electricity customers. As the electric power system continues to evolve, with stakeholders integrating higher amounts of variable renewable generation, deploying electric vehicles and associated charging infrastructure, and connecting more dynamic end-use devices and subsystems, substations will need to evolve as well. These critical nodes will need to continue providing their traditional functions as well as new functions and capabilities required in a future grid.

The SSPS Roadmap will present a path for the strategic integration of high voltage power electronic converters in substations to provide enhanced capabilities and support the evolution of the grid. Ultimately envisioned as a modular, scalable, flexible, and adaptable power block that can be used within all substations, SSPS converters will serve as power routers or hubs that have the capability to electrically isolate system components and provide bidirectional alternating current or direct current power flow control from one or more sources to one or more loads—indifferent to magnitude and frequency. Deployment of SSPS technology within substations can facilitate evolution of the grid by enabling better asset utilization, increasing system efficiency, enhancing security and resilience, and easing the integration of distributed energy resources and microgrids.

II. Request for Information

The draft SSPS Roadmap was developed by the OE Transformer Resilience and Advanced Components program with support from the Savannah River National Laboratory. The roadmap is structured to provide the context, rationale, and potential benefits of utilizing SSPS technology, and articulates a research and development pathway to accelerate maturation of SSPS. It aims to capture the state-of-the-art in critical enabling technologies, highlight research gaps and opportunities, and align disparate activities across the stakeholder communities to realize the SSPS vision.

This RFI provides the public, industry, and interested stakeholders, the opportunity to play an important role in defining and refining the SSPS vision and the potential technology development pathway. The intent of this RFI is to solicit input concerning the benefits offered by SSPS technology, the application areas where SSPS technology can provide a value proposition, the current state-of-the-art, and the gaps that are most critical to fill. The information obtained will be public and is meant to be used by DOE to guide and inform research and development activities. Please provide your comments next to the relevant questions in the Excel spreadsheet and supporting information if noted, including studies, reports, references, data, and examples relevant to SSPS.

SSPS Roadmap Questions

Chapter 1–2: Introduction and Conventional Substations

What issues and concerns not captured in the roadmap most deeply impact the ability of substations to meet the demands of an evolving grid? What are additional challenges faced by utilities that would necessitate power electronic converters in substations?

Are there any other issues or comments regarding these Chapters?

Chapter 3–4: Solid State Power Substations and SSPS Technology Development Pathway

Is there evidence of a growing need for power electronic converters in substations? If so, in what capacity? What specific challenges would the use of power electronic converters address?

Comments are requested on the SSPS vision and the three classification of SSPS converters articulated in the roadmap, as well as on the defining feature and functions and the voltage and power ratings.

Comments are requested on the SSPS technology development pathway presented in the roadmap. For each classification of SSPS converters, are there other potential applications that have not been captured?

What are additional benefits of using SSPS converters that should be captured?

Are there any other issues or comments regarding these Chapters?

Chapter 5: SSPS Technology Challenges, Gaps, and Goals

Comments are requested on the R&D challenges identified in the roadmap and their associated goals. Are they sufficiently aggressive and appropriate to realize the defining feature and functions for each classification of SSPS converter? What R&D challenges not yet identified would prevent SSPS technologies from being realized, as envisioned? For these additional R&D challenges, what would be the associated goals for each classification of SSPS converter?

Comments are requested on the state-of-the-art and the research gaps identified in the roadmap for each of the R&D challenges. What on-going work, that can be publicly shared, should be reflected in the state-of-the-art? What additional gaps needs to be highlighted to address the R&D challenges identified? What specific actions will need to be taken in the near-, mid-, and long-term to sufficiently address the gaps identified?

What additional non-technical challenges are there that would prevent SSPS converters from being accepted by industry? What additional standards would be relevant to SSPS technology, as envisioned? What are potential market or regulatory barriers that will need to be addressed?

Are there any other issues or comments regarding this Chapter?

General Comments

Comments are requested on the technology topic described in the roadmap. What is the appropriate Federal role in advancing this technology area? What are some organizational roles in helping to advance this technology concept? What amount of resources would be required to fully implement the roadmap?

Issued in Washington, DC, on March 16, 2018.

Bruce Walker,

Assistant Secretary, U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability.

[FR Doc. 2018–05940 Filed 3–22–18; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

[Case No. 2017–011]

Notice of Petition for Waiver of Big Ass Solutions (BAS) From the Department of Energy Ceiling Fan Test Procedure, and Grating of Interim Waiver

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notice of petition for waiver, notice of grant of an interim waiver, and request for comments.

SUMMARY: This notice announces receipt of and publishes a petition for waiver from Big Ass Solutions (BAS) seeking an exemption from specified portions of the U.S. Department of Energy (DOE) test procedure for determining the efficiency of ceiling fans under appendix U (appendix U). BAS seeks to use an alternate test procedure to address issues involved in testing certain basic models identified in its petition. According to BAS, testing at low speed for the low-speed small-diameter ceiling fan basic models identified in the petition, may cause BAS undue hardship in meeting the stability requirements contained in

appendix U. Consequently, BAS recommended relaxing the low speed stability criteria from DOE's requirement of 5 percent to 10 percent. This notice also grants BAS an interim waiver from the DOE's ceiling fan test procedure for its specified basic models, subject to use of the alternative test procedure as set forth in this notice. DOE solicits comments, data, and information concerning BAS's petition and its suggested alternate test procedure.

DATES: DOE will accept comments, data, and information with respect to the BAS petition until April 23, 2018.

