Energy Efficiency Program for Industrial Equipment: Test Procedures for Fans, Notice of Petition for Rulemaking


ACTION: Notice of petition for rulemaking; request for comments.

SUMMARY: This document announces receipt of a petition received by DOE on January 10, 2020, from the Air Movement and Control Association (AMCA), International, Air Conditioning Contractors of America, and Sheet Metal & Air Conditioning Contractors of America requesting that DOE establish a Federal test procedure for commercial and industrial fans. The petition, which appears at the end of this document, requests that DOE resume a previous DOE rulemaking effort to establish a Federal test procedure for commercial and industrial fans, and that such test procedure be based on an upcoming industry test method. This document summarizes the substantive aspects of this position and requests public comments on the merits of the petition.

DATES: DOE will accept comments, data, and information with respect to the AMCA Petition until [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].
ADDRESSES: You may submit comments, identified by docket number “EERE-2020-BT-PET-0003,” by any of the following methods:


*Email: FansPetition2020PET0003@ee.doe.gov. Include the docket number and/or RIN in the subject line of the message.*

*Postal Mail: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1445. If possible, please submit all items on a compact disc (“CD”), in which case it is not necessary to include printed copies.*

No telefacsimilies (faxes) will be accepted. For detailed instructions on submitting written comments and additional information on the rulemaking process, see section V of this document (Public Participation).

*Hand Delivery/Courier: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L’Enfant Plaza, SW., Suite 600, Washington, DC, 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.*
Docket: The docket, which includes Federal Register notices, public meeting attendee lists and transcripts, comments, and other supporting documents/materials, is available for review at http://www.regulations.gov. All documents in the docket are listed in the http://www.regulations.gov index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

The docket web page can be found at: http://www.regulations.gov/docket?D=EERE-2020-BT-PET-0003. The docket web page will contain simple instructions on how to access all documents, including public comments, in the docket. See the Submitting Public Comment section of this document for further information on how to submit comments through http://www.regulations.gov.


For further information on how to submit a comment, review other public comments and the docket, or to request a public meeting, contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by email:
ApplianceStandardsQuestions@ee.doe.gov.

SUPPLEMENTARY INFORMATION: The Administrative Procedure Act (APA), 5 U.S.C. 551 et seq., provides among other things, that “[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.” (5 U.S.C. 553(e)) DOE received a petition from the Air Movement and Control Association International, Air Conditioning Contractors of America, and Sheet Metal & Air Conditioning Contractors of America (hereinafter referred to as “the petitioners”), as described in this document and set forth verbatim below, requesting that DOE resume a previous DOE rulemaking effort to establish a Federal test procedure for commercial and industrial fans, and that such test procedure be based on an upcoming industry test method, AMCA 214.

For reference, in 2011, DOE proposed a determination that commercial and industrial fans, blowers, and fume hoods, are covered equipment under Part A–1 of Title III of the Energy Policy and Conservation Act (EPCA) (42 U.S.C. 6311 et seq.), as amended, which would subject such equipment to the energy conservation standards (42 U.S.C. 6313) and test procedure requirements (42 U.S.C. 6314) of Part A–1 of Title III of EPCA. (See 76 FR 37678) DOE held a
public meeting and solicited public comment on the proposed determination.

DOE then established a negotiated rulemaking working group under the
Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC
Working Group) to negotiate the scope of coverage, key conditions of a proposed
test procedure, and proposed energy conservation standards for fans and blowers.
(80 FR 17359) After negotiation meetings and solicitation of public comment, 1
the ASRAC Working Group made several recommendations regarding the issues
discussed in the negotiated rulemaking. 2 However, DOE did not finalize its
determination and has not taken further action on the matter.

In their petition, the petitioners propose that DOE base a test procedure for
commercial and industrial fans on new fan efficiency metrics: fan electrical power
(FEP) measured in kilowatts and the fan energy index (FEI). 3 Petitioners state
that both metrics are derived using a set of AMCA test methods, which will be
incorporated under the upcoming AMCA 214. 4 Petitioners also request that the
scope of any Federal test procedure for fans be consistent with that in


