



Sen. Adriane Johnson

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LRB103 29805 RJT 60741 a

1 AMENDMENT TO HOUSE BILL 3713

2 AMENDMENT NO. _____. Amend House Bill 3713 by replacing
3 everything after the enacting clause with the following:

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.

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

13 "Certified assessor" means:

14 (1) a certified technician; or

15 (2) a person who is certified to perform ventilation
16 verification assessments of heating, ventilation, and air

1 conditioning systems through a certification body
2 accredited by the American National Standards Institute.

3 "CADR" means clean air delivery rate.

4 "Certified technician" means a person who is certified as
5 a Testing, Adjusting, and Balancing Bureau Technician by the
6 International Certification Board and accredited to comply
7 with ISO/IEC 17024, which is the conformity assessment
8 regarding general requirements for bodies operating
9 certification of persons, by the American National Standards
10 Institute in Testing Adjusting and Balancing or another
11 nationally recognized certifying body accredited to ISO/IEC
12 17024 in testing adjusting and balancing.

13 "CFM" means cubic feet per minute.

14 "DBA" means A-weighted sound level in decibels.

15 "HEPA" means High Efficiency Particulate Air.

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

17 "Mechanical engineer" means a professional engineer
18 licensed as a mechanical engineer by the Department of
19 Financial and Professional Regulation who has professional
20 experience with heating, ventilation, and air conditioning
21 systems.

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

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

24 "PPM" means parts per million.

25 "UV" means ultraviolet.

26 "Skilled and trained construction workforce" means a

1 workforce in which at least 40% of the workers are graduates of
2 or registered in and attending an apprenticeship program
3 registered with the workforce solutions department or an
4 apprenticeship program to which the department has granted
5 reciprocal approval for the applicable construction
6 occupation.

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

26 (c) Subject to appropriation, the State Board shall

1 require all school districts to ensure that all active
2 classrooms that are not mechanically ventilated have at least
3 2 properly functioning windows, or one window in situations
4 where only one is present, that can open and can safely stay
5 open. School districts must be in compliance with this Section
6 within 6 months of the effective date of this amendatory Act of
7 the 103rd General Assembly.

8 (d) Subject to appropriation, the State Board shall
9 require all school districts to ensure that all active
10 classrooms are equipped with an air quality monitor or sensor
11 that:

12 (1) is installed and operating within one month
13 following delivery, with advanced features such as an
14 integrated dashboard being operable within 6 months;

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

17 (3) is an air quality monitor that has been determined
18 by the State Board to be suitable by the State Board
19 seeking out and obtaining a written statement noting that
20 the capabilities of the monitor in question are sufficient
21 to serve the purposes described in this Section from
22 indoor air quality experts located with the help of an
23 organization recognized as a subject matter expert in the
24 field of indoor air quality, such as a local ASHRAE
25 chapter. The written statement shall minimally address
26 suitability of: the selected monitor's measurement

1 technology, calibration specifications, and manufacturer
2 stated accuracies and ranges;

3 (4) measures carbon dioxide, and preferably also
4 PM2.5, carbon monoxide, PM10, temperature, and humidity;

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

8 (6) is corded and does not rely solely on batteries
9 for power;

10 (7) is to be located between 2 and 6 feet above the
11 floor and at least 5 feet away from doors, operable
12 windows, or human occupants;

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

19 (9) provides notification through a visual indicator
20 on the monitor or another alert, such as electronic mail,
21 a text message, or a cellular phone application, when the
22 carbon dioxide levels in the classroom have exceeded a PPM
23 level recommended to the State Board in writing by indoor
24 air quality experts located with the help of an
25 organization recognized as a subject matter expert in the
26 field of indoor air quality, such as a local ASHRAE

1 chapter.

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

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

7 If devices matching the criteria described in this
8 subsection are unavailable, the State Board shall contact an
9 organization recognized as a subject matter expert in the
10 field of indoor air quality, such as a local ASHRAE chapter,
11 and request assistance in locating indoor air quality experts
12 to help determine suitable selection criteria for an air
13 quality monitor that will sufficiently accomplish the goals
14 of: providing teachers and staff with air quality information
15 to facilitate managing indoor air quality; storing a
16 sufficient type and duration of data to facilitate ventilation
17 assessments; provide remote access to current air quality
18 readings; and generally align with contemporary best practice
19 recommendations.

20 (e) Subject to appropriation, the State Board shall
21 require all school districts to ensure that all active
22 classrooms are equipped with a portable air cleaner that meets
23 all of the following requirements:

24 (1) Is installed and operating within one month
25 following delivery.

26 (2) Remains in the active classroom until the

1 classroom is no longer an active classroom.

2 (3) Is a portable air cleaner the State Board has
3 determined to be suitable by seeking out and obtaining a
4 written statement noting that the capabilities of the
5 portable air cleaner in question are sufficient to serve
6 the purposes described in this Section from indoor air
7 quality experts located with the help of an organization
8 recognized as a subject matter expert in the field of
9 indoor air quality, such as a local ASHRAE chapter.

