

<b>DOCKETED</b>	
<b>Docket Number:</b>	19-BSTD-03
<b>Project Title:</b>	2022 Energy Code Pre-Rulemaking
<b>TN #:</b>	235281
<b>Document Title:</b>	Association of Home Appliance Manufacturers (AHAM) Comments - AHAM Comments for Hearing on Indoor Cooking, Ventilation, and Indoor Air Quality
<b>Description:</b>	N/A
<b>Filer:</b>	System
<b>Organization:</b>	Association of Home Appliance Manufacturers (AHAM)
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	10/16/2020 10:54:37 AM
<b>Docketed Date:</b>	10/16/2020

*Comment Received From: Association of Home Appliance Manufacturers (AHAM)*  
*Submitted On: 10/16/2020*  
*Docket Number: 19-BSTD-03*

**AHAM Comments for Hearing on Indoor Cooking, Ventilation, and Indoor Air Quality**

*Additional submitted attachment is included below.*



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October 16, 2020

Commissioner Andrew McAllister  
California Energy Commission  
Docket Unit, MS-14  
Re: Docket No. 17-AAER-07  
1516 Ninth Street  
Sacramento, CA 95814-5512

Re: Commissioner Hearing on Indoor Cooking, Ventilation, and Indoor Air Quality

Dear Commissioner McAllister:

The Association of Home Appliance Manufacturers (AHAM) would like to comment on the *Commissioner Hearing on Indoor Cooking, Ventilation, and Indoor Air Quality*. AHAM represents manufacturers of major, portable, and floor care home appliances, and suppliers to the industry. AHAM's membership includes over 150 companies throughout the world. In the U.S., AHAM members support more than one million jobs, have a \$198 billion economic impact, and produce more than 95% of the household appliances shipped for sale. In California, the home appliance industry is a significant and critical segment of the economy. The total economic impact of the home appliance industry to California is \$15.9 billion, more than 30,000 direct jobs and an additional 53,000 indirect jobs, \$2.4 billion in state tax revenue and more than \$5 billion in wages. The home appliance industry, through its products and innovation, is essential to U.S. consumer lifestyle, health, safety and convenience. Through its technology, employees and productivity, the industry contributes significantly to U.S. jobs and economic security. Home appliances also are a success story in terms of energy efficiency and environmental protection. New appliances often represent the most effective choice a consumer can make to reduce home energy use and costs.

Indoor cooking, its ventilation and the quality of air in homes are important matters that home appliance manufacturers have been supplying products to help. Our industry manufactures cooking products, range hoods, and various other products that help treat and improve the air quality in a home, such as air cleaners, vacuums, and air conditioning products (window and portable air conditioners, humidifiers, and dehumidifiers). Regarding cooking in our homes generally, and gas cooking specifically, we would urge the CEC to use sound science and data that is based on credible public health criteria. The US EPA and Health Canada have comprehensive work on health- and exposure-related science for nitrogen dioxide (NO<sub>2</sub>). Importantly, exposures are not based on peak values but averages. CARB states:

*Ambient air quality standards define the maximum amount of pollutant that can be present in outdoor air without harming human health. In 2007, after an extensive review of the scientific literature, the Board lowered the state one-hour standard for NO<sub>2</sub> to 0.18 ppm and retained the annual average standard of 0.030 ppm based on evidence for adverse health effects at the level of the existing one-hour standard. The national standard was more recently revised in 2010 following*

*an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO<sub>2</sub> concentrations than the existing national standard.<sup>1</sup>*

Health Canada states:

*The health effects of NO<sub>2</sub> have been extensively examined in a very large number of studies, including epidemiological studies of health effects associated with NO<sub>2</sub>, controlled human exposure studies in volunteers exposed to NO<sub>2</sub> in experimental chamber studies, and toxicology studies of animals exposed to NO<sub>2</sub> in the laboratory.<sup>2</sup>*

We would like to provide the following specific comments on issues that were raised during the workshop.

### **Rating Metric**

Regarding ASTM E3087-18 and its establishment of a capture efficiency metric, ASHRAE 62.2-2019 has not included this metric and it should not be included in the 2022 CEC energy code. IEC is also working on capture efficiency, and by 2025, there should be an international method that is harmonized with North America consensus standards.

AHAM supports the use of either a target capture efficiency value or a target CFM, but not requiring both. AHAM still prefers the CFM metric as it has shown its repeatability and reproducibility. We would like to highlight that the CASE Team's target CFM is questionable because it is based on a weak correlation of R<sup>2</sup> = 0.66.

### **Energy Source**

The impact of indoor air quality should be analyzed with just the energy source and then separately on the impacts of cooking. The indoor air quality impacts of cooking are largely the same regardless of energy source. If separate requirements are considered for energy sources, they should be set based on the energy source and they should be based on levels needed to deliver existing public health air quality standards.

### **Size**

Creating a separate requirement for smaller or larger dwelling sizes and resulting kitchen areas is worth analyzing.

### **Sone**

ASHRAE 62.2 -2019 clause 7.2 does not allow "working speed" and working speed has not been added to ASHRAE 62.2. The decision by CEC to allow testing at working speed conflicts with ASHRAE and has slowed efforts in this area because of the need to generate "data" for the CEC directory. Companies have had to divert resources from lab testing of future design ideas to show they are compliant to CEC-2019, which is an arbitrary low-end target. The CEC requirement is not useful nor helpful to consumers because the main issue why consumers do not use a range hood is due to noise produced at the higher speeds. Working speed noise levels have not shown to correlate with noise at higher speeds. AHAM supports

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<sup>1</sup> California Air Resources Board, <https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health>, last visited on October 6, 2020.

<sup>2</sup> Health Canada, <https://www.canada.ca/en/health-canada/services/publications/healthy-living/human-health-risk-assessment-ambient-nitrogen-dioxide.html>, last visited on October 6, 2020.

reviewing the requirement on the noise a range hood produces, but it needs to be done the right way and there should be no changes until 2025.

### **Other Issues**

CEC should not adopt standards that have not been approved through a consensus process. This would include Nominal Installed Flow in HVI 920-2020 and Capture Efficiency as defined in HVI 917. The ASHRAE Range Hood Metrics working group (RHMWG) was not a consensus process. It only was conceptual and directional, and then the group disbanded. The SSPC 62.2 group has been recreated to fully consider the concepts generated by the RHMWG and to make them executable. Nominal Installed Flow is not ready for ASHRAE 62.2, and therefore not ready for CEC to make a Title 24 requirement.

CEC should recognize that, for safety reasons, creating a “continuous mode” for range hood would classify the appliance as an unattended appliance, which may require new safety standard requirements for this function.

With the tragic wild fire season in California, it is a good reminder that homes are becoming “tighter” to keep out the smoke. However, this has two implications on ventilation. First, a tighter home raises the backpressure. Second, there is a need for recirculation to reduce outdoor smoke from entering the home during a wildfire event.

AHAM appreciates the opportunity to comment on this pre-rulemaking proceeding. We understand and appreciate CEC’s stated commitment and willingness to address this matter and look forward to continuing to work with CEC to resolve it.

Sincerely,



Kevin Messner  
Senior Vice President, Policy & Government Relations