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2019 CEC Standards - CBIA Residential IAQ Comments

Additional submitted attachment is included below.

California Building Industry Association
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June 23, 2017

To: California Energy Commission – Docket No. 17-BSTD-01

Re: 2019 Residential Standards:
Residential Indoor Air Quality Measures for the 2019 Standards

General Concern:

CBIA recommends no change to indoor air quality (IAQ) requirements until substantial evidence is presented that the measures in effect now are effectively addressing the problems they target. A 2009 study by Francis Offerman found that "most new homes had indoor concentrations of formaldehyde that exceeded recommended guidelines." [1] This study was influential in the Energy Commission's decision to adopt by reference ASHRAE 62.2; however, CBIA has seen no published evidence that the adopted guidelines result in less formaldehyde in new homes.

Iain Walker's report describing outdoor air impacts on IAQ in California homes describes the methods and preliminary results from Healthy Efficient New Gas Homes (HENGH), a field study currently in process, but the data collection won't be complete until the end of this calendar year, when it will be too late to incorporate the conclusions into 2019 Title 24 Standards proposals. With regards to current ventilation practices, preliminary results indicate that "*pollutant concentrations were similar to previous studies in California and the only levels of concern are for Formaldehyde*." In addition the study's preliminary results find that "*almost none of the dwelling unit ventilation systems were operating*." Without further (and supporting) evidence that adherence to ASHRAE 62.2 alleviates the formaldehyde issue, CBIA cannot endorse additional requirements that may not address occupant health and safety issues while also increasing the cost burden for the builder. In addition, the CEC needs to review the code requirements for ventilation and determine how most code-compliant homes have their ventilation systems turned off.

Multifamily Air Sealing Proposal:

As discussed at the workshop, the cost used in the CASE Report for multifamily air sealing seems much lower than costs experienced by the building industry. The IAQ CASE report includes an incremental cost of $57 per unit for sealing of interior partition walls and $306 dollars to seal the ventilation shaft. Regardless, the report also states, "individually, the proposed measures are not cost-effective, because they do not save energy, but are necessary for the maintenance of IAQ." "Therefore, lifecycle cost-effectiveness is not reported." The Warren Alquist act directs the CEC to include cost-effective measures and the IAQ measures listed are not.

[1] Offermann, F. J. 2009. Ventilation and Indoor Air Quality in New Homes. California Air Resources Board and California Energy Commission, PIER Energy- Related Environmental Research Program. Collaborative Report. CEC- 500- 2009- 085. (https://www.arb.ca.gov/research/apr/past/04-310.pdf)

Additionally, there has been little use in the California market of blower door testing for multifamily and sealing of exhaust shafts and multifamily units. Ms. Goebes provided CBIA with details regarding blower door testing and air sealing protocols and examples, and CBIA will review these and discuss with CEC staff as necessary.

"MERV 13" Proposal:

In general, CBIA agrees with the April 26, 2017 comments submitted by Rick Wylie, President of Villara Building Systems. The MERV 13 proposal raises serious design difficulties which will make field implementation problematic. As Mr. Wylie correctly points out, the most commonly used gas furnaces throughout the nation cannot handle the increased static pressure associated with a move from MERV 8 to MERV 13. Tripling the filter grill area in order to maintain static pressure is not a design feature that will be acceptable to homeowners and raises serious design issues for the architect.

In addition, as Mr. Wylie points out, a move to a MERV 13 will require a more frequent replacement schedule by the occupant. If the average occupant is not changing the MERV 8 filter on an appropriate schedule now, why would it be assumed they will **increase** replacement schedule for a MERV 13 filter?