1 Comments and documents related to the proposed determination and the ASRAC meetings may
2 The final ASRAC Commercial and Industrial Fans and Blowers Working Group term sheet
(Docket No. EERE-2013-BT-STD-0006, No. 179) is available at
3 The FEI of a fan at a given operating point is a dimensionless index defined as the FEP (kW) of a
theoretical reference fan divided by the FEP (kW) of the fan at the same operating point.
4 According to petitioners, AMCA 214 establishes uniform definitions of FEI and FEP and
integrates and revises ANSI/AMCA Standard 207 (Fan System Efficiency and Fan System Input
Power), ANSI/AMCA Standard 208 (Calculation of the Fan Energy Index for calculating FEI) and
portions of AMCA Publication 211 (Certified Ratings Program Product Rating Manual for Fan
Air Performance), and incorporates by reference standardized methods of test for fans (e.g.
ANSI/AMCA Standard 210/ASHRAE Standard 51, Laboratory Methods of Testing Fans for
Certified Aerodynamic Performance Rating). (The petitioners, No. 01 at p. 6-7)
Low-Rise Residential Buildings (ASHRAE 90.1-2019), and that some fans should be exempt from testing in accordance with specific industry standards highlighted by the petitioners, and in accordance with the recommendations of the ASRAC Working Group. Petitioners also request that a Federal test procedure for commercial and industrial fans allow regulators to rely on previously established test data to certify compliance, and that regulators be allowed to rely on test data from a single fan to certify compliance with any state or Federal efficiency standard, and to use test results based on certain AMCA or International Organization for Standardization (ISO) standardized methods of testing. (The petitioners, No. 01 at p. 8)

Petitioners assert that a Federal test procedure based upon AMCA 2014 would have several benefits, including: (1) more accurate representation of wire-to-air performance of fans and fan energy use, (2) assisting customers in comparing and selecting fans, (3) easier enforceability for regulators, and (4) acceleration of the use of the new efficiency metrics recommended by the ASRAC Working Group. (The petitioners, No. 01 at p. 4-5) Petitioners also state that a Federal test procedure would reduce regulatory burden, particularly to small- to medium-sized manufacturers. (The petitioners, No. 01 at p. 4) Petitioners state that without a Federal test procedure, the industry would have to continue to comply with unique or outdated state energy codes resulting in considerable regulatory burden for the fan industry through expenditure of resources, greater uncertainty, and inefficiency. (The petitioners, No. 01 at p. 5-6)
The petition is available in the docket at


promulgating this petition for public comment, DOE is seeking views on whether

it should consider the petition and undertake a rulemaking to develop a test

procedure for fans. By seeking comment on whether to grant this petition, DOE

takes no position at this time regarding the merits of the suggested rulemaking or

the assertions made by the petitioners.

DOE welcomes comments and views of interested parties on any aspect of the

petition for rulemaking and on whether DOE should proceed with the rulemaking.

Specifically, DOE request submission of comments, including data and

information on whether an amended test procedure rule would: (1) Accurately

measure energy efficiency, energy use, or estimated annual operating cost of fans

during a representative average use cycle or period of use; and (2) Not be unduly

burdensome to conduct.

Submission of Comments

DOE invites all interested parties to submit in writing by [INSERT DATE 30

DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL

REGISTER]. comments and information regarding this petition.
Submitting comments via http://www.regulations.gov. The http://www.regulations.gov webpage will require you to provide your name and contact information prior to submitting comments. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to http://www.regulations.gov information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (CBI)). Comments submitted through http://www.regulations.gov cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the
information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through http://www.regulations.gov before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that http://www.regulations.gov provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery, or postal mail. Comments and documents via email, hand delivery, or postal mail will also be posted to http://www.regulations.gov. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information on a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information in your cover letter each time you submit comments, data, documents, and other information to DOE. If you submit via postal mail or hand delivery, please provide all items on a CD, if feasible, in which case it is not necessary to submit printed copies. No telefacsimiles (faxes) will be accepted.
Comments, data, and other information submitted electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English, and free of any defects or viruses. Documents should not include any special characters or any form of encryption, and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery two well-marked copies: One copy of the document marked “Confidential” including all the information believed to be confidential, and one copy of the document marked “Non-confidential” with the information believed to be confidential deleted. Submit these documents via email or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.
It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

DOE considers public participation to be a very important part of its process for considering rulemaking petitions. DOE actively encourages the participation and interaction of the public during the comment period. Interactions with and between members of the public provide a balanced discussion of the issues and assist DOE in determining how to proceed with a petition. Anyone who wishes to be added to DOE mailing list to receive future notices and information about this petition should contact Appliance and Equipment Standards Program staff at (202) 287-1445 or via email at ApplianceStandardsQuestions@ee.doe.gov.

Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this notice of petition for rulemaking.

Signed in Washington, DC, on April 2, 2020.

______________________________
Alexander N. Fitzsimmons
Deputy Assistant Secretary for
Energy Efficiency
Energy Efficiency and Renewable Energy
January 10, 2020

The Honorable Daniel R. Simmons Assistant Secretary, Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
1000 Independence Avenue SW
Washington, DC 20585-0121

Via email.

Dear Mr. Simmons:

On behalf of Air Movement and Control Association (AMCA) International\(^5\), Air Conditioning Contractors of America (ACCA)\(^6\) and Sheet Metal & Air Conditioning Contractors of America (SMACNA)\(^7\), please accept the petition that is attached below to this letter respectfully requesting the U.S. Department of Energy (DOE) to resume its rulemaking to develop a federal test procedure for commercial and industrial fans.

A related rulemaking began in June 2011, with AMCA International and its member companies working intensively and proactively with the Department, efficiency advocates, and industry stakeholders to make progress on what became a highly complex effort. In aid of the earlier rulemaking a term sheet approved by the Appliance Standards and Rulemaking Federal

---

\(^5\) AMCA International is a not-for-profit association of manufacturers of fans, dampers, louvers, air curtains, and other air-system components for commercial HVAC, industrial-process, and power-generation applications. With programs such as certified ratings, laboratory accreditation, verification of compliance, and international-standards development, its mission is to advance the knowledge of air systems and uphold industry integrity on behalf of its 400 member companies worldwide.

\(^6\) ACCA is a non-profit association whose membership includes more than 60,000 professionals from businesses in the indoor environment and energy services community. We work together to promote professional contracting, energy efficiency, and healthy, comfortable indoor environments.

\(^7\) SMACNA is an international trade association representing 1,834 member firms in 97 chapters throughout the United States, Canada, Australia, and Brazil. A leader in promoting quality and excellence in the sheet metal and air conditioning industry, SMACNA has offices in Chantilly, Va., and on Capitol Hill.
Advisory Committee (ASRAC) Working Group in 2015, signaled clear progress; however, the rulemaking was suspended in January 2017 with publication of Executive Order 13771.

Among the unintended consequences of the suspension are that the fan industry is now faced with state-by-state regulation, which was initiated by California in 2017, and having a legacy fan-efficiency metric (Fan Efficiency Grade) being retained in the energy codes of states that have adopted ASHRAE or ICC model energy codes or standards since their 2012 editions. Thus, it is fair to say that the Executive Order 13771, Reducing Regulation and Controlling Regulatory Costs, has unintentionally increased regulatory burden and costs for the fan industry.

Therefore, we are submitting a petition to resume rulemaking for a federal test standard for commercial and industrial fans.

Respectfully,

Mr. Michael G. Ivanovich
Senior Director, Global Affairs, AMCA International
mivanovich@amca.org; +1 708-714-6619

Mr. Thomas F. Catania, Jr. Esq.
Consultant and Counsel to AMCA International

Mr. Barton James
President and CEO, ACCA

Mr. Vincent R. Sandusky
Chief Executive Officer, SMACNA

CC:
Mr. Alexander Fitzsimmons, Mr. David Nemtzow, Mr. John Cymbalsky, Mr. Daniel Cohen, Ms. Elizabeth Kohl, U.S. Department of Energy

Attachment: Petition for Adoption of Uniform Test Procedure for Certain Commercial and Industrial Fans and Blowers
Before the
UNITED STATES DEPARTMENT OF ENERGY
Office of Energy Efficiency and Renewable Energy

In the Matter of

Energy Conservation Program:
Commercial and Industrial Fans and Blowers;

January 10, 2020

PETITION FOR ADOPTION OF UNIFORM TEST PROCEDURE FOR CERTAIN COMMERCIAL AND INDUSTRIAL FANS AND BLOWERS

Air Movement and Control Association (AMCA) International,8 Air Conditioning Contractors of America (ACCA)9 and Sheet Metal & Air Conditioning Contractors of America (SMACNA)10 respectfully petition the U. S. Department of Energy (DOE) to develop a test procedure for commercial and industrial fans and blowers (CIFB) based on an AMCA draft test procedure (AMCA

