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Chris Gekas
California Energy Commission
1516 Ninth Street, MS 25
Sacramento, CA 95814-5512

Subject: Residential Indoor Air Quality Ventilation, 2008 Building Energy Efficiency Standards

Dear Mr. Gekas,

This is in reference to the notice for workshop for presentation of proposed revisions to Building Energy Efficiency Standards for Residential and Nonresidential Buildings (Standards) (California Code of Regulations, Title 24, Part 6) and to obtain public comment for the 2008 Standards. I am a Senior Staff Engineer (IAQ) with Lennox Industries. As an HVAC company, we take residential Indoor Air Quality quite seriously and applaud your efforts in "mandating" ventilation for residential applications. I would also like to take this opportunity to comment on the proposal for "Residential Indoor Air Quality Ventilation".

Clause (from the proposed standard): If performance approach is not used, the total fan power used to meet this requirement shall not exceed 1.2 W/cfm of required ventilation air. If performance approach is used, total fan power in the standard design is equal to the proposed house but not greater than 1.2 W/cfm of required ventilation air.

Concern: The above clause seems to be catered to "exhaust" type ventilation where it can be met with current products. However, there is another effective way of achieving residential ventilation by ducting outdoor air directly into the return side of the HVAC air handler. This is also referred to as "supply" ventilation. There are products in the market designed specific to this concept. It makes the maximum use of normal system operation while at the same time delivering comfort (temperature uniformity, air filtration) and uniform ventilation that "exhaust" type ventilation products fail to provide.

My concern is that ventilation systems using HVAC air handlers will have difficult time meeting the fan power requirement of 1.2 W/cfm of ventilated air, especially on an "instantaneous" basis. For example, a 2000 sq.ft home with 3 bedrooms is likely using a 3 Ton HVAC system with a 450W motor. Per ASHRAE 62.2, such a home will require 50cfm of ventilation air or 9W/cfm of ventilation air. However, on an annualized basis, taking credit for normal run time of the air handler, this may be achievable. There are times during Spring and Fall season when there is hardly any system "runtime". To have a mandatory requirement of MERV 6 filter (per the proposal) for the air handling component is not going to provide any benefit to the homeowner if the system is not running; the whole purpose to this standard.

Action:
1. Please provide the details for the basis of 1.2W/cfm of required ventilation air.
2. I would request some specific guidelines to be included in the standard so that it can immensely benefit from the supply type ventilation that offers added benefits of temperature uniformity, air filtration, ventilation uniformity, and effective use of normal run time. Also, ventilation during normal runtime further eliminates additional system cycles (call for heating/cooling) that would be otherwise triggered due to indoor air temperature changes caused by ventilation. I would be more than happy to draft a set of guidelines if necessary.

Best Regards

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