

DOCKETED	
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July 26, 2022

Mr. Alejandro Galdamez
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

RE: *DOCKET: 22-AAER-01, Commercial and Industrial Fans & Blower Regulation*

The following comments are in response to the July 11, 2022 California Energy Commission (CEC) Notice of 15-Day Public Comment Period on proposed revisions to the Commercial and Industrial Fans and Blowers regulations.

1. AMCA Comments and Joint AHRI-AMCA Comments

Greenheck is an active and supportive member of both the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) and the Air Movement and Control Association (AMCA) International. We encourage CEC to address recommendations provided in the AHRI-AMCA joint comments.

2. Inclusion of Safety Fan Language (§1602(d) [Definitions])

Greenheck recommends an exemption for fans performing safety-related activities. Safety fans provide for the evacuation of smoke-filled air in a life safety situation. They are intended to operate for a short period of time at an elevated temperature. Due to their specific application and limited use, inclusion in regulation will result in minimal energy savings while severely limiting safety fan availability in the market.

Proposed Language: ‘A fan bearing a listing for “Power Ventilators for Smoke Control Systems” in compliance with ANSI/UL 705 Power Ventilators (dated August 24, 2021).’

This comment is provided in alignment with the AHRI and AMCA joint comments.

3. Database and Filing Requirements (§1606)

Greenheck recommends use of the language and requirements published in the first draft of the regulation. The second draft of the regulation requires manufacturers to list a motor model number for any fan sold with a motor. This requirement will necessitate that manufacturers supply motor model information for every fan/motor combination; this requirement will be untenable, provide no additional energy savings, and will be confusing to the consumer. For example, a 30-inch mixed flow inline fan selected for 10000 cfm at 1-inch external static pressure consumes 2.3 hp. We offer this fan with over 324 motor options as shown below:

- Three power ratings (2, 3, 5 hp)

- Three speeds (900, 1200, 1800 rpm)
- Three enclosures (ODP, TEFC, EXP)
- Six voltages (115, 230, 277 in single phase or 230, 460, 575 in three phase)
- Two motor manufacturers (primary, secondary)

Listing each motor model is unrealistic due to the motor options available and the number of new motors that are constantly added due to new technologies, supply chain issues, new vendors, and/or cost reduction projects. For fans certified using shaft power and regulated motors, the provision of the specific motor model number is irrelevant. Greenheck recommends that this language reverts to the language used in the regulation's first draft.

Existing Language: List 'Motor model number (if fan is sold with a motor)'

Proposed Language: List 'Motor model number (if fan is certified with a motor)'

Greenheck also recommends that the language for the controller model number revert to the language used in the regulation's first draft.

Existing Language: List 'Controller model number (if fan is sold with a controller)'

Proposed Language: List 'Controller model number (if fan is certified with a controller)'

This comment is provided in alignment with the AHRI and AMCA joint comments.

4. Harmonization with CEC T24

To minimize burden and confusion in the market, Greenheck recommends the harmonization of T20 Fan Regulation and fan system requirements in T24.

5. Harmonization with AMCA Certification Program

Greenheck recommends test and tolerance requirements align with requirements of AMCA Certified Ratings Program (CRP) for Fan Energy Index (FEI). Harmonization with AMCA CRP requirements will:

- a. Maximize the impact and value of the regulation.
- b. Assure utilization of several decades of test data on record and in compliance with the AMCA CRP.
- c. New requirements of the CEC T20 regulation that deviate from the AMCA CRP testing and related tolerances will result in additional tests and potential alteration of published performance. This will drive little or no additional energy savings while creating extreme burden to manufacturers and confusion to end users and consumers.

Concluding Remarks

Greenheck very much appreciates the opportunity to comment and contribute to the CEC T20 rulemaking for Centrifugal and Industrial Fans and Blowers. In summary:



1. Greenheck is supportive of the CEC effort to reduce fan energy consumption through the T20 CIBF regulatory process in harmony with the T24 Energy Code.
2. Greenheck is available to assist with addressing the following items:
 - a. Harmonization with AMCA CRP for FEI
 - b. Inclusion of safety fans, Power Ventilators for Smoke Control Systems
 - c. Database and filing requirements as they pertain to motor and controller listings
 - d. Other issues/questions that may arise.
3. Greenheck encourages CEC to act on recommendations submitted, AMCA comments, and on joint comments from AHRI and AMCA.

Thank you.

Commenter Credentials:

With over 37 years of experience with the Greenheck Group, a leading manufacturer of HVAC equipment, and having held positions in engineering, sales, marketing, software development, and general management, I have a solid foundation in understanding the impact regulations can have on a business and a market. In addition, I am active in the development of test standards and codes with industry trade associations including ASHRAE, AMCA, AHRI, HVI, UL, NFPA, ICC, and others, and participated in the U.S. Department of Energy's Working Group responsible for developing recommendations on Commercial and Industrial Fan Energy Regulation. I am also a past member of the United States Department of Energy's Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC).

The Greenheck Group is comprised of several brands including Greenheck, Unison Comfort Technologies, Innovent, Valent, Precision Coils, Accurex, Airolite, and Metal Industries. Headquartered in Schofield, Wisconsin, **Greenheck has offices and manufacturing facilities in California,** Wisconsin, Oklahoma, Minnesota, Kentucky, Tennessee, North Carolina, Florida, Mexico, and India. Greenheck employs over 4,500 people in the United States and over 5,000 people worldwide. With over 75 years of family ownership, Greenheck is a worldwide leader in the manufacture of air movement, conditioning, and control equipment, systems, and services. Greenheck's extensive product offering includes commercial fans and industrial blowers, laboratory exhaust systems, dedicated outdoor air systems, energy recovery ventilators, air handling equipment, make-up air equipment, and kitchen ventilation systems. Related products include air-control dampers, fire and smoke control dampers, heating and cooling coils, air terminal units, grilles, registers, and diffusers as well as architectural and mechanical louvers. Greenheck equipment is used in all types of commercial, institutional, and industrial buildings and applications ranging from comfort ventilation to industrial processes.

Industry Associations

Greenheck engineers are active with many government and industry organizations working to establish performance standards and application guidance related to HVAC systems and products. Examples include:



- American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
- Air Movement & Control Association (AMCA)
- Air-Conditioning, Heating, & Refrigeration Institute (AHRI)
- Heating Ventilating Institute (HVI)
- United States Department of Energy (DOE)
- International Standards Organization (ISO)
- International Code Council (ICC)
- California Energy Commission (CEC)
- Northwest Energy Efficiency Alliance (NEEA)

Greenheck's involvement with the aforementioned groups is largely focused on the development of standards, regulations, and programs that result in energy-efficient HVAC systems as well as the practical selection and application of energy-efficient products manufactured for these systems. Greenheck is continuously working with these organizations and other industry members to provide constructive, consistent, and substantial insight regarding industry standards and regulations.

Greenheck appreciates the opportunity to support this regulatory effort and is prepared to provide additional details to maximize the value this regulation will bring to the market.

Respectfully Submitted,

A handwritten signature in black ink that reads 'Michael L. Wolf'.

Michael L. Wolf, PE
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Greenheck Group
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