ADDRESSES: You may submit comments, identified by case number ''2017–011'', and Docket number ''EERE–2017–BT–WAV–0049,'' by any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *Email: BASFan2017WAV0049@ee.doe.gov.* Include the case number [Case No. 2017–011] in the subject line of the message. Submit electronic comments in WordPerfect, Microsoft Word, PDF, or ASCII file format, and avoid the use of special characters or any form of encryption.
- *Postal Mail:* Ms. Lucy deButts, U.S. Department of Energy, Building Technologies Office, Mailstop EE–5B, Petition for Waiver Case No. 2017–011, 1000 Independence Avenue SW, Washington, DC 20585–0121. If possible, please submit all items on a compact disc (CD), in which case it is not necessary to include printed copies.
- *Hand Delivery/Courier:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L'Enfant Plaza SW, Room 6055, Washington, DC 20024. Please submit one signed original paper copy.

Docket: The docket, which includes **Federal Register** notices, 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/#!docketDetail;D=EERE-2017-BT-WAV-0049.* The docket Web page will contain simple instruction on how to access all documents, including public comments, in the docket.

FOR FURTHER INFORMATION CONTACT: Ms. Lucy deButts, U.S. Department of Energy, Building Technologies Office, Mailstop EE–5B, 1000 Independence Avenue SW, Washington, DC 20585–0121. Email: *AS_Waiver_Request@ee.doe.gov.*

Elizabeth Kohl, U.S. Department of Energy, Office of the General Counsel, Mail Stop GC–33, Forrestal Building, 1000 Independence Avenue SW, Washington, DC 20585–0103. E-mail: *Elizabeth.Kohl@hq.doe.gov.* Telephone 202–586–7796.

SUPPLEMENTARY INFORMATION:

I. Background and Authority

Title III, Part B [1] of the Energy Policy and Conservation Act of 1975 (EPCA), Public Law 94–163 (42 U.S.C. 6291–6309, as codified) established the Energy Conservation Program for Consumer Products Other Than Automobiles, a program that includes ceiling fans that are the subject of this notice.[2] Part B includes definitions, test procedures, labeling provisions, energy conservation standards, and the authority to require information and reports from manufacturers. Further, Part B authorizes the Secretary of Energy to prescribe test procedures that are reasonably designed to produce results measuring energy efficiency, energy use, or estimated operating costs during a representative average use cycle or period of use, and that are not unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The test procedure for ceiling fans is contained in 10 CFR part 430, subpart B, appendix U (referred to in this notice as ''appendix U'').

DOE's regulations set forth at 10 CFR 430.27 contain provisions that allow a person to seek a waiver from the test procedure requirements for a particular basic model of a type of covered product when: The basic model for which the petition for waiver was submitted contains one or more design characteristics that (1) prevent testing according to the prescribed test procedure, or (2) cause the prescribed test procedure to evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. 10 CFR 430.27(a)(1). A petitioner must include in its petition any alternate test procedures known to the petitioner to evaluate the basic model in a manner representative of its energy consumption characteristics. 10 CFR 430.27(b)(1)(iii).

DOE may grant a waiver subject to conditions, including adherence to alternate test procedures. 10 CFR 430.27(f)(2). As soon as practicable after the granting of any waiver, DOE will publish in the **Federal Register** a notice of proposed rulemaking to amend its regulations so as to eliminate any need for the continuation of such waiver. As soon thereafter as practicable, DOE will publish in the **Federal Register** a final rule. 10 CFR 430.27(l).

The waiver process also allows DOE to grant an interim waiver if it appears likely that the petition for waiver will be granted and/or if DOE determines that it would be desirable for public policy reasons to grant immediate relief pending a determination on the petition for waiver. 10 CFR 430.27(e)(2). Within one year of issuance of an interim waiver, DOE will either: (i) Publish in the **Federal Register** a determination on the petition for waiver; or (ii) publish in the **Federal Register** a new or amended test procedure that addresses the issues presented in the waiver. 10 CFR 430.27(h)(1). When DOE amends the test procedure to address the issues presented in a waiver, the waiver will automatically terminate on the date on which use of that test procedure is required to demonstrate compliance. 10 CFR 430.27(h)(2).

II. Petition for Waiver of Test Procedure and Application for Interim Waiver

On June 14, 2017, BAS filed a petition for waiver and an application for interim waiver from the test procedure applicable to ceiling fans set forth in 10 CFR part 430, subpart B, appendix U. According to BAS, testing at low speed for the basic models listed in the petition,[3] may cause BAS undue hardship in meeting the requirements of the stability requirements contained in appendix U. Consequently, in its petition, BAS offered two alternate test procedures for determining the stability criteria for testing low-speed small-diameter ceiling fans at low speed: (1) BAS's preferred method, which would require BAS to employ a stability criteria using airflow instead of air velocity measurements, and (2) BAS's alternate method, which would require relaxing the low speed stability criteria from DOE's requirement of 5 percent to 10 percent. BAS initially stated that this second method is not preferred because it could add significant variability to the

[1] For editorial reasons, upon codification in the U.S. Code, Part B was re-designated Part A.

[2] All references to EPCA in this document refer to the statute as amended through the Energy Efficiency Improvement Act of 2015 (EEIA), Public Law 114–11 (April 30, 2015).

[3] The specific basic models for which the petition applies are ceiling fan basic models Isis F–IS2–0601S4 and Isis F–IS2–0601. These basic model names were provided by BAS in its June 2017 petition.

calculated airflow on low speed. BAS also requests an interim waiver from the existing DOE test procedure.

