

September 11, 2011

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 10-BSTD-01
1516 Ninth Street
Sacramento, CA 95814-5512

DOCKET	
10-BSTD-1	
DATE	SEP 11 2011
RECD.	SEP 12 2011

Re: August 23, 2011 Staff Workshop - 2013

Dear California Energy Commission Staff:

Thank you for the opportunity to provide comments to the August 23, 2011 Staff Workshop. These comments are focused on the proposed provisions for field measurement and verification of residential mechanical ventilation systems. The comments are provided by Mike Moore of Newport Ventures, representing Broan NuTone.

In general, Broan NuTone is supportive of the Commission's intention to require field measurement and verification of residential mechanical ventilation systems. In doing so, however, we respectfully request the Commission to give consideration to the application of these requirements within the following scenarios:

1. Intermittent Whole House Mechanical Ventilation (WHMV) Systems with Advanced Controls: For an intermittent system with an advanced control, design flow rates may vary greatly from a continuously operating system. For example, a home may employ an intermittent system that uses 3 exhaust fans and an outdoor air damper connected to the return plenum of the central blower's supply trunk. The advanced control for this example system would cycle between the various fans, while keeping a running tally of run time at various ventilation air flow rates (specific for each fan/damper). The control's logic would be used to ensure compliance with ASHRAE 62.2. However, a technician would not be able to feasibly determine that the ASHRAE 62.2 WHMV rate was satisfied by the system. Therefore, for intermittently operating systems using advanced controls, field-verification of flow rates should be limited to confirming that the individual components of the WHMV are operating according to their design flow rates (e.g., if the control expects fan "A" to operate at 80 cfm, then the technician should confirm that fan "A" achieve 80 cfm +/- an acceptable error band).
2. Error band: Testing equipment will operate within some error band, and listed flow rates of fans are based on the assumption of a specific static pressure, which may vary greatly in actual installations. Therefore, to ensure that performance requirements are not too onerous, a reasonable error band should be established for determining the ventilation flow rates.
3. Central Fan Integrated Systems: Systems which rely upon the central blower for the introduction of fresh air are inherently subject to the fan speed of the central blower. That is, the WHMV system air flow rate will vary with the central blower fan speed (e.g., fan only, cooling, heating). We suggest that the air flow measurement for such systems be based upon the worst-case (lowest fan speed) scenario for the WHMV system. In other words, if the

- WHMV system will operate in fan-only mode for the central blower and this is the lowest fan speed scenario for introducing fresh air, then the air flow under this condition should be tested and meet the design minimum.
4. Local Exhaust in Bathrooms: Though ASHRAE 62.2 exempts local exhaust from requirements of field verification, bathroom exhaust fans and associated field measurement equipment have progressed to the point of this being a reasonable requirement. Confirmation of exhaust rates in bathrooms will help ensure that moisture levels can be controlled at the moisture source (e.g., rooms containing a showers or bathtubs) when fans are properly specified and installed.
 5. Local Exhaust in Kitchens: Kitchen activities are known to produce significant levels of pollutants, and providing proper ventilation with a range hood can help to reduce the level of pollutants at the source. However, range hood flow rates are inherently difficult to measure due to hood geometry and instrumentation limitations. If the CEC elects to require range hood flow rate verification via field measurements, we propose that an exception be made for range hoods that are able to automatically adjust/self-calibrate their air flow to achieve design rates. Such range hoods are now in development.

Thank you for your kind consideration of these comments, and please feel free to contact me with any follow-up questions or for assistance in drafting language.

Sincerely,

Mike Moore, P.E.

A handwritten signature in black ink that reads "Mike Moore". The signature is written in a cursive, slightly slanted style.

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