization recognized as a
2 subject matter expert in the field of air quality, such as a
3 local ASHRAE chapter, and request assistance in determining
4 suitable selection criteria for an air quality monitor that
5 will sufficiently accomplish the goals of: providing teachers
6 and staff with air quality information to facilitate managing
7 indoor air quality; storing a sufficient type and duration of
8 data to facilitate ventilation assessments; provide remote
9 access to current air quality readings; and generally align
10 with contemporary best practice recommendations.

11 (e) Subject to appropriation, the State Board shall
12 require all school districts to ensure that all active
13 classrooms are equipped with a portable air cleaner that:

14 (1) is installed and operating within one month
15 following delivery;

16 (2) remains in the active classroom until classroom is
17 no longer an active classroom;

18 (3) is a portable air cleaner the State Board has
19 determined to be suitable, by seeking out and obtaining a
20 written statement noting that the capabilities of the
21 portable air cleaner in question are sufficient to serve
22 the purposes described in this Section, from a major
23 independent and nonpartisan organization recognized as a
24 subject matter expert in the field of air quality, such as
25 a local ASHRAE chapter;

26 (4) utilizes a HEPA filter that captures 99.97% of 0.3

1 micron particles. A filter stated to be equal to or
2 superior to a HEPA may not be used;

3 (5) utilizes or has the option of utilizing a
4 secondary filter for gaseous pollutants, such as activated
5 carbon;

6 (6) only utilizes HEPA filtration, as opposed to
7 additional technologies such as ionization, chemical
8 processes, and UV. If such additional technologies are
9 present in the selected portable air cleaner they must be
10 able to be disabled;

11 (7) Produces 500 or more CFM as measured by CADR or
12 similar metric of filtered airflow;

13 (8) Produces 500 or more CFM of filtered airflow at
14 under 45 dBa of noise, according to manufacturer supplied
15 dBa test results measured at one meter in front of the
16 portable air cleaner;

17 (9) is Underwriters Laboratories certified or
18 certified to Underwriters Laboratories standards;

19 (10) has a manufacturer's warranty of at least one
20 year;

21 (11) shall be continuously operated during room
22 occupancy on at least low speed;

23 (12) shall be maintained according to manufacturer's
24 recommendation, written approval shall be obtained from
25 the manufacturer if deviation from standard
26 recommendations is being considered; and

1 (13) shall be replaced within one month if it becomes
2 inoperable.

3 If a single portable air cleaner on the market does not
4 meet the parameters of this subsection, then 2 or more
5 portable air cleaners per active classroom may be substituted
6 if they produce a combined 500 or more CFM, as measured by CADR
7 or similar metric, of filtered airflow at under 45 combined
8 dBa of noise according to manufacturer supplied dBa test
9 results measured at one meter in front of the portable air
10 cleaner.

11 Any supplied portable air cleaner may not be shared
12 between active classrooms.

13 (f) Subject to appropriation, the State Board shall
14 require all school districts to supply each school with 5
15 additional portable air cleaners and 5 additional air quality
16 monitors that meet the requirements of subsections (d) and (e)
17 to be used in school health offices, libraries, cafeterias,
18 and other similar spaces.

19 (g) Subject to appropriation, the State Board shall
20 require all school districts to undertake a ventilation
21 verification assessment of all mechanical ventilation systems
22 in the school district performed by a certified assessor or a
23 mechanical engineer and shall be based on physical
24 measurements made during the assessment. If an assessment is
25 performed by a certified assessor, the assessment report shall
26 be reviewed by a mechanical engineer. The ventilation

1 verification assessment shall verify whether the existing
2 mechanical ventilation system is operating in accordance with
3 design parameters and meets the requirements of any applicable
4 building codes. The ventilation verification assessment for a
5 heating, ventilation, and air conditioning system shall
6 include:

7 (1) testing for maximum filter efficiency;

8 (2) measurements of outside air rate;

9 (3) verification of operation of ventilation
10 components;

11 (4) measurement of all air distribution inlets and
12 outlets;

13 (5) verification of unit operation and that required
14 maintenance has been performed;

15 (6) verification of control sequences;

16 (7) verification or installation of carbon dioxide
17 sensors; and

18 (8) collection of field data for the installation of
19 mechanical ventilation if none exists.

20 (h) The verification assessment report from the mechanical
21 engineer shall include appropriate corrective actions needed
22 for the mechanical ventilation system or the heating,
23 ventilation, and air conditioning infrastructure, including
24 installation of appropriate filters, installation of carbon
25 dioxide sensors and additional maintenance, repairs, upgrades
26 or replacement.

1 (i) The school district shall have a ventilation
2 verification assessment performed on all mechanical
3 ventilation systems in the school district at least every 5
4 years. The ventilation verification assessment and the
5 ventilation verification reports are public documents and
6 shall be available to the public upon request.

7 (j) Each school's first ventilation verification
8 assessment shall occur between one and 6 months after the
9 school's air quality monitors have been installed and data has
10 started recording, and all measurements for this assessment,
11 and all following, shall be made in the same conditions in
12 which the building typically operates. The assessment plan
13 shall be developed with the assistance and approval of a major
14 independent and nonpartisan major organization recognized as a
15 subject matter expert in the field of air quality, such as a
16 local ASHRAE chapter, to ensure that the assessment results
17 are representative of indoor air quality conditions
18 experienced during normal occupancy.