However, by email dated December 6, 2017, BAS withdrew their preferred method for modifying the stability criteria from consideration. Instead, BAS requested that DOE consider their alternative method as their recommendation for the alternate test procedure.[4]

DOE understands that the basic models identified in BAS's petition cannot be tested under the DOE test procedure because at the lower operating speeds for these fans, air speed is so low that the acceptable variance under the stability criteria (often less than 2 feet per minute) falls below the required accuracies for air velocity sensors in section 3.2 of the DOE test procedure. DOE also understands that absent an interim waiver, BAS's products cannot be tested and rated according to the DOE test procedure, and BAS is unable to advertise performance data for these models. DOE has reviewed the alternate procedure suggested by BAS and concludes that relaxing the stability criteria for low speed will allow for the accurate measurement of efficiency of these products, while alleviating the testing problems associated with BAS's implementation of ceiling fan testing for the basic models specified in its petition. Further discussion on DOE's review of the alternate test procedure are provided in section IV of this notice. Consequently, DOE has determined that BAS's petition for waiver will likely be granted. Furthermore, DOE has determined that it is desirable for public policy reasons to grant BAS immediate relief pending a determination of the petition for waiver.

III. Summary of Grant of an Interim Waiver

DOE has reviewed the manufacturer specifications and test data provided by BAS and agrees that it demonstrates that the basic models specified in the petition cannot be tested under the DOE test procedure because, when testing the basic models at low speed, the air speed is so low that the acceptable variance under the stability criteria (often less than 2 feet per minute) falls below the required accuracies for air velocity sensors in section 3.2 of the DOE test procedure. DOE compared BAS's test data to DOE's own test data from previous rulemakings and observed that the air velocities at low speed for the new BAS basic models are much lower than the test data previously evaluated. DOE's understanding is that the primary purpose of low speed for the basic models included in BAS's petition is to mix air in the room. Achieving the desired mixing effect requires much lower airflow that creates highly variable airflow patterns in the room. These atypically variable airflow patterns make it hard for the ceiling fan to achieve the stability criteria required by the DOE test procedure.

For the reasons stated above, DOE is granting BAS's application for interim waiver from testing for its specified ceiling fan basic models. The substance of DOE's Interim Waiver Order is summarized.

BAS is required to use the alternate test procedure set forth in this notice to test and rate the ceiling fan basic models listed in the petition (Isis F–IS2–0601S4, Isis F–IS2–0601, Isis F–IS2–0401L8S4, Isis F–IS2–0401L8, Isis F–IS2–0401I06L8S4, Isis F–IS2–0401I06L8, Isis F–IS2–0501L8S4 and Isis F–IS2–0501L8). BAS is permitted to make representations about the ceiling fan efficiency of these basic models for compliance, marketing, or other purposes to the extent that such products have been tested in accordance with the provisions set forth in the alternate test procedure and such representations fairly disclose the results of such testing in accordance with 10 CFR 429.32.

DOE makes decisions on waivers and interim waivers for only those basic models specifically set out in the petition, not future models that may be manufactured by the petitioner. BAS may request that DOE extend the scope of a waiver or an interim waiver to include additional basic models employing the same technology as the basic model(s) set forth in the original petition consistent with 10 CFR 430.27(g). In addition, DOE notes that granting of an interim waiver or waiver does not release a petitioner from the certification requirements set forth at 10 CFR part 429. See also 10 CFR 430.27(a) and (i).

The interim waiver shall remain in effect consistent with the provisions of 10 CFR 430.27(h). Furthermore, this interim waiver is conditioned upon the presumed validity of statements, representations, and documents provided by the petitioner. DOE may rescind or modify a waiver or interim waiver at any time upon a determination that the factual basis underlying the petition for waiver or interim waiver is incorrect, or upon a determination that the results from the alternate test procedure are unrepresentative of the basic model's true energy consumption characteristics. See 10 CFR 430.27(k)(1). Similarly, BAS may request that DOE rescind or modify a waiver or interim waiver if BAS discovers an error or determines that the waiver is no longer necessary or for other appropriate reasons. 10 CFR 430.27(k)(2).

IV. Alternate Test Procedure

Under EPCA, manufacturers may not make representations with respect to the energy use or efficiency of a covered product unless the basic model has been tested in accordance with the applicable DOE test procedure and the representation fairly discloses the results of such testing. (42 U.S.C. 6293(c)) Consistent representations are important for manufacturers to use in making representations about the energy efficiency of their products and to demonstrate compliance with applicable DOE energy conservation standards. Pursuant to the regulations applicable to waivers from applicable test procedures at 10 CFR 430.27, DOE will consider setting an alternate test procedure for BAS in a subsequent Decision and Order.

In its petition, BAS proposes that the basic models listed in the petition be tested according to the test procedure for ceiling fans prescribed by DOE at 10 CFR part 430, subpart B, appendix U, except that the stability criteria at low speed for low-speed small-diameter ceiling fans be modified to either of the recommended alternate test procedures as follows:

(1) Replace the stability criteria to allow a percentage variation around airflow, instead of average air velocity, between two consecutive tests. Therefore, the suggested test procedure should instead state: ''In a successive set of measurements, the lower recorded value for airflow multiplied by 1.03 is greater than or equal to the higher recorded value for airflow, or these airflow measurements vary less than 15 cfm'' (preferred), OR

(2) Relax the current low speed stability criteria tolerances such that the average air velocity measurements for each sensor varies by less than 10 percent, instead of 5 percent, compared to the average air velocity measured for the same sensor in a successive set of air velocity measurements (alternative).

However, by email dated December 6, 2017, BAS withdrew their preferred method for modifying the stability criteria. Instead, BAS requested that DOE consider their alternative method as their recommendation for the alternate test procedure.

[4] A copy of the email is available at *regulations.gov*, under docket number EERE–2017–BT–WAV–0049.

