

**DOCKETED**

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**Morrison Products Comments â€™ Title 20 Commercial and Industrial Fans & Blowers Webinar â€™ September 18, 2019**

*Additional submitted attachment is included below.*

# MORRISON PRODUCTS, INC.

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California Energy Commission  
Docket Unit, MS-4  
Re: Docket No. 17-AAER-06  
1516 Ninth Street  
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October 11, 2019

**Re: Morrison Products Comments – Title 20 Commercial and Industrial Fans  
& Blowers Webinar – September 18, 2019**  
***[Docket No. 17-AAER-06]***

Dear CEC Staff:

The attached comments are submitted following the public Webinar, September 18, 2019 to review the specific topics of Definitions, Certifications, Labeling and Lab Reporting Requirements for the Commercial and Industrial Fans & Blowers (CIFB). These topics are for California Energy Commission (CEC) rulemaking regarding minimum efficiency standards for commercial and industrial fans under California's Appliance Efficiency Standards in Title 20 of the California Code of Regulations, Sections 1601 through 1609.

Morrison Products, Inc. is a manufacturer of air moving products supplying blowers and fan products to manufacturers of air-conditioning and heating equipment. Morrison supplies fans to 300+ companies producing residential and commercial air conditioning and ventilation equipment that is manufactured and sold primarily in North America. We have eight North American manufacturing facilities, regionally located with 1100 employees.

## **General Background**

These items are submitted relative to the topics covered on the Webinar and discussed at that time. Our previous comments are still open and of concern, especially the concept of dual regulation for fans that are already covered under Titles 20 and 24. That would add costs to consumers and burden to manufacturers without any added benefit of reduced energy consumption.

We are also confused by the reference to AMCA Standard 214. That standard does not exist, at least not in any final approved form. If it is a draft standard, we are not privy to the details of test outlined in it and therefore will have to reserve judgment of its use for regulation at this time. There are some general concerns with method of calculation for wire to air in other earlier standards such as AMCA 210, 207 and 208. We look forward to seeing a finalized copy that the Commission intends to use for this rulemaking.

## Specific Item - Definitions

Basic Model – the definition and explanation are not clear. We ask: how will the term be used? In other appliance rulemaking, it is used to allow a basic appliance design to be modified with features (color, brand, secondary items, etc.) that do not affect performance or energy consumption to be included under one umbrella product. Please elaborate how this “basic model” will be used in fan regulation. With an understanding of the intended use, a review of the definition may be possible.

Reference Fan – The definition has an “IE3” designation for motor efficiency. In DOE’s rulemaking the motor efficiencies were from Table 5 of 10 CFR 431.25. Without the full regulation and the detail of how it is used, it is not clear the proposed definition is correct.

## Specific Item - Certification

Proposed Certification Requirements – The list of items requested is quite extensive and would result in data glut for no apparent useful reason. Starting from the top here are specific comments on the items in Table X:

### Required Information (Column)

- Manufacturer – This is necessary
- Product Line – Not sure what is intended to be put here
- Model – A fan model number is necessary
- Fan type - OK
- Fan impeller diameter (in.) – We are used to talking about this term and using it in a “generic” manner but what specifically for formal definition is meant by this term? A good example is a mixed flow impeller – what is the “diameter” for this rulemaking? How it is defined affects calculations in the AMCA standards. It should be noted different companies use different ways of noting this for a similar fan.
- Motor Manufacturer (if fan is certified with a motor) - OK
- Motor model number (if fan is certified with a motor) - OK
- Transmission - OK
- Controller Manufacturer (if fan is certified with a controller) - OK
- Controller model number (if fan is certified with a controller) - OK
- Reference Fan Electrical Power at max rated speed of actual fan (FEPref) – This is a curve of infinite points and not singular point.
- Actual fan electrical input power at max rated speed (FEPact) – This is a curve of infinite points and not singular point.
- Max Rated Air Flow (CFM) – Not sure the value of this number would be to regulators, auditors or users. This will require curve fitting solution that will have further uncertainty beyond those of basic fan curves.
- Max Rated Pressure (in. wg) – Not sure the value of this number would be to regulators, auditors or users. This will require curve fitting solution that will have further uncertainty beyond those of basic fan curves.
- FEI at max rated speed – This is a curve of infinite points and not singular point.

At DOE, the method for performance reporting was to be either a software selection program with performance data and/or a submitted data table with performance and FEP/FEI for each rated point. If that method is not workable for the CEC, an alternate suggestion would be to have the data retained by the manufacturer and published outcomes on their website for “certified performance” that would be readily available to all interested parties. Under either scenario, the fan in question could be investigated as to the acceptability for operation in the intended application by the web program or the data tables as compared to the third party testing from the investigation.

As for the operational questions:

- Will the proposed max point be reflective of all other FEI compliant operation points?
- Do the file parameters cover all the max points proposed?

It is not clear what is being sought and for what purpose. The best way to get a fan’s operational compliance map is for either the selection software, a set of tables representing a series of operating speeds or a detailed map itself. The first two are the most useful for operators and regulators.

### **Specific Item - Labeling**

For both conditions, known or unknown operating point, the label information proposed is too complicated. The needed information is Manufacturer, Model Number and Serial Number or Date Code. Reasons specific to each case is below.

Set Design Operation – The design flow, pressure, FEI and operating speed will all be different in “actual” operation than from “design”. Fan performance will always not match the design performance for the following reasons:

- Installation issues result in adjustments to the design of the system the fan is being used in (this goes on in virtually every building).
- Commissioning changes occur when the system is launched and adjusted as building use and occupancy occurs.
- Most systems have some filtration system that changes over time and causes the fan performance to change either to match a fixed flow condition or to operate at a lower flow.
- Air density naturally changes over time with temperature, barometer and humidity variation. This will result in varying fan performance

Unknown Design Operation – For this more typical case, the three items (list of compliant airflows, compliant pressures and FEI’s) are basically an infinite list for all fans. This data is available for the regulatory authority or operator through the website or CEC through the submittals outlined above. Following the recommendation presented by CEC would require a large number of data points and would most likely still not include the “right” data point which will lead to further confusion.

### **Specific Item – Test Lab Report Requirements**

The proposed Lab Reports Requirements has a request for a large amount of data that is seemingly unnecessary. The request for “all data” including processing values is an overreach that would not help the regulation process. The final values need to be reported out as described above under certification. If a fan is found to be non-compliant with the reported values, then it would necessary for the manufacturer to produce the process and values used to certify performance for the regulatory authority to review. This would only be necessary when the subject fan is found to be out of compliance.

Our company maintains a storage of lab test results and have software that calculates the final data from basic measurements. That data is available for all designs manufactured and depending on the final actual requirements for this regulation, we most likely will have a large number of tests to conduct to ensure conformance with these new requirements. (While I believe this is true of most manufacturers, I do not have direct confirmation.) Transmitting, storing and retrieving “all data” will be a monumental task that doesn’t seem to provide value. This should be reduced just to the certified performance outcomes as outlined previously.

### **Recommendation**

Please consider the above comments as an effort to ensure the most good can be achieved with the minimal cost for consumers, regulators, enforcement and manufacturers regarding this important rulemaking. We still have the previous concerns regarding the overall rulemaking detailed in earlier responses to the Commission and are appreciative of the opportunity to participate in this rulemaking process. We want help create sensible solutions that drive systems to better energy efficiency in a cost effective manner so that solutions are adopted.

If you have any questions or wish to discuss this further, please do not hesitate to contact me.

Sincerely,

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