[6450-01-P]

DEPARTMENT OF ENERGY

[Case Number 2019-008; EERE-2019-BT-WAV-0023]

Energy Conservation Program: Notice of Petition for Waiver of LG Electronics U.S.A., Inc. from the Department of Energy Central Air Conditioners and Heat Pumps Test Procedure and Notice of Grant of Interim Waiver

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

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

SUMMARY: This notice announces receipt of and publishes a petition for waiver and interim waiver from LG Electronics U.S.A., Inc. ("LGE"), which seeks a waiver from the U.S. Department of Energy ("DOE") test procedure used for determining the efficiency of specified central air conditioner ("CAC") and heat pump ("HP") basic models. DOE also gives notice of an Interim Waiver Order that requires LGE to test and rate specified CAC and HP basic models in accordance with the alternate test procedure set forth in the Interim Waiver Order. DOE solicits comments, data, and information concerning LGE's petition and its suggested alternate test procedure so as to inform DOE's final decision on LGE's waiver request.

DATES: The Interim Waiver Order is effective on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Written comments and information will be accepted on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at *http://www.regulations.gov*. Alternatively, interested persons may submit

comments, identified by case number "2019-008", and Docket number "EERE-2019-BT-WAV-0023," by any of the following methods:

- *Federal eRulemaking Portal*: *http://www.regulations.gov*. Follow the instructions for submitting comments.
- *E-mail: LG2019WAV0023@ee.doe.gov.* Include case number, 2019-008, in the subject line of the message.
- *Postal Mail*: Appliance and Equipment Standards Program, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, Mailstop EE-5B, Petition for Waiver Case No. 2019-008, 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., 6th floor, Washington, DC, 20024. If possible, please submit all items on a "CD", in which case it is not necessary to include printed copies.

No telefacsimilies (faxes) will be accepted. For detailed instructions on submitting comments and additional information on this process, see the **SUPPLEMENTARY INFORMATION** section of this document.

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 *http://www.regulations.gov/docket?D=EERE-2019-BT-WAV-0023*. The docket web page contains instruction on how to access all documents, including public comments, in the docket. See the **SUPPLEMENTARY INFORMATION** section for information on how to submit comments through *http://www.regulations.gov*.

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

Mr. Pete Cochran, U.S. Department of Energy, Office of the General Counsel, Mail Stop GC-33, Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585-0103. Telephone: (202) 586-9496. Email: *Peter.Cochran@hq.doe.gov*.

SUPPLEMENTARY INFORMATION: DOE is publishing LGE's petition for waiver in its entirety, pursuant to 10 CFR 430.27(b)(1)(iv), absent any confidential business information. 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 on all aspects of the petition, including the alternate test procedure. 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 Jean-Cyril Walker, *walker@khlaw.com*, Keller and Heckman LLP 1001 G Street, N.W. Suite 500 West, Washington, DC 20001.

Submitting comments via http://www.regulations.gov. The *http://www.regulations.gov* web page will require you to provide your name and contact information. 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/courier, or postal mail. Comments and documents submitted via email, hand delivery/courier, or postal mail also will 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 each time you submit comments, data, documents, and other information to DOE. If you submit via postal mail or hand delivery/courier, please provide all items on a CD, if feasible. It is not necessary to submit printed copies. No facsimiles (faxes) will be accepted.

Comments, data, and other information submitted to DOE 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 contain 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. According 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/courier 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).

Signing Authority

This document of the Department of Energy was signed on June 26, 2020, by Alexander N. Fitzsimmons, Deputy Assistant Secretary for Energy Efficiency, Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on June 30, 2020.

Treena V. Garrett,
Federal Register Liaison Officer,
U.S. Department of Energy.

Case Number 2019-008

Interim Waiver Order

I. Background and Authority

The Energy Policy and Conservation Act, as amended ("EPCA"),[1] among other things, authorizes the U.S. Department of Energy ("DOE") to regulate the energy efficiency of a number of consumer products and industrial equipment. (42 U.S.C. 6291–6317) Title III, Part B[2] of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles, which sets forth a variety of provisions designed to improve energy efficiency for certain types of consumer products. These products include central air conditioners and central air conditioning heat pumps (CACs and HPs), the subject of this Interim Waiver Order. (42 U.S.C. 6292(a)(3))

Under EPCA, DOE's energy conservation program consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA include definitions (42 U.S.C. 6291), energy conservation standards (42 U.S.C. 6295), test procedures (42 U.S.C. 6293), labeling provisions (42 U.S.C. 6294), and the authority to require information and reports from manufacturers (42 U.S.C. 6296).

The Federal testing requirements consist of test procedures that manufacturers of covered products must use as the basis for: (1) certifying to DOE that their products comply with the

[1] All references to EPCA in this document refer to the statute as amended through America's Water Infrastructure Act of 2018, Public Law 115-270 (October 23, 2018).
[2] For editorial reasons, upon codification in the U.S. Code, Part B was redesignated as Part A.

applicable energy conservation standards adopted pursuant to EPCA (42 U.S.C. 6295(s)), and (2) making representations about the efficiency of that product (42 U.S.C. 6293(c)). Similarly, DOE must use these test procedures to determine whether the product complies with relevant standards promulgated under EPCA. (42 U.S.C. 6295(s))

Under 42 U.S.C. 6293, EPCA sets forth the criteria and procedures DOE is required to follow when prescribing or amending test procedures for covered products. EPCA requires that any test procedures prescribed or amended under this section must be reasonably designed to produce test results which reflect the energy efficiency, energy use or estimated annual operating cost of a covered product during a representative average use cycle or period of use and requires that test procedures not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The test procedure for CACs and HPs is contained in the Code of Federal Regulations ("CFR") at 10 CFR part 430, subpart B, appendix M, *Uniform Test Method for Measuring the Energy Consumption of Central Air Conditioners and Heat Pumps* (referred to in this Interim Waiver Order as "appendix M").

Under 10 CFR 430.27, any interested person may submit a petition for waiver from DOE's test procedure requirements. DOE will grant a waiver from the test procedure requirements if DOE determines either that the basic model for which the waiver was requested contains a design characteristic that prevents testing of the basic model according to the prescribed test procedures, or that the prescribed test procedures evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. *See* 10 CFR 430.27(f)(2). A petitioner must include in its petition any alternate test procedures known to the petitioner to evaluate the performance of

the product type in a manner representative of the energy consumption characteristics of the basic model. *See* 10 CFR 430