DOE reviewed both alternate test procedures and preliminarily concluded that the BAS alternate test procedure of applying stability criteria to airflow instead of air velocity could allow a greater variation in airflow and efficiency results between multiple tests of the same fan. Under the current DOE test procedure, air velocity is measured at each sensor along the sensor arm, and airflow is calculated based on these measurements. The air velocity measurements indicate both the amount and location of air provided by the fan within the effective area (i.e., the air profile). DOE found that large variations in air profile often indicate test room instability (e.g., localized temperature gradients that effect airflow). Applying stability criteria to the air velocity measurements ensures that successive sets of measurements result in similar air profiles, which is indicative of test room stability. On the other hand, DOE observed that stability criteria applied only to airflow could be met with large variations in air profile (i.e., at unstable test room conditions). This allows for airflow, and in turn fan efficiency, to vary significantly between multiple tests of the same fan because stable airflow can be achieved at varied test room conditions.

DOE also evaluated whether increased tolerances for the air velocity stability criteria for low speed tests could be used to reduce test burden without materially affecting the results of the test procedure. Specifically, DOE used test data from the previous rulemaking to compare the airflow and efficiency results using the current test procedure and the alternate test procedure. DOE found that increasing the stability criteria to 10 percent for low speed would allow more fans to meet the stability criteria and reduce the number of successive measurements needed to do so without materially changing the efficiency results of the test procedure. Under this approach, the section of the test procedure would read as follows:

3.3.2 Airflow and Power Consumption Testing Procedure

Measure the airflow (CFM) and power consumption (W) for HSSD ceiling fans until stable measurements are achieved, measuring at high speed only. Measure the airflow and power consumption for LSSD ceiling fans until stable measurements are achieved, measuring first at low speed and then at high speed. Airflow and power consumption measurements are considered stable for high speed if:

(1) The average air velocity for all axes for each sensor varies by less than 5% compared to the average air velocity measured for that same sensor in a successive set of air velocity measurements, and

(2) Average power consumption varies by less than 1% in a successive set of power consumption measurements.

Airflow and power consumption measurements are considered stable for low speed if:

(1) The average air velocity for all axes for each sensor varies by less than 10% compared to the average air velocity measured for that same sensor in a successive set of air velocity measurements, and

(2) Average power consumption varies by less than 1% in a successive set of power consumption measurements.

V. Summary and Request for Comments

Through this notice, DOE announces receipt of BAS's petition for waiver from the DOE test procedure for certain basic models of BAS ceiling fans, and grants BAS an interim waiver from the test procedure for the ceiling fan basic models listed in BAS's petition. DOE is publishing BAS's petition for waiver pursuant to 10 CFR 439.27(b)(1)(iv). BAS provided confidential performance information that is not included in this notice.

DOE solicits comments from interested parties on all aspects of the petition, including the alternate test procedures offered by the petitioner. DOE seeks comment on whether either of BAS' alternative test procedures would more accurately or fully comply with the EPCA test procedure requirements that a test procedure measure the energy use or energy efficiency of ceiling fans during a representative use cycle or period of use, and not be unduly burdensome to conduct. DOE seeks comment on whether the alternate test procedure of applying stability criteria to airflow instead of air velocity a greater variation in airflow and efficiency results between multiple tests of the same fan. DOE also seeks comment on whether use of the test method specified in this interim waiver would result in variability in the calculated airflow, and if so, to what extent.

Pursuant to 10 CFR 430.27(d), any person submitting written comments to DOE must also send a copy of such comments to the petitioner. The contact information for the petitioner is Taylor Sawyer <*tsawyer@bigasssolutions.com*>, Big Ass Solutions, 2348 Innovation Drive, Lexington, KY 40511. All comment submissions to DOE must include the Case Number 2017–011 for this proceeding. Submit electronic comments in Microsoft Word, Portable Document Format (PDF), or text (American Standard Code for Information Interchange (ASCII)) file format and avoid the use of special characters or any form of encryption. Wherever possible, include the electronic signature of the author. DOE does not accept telefacsimiles (faxes).

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 two copies: One copy of the document including all the information believed to be confidential, and one copy of the document with the information believed to be confidential deleted. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

Issued in Washington, DC, on March 16, 2018.

Kathleen B. Hogan,

Deputy Assistant Secretary for Energy Efficiency, Energy Efficiency and Renewable Energy.

Big Ass Solutions
2348 Innovation Drive
Lexington, KY 40511
Contact: Taylor Sawyer. (859) 629–6203/*tsawyer@bigasssolutions.com*
June 14, 2017

Via Electronic Mail

Submitted To:
Mr. John Cymbalsky
Ms. Ashley Armstrong
Office of Energy Efficiency and Renewable Energy
Building Technologies Program
EE–2J U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC, 20585
AS_Waiver_Requests@ee.doe.gov

Submitted by:
Big Ass Solutions
2348 Innovation Drive
Lexington, KY 40511
Contact: Taylor Sawyer. (859) 629–6203/tsawyer@bigasssolutions.com

Re: Petition to waive select provisions under Test Procedures for Ceiling Fans

Dear Mr. Cymbalsky and Ms. Armstrong,

Big Ass Solutions respectfully requests a waiver of one element in the Test Procedures for Ceiling Fans, finalized by DOE on July 25, 2016. The compliance date for representations made with respect to the energy use or efficiency of ceiling fans under this final rule was January 23, 2017. The docket number is EERE–2013–BT–TP–0050.

It has come to our attention that the stability requirements contained in the

final test procedure, when tested at low speed for certain small-diameter ceiling fan models, may cause Big Ass Solutions undue hardship in meeting the requirements of the test procedure.

