

DOCKETED

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On Staff Supplement Variable Exhaust Flow Control

Additional submitted attachment is included below.

The Greenheck Group

Greenheck • Airolite • Accurex • GlobeAire • Unison • Innovent • Valent • Precision Coils

March 2, 2018

Mr. Mark Alatorre, PE
Building Standards Development
California Energy Commission
1516 Ninth Street, MS37
Sacramento, CA 95814

RE: Docket Number 17-BSTD-02; Staff Supplement Variable Exhaust Flow Control (TN#-222281)

These comments are submitted by the Greenheck Group in response to the Staff Supplement to CASE Report #2019-NR-MECH3-F by RJ Wichert submitted to the Subject Docket on January 19, 2018.

Comments

Greenheck strongly encourages the CEC to reconsider the Staff decision to remove the requirement for AMCA 260 licensed seal for induced flow high plume dilution blowers.

Please consider the following rationale to keep the requirement for the AMCA 260 licensed seal requirement in Title 24:

1. Assure Occupant Health and Safety – Induced flow high plume dilution blowers are usually used to exhaust toxic fumes out of a building that may cause health or life safety risks to building occupants and other individuals or facilities in close proximity to the toxic exhaust. The fans are designed to provide safe exhaust of toxic fumes into the atmosphere in two ways:
 - a. Dilution – the fans are designed to induce fresh air into the toxic exhaust airstream and dilute the toxic exhaust to safer concentration levels.
 - b. High Plume Discharge – inducing fresh air in with the toxic air being exhausted increases the momentum of the overall exhaust air and creates an exhaust plume that is discharged to a sufficient height above the building to minimize or prevent entrainment of the toxic, albeit, diluted toxic exhaust air back into building or nearby building fresh air intakes.

The AMCA 260 licensed performance seal assures design engineers, wind-wake consultants, building owners that toxic fumes get diluted and far enough away from the building to minimize risk and liability to all parties.

2. Cost Savings to Consumers – Due to the safety and liability issues stated above, there are many reputable manufacturers producing AMCA 260 licensed products at very cost effective prices. Products not AMCA 260 licensed must be field tested for performance verification to assure toxic fumes will not cause a safety issue to building or neighboring



buildings. The cost of field testing is usually much more expensive and subject to inaccuracies when compared to products that are licensed to AMCA 260. In addition, fans are often field assembled to meet requirements concerning health and safety. The cost of field assembly is far greater than fans tested and licensed to AMCA 260. Figure 1, while not a dilution fan, is a good reference for comparative costs between factory and field build high plume exhaust blower systems.