8 AMCA International Inc. is a not-for-profit association of manufacturers of fans, dampers, louvers, air curtains, and other air-system components for commercial HVAC, industrial-process, and power-generation applications. With programs such as certified ratings, laboratory accreditation, verification of compliance, and international-standards development, its mission is to advance the knowledge of air systems and uphold industry integrity on behalf of its 400 member companies worldwide.
9 ACCA is a non-profit association whose membership includes more than 60,000 professionals from businesses in the indoor environment and energy services community. We work together to promote professional contracting, energy efficiency, and healthy, comfortable indoor environments.
10 SMACNA is an international trade association representing 1,834 member firms in 97 chapters throughout the United States, Canada, Australia, and Brazil. A leader in promoting quality and excellence in the sheet metal and air conditioning industry, SMACNA has offices in Chantilly, Va., and on Capitol Hill.
214, which is being developed by an American National Standards Institute- (ANSI-) compliant committee of AMCA members and energy-efficiency advocates.

AMCA, ACCA, and SMACNA believe such an action by the Department would be in the national interest and consistent with the Administration’s objective of reducing regulatory burden, particularly on small- to medium-sized manufacturers.

Moreover, development of a CIFB test procedure based on AMCA 214 would accelerate the use of a new fan-efficiency metric that was agreed to in a term sheet approved by an Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC) Working Group from the unfinished DOE CIFB rulemaking. The new metric is superior to the metric currently used in pre-2019 editions of ASHRAE and International Code Council model energy standards and codes, state energy codes, and voluntary and mandatory fan regulations in India, Malaysia, Thailand, and other Asian countries.

**NEED TO PREEMPT METRIC USED IN STATE ENERGY CODES AND REGULATIONS**

In 2010, AMCA published a rating standard defining a metric for fan efficiency, Fan Efficiency Grade (FEG), and led its placement into model energy codes and standards from 2012 onward. FEG subsequently has been adopted into at least 12 state energy codes.

---

11 AMCA 214, Test Procedure for Calculating Fan Energy Index for Commercial and Industrial Fans and Blowers, is in the review/balloting stage with the intent of achieving ANSI standard accreditation in 2020.

During the DOE CIFB rulemaking that started in 2011, AMCA, working in collaboration with DOE and energy-efficiency advocates, developed superior metrics–Fan Energy Index (FEI) and Fan Electrical Power (FEP). These metrics were recommended in the term sheet approved by the ASRAC Working Group for Fans in 2015.

Compared with FEG, FEI is a wire-to-air metric for fans as extended products. It allows fan specifiers and purchasers to easily compare the power consumption of various potential fan selections, including motor and drive combinations. FEI also facilitates simpler enforcement by code officials because FEI ratings are easy to compare to minimum code requirements. Therefore, the new metric is designed to use market signals and better information to assist customers in selecting the most efficient fan for their specific requirements.

AMCA is convinced of the superiority of FEI and FEP, specifically their substantial energy-saving potential, their enabling more straightforward fan selection for system design, and their simpler enforceability by code officials.

DOE was expected to publish a proposed test procedure for fans soon after the 2015 conclusion of the ASRAC Working Group. However, DOE’s work on fans was suspended following the January

---

13 States with FEG-based energy-code provisions include, but may not be limited to, Alabama, Florida, Hawaii, Idaho, Illinois, Maryland, Minnesota, New Jersey, New York, Oregon, Utah, Vermont, and Washington.

Without a federal CIFB test procedure, industry must continue to comply with state energy codes using the outdated FEG metric and endure the cost and resources of advocating for the adoption of FEI on a state-by-state basis. Without federal preemption, the phaseout of FEG will take many years to accomplish through regular code cycles (Minnesota, for example, has a six-year revision cycle and is now adopting the 2018 International Energy Conservation Code).

State appliance regulations are a completely different regulatory channel affecting the fan industry. The California Energy Commission is developing a CIFB efficiency regulation\textsuperscript{14} based on FEI and FEP, with other states expected to follow suit. Without a federal test procedure, these states would be free to promulgate unique requirements that, in aggregate, could impose excessive regulatory burden.

In short, the Executive Order meant to ease regulatory burden has had the opposite effect of triggering considerable regulatory burden for the fan industry through expenditure of resources, greater uncertainty, and inefficiency.

**BASIS ON EMERGING INDUSTRY STANDARD**

\textsuperscript{14} For Title 20, see California Energy Commission Docket 17-AAER-06, Commercial and Industrial Fans and Blowers, at https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=17-AAER-06.
AMCA and energy-efficiency advocates are working with the California Energy Commission (CEC) to incorporate FEI into the Title 20 appliance-efficiency standard. To aid this and the efforts of other states certain to follow, AMCA and energy-efficiency advocates are developing a test procedure for FEI. The intent is to have AMCA 214 ANSI-accredited and referenced in state appliance regulations, encouraging uniform testing and rating requirements.