Details

The final rule includes a specification for the stability criteria of the sensors used on small-diameter ceiling fans to evaluate airflow and power consumption:

Airflow and power consumption measurements are considered stable if: (1) the average air velocity for all axes for each sensor varies by less than 5% compared to the average air velocity measured for that same sensor in a successive set of air velocity measurements, and (2) average power consumption varies by less than 1% in a successive set of power consumption measurements.

When Big Ass Solutions initiated testing, we discovered that we are unable to meet this stability requirement at the lower operating speeds of a certain fan containing design characteristics that prevent testing per the current DOE test procedures. The average air speed is so low, that the acceptable variance under the stability criteria above is often less than 2 feet per minute, which falls below the required accuracies for airflow sensors that is stated in section 3.2 of the Final Rule. The measured velocity at this point also falls below the calibrated ranges of our two models of airflow sensors, (~30 – 1969 fpm) and (~30 – 196 fpm), which are in accordance with the requirements of the DOE test method and similar to sensors used at other small-diameter fan test labs. We have run several different tests and contracted an independent test lab to conduct additional testing, and all testing appears to have the same issue with stability at very low airspeeds, even with the use of two sets of sensors with different calibrated ranges.

An example test for stability we have conducted is as follows:

DOE TEST METHOD FOR LSSD

[Fans Stability Verification]

Sensor position	Sensor	Average air velocity (fpm)		Average	a/b	Stability? 0.95 ≤ (a/b) ≤1.05	Range (fpm)
		1a	1b				
1	BAF1114	13.27	14.55	13.91	0.91	Yes	1.39
2	BAF1119	13.29	14.74	14.02	0.90	Yes	1.40
3	BAF1115	13.35	13.44	13.39	0.99	Yes	1.34
4	BAF1122	13.27	13.56	13.41	0.98	Yes	1.34
5	BAF1118	15.42	15.80	15.61	0.98	Yes	1.56
6	BAF1110	15.02	14.01	14.52	1.07	Yes	1.45
7	BAF1113	13.10	13.24	13.17	0.99	Yes	1.32
8	BAF1121	11.17	14.71	12.94	0.76	No	1.29
9	BAF1111	7.77	12.52	10.15	0.62	No	1.01
10	BAF1120	16.12	19.57	17.85	0.82	No	1.78

While we are moving forward with testing on other BAS products not affected by this issue, the potential for future innovative fan products with blade spans under 7ft to become burdened by this may be substantial.

Big Ass Solutions currently manufactures a series of affected small-diameter HVLS fans with a blade spans of 6ft and markets them as Isis model Big Ass Fans. The two basic model Big Ass Fans found below, have physical and mechanical characteristics that meet the criteria for LSSD ceiling fan blade thickness and tip speed. Big Ass Solutions has included data detailing the exactness of this model's LSSD classification eligibility.

Isis, Commercial Fan Kit—4ft, 110–125 Volt/1 Phase; Direct Mount; Plug Winglets—F–IS2–0401L8S4

Isis, Commercial Fan Kit—4ft, 110–125 Volt/1 Phase—F–IS2–0401L8

Isis, Commercial Fan Kit—4′6″, 110–125 Volt/1 Phase; Plug Winglets—F–IS2–0401I06L8S4

Isis, Commercial Fan Kit—4′6″, 110–125 Volt/1 Phase—F–IS2–0401I06L8

Isis, Commercial Fan Kit—5ft, 110–125 Volt/1 Phase; Plug Winglets—F–IS2–0501L8S4

Isis, Commercial Fan Kit—5ft, 110–125 Volt/1 Phase—F–IS2–0501L8

Isis, Commercial Fan Kit—6ft, 110–125 Volt/1 Phase; Plug Winglets—F–IS2–0601S4

Isis, Commercial Fan Kit—6ft, 110–125 Volt/1 Phase—F–IS2–0601

10 CFR Parts 429 and 430 Energy Conservation Program: Test Procedures for Ceiling Fans; Final Rule

LOW-SPEED SMALL-DIAMETER CEILING FAN BLADE AND TIP SPEED CRITERIA

Airflow direction	Thickness (t) of edges of blades		Tip speed threshold	
	Mm	inch	m/s	feet per minute
Reversible	4.8 > t ≥ 3.2	3/16 > t ≥ 1/8	12.2	2,400
Reversible	t ≥ 4.8	t ≥ 3/16	16.3	3,200

BIG ASS SOLUTIONS TEST DATA – ISIS

Fan	Winglet	Control	Diameter (ins)	RPM	Blade Thickness (mm)			Tip Speed (fpm)	
					Leading	Trailing A	Trailing B	Forward	Reverse*
Isis 6ft	Plug	-	**72**	**120**	14.5	4.2	-	2,262	2,262
Isis 6ft	Winglet	-	**72**	**120**	14.5	4.2	-	2,262	2,262

Other affected parties

This requirement does not affect large-diameter fans or high speed small-diameter ceiling fans. Furthermore, this problem consistently appears only at our lower operating speeds. Because our lowest operating speed is designed for mixing of air, without causing a draft, in the winter and the typical 3 speed fan is designed to provide cooling at the lowest speed, our fan produces a much lower airspeed on low than the average fan on the market.