10 (4) Utilizes one or more HEPA filters that are at
11 least 99.97% efficient at filtering 0.3 micrometer
12 diameter particles in standard tests.

13 (5) Utilizes or has the option of utilizing a
14 secondary filter for gaseous pollutants, such as activated
15 carbon.

16 (6) Only utilizes HEPA filtration, as opposed to
17 additional technologies such as ionization, chemical
18 processes, and UV. If such additional technologies are
19 present in the selected portable air cleaner they must be
20 able to be disabled.

21 (7) Has a speed setting that produces a minimum 500
22 smoke CADR. If no air cleaner is available that meets this
23 requirement, then a portable air cleaner that produces a
24 minimum 400 smoke CADR may be selected. The testing method
25 shall be the most recent version of the AC-1 testing
26 method from the Association of Home Appliance

1 Manufacturers. If the AC-1 testing method is no longer
2 available or used, then a testing method that meets
3 substantially similar standards as the AC-1 testing method
4 may be used. Only fan and filter mechanical HEPA
5 filtration may be utilized for CADR testing and no
6 additional technologies such as ionization. Costs
7 associated with testing shall be the responsibility of the
8 portable air cleaner manufacturer or supplier. Test
9 results shall be provided to the State Board from one or
10 more accredited testing laboratories in the United States
11 that are approved by the Association of Home Appliance
12 Manufacturers or a successor organization to conduct these
13 tests. Preferably, each portable air cleaner shall be
14 tested at the same laboratory.

15 (8) Has more than 3 speed settings, with one of the
16 speed settings operating at a maximum 33 dBA sound power;
17 this speed setting shall produce a minimum of 100 smoke
18 CADR. If no portable air cleaner meets the requirements of
19 this Section with more than 3 speed settings, a portable
20 air cleaner with 3 speed settings may be selected. The
21 portable air cleaner shall have a different speed setting
22 that operates at a maximum 33 dBA sound power; this speed
23 setting shall produce a minimum 275 smoke CADR. If no
24 portable air cleaner operates under those speed setting
25 specifications, then a portable air cleaner that has a
26 speed setting that operates at a maximum of 53 dBA or

1 produces a minimum of 225 smoke CADR may be used. The
2 testing methods shall be the most recent versions of the
3 AC-1 and AC-2 testing methods from the Association of Home
4 Appliance Manufacturers. If the AC-1 or AC-2 testing
5 methods are no longer available or used, then testing
6 methods that meet substantially similar standards as the
7 AC-1 or AC-2 testing methods may be used. Only fan and
8 filter mechanical HEPA filtration may be utilized for CADR
9 testing, and no additional technologies such as ionization
10 may be used. Costs associated with testing shall be the
11 responsibility of the portable air cleaner manufacturer or
12 supplier. Test results shall be provided to the State
13 Board from one or more accredited testing laboratories in
14 the United States that are approved by the Association of
15 Home Appliance Manufacturers or a successor organization
16 to conduct these tests. Preferably, each portable air
17 cleaner shall be tested at the same laboratory.

18 (9) Is electrically certified by Underwriters
19 Laboratories or a similar organization.

20 (10) Has a manufacturer's warranty of at least one
21 year.

22 (11) Shall be continuously operated during room
23 occupancy on at least low speed.

24 (12) Shall be maintained according to the
25 manufacturer's recommendations, including filter
26 replacements at the recommended schedule.

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

3 If a portable air cleaner on the market does not meet the
4 parameters of this subsection, the State Board shall contact
5 an organization recognized as a subject matter expert in the
6 field of indoor air quality, such as a local ASHRAE chapter,
7 and request assistance in locating indoor air quality experts
8 to help determine an alternative portable air cleaner or a
9 combination of 2 or more air cleaners that best meet the
10 parameters of this subsection and may permit the use of the
11 alternative portable air cleaner or a combination of 2 or more
12 air cleaners.

13 Any supplied portable air cleaner may not be shared
14 between active classrooms.

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

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

1 performed by a certified assessor, the assessment report shall
2 be reviewed by a mechanical engineer. The ventilation
3 verification assessment shall verify whether the existing
4 mechanical ventilation system is operating in accordance with
5 design parameters and meets the requirements of any applicable
6 building codes. The State Board shall adopt rules for the
7 ventilation verification assessment that shall include, at a
8 minimum, each base minimum ventilation verification assessment
9 procedure from the most recent version of ASHRAE's Design
10 Guidance for Education Facilities or a successor document. The
11 State Board shall update its rules regarding the ventilation
12 verification assessment as necessary and to conform to the
13 best practices for measuring indoor air quality.

14 (h) The verification assessment report from the mechanical
15 engineer shall include appropriate corrective actions needed
16 for the mechanical ventilation system or the heating,
17 ventilation, and air conditioning infrastructure, including
18 installation of appropriate filters, installation of carbon
19 dioxide sensors and additional maintenance, repairs, upgrades
20 or replacement.

21 (i) The school district shall have a ventilation
22 verification assessment performed on all mechanical
23 ventilation systems in the school district at least every 5
24 years. The ventilation verification assessment and the
25 ventilation verification reports are public documents and
26 shall be available to the public upon request.

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