



Shaping Tomorrow's Built Environment Today

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Farooq Mehboob
2022-2023 ASHRAE President

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June 6, 2023

The Honorable Brent Jackson
The Honorable Ralph Hise
The Honorable Michael Lee
Chairs
Senate Appropriations/Base Budget Committee
300 N Salisbury St
Legislative Building, Room 523
Raleigh, NC 27603-1360

Letter sent via email

Re: NC SB 528

Dear Chairs Jackson, Hise and Lee,

I am writing on behalf of ASHRAE, the American Society of Heating Refrigerating, and Air Conditioning Engineers. ASHRAE, founded in 1894, is a technical and professional society of more than 53,000 members, including more than 1,100 in North Carolina. Our members devote their careers to a focus on building systems, energy efficiency, indoor air quality, refrigeration, and sustainability. Through research, standards writing, publishing, certification, and education, ASHRAE shapes today's and tomorrow's built environment.

I am writing regarding NC Senate Bill 528, titled "Public School HVAC Replacements." **ASHRAE supports the provision in SB 528 that stipulates that any HVAC system purchased with grant funding provided from this proposed program shall comply with all applicable standards and guidance for air quality from ASHRAE.** Compliance with ASHRAE standards, including those listed below, helps to ensure that these school HVAC and ventilation systems are beneficial to human health.

First, ANSI/ASHRAE Standard 62.1-2022, [Ventilation and Acceptable Indoor Air Quality](#), specifies minimum ventilation rates and other measures intended to provide indoor air quality that is acceptable to human occupants and minimizes adverse health effects, such as breathing difficulties.

Second, ANSI/ASHRAE Standard 55-2020, [Thermal Environmental Conditions for Human Occupancy](#), specifies the comprehensive analytical methods to determine thermal environmental conditions, such as temperature, humidity, air speed, and radiant effects, in buildings and other spaces that will be acceptable to a significant proportion of the occupants. The latest edition of the standard, the 2020 edition, includes new addenda with a focus on application of the standard and use of clear, enforceable language. The use of these ASHRAE standards for the HVAC systems installed under this proposed program would benefit human health.

There are substantial academic and health benefits to be gained from updating school HVAC systems. A growing body of evidence suggests that student health and student learning outcomes are directly linked to indoor air quality, temperature, and humidity.¹ Poor indoor air quality both causes and aggravates asthma and other respiratory conditions and leads to greater absenteeism. This in turn leads to worse academic performance and lost learning time. Schools that are too hot and/or humid for comfort consistently have lower test scores than schools that are comfortable for their occupants.²³ By adhering to ASHRAE standards, this proposed program would have substantial beneficial effects on students in North Carolina.

If you have any questions or need additional information, please feel free to contact govaffairs@ashrae.org. Thank you for all that you do for North Carolina and your work to improve the state's built environment.

Sincerely,



Farooq Mehboob
2022-2023 ASHRAE President

¹ <https://www.epa.gov/iaq-schools/indoor-air-quality-high-performance-schools>

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4552953/>

³ <https://www.epa.gov/iaq-schools/frequently-asked-questions-about-improved-academic-performance>