

Appliance Standards Awareness Project
American Council for an Energy-Efficient Economy

April 29, 2022

Alejandro Galdámez
Regulations Manager, Efficiency Division
715 P Street, Sacramento, CA 95814

RE: Docket No. 22-AAER-01: Commercial and Industrial Fans and Blowers

Dear Mr. Galdámez:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP) and American Council for an Energy-Efficient Economy (ACEEE) on the California Energy Commission (CEC) notice of proposed action to adopt regulations for commercial and industrial fans and blowers. We appreciate the opportunity to provide input to the Commission.

We are pleased that the Energy Commission has moved forward with proposed regulations for commercial and industrial fans and blowers. The staff report estimates that the proposed regulations will result in energy savings of nearly 1800 GWh/yr after full stock turnover and will yield net benefits of over \$5 billion for California businesses and industries.¹ CEC's proposal is generally consistent with the 2017 joint proposal for standalone fans that we submitted along with AMCA and other efficiency advocates.² We support CEC's approach that focuses primarily on improved fan selection to increase efficiency. However, we encourage CEC to address several issues in the proposed regulations. Specifically, we encourage CEC to ensure that manufacturer selection software is addressed under the proposed requirements regarding marketing information to help ensure that purchasers are selecting compliant fans at the design point. We also encourage CEC to consider several potential additions and changes to the manufacturer filing and marking requirements as outlined below.

We encourage the Energy Commission to ensure that manufacturer selection software is addressed under the proposed requirements regarding marketing information. As noted above, improved fan selection is the primary driver for the anticipated energy savings from the proposed regulations. Thus, we believe that it is important to require that manufacturer selection software only return fan selections that are compliant at the user's design point that is input into the software. In the proposed regulations, CEC is proposing that "No marketing or catalog information shall provide performance data for any duty point where the FEI is less than 1.0." However, it is not clear that this requirement applies to selection software. Therefore, we encourage CEC to ensure that manufacturer selection software is addressed under the proposed requirements regarding marketing information to help ensure that purchasers are selecting compliant fans at the design point.

We encourage the Energy Commission to remove "at FEI = 1.0" in the manufacturer filing and marking requirements regarding maximum speed, maximum airflow, and maximum pressure. Sections § 1606 and § 1607 of the proposed regulatory language specify manufacturer filing and marking requirements,

¹TN# 241951, p.44-45. efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-AAER-01

²TN# 221217. efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=17-AAER-06

respectively, that include maximum speed at FEI = 1, maximum airflow at FEI = 1, and maximum pressure at FEI = 1. We are concerned that including the phrase “at FEI = 1.0” could be interpreted as allowing manufacturers to include higher speed, airflow, and/or pressure values on the label in addition to those values at FEI = 1. For example, we are concerned that under CEC’s proposal, a manufacturer could include both the maximum speed at FEI = 1 as well as some higher maximum operating speed on the label, which would undermine the intent of the standards. In addition, we believe it makes sense to allow manufacturers to report conservative values for maximum speed, airflow, and pressure (i.e., values associated with an FEI greater than 1).

AMCA 214 defines “maximum fan speed” as the maximum reported value for fan speed that *meets or exceeds the required minimum FEI* for at least one duty point.³ AMCA 214 also includes similar definitions for “maximum airflow” and “maximum pressure.” Consistent with our proposed definitions for “maximum rated speed,” “maximum rated airflow,” and “maximum rated pressure” in our joint comments submitted with AMCA on the draft staff report, we encourage CEC to use the terms in Annex H of AMCA 214 for the manufacturer filing and marking requirements. Specifically, we suggest that CEC use the following terms and definitions based on AMCA 214 and our previous joint comments:

- “Maximum airflow” means the maximum manufacturer-declared value for airflow in cubic feet per minute at standard air density that meets or exceeds an FEI of 1.0 for at least one duty point.
- “Maximum pressure” means the maximum manufacturer-declared value for fan pressure in inches water gauge at standard air density that meets or exceeds an FEI of 1.0 for at least one duty point.
- “Maximum fan speed” means the maximum manufacturer-declared value for fan speed in revolutions per minute that meets or exceeds an FEI of 1.0 for at least one duty point.

In summary, we propose that the terms “maximum air flow (SCFM) at FEI=1.0,” “maximum speed (RPM) at FEI=1.0,” and “maximum pressure (inches water gauge) at FEI=1.0” in Section § 1607 be replaced with “maximum airflow,” “maximum pressure,” and “maximum fan speed,” respectively, with these terms, based on our proposed definitions above, defined in Section § 1602. We also propose that the same terms be used in Section § 1606. We believe this clarification would help advance the goal of improved fan selection by attempting to ensure that the maximum fan speeds, airflows, and pressures listed on labels correspond to values associated with an FEI of at least 1.0.

We encourage the Energy Commission to consider changes to the manufacturer filing and marking requirements pertaining to operating point information relevant to the reported FEP, maximum speed, maximum airflow, and maximum pressure. CEC is proposing to include “FEP at FEI = 1.0” in both the manufacturer filing and marking requirements. However, many fans and blowers on the market will be compliant at multiple operating points. Thus, it is unclear how the section § 1606 and § 1607 requirements for reporting FEP at FEI = 1.0 would be reported for fans with multiple compliant operating points.

In addition, absent additional operating point information beyond maximum speed, maximum airflow, and maximum pressure, it may be difficult for CEC to verify that the maximum values are indeed compliant operating points (i.e., FEI ≥ 1.0). However, if for example, the pressure and FEP were reported at the maximum airflow, then compliance at this reported maximum airflow could be more easily

³ANSI/AMCA 214-21, p. 48. www.amca.org/assets/resources/public/pdf/Publications/AMCA-214-21.pdf

verified. Furthermore, we believe that reporting FEP at both maximum airflow and maximum pressure may be more useful and feasible than reporting FEP at FEI = 1.0.

Specifically, CEC could consider removing the FEP at FEI = 1.0 filing requirement and adding the following to the required filing information:

- Fan pressure at the “maximum airflow” operating point as defined above
- Fan FEP at the “maximum airflow” operating point as defined above
- Fan airflow at the “maximum pressure” operating point as defined above
- Fan FEP at the “maximum pressure” operating point as defined above

Additionally, CEC could consider removing the FEP at FEI = 1.0 marking requirement and adding the following to the required marking information:

- Fan FEP at the “maximum airflow” operating point as defined above
- Fan FEP at the “maximum pressure” operating point as defined above

Thank you for considering these comments.

Sincerely,



Jeremy Dunklin, PhD
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Appliance Standards Awareness Project



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