While there is only a small number of known manufacturers who have had their comments to the DOE on this matter published, we expect additional fan manufacturers with products where the speed of the air exiting the fan is not intended to provide cooling are likely to encounter this issue in their respective tests. The product class that is most likely to encounter this issue is the ''LSSD'' fan class. The manufacturers of LSSD fans include, but are not limited to:

Aertron Pty., Ltd.
Air Comfort Products
Air Cool Industrial
American-De Rosa Lamparts DBA Luminance
Artisan Industrial Company, Ltd. China
Canarm, Ltd.
Casablanca Fan Company
Champ-Ray Industrial Company, Ltd
Chien Luen Industries (Zhongshan), Ltd.
Collins Company, Ltd.
Craftmade
Electric
Emerson Ceiling Fans
Fanim Industries
Fanimation
Generation Brands
Halsey Enterprise Company, Ltd.
Hong Kong China Electric Manufacture Company, Ltd.
Hunter Fan Company
J & P Manufacturing
Kendal Lighting Inc.
Kichler Lighting
King of Fans
Landmark Enterprise, Inc.
Litex Industries Luminance
Madison Avenue Lighting & Fan Company
Maxim Lighting International, Inc.
Minka Group
Modern Fan Company
Orient Electric
Pacific Coast Lighting, Inc.
Pan Air Electric Company, Ltd.
Progress Lighting
Quorum International
Regency Ceiling Fans
Royal Pacific
Savoy House Lighting
Shell Electric Manufacturing (H.K.) Company, Ltd.
Tai-Der Electric Manufacturer Company, Ltd.
The Modern Fan Company Inc.
Torch Lighting, Ltd.
Vaxcel International
Ventamatic, Ltd.
Westinghouse Lighting
YuYuan, Ltd.
Zhongshan Hongwei Motor Manufacturing Company
Zhongshan Weihe Electrical Appliances Company, Ltd.
Zhongshan Zhifa Electrical Appliances Company, Ltd.

What is the impact on Big Ass Solutions?

Without a waiver or modification of the stability requirement for low speed air movement, the BAS fan models named above cannot be tested per federal standards.

Thus, Big Ass Solutions' current products are unable to pass the stability requirements at low speeds and in these cases, the entirety of the product test will be considered inadequate under the DOE rulemaking. Big Ass Solutions received from DOE a 180 day extension on Test Procedure compliance, so our compliance date is July 22, 2017. For our products unable to satisfy the DOE test procedures, BAS will not be able to advertise performance data for these products into the US market after July 22nd.

Suggested correction/alternative procedure

Big Ass Solutions recommends modifying the stability requirement with a process of comparing the airflow between two consecutive tests. This would replace the comparison of measured air speed on a senor by sensor basis which is problematic for the turbulent airflow generated by ceiling fans.

For example, in two successive tests Sensor 3 may show a reduction in airflow whereas Sensor 4 registers an increase, but the total airflow is the same between the tests. Instead of achieving stability based on average air velocity per each individual sensor position, Big Ass Solutions recommends basing the stability criteria on airflow. For example, on the high speed test the lower airflow from two consecutive test runs shall be within 3% of the higher aiflow.

BAS proposes the aforementioned basic models be tested according to the test procedure prescribed by DOE at 10 CFR 430, Subpart B, Appendix U, but using the following alternative definition for stability:

"In a successive set of measurements, the lower recorded value for airflow multiplied by 1.03 is greater than or equal to the higher recorded value for airflow, or these airflow measurements vary less than 15 cfm"

Alternatively, DOE could maintain the original methodology and simply relax the low speed stability requirement to 10%. However, this method is not preferred as it could add significant variability to the calculated airflow on low speed. An example of the relaxed low speed stability requirement is provided below:

"(1) The average air velocity for all axes for each sensor varies by less than 5% for high speed and 10% for low speed compared to the average air velocity measured for that same sensor"

Closing

It is our sincere intent to comply with the new test requirements, and we appreciate DOE's efforts to consider input from Big Ass Solutions as part of their stakeholder engagement process. We also appreciate DOE's efforts so far to resolve this isolated but impactful difficulty in the final rule.

Thank you for your consideration and we are available to answer any questions you may have.

Sincerely,
Taylor Sawyer
Government Affairs Director
Big Ass Solutions
Big Ass Solutions
2348 Innovation Drive
Lexington, KY 40511
Contact: Taylor Sawyer. (859) 629–6203/tsawyer@bigasssolutions.com

June 14, 2017

Via Electronic Mail

Submitted To:
Mr. John Cymbalsky
Ms. Ashley Armstrong
Office of Energy Efficiency and Renewable Energy
Building Technologies Program
EE–2J U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC, 20585
AS_Waiver_Requests@ee.doe.gov

Submitted by:
Big Ass Solutions
2348 Innovation Drive
Lexington, KY 40511
Contact: Taylor Sawyer. (859) 629–6203/tsawyer@bigasssolutions.com

Re: Petition to waive select provisions under Test Procedures for Ceiling Fans

Dear Mr. Cymbalsky and Ms. Armstrong,

Big Ass Solutions respectfully requests an interim waiver of one

element in the Test Procedures for Ceiling Fans, finalized by DOE on July 25, 2016. The compliance date for representations made with respect to the energy use or efficiency of ceiling fans under this final rule was January 23, 2017. The docket number is EERE-2013-BT-TP-0050.

It has come to our attention that the stability requirements contained in the final test procedure, when tested at low speed for certain small-diameter ceiling fan models, may cause Big Ass Solutions undue hardship in meeting the requirements of the test procedure. Therefore, we request an interim waiver so that product testing can proceed and regular operations can continue as DOE considers our application for the permanent waiver.

Details

The final rule includes a specification for the stability criteria of the sensors used on small-diameter ceiling fans to evaluate airflow and power consumption:

Airflow and power consumption measurements are considered stable if: (1) the average air velocity for all axes for each sensor varies by less than 5% compared to the average air velocity measured for that same sensor in a successive set of air velocity measurements, and (2) average power consumption varies by less than 1% in a successive set of power consumption measurements.

