ASSEMBLY BILL NO. 257–ASSEMBLYWOMAN MARTINEZ

MARCH 12, 2021

Referred to Committee on Education

SUMMARY—Establishes provisions governing indoor air quality in public schools. (BDR 34-212)

FISCAL NOTE: Effect on Local Government: May have Fiscal Impact.
Effect on the State: Yes.

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EXPLANATION – Matter in ***bolded italics*** is new; matter between brackets ~~[omitted material]~~ is material to be omitted.

AN ACT relating to school property; requiring the Office of Energy within the Office of the Governor to award a grant to the board of trustees of a school district, the sponsor of a charter school or a business to assess and improve certain ventilation and filtration systems of a school to the extent that money is available; establishing requirements for such assessments and improvements; requiring a certified technician to complete an assessment report; requiring the board of trustees of a school district, the sponsor of a charter school or a business to prepare a report; providing that a generally accepted industry standard prevails over any requirement of this bill that conflicts with the industry standard; and providing other matters properly relating thereto.

**Legislative Counsel's Digest:**

**Section 6** of this bill requires the Office of Energy within the Office of the Governor, to the extent that money is available, to award a grant to the board of trustees of a school district, the sponsor of a charter school or a business to employ a certified technician to assess the status of and make improvements to the ventilation and filtration systems of a school and ensure that the systems are performing adequately and efficiently. **Sections 7-10** of this bill set forth the requirements for a certified technician to assess and perform updates to: (1) a filtration system of a school; (2) the ventilation rates of a school; (3) the heating, ventilation and air conditioning system of a school; and (4) the carbon dioxide monitors in a school, respectively. **Sections 7-10** generally require such systems, rates and monitors to meet certain standards. **Section 11** of this bill requires a certified technician to prepare an assessment report including certain information relating to the assessments conducted pursuant to **sections 7-10**. **Section 12** of this

bill requires the board of trustees of a school district, the sponsor of a charter school or a business that receives a grant to complete a report on the work performed by a certified technician pursuant to **sections 7-10** and make the report available to the Office of Energy and the public upon request. **Section 13** of this bill provides that if a requirement of this bill conflicts with a generally accepted industry standard, the industry standard prevails.

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THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

**Section 1.** Chapter 393 of NRS is hereby amended by adding thereto the provisions set forth as sections 2 to 13, inclusive, of this act.

**Sec. 2.** ***As used in sections 2 to 13, inclusive, of this act, unless the context otherwise requires, the words and terms defined in sections 3, 4 and 5 of this act have the meanings ascribed to them in those sections.***

**Sec. 3.** ***"Apprenticeship program" means an apprenticeship program recognized by the State Apprenticeship Council created by NRS 610.030.***

**Sec. 4.** ***"Certified technician" means a technician certified to test, adjust and balance heating, ventilation and air conditioning systems by the Associated Air Balance Council, the National Environmental Balancing Bureau or the Testing, Adjusting and Balancing Bureau, or their successor organizations.***

**Sec. 5.** ***"Skilled workforce" means a workforce not less than 60 percent of which is composed of graduates of an apprenticeship program.***

**Sec. 6.** ***1. To the extent that money is available, the Office of Energy created pursuant to NRS 701.150 shall award a grant to the board of trustees of a school district, the sponsor of a charter school or a business to ensure that a public school is equipped with functional ventilation systems that are tested, adjusted and, if necessary or cost-effective, repaired, upgraded or replaced to increase efficiency and performance.***

***2. The board of trustees of a school district, the sponsor of a charter school or a business that receives a grant pursuant to this section shall employ a certified technician to assess the status of and make any necessary improvements to the:***

***(a) Filtration system of a school in accordance with the provisions of section 7 of this act;***

***(b) Ventilation rates of a school in accordance with the provisions of section 8 of this act;***

*(c) Heating, ventilation and air conditioning system of a school in accordance with the provisions of section 9 of this act; and*

