March 13, 2019

Re:  Testimony on NYC Planning Residential Tower Mechanical Voids Text Amendment

My name is Anthony M. Montalto. I’m a licensed Professional Engineer in New York State and a LEED Accredited Professional. I’m an associate partner at Jaros, Baum and Bolles, a consulting mechanical and electrical engineering firm, as well as the current President of the ASHRAE NY Chapter, which represents over 1,000 ASHRAE members, on whose behalf I am testifying today.

ASHRAE (the American Society of Heating, Refrigerating and Air-Conditioning Engineers), founded in 1894, is a global society with more than 56,000 members from over 132 nations, a diverse organization representing building system design and industrial process professionals around the world. In service of its mission to advance human well-being through sustainable technology for the built environment, the Society and its members focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry. Through research, standards writing, publishing, certification and continuing education, ASHRAE shapes tomorrow’s built environment today. ASHRAE fosters the arts and sciences of heating, ventilating, air conditioning and refrigerating to serve humanity and promote a sustainable world.

This proposed amendment should consider the direction the codes, standards and regulations are headed in terms of energy and carbon reduction for buildings. ASHRAE 90.1 is an energy standard for buildings and is a continuously evolving technical standard, a living document in the truest sense of the word. ASHRAE 90.1 is one potential compliance path for meeting NYC Energy Code requirements. ASHRAE 90.1 2016 -Table 6.5.6.1-1 identifies exhaust air energy recovery requirements for ventilation systems operating less than 8,000 hours per year. The table requires exhaust air energy recovery for air handling systems with a design supply airflow rate greater than 26,000 cfm and an outdoor airflow rate between 10% and 20% of the total cfm of the unit. This energy recovery requirement has become increasingly stringent with each updated version of ASHRAE 90.1, with the intention to reduce energy consumption within buildings. These energy recovery systems require additional space within mechanical rooms and, with the continuous trend toward more stringent energy recovery systems, the need for space within mechanical rooms will continue to grow.

Another requirement from the ASHRAE 90.1 standard is the limitation of fan power energy for air handling systems. The intention of this requirement is to reduce fan energy and thus reduce electrical consumption within buildings. This can be accomplished by reducing static pressure requirements within these air handling systems. One way to reduce static pressure within these systems is to reduce velocities within the network of ductwork systems in the vertical risers as well as in horizontal runs within the mechanical rooms. In order to reduce the velocities, the cross-sectional area of the ductwork systems will need to increase in size, thus requiring more space. In addition, the air handler accounts for a tremendous amount of static pressure losses due to internal components such as filters and coils. By increasing the cross-sectional area within the air handlers, the velocity over the filter and coil components will decrease and allow for reduction in static pressures, and overall fan power reduction.
Thank you for this opportunity to testify. On behalf of the ASHRAE NY Chapter, I trust you’ll take into account our comments and concerns in regard to this proposed amendment. Both of these examples from ASHRAE 90.1 technical standard highlight the ever-evolving standards to reduce the overall energy and carbon footprint for buildings. Please let us know if there is anything we can assist you with in terms of any future planning.

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