When Big Ass Solutions initiated testing, we discovered that we are unable to meet this stability requirement at the lower operating speeds of a certain fan containing design characteristics that prevent testing per the current DOE test procedures. The average air speed is so low, that the acceptable variance under the stability criteria above is often less than 2 feet per minute, which falls below the required accuracies for airflow sensors that is stated in section 3.2 of the Final Rule. The measured velocity at this point also falls below the calibrated ranges of our two models of airflow sensors, (~30—1969 fpm) and (~30—196 fpm), which are in accordance with the requirements of the DOE test method and similar to sensors used at other small-diameter fan test labs. We have run several different tests and contracted an independent test lab to conduct additional testing, and all testing appears to have the same issue with stability at very low airspeeds, even with the use of two sets of sensors with different calibrated ranges.

An example test for stability we have conducted is as follows:

DOE TEST METHOD FOR LSSD

[Fans Stability Verification]

Sensor position	Sensor	Average air velocity (fpm)		Average	a/b	Stability? 0.95≤ (a/b) ≤1.05	Range (fpm)
		1a	1b				
1	BAF1114	13.27	14.55	13.91	0.91	Yes	1.39
2	BAF1119	13.29	14.74	14.02	0.90	Yes	1.40
3	BAF1115	13.35	13.44	13.39	0.99	Yes	1.34
4	BAF1122	13.27	13.56	13.41	0.98	Yes	1.34
5	BAF1118	15.42	15.80	15.61	0.98	Yes	1.56
6	BAF1110	15.02	14.01	14.52	1.07	Yes	1.45
7	BAF1113	13.10	13.24	13.17	0.99	Yes	1.32
8	BAF1121	11.17	14.71	12.94	0.76	No	1.29
9	BAF1111	7.77	12.52	10.15	0.62	No	1.01
10	BAF1120	16.12	19.57	17.85	0.82	No	1.78

While we are moving forward with testing on other BAS products not affected by this issue, the potential for future innovative fan products with blade spans under 7ft to become burdened by this may be substantial.

Big Ass Solutions currently manufactures a series of affected small-diameter HVLS fans with a blade spans of 6ft and markets them as Isis model Big Ass Fans. The two basic model Big Ass Fans found below, have physical and mechanical characteristics that meet the criteria for LSSD ceiling fan blade thickness and tip speed. Big Ass Solutions has included data detailing the exactness of this model's LSSD classification eligibility.

Isis, Commercial Fan Kit—4ft, 110–125 Volt/1 Phase; Direct Mount; Plug Winglets—F–IS2–0401L8S4

Isis, Commercial Fan Kit—4ft, 110–125 Volt/1 Phase—F–IS2–0401L8

Isis, Commercial Fan Kit—4'6'', 110–125 Volt/1 Phase; Plug Winglets—F–IS2–0401I06L8S4

Isis, Commercial Fan Kit—4'6'', 110–125 Volt/1 Phase—F–IS2–0401I06L8

Isis, Commercial Fan Kit—5ft, 110–125 Volt/1 Phase; Plug Winglets—F–IS2–0501L8S4

Isis, Commercial Fan Kit—5ft, 110–125 Volt/1 Phase—F–IS2–0501L8

Isis, Commercial Fan Kit—6ft, 110–125 Volt/1 Phase; Plug Winglets—F–IS2–0601S4

Isis, Commercial Fan Kit—6ft, 110–125 Volt/1 Phase—F–IS2–0601

10 CFR Parts 429 and 430 Energy Conservation Program: Test Procedures for Ceiling Fans; Final Rule

LOW-SPEED SMALL-DIAMETER CEILING FAN BLADE AND TIP SPEED CRITERIA

Airflow direction	Thickness (t) of edges of blades		Tip speed threshold	
	Mm	inch	m/s	feet per minute
Reversible	4.8 > t ≥ 3.2	3/16 > t ≥ 1/8	12.2	2,400
Reversible	t ≥ 4.8	t ≥ 3/16	16.3	3,200

BIG ASS SOLUTIONS TEST DATA – ISIS

Fan	Winglet	Control	Diameter (ins)	RPM	Blade Thickness (mm)			Tip Speed (fpm)	
					Leading	Trailing A	Trailing B	Forward	Reverse*
Isis 6ft	Plug	-	**72**	**120**	14.5	4.2	-	2,262	2,262
Isis 6ft	Winglet	-	**72**	**120**	14.5	4.2	-	2,262	2,262

Other affected parties

This requirement does not affect large-diameter fans or high speed small-diameter ceiling fans. Furthermore, this problem consistently appears only at our lower operating speeds. Because our lowest operating speed is designed for mixing of air, without causing a draft, in the winter and the typical 3 speed fan is designed to provide cooling at the lowest speed, our fan produces a much lower airspeed on low than the average fan on the market.

While there is only a small number of known manufacturers who have had their comments to the DOE on this matter published, we expect additional fan manufacturers with products where the speed of the air exiting the fan is not intended to provide cooling are likely to encounter this issue in their respective tests. The product class that is most likely to encounter this issue is the ''LSSD'' fan class. The manufacturers of LSSD fans include, but are not limited to:

Aertron Pty., Ltd.
Air Comfort Products
Air Cool Industrial
American-De Rosa Lamparts DBA Luminance
Artisan Industrial Company, Ltd. China
Canarm, Ltd.
Casablanca Fan Company
Champ-Ray Industrial Company, Ltd
Chien Luen Industries (Zhongshan), Ltd.
Collins Company, Ltd.
Craftmade
Electric
Emerson Ceiling Fans
Fanim Industries
Fanimation
Generation Brands
Halsey Enterprise Company, Ltd.
Hong Kong China Electric Manufacture Company, Ltd.
Hunter Fan Company
J & P Manufacturing
Kendal Lighting Inc.
Kichler Lighting
King of Fans
Landmark Enterprise, Inc.
Litex Industries Luminance
Madison Avenue Lighting & Fan Company
Maxim Lighting International, Inc.
Minka Group
Modern Fan Company
Orient Electric
Pacific Coast Lighting, Inc.
Pan Air Electric Company, Ltd.
Progress Lighting
Quorum International
Regency Ceiling Fans
Royal Pacific
Savoy House Lighting
Shell Electric Manufacturing (H.K.) Company, Ltd.
Tai-Der Electric Manufacturer Company, Ltd.
The Modern Fan Company Inc.
Torch Lighting, Ltd.
Vaxcel International
Ventamatic, Ltd.
Westinghouse Lighting
YuYuan, Ltd.
Zhongshan Hongwei Motor Manufacturing Company
Zhongshan Weihe Electrical Appliances Company, Ltd.
Zhongshan Zhifa Electrical Appliances Company, Ltd.

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Thank you for your consideration and we are available to answer any questions you may have.

Sincerely,

Taylor Sawyer

Government Affairs Director

Big Ass Solutions

[FR Doc. 2018–05932 Filed 3–22–18; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Notice of Orders Issued Under Section 3 of the Natural Gas Act During February 2018

	FE Docket Nos.
JORDAN COVE ENERGY PROJECT, L.P.	12–32–LNG
SHELL NA LNG	18–14–LNG
EXCELERATE ENERGY L.P.	18–12–LNG
SUMAS DRY KILNS INC	18–13–NG
PACIFIC GAS & ELECTRIC COMPANY.	17–166–NG
CENTRAL VALLE HERMOSO, S.A. DE C.V.	18–11–NG
CENTRAL LOMAS DE REAL, S.A. DE C.V.	18–10–NG
NORTHWEST NATURAL GAS COMPANY.	18–22–NG
CARGILL INCORPORATED.	17–08–NG
IRVING OIL COMMERCIAL GP & IRVING OIL TERMINALS OPERATIONS LLC.	15–165–NG
SHELL ENERGY NORTH AMERICA (US), L.P.	18–17–NG
UPSTREAM PETROLEUM INC.	18–21–NG
WHITE EAGLE TRADING, LLC.	18–20–NG
BROOKFIELD ENERGY MARKETING LP.	18–18–NG

AGENCY: Office of Fossil Energy, Department of Energy.

ACTION: Notice of orders.

SUMMARY: The Office of Fossil Energy (FE) of the Department of Energy gives notice that during February 2018, it issued orders granting or vacating authority to import and export natural gas, and to import and export liquefied natural gas (LNG). These orders are summarized in the attached appendix and may be found on the FE website at *https://www.energy.gov/fe/downloads/listing-doefe-authorizationsorders-issued-2018-1.* They are also available for inspection and copying in the U.S. Department of Energy (FE–34), Division of Natural Gas Regulation, Office of Regulation and International Engagement, Office of Fossil Energy, Docket Room 3E–033, Forrestal Building, 1000 Independence Avenue SW, Washington, DC 20585, (202) 586–9478. The Docket Room is open between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

Issued in Washington, DC, on March 20, 2018.

Robert J. Smith,

Deputy Assistant Secretary for Oil and Natural Gas (Acting).

APPENDIX

DOE/FE ORDERS GRANTING IMPORT/EXPORT AUTHORIZATIONS

Unnumbered	02/01/18	12–32–LNG	Jordan Cove Energy Project, L.P.	Order Dismissing Supplemental Comments Dismissing Request for Extension of Time, and Dismissing Motion to File Partial Answer.
4151	02/08/18	18–14–LNG	Shell NA LNG	Order 4151 granting blanket authority to import LNG from various international sources by vessel.
4152	02/08/18	18–12–LNG	Excelerate Energy L.P.	Order 4152 granting blanket authority to import LNG from various international sources by vessel.
4153	02/08/18	18–13–NG	Sumas Dry Kilns Inc	Order 4153 granting blanket authority to import natural gas from Canada.
4154	02/12/18	17–166–NG	Pacific Gas & Electric Company.	Order 4154 granting blanket authority to import natural gas from Canada.
4155	02/15/18	18–11–NG	Central Valle Hermoso, S.A. de C.V.	Order 4155 granting blanket authority to import/export natural gas from/to Mexico.
4156	02/15/18	18–10–NG	Central Lomas de Real, S.A. de C.V.	Order 4156 granting blanket authority to import/export natural gas from/to Mexico.
4157	02/28/18	18–22–NG	Northwest Natural Gas Company.	Order 4157 granting blanket authority to import/export natural gas from/to Canada.
3989–A	02/28/18	17–08–NG	Cargill Incorporated	Order 3989–A vacating blanket authority to import/export natural gas from/to Canada/Mexico, and to import LNG from various international sources by vessel.
3765–B	02/28/18	15–165–NG	Irving Oil Commercial GP & Irving Oil Terminals Operations LLC.	Order 3765–B granting Request to Amend long-term authority to import/export natural gas from/to Canada.
4158	02/28/18	18–17–NG	Shell Energy North America (US), L.P.	Order 4158 granting blanket authority to import/export natural gas from/to Canada/Mexico, and to import LNG from various international sources by vessel.
4159	02/28/18	18–21–NG	Upstream Petroleum Inc.	Order 4159 granting blanket authority to import/export natural gas from/to Canada/Mexico.
4160	02/28/18	18–20–NG	White Eagle Trading, LLC.	Order 4160 granting blanket authority to import/export natural gas from/to Mexico.