*(d) Carbon dioxide monitors at a school in accordance with the provisions of section 10 of this act.*

**Sec. 7.** *In assessing a filtration system of a school pursuant to section 6 of this act, a certified technician shall:*

*1. Review the capacity and airflow of the filtration system to determine the type of filters with the best minimum efficiency reporting value based on industry standards that can be installed without adversely impacting the filtration system;*

*2. Ensure that the filters used in the filtration system are of the type determined pursuant to subsection 1 with the best possible minimum efficiency reporting value;*

*3. Ensure that the filters are properly installed and replace or upgrade the filters as needed;*

*4. If a filtration system uses ultraviolet germicidal irradiation to disinfect air, ensure that the ultraviolet bulb is operating properly and does not shine on the filters, and replace the ultraviolet bulbs as needed;*

*5. If a filtration system uses an economizer, test and repair the economizer dampers; and*

*6. Recommend any additional maintenance, replacements or upgrades to improve the overall performance of the filtration system.*

**Sec. 8.** *1. In assessing the ventilation rates of a school pursuant to section 6 of this act, a certified technician shall:*

*(a) Ensure that the ventilation rates in each room of the facility that is routinely occupied meet the requirements for acceptable indoor air quality set forth by the American National Standards Institute and the American Society of Heating, Refrigerating and Air Conditioning Engineers;*

*(b) Calculate the required minimum outside air ventilation rates for each room of the facility that is routinely occupied based on the maximum anticipated rate of occupancy and the minimum required ventilation rate per occupant in accordance with the International Mechanical Code;*

*(c) Ensure that the minimum outside air ventilation rates meet the required minimum rate calculated pursuant to paragraph (b);*

*(d) If the minimum outside air ventilation rates do not meet the required minimum rate calculated pursuant to paragraph (b):*

*(1) Determine whether additional ventilation can be provided without adversely impacting the performance of the filtration system or the environmental quality of the building; and*

*(2) If additional ventilation can be provided, adjust the ventilation rates to meet the required minimum rate;*

*(e) If the minimum outside air ventilation rate cannot be met after adjusting the ventilation rates pursuant to paragraph (d), explain why the rate cannot be met;*

*(f) Conduct survey readings of the inlets and outlets to:*

*(1) Ensure that ventilation is reaching the served zone and is adequately distributed;*

*(2) Ensure that the inlets and outlets are balanced to be tolerated by the design of the filtration system;*

*(3) Document read values and deficiencies; and*

*(4) If the original values of the design of the filtration system for inlets and outlets of the filtration system are not available, document the available information and note the unavailability of the original values;*

*(g) Ensure that there is a positive pressure differential between the building and the outdoors and that the building is not overly pressurized;*

*(h) Ensure that the coil velocities and the coil and unit discharge air temperatures maintain the desired indoor conditions and avoid moisture carryover from the cooling coils;*

*(i) Ensure that the separation between the outdoor air intakes and the exhaust discharge outlets is in accordance with the International Mechanical Code;*

*(j) Verify that the air handling unit is bringing in outdoor air and removing exhaust air as intended by the design of the filtration system;*

*(k) Measure the air volume for the exhaust fans and document any discrepancies in volume between the measurements and the original volume of the design of the filtration system;*

*(l) Verify that the coil condition, condensate drainage, air temperature differentials of the cooling coils, operation of the heat exchangers and drive assembly meet applicable industry standards;*

*(m) Review the control sequences to verify that the systems will maintain the intended ventilation, temperature and humidity during school operation;*

*(n) Verify that daily flushes are scheduled for 2 hours before and after any scheduled occupancy or demonstrate that the calculation of flush times is in accordance with any applicable guidance set forth by the American National Standards Institute and the American Society of Heating, Refrigerating and Air Conditioning Engineers and any applicable local or state guidance; and*

