

DOCKETED	
Docket Number:	19-BSTD-03
Project Title:	2022 Energy Code Pre-Rulemaking
TN #:	235215
Document Title:	National Energy Management Institute (NEMI) Comments - September 30 CEC workshop on Indoor Air Quality
Description:	N/A
Filer:	System
Organization:	National Energy Management Institute (NEMI)
Submitter Role:	Public
Submission Date:	10/12/2020 4:12:06 PM
Docketed Date:	10/12/2020

Comment Received From: National Energy Management Institute (NEMI)
Submitted On: 10/12/2020
Docket Number: 19-BSTD-03

**NEMI Written Comment_Docket 19-BSTD-03_September 30 CEC
workshop on Indoor Air Quality**

Additional submitted attachment is included below.

Regarding:

September 30th, 2020 – Commissioner Workshop

Docket No. 19-BSTD-03

Advances in scientific understanding of the impacts of indoor cooking and associated ventilation on indoor air quality.

As an experienced field technician of 15 years, who is certified by TABB (Testing, Adjusting, and Balancing Bureau), I can assure you that a large amount of these smaller exhaust and associated make-up air systems do not function as designed.

It is commonly assumed that a range hood exhaust fan will achieve the manufactures listed volume (CFM) of exhausted air. Most small exhaust fans can achieve design CFM if installed as recommended by the manufacturer. Unfortunately, I rarely found this to be the case within multifamily residential buildings.

Physical verifications completed on residential installations, by improperly trained technicians, have had shocking results. Improper ductwork, faulty backdraft dampers, and controls that were not properly commissioned are commonly at fault. However obvious violations, like the exhaust ductwork not installed above the ceiling or Make-up Air (MUA) or clearly not being installed as designed, are more common than the general public would ever know.

The required knowledgebase for accurate air flow measurements, pressure relationships, and air movement patterns is high. A certified TABB technician must complete rigorous training program (typically 2 years). The ANSI accredited certification includes a daylong physical verification of hands-on skillset, and a half day proctored written exam ANSI accredited exam.¹

¹ Meyers, Fredrick and Theresa Pistoichini. "Testing, Adjusting and Balancing HVAC Systems: An Overview of Certification Agencies." University of California Davis Western Cooling Efficiency



A weekend training and resulting limited certification, will not suffice on matters of Indoor Air Quality (IAQ) and occupant safety. Ultimately design intent can only be achieved installation and component testing by a skilled, trained, and certified technician performing a physical verification.

Obligation to public health and IAQ should be taken seriously. The CEC staff, researchers, and design professionals who organized the September 30th workshop together clearly understand the importance. To achieve this objective, the installed equipment needs to function as designed and be verified by a skilled, trained, and certified technician.

Recommendation: Residential ventilation and exhaust systems shall be physically verified, prior to occupancy, by a qualified technician certified by the Associated Air Balance Council (AABC); the National Environmental Balancing Bureau (NEBB); or the Testing, Adjusting and Balancing Bureau (TABB).

Please let me know if I can be of further assistance.

Respectfully,

A handwritten signature in black ink that reads "Christopher Ruch". The signature is written in a cursive style.

Christopher Ruch

Director of Training

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