Calculating an FEI rating from fan-test data currently requires four different AMCA publications: two calculation standards, one standardized method of test, and one operating manual. AMCA 214 weaves these publications together. It integrates and revises sections of ANSI/AMCA Standard 207, Fan System Efficiency and Fan System Input Power, for calculating part-load motor and drive efficiencies and ANSI/AMCA Standard 208, Calculation of the Fan Energy Index, for calculating FEI; incorporates by reference standardized methods of test appropriate for most fans\:^{15} \text{; and} \quad \text{integrates and revises portions of the operating manual for fans in AMCA Publication 211, Certified Ratings Program Product Rating Manual for Fan Air Performance.}

AMCA 214 establishes uniform definitions of FEI and FEP as well as means by which fans are tested and ratings calculated. Also, it provides definitions of key terms that are intended to be legally enforceable.

A federal test procedure would not solve all problems, as states still would be able to set their own minimum efficiency performance standards, labeling and compliance-filing requirements, and surveillance procedures. However, establishing metrics and the AMCA 214 test procedure would provide substantial relief for U.S. codes, standards, and regulations and promote and support worldwide uniformity.

To facilitate fan regulation by a state or an agency, AMCA 214 omits scoping statements that would restrict the test procedure to specific fan types or sizes and does not present labeling, compliance, or surveillance mechanisms that would be included in an efficiency standard.

**LIMIT SCOPE OF TEST PROCEDURE**

AMCA petitions that the test-procedure scope for commercial fans be consistent with that in ANSI/ASHRAE/IES 90.1-2019, Energy Standard for Buildings Except Low-Rise Residential Buildings, and exempt embedded fans that are part of equipment listed under ANSI/ASHRAE/IES 90.1-2010 Section 6.4.1.1. For industrial fans, AMCA recommends omitting fans that cannot be tested to ANSI/AMCA Standard 210/ASHRAE Standard 51, Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating, such as jet fans. AMCA also petitions that the exemptions in the 2015 ASRAC term sheet be followed.

**NEED TO ALLOW LEGACY DATA**

AMCA, ACCA and SMACNA petition that manufacturers and regulators be allowed to rely on previously established fan ratings to certify compliance with any state or federal efficiency standard (1) regardless of the date of the test, (2) even if the testing occurred prior to laboratory approval by
the government entity, and (3) even if the testing was conducted before the federal test procedure was approved by DOE. Moreover, AMCA, ACCA and SMACNA petition that manufacturers and regulators be allowed to rely on ratings from a single fan to certify compliance with any state or federal efficiency standard and use test results based on the above-listed AMCA or International Organization for Standardization (ISO) standardized methods of test.

CONCLUSION

Without federal preemption, the fan industry will have to contend with state energy-code cycles over many years to remove a legacy metric. Additionally, it will have to negotiate with state regulators developing CIFB appliance standards. Appliance rulemaking processes and required participation are time-consuming and complex; legally enforceable definitions and test procedures must be developed. Because states are entitled to unique regulations, AMCA and manufacturers will be burdened with participating in rulemakings state by state, which will likely result in unique requirements and test procedures. In aggregate, small and medium-sized companies will be imperiled by burdensome costs and possible penalties resulting from unintended errors.

FEI is a metric for driving CIFB efficiency that is superior to the FEG metric currently used in many state energy codes and in other economies. FEI and FEP (which is used to calculate FEI) were agreed on by the ASRAC fan working group and the ASRAC Working Group.

AMCA 214 is a draft test procedure developed by industry experts and diverse stakeholders that DOE can use to accelerate the adoption of FEI on a national basis, eliminating the outdated FEG and reducing regulatory burden. Greater use of FEI will provide a convenient and effective tool for
making better fan selections, which will reduce energy consumption, carbon emissions, and energy costs.

Therefore, AMCA, SMACNA, and ACCA respectfully petition DOE to adopt a test procedure for commercial and industrial fans based on AMCA 214 with the scope limitations proposed and allow historical data from tests performed to AMCA or ISO test standards.

END OF PETITION

[FR Doc. 2020-08316 Filed: 4/22/2020 8:45 am; Publication Date: 4/23/2020]