*(o) Ensure that the operation times and set points of the heating, ventilation and air conditioning system and exhaust fans are in accordance with any applicable guidance set forth by the American National Standards Institute and the American Society of Heating, Refrigerating and Air Conditioning Engineers and any applicable local or state guidance.*

*2. Except as otherwise provided in subsection 3, if a demand control ventilation system is installed at a school, a certified technician shall ensure that the set point for carbon dioxide is set to 800 parts per million or less.*

*3. A certified technician or a licensed mechanical engineer shall disable a demand control ventilation system installed at a school and configure the overall ventilation system to meet the minimum requirements of sections 2 to 13, inclusive, of this act if:*

*(a) The demand control ventilation system does not maintain an average daily maximum carbon dioxide concentration of less than 1,100 parts per million;*

*(b) The board of trustees of the school district, sponsor of the charter school or business that received the grant pursuant to section 6 of this act, as applicable, determines that a public health crisis caused by an airborne illness is in effect; and*

*(c) Disabling the demand control ventilation system would not adversely affect the operation of the overall ventilation system,*

*➥ until the board of trustees, sponsor or business that received the grant pursuant to section 6 of this act determines that a public health crisis caused by an airborne illness is no longer in effect.*

**Sec. 9.** *In assessing the heating, ventilation and air conditioning system of a school pursuant to section 6 of this act, a certified technician shall assess the overall performance of the heating, ventilation and air conditioning system. If a heating, ventilation and air conditioning system is broken, fails to meet the minimum requirements for ventilation established by sections 2 to 13, inclusive, of this act or is otherwise unable to operate at the level intended by the original design of the system, a certified technician shall recommend any necessary repairs or maintenance. Any repairs or maintenance to the heating, ventilation and air conditioning system must be performed by a skilled workforce.*

**Sec. 10.** *1. In assessing the carbon dioxide monitors of a school pursuant to section 6 of this act, a certified technician shall ensure that each classroom in the school is equipped with a carbon dioxide monitor that:*

*(a) Is hardwired or plugged in and mounted to the wall at least 3 feet but not more than 6 feet above the floor and at least 5 feet away from any door or operable window;*

*(b) Displays readings to appropriate personnel through a display on the monitor or through an application on an Internet website or a cellular phone;*

*(c) Provides a visual notification, including, without limitation, through an indicator light, electronic mail, text message or an application on a cellular phone, when the concentration of carbon dioxide in the room reaches 1,100 parts per million or more;*

*(d) Maintains a record of previous data that includes, without limitation, the maximum carbon dioxide concentration measured;*

*(e) Has a range of 400 parts per million to 2,000 parts per million or more; and*

*(f) Is certified by the manufacturer of the carbon dioxide monitor to be accurate within 75 parts per million at a carbon dioxide concentration of 1,000 parts per million and requires calibration not more than once every 5 years.*

*2. If a carbon dioxide monitor records a concentration of 1,100 parts per million or more once a week or more frequently, as observed by a teacher or staff member of a school, a certified technician shall adjust the classroom ventilation rates to ensure that the carbon dioxide concentration remains below 1,100 parts per million.*

**Sec. 11.** *1. A certified technician shall prepare an assessment report of any assessment performed in a school pursuant to section 6 of this act. A mechanical engineer shall:*

*(a) Review the assessment report and determine if any:*

*(1) Additional adjustments or repairs are necessary to meet the minimum requirements for ventilation and filtration established by sections 2 to 13, inclusive, of this act; and*

*(2) Cost-effective upgrades for energy efficiency are warranted; and*

*(b) Provide an estimated cost of any recommended work.*

*2. The assessment report must include, without limitation:*

*(a) The name and address of the person preparing the report and the school where the assessments required pursuant to section 6 of this act were performed;*

*(b) For each piece of equipment assessed, the model number, serial number, general condition and any additional information that could be used to assess options for replacements, repairs or upgrades;*