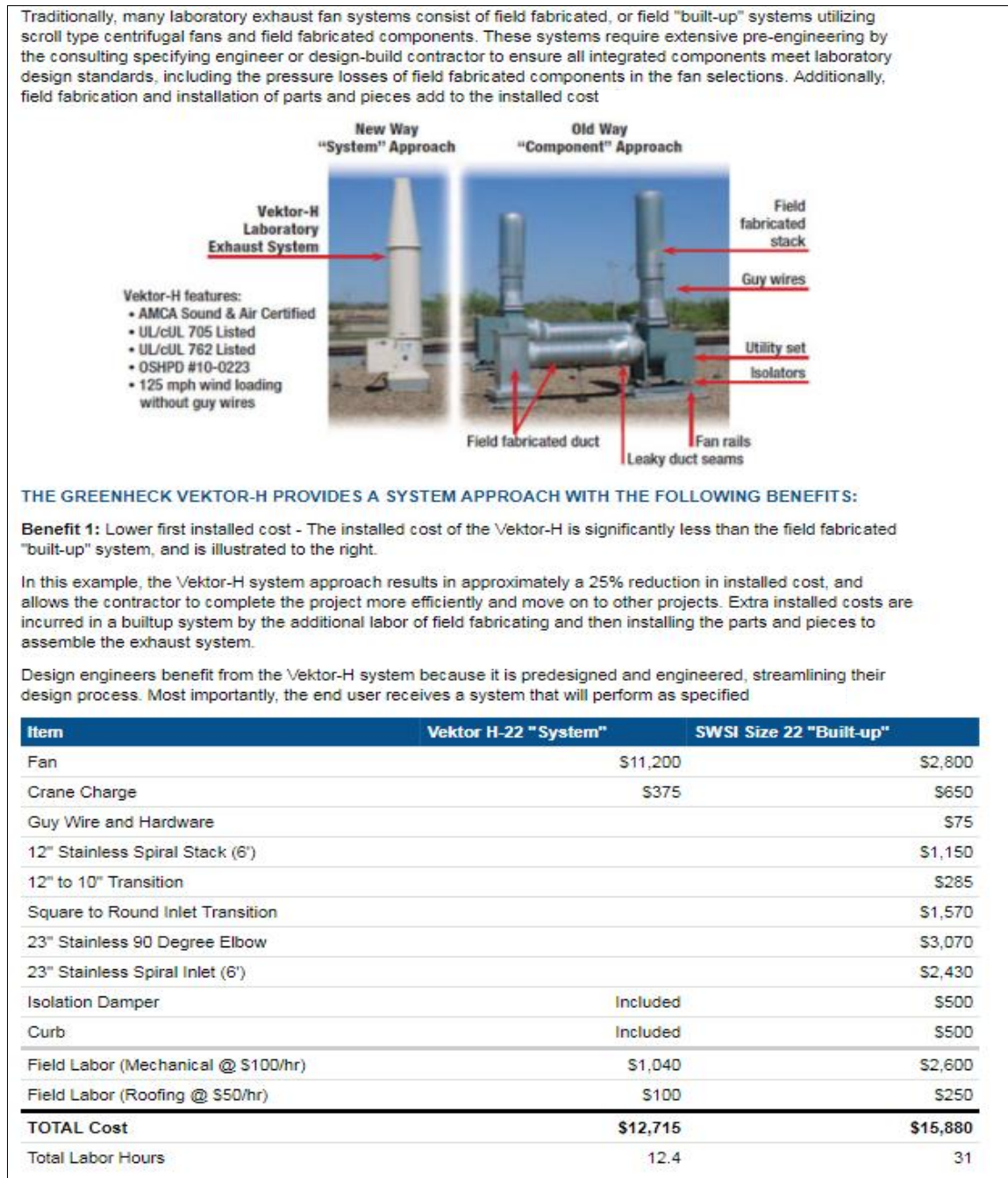


Figure 1 – Installed Cost of a Factory Built vs. a Field Built High Plume Blower.

In summary, AMCA 260 licensed fans assure consumers that induced flow high performance product performance at an economical price. As such, CEC Title 24 should retain the requirement for AMCA 260 licensed performance on induced flow high plume dilution blowers.

Credentials:

I have 32 years of experience with the Greenheck Group, a leading manufacturer of HVAC equipment. I have held positions in engineering, sales, marketing, software development and general management. As such, I have a solid foundation for understanding the impact regulations can have on consumers, building owners, system designers and manufacturers. I am active in the development of test standards and codes with industry trade associations including ASHRAE, AMCA, AHRI, UL, NFPA, ICC and others. I participated on the U.S. Department of Energy's Working Group responsible for developing recommendations on Commercial and Industrial Fan Energy Regulation. I am also a member of the U.S. Department of Energy's Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC).

The Greenheck Group is comprised of a number of brands including Greenheck, Unison Comfort Technologies, Innovent, Valent, Precision Coils, Accurex, and AiroLite. Headquartered in Schofield, WI, Greenheck has offices and manufacturing facilities in California, Wisconsin, Kentucky, Tennessee, North Carolina, Oklahoma, Mexico, and India. Greenheck employs nearly 4,000 people worldwide, including over 3,500 in the United States. With over 70 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 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 actively involved with many government, industry organizations and energy advocate groups working to establish performance standards and application guidance related to HVAC systems and products. Examples include:

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

Greenheck's involvement with the aforementioned groups is largely focused on development of standards, regulations and programs that result in energy efficient HVAC systems as well as

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.

In closing, Greenheck very much supports efforts to reduce energy consumption through practical and timely regulations and initiatives. This includes coordination and harmonization between appliance standards, energy codes and related compliance requirements.

Respectfully Submitted,

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