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CEC Fan Standards Cooments

Additional submitted attachment is included below.

Jane 16, 2017
Via Electronic Mail

California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Docket No. 17-AAER-06: Commercial and Industrial Fans and Blowers

The following comments are submitted for the California Energy Commission's (CEC's) invitation to participate for commercial and industrial fans and blowers. They are submitted on behalf of the Northwest Energy Efficiency Alliance.

The Northwest Energy Efficiency Alliance (NEEA) is a non-profit organization working to encourage the development and adoption of energy-efficient products and services. NEEA is supported by the region's electric utilities, public benefits administrators, state governments, public interest groups and efficiency industry representatives. This unique partnership has helped make the Northwest region a national leader in energy efficiency.

Comments

NEEA supports CEC Developing Standards for Commercial and Industrial Fans and Blowers

Commercial and Industrial Fans and Blowers standards present an opportunity for CEC to provide cost effective energy savings to consumers and influence the market place to offer efficient products for voluntary above code programs (LEED, ASHRAE 90.1 performance path) and utility programs. Fan standards would address two market inefficiencies. The first factor is a split incentive between the fan installer providing a smaller inefficient fan and the building owner paying a higher energy cost over the life of the building. The second factor is providing an energy efficiency metric that can be reliably used by designers, procurement personnel, and contractors to select more efficient fans. Air Movement and Control Association International (AMCA) and their members have long recognized these market issues and have worked to address them. AMCA developed a FEG (Fan Efficiency Grade) fan efficiency metric in 2010, and with great effort further developed the FEI (fan Efficiency Index) fan efficiency metric in 2014, which is the basis for the DOE rulemaking. The FEI fan efficiency metric combined with standards addresses to the two market inefficiencies by a) providing a base level for fan efficiency, b) and providing a framework for even more efficient fans to be selected by fan purchasers and influence above code and utility programs. The FEI fan efficiency metric is an innovative approach to regulating products and offers:

- Cost effective savings to the consumer.
- Appropriately sized often larger fan for the manufacturer to sell.
- Saves large amount of energy due to the unit savings and quantity of fans in the market.

A CEC fan regulation based upon FEI provides a favorable outcome for consumers, manufacturers and energy advocates. By establishing fan standards, fan efficiency opportunities can be leveraged for savings far greater than by voluntary programs only and they reach markets not available to voluntary programs.

NEEA supports the DOE ASRAC term sheet for Commercial and Industrial Fans and Blowers

Together, energy advocates and AMCA recommended that the Department of Energy (DOE) establish an Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC) work group after jointly discussing fan regulations in 2014. DOE convened the ASRAC working group in 2015, comprised of representatives of fan,

motor, and HVAC manufacturers, consulting engineering firms, utilities, efficiency advocates, and the DOE to negotiate test procedures and efficiency standards for fans. The working group reached consensus on a number of items related to the scope of coverage, an efficiency metric, and test procedures. The working group developed a term sheet that captured the consensus. We recommend that the basis of the CEC standard be based upon the agreements reached in the term sheet.

NEEA recommends that CEC use FEI as the regulated performance metric for fans.

The ASRAC working group recommended that fan electrical input power (FEP) be the regulated metric for fans. The FEI (fan efficiency index) is the ratio of the FEP of a minimally compliant fan (or a reference value of FEP) divided by the FEP of the selected fan. The FEI as the metric provides a simple and intuitive approach for fan specifiers to select more efficient fans. This metric will provide fan manufacturers with a pathway to connect fan regulations to real world savings that will allow fan specifiers to make educated fan selections that benefit consumers. The use of the FEI metric will allow utility programs' and manufacturers' marketing efforts to drive savings beyond minimum compliance levels. In order for utility and above-code programs to achieve the greatest savings, it is necessary that the product in the field is easily compared to the minimally complaint product by using information on the product. This is a golden opportunity to leverage additional savings from CEC standards by manufacturers, utility programs and above-code programs by using FEI as the efficiency metric for fans. We recommend CEC use FEI efficiency metric for fans.

We support the equipment classes DOE used in their analysis for CEC standard

We support DOE's decision not to create a separate equipment class for forward-curved fans. Our recommended efficiency levels will allow market forces to drive forward-curved designs to be more efficient to achieve the required efficiency level. We support DOE's decision to maintain the same equipment classes in the rulemaking.

We recommend that CEC use the default values for motor, transmission, and control losses in the AMCA 207 standard.

AMCA has developed standard default loss values in AMCA 207 which are slightly different than the values agreed to in the final ASRAC term sheet. The alignment of the default values in CEC test procedure with AMCA 207 default values would be beneficial to manufacturers producing fans for an international market by reducing fan efficiency marketing material and fan selection software development. We recommend that CEC use AMCA 207 default values.

We recommend that CEC leverage AMCA standards development in the development of CEC Fan Standards

AMCA has continued to pursue energy efficiency through the development of AMCA standards in the absence of DOE completing of fan standards. Energy advocates have being included in the development of the AMCA standards and have been able to provide useful input. While issues remain in completing all the necessary rule sets for standards they are surmountable.

We recommend that CEC adopt the approach for embedded fans indicated by the ASRAC term sheet

The regulation of embedded fans in equipment that is not currently regulated by a DOE efficiency metric is the most practical approach for achieving efficiency in these products and preventing loopholes around fan efficiency regulations.

We thank you for the opportunity to provide these comments.

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