*(c) Verification that the filters meet the best possible minimum efficiency reporting values pursuant to subsection 2 of section 7 of this act or, if a filter does not meet the best possible minimum efficiency reporting value, documentation of the current minimum efficiency reporting value of the filter;*

*(d) Verification that the ventilation rates meet the requirements set forth in section 8 of this act or, if the ventilation rates do not meet the requirements, an explanation of why the ventilation rates do not meet the requirements;*

*(e) The measurements of air volume for the exhaust fans and the documentation of any discrepancies in volume between the measurements and the original volume of the design of the filtration system prepared pursuant to paragraph (k) of subsection 1 of section 8 of this act;*

*(f) Verification that each assessment conducted pursuant to sections 7 to 10, inclusive, of this act meets the requirements of the applicable section;*

*(g) If the minimum outside air ventilation rate of a filtration system cannot be met, the explanation of why the rate cannot be met prepared pursuant to paragraph (e) of subsection 1 of section 8 of this act.*

*(h) If the original values of the design of the filtration system for the inlets and outlets of the filtration system are not available pursuant to paragraph (f) of subsection 1 of section 8 of this act, documentation of the available information and a notation of the unavailability of the original values;*

*(i) Documentation of any deficiencies within any system assessed pursuant to section 6 of this act;*

*(j) Verification of the installation of carbon dioxide monitors pursuant to section 10 of this act, including, without limitation, the make and model of the carbon dioxide monitors; and*

*(k) Recommendations for additional maintenance, replacements or upgrades to improve the energy efficiency, safety or performance of any system assessed pursuant to section 6 of this act.*

**Sec. 12.** *1. The board of trustees of a school district, the sponsor of a charter school or a business that receives a grant pursuant to section 6 of this act shall prepare a report on the status of the assessments performed pursuant to section 6 of this act and any maintenance, repairs or upgrades performed as a result of those assessments. The report must include, without limitation:*

*(a) The name and address of the person preparing the report and the school where the assessments required pursuant to section 6 of this act were performed;*

*(b) A description of the assessments performed pursuant to section 6 of this act and any maintenance, repairs or upgrades performed as a result of those assessments;*

*(c) Verification that the board of trustees of the school district, sponsor of the charter school or business, as applicable, has*

*complied with the requirements of section 2 to 13, inclusive, of this act;*

*(d) Verification that the filters meet the best possible minimum efficiency reporting values pursuant to subsection 2 of section 7 of this act or, if a filter does not meet the best possible minimum efficiency reporting value, documentation of the current minimum efficiency reporting value of the filter;*

*(e) Verification that the ventilation rates meet the requirements set forth in section 8 of this act or, if the ventilation rates do not meet the requirements, an explanation of why the ventilation rates do not meet the requirements;*

*(f) The measurements of air volume for the exhaust fans and the documentation of any discrepancies in volume between the measurements and the original volume of the design of the filtration system prepared pursuant to paragraph (k) of subsection 1 of section 8 of this act;*

*(g) Documentation of any deficiencies within any system assessed pursuant to section 6 of this act;*

*(h) Documentation of the initial operating verifications and adjustments, the final operating verifications and adjustments and any adjustments or repairs performed;*

*(i) Verification of the installation of carbon dioxide monitors pursuant to section 10 of this act, including, without limitation, the make and model of the carbon dioxide monitors; and*

*(j) Verification that all work has been performed by a certified technician or a skilled workforce, as appropriate, which may include, without limitation, the provision of the name and, if applicable, certification number of any contractor or certified technician.*

*2. The board of trustees of a school district, the sponsor of a charter school or a business shall maintain the report prepared pursuant to subsection 1 and make a copy of the report available to the Office of Energy or any member of the public upon request.*

**Sec. 13.** *In the event of a conflict between the requirements of sections 2 to 13, inclusive, of this act and generally accepted industry standards, the industry standards prevail.*

**Sec. 14.** This act becomes effective on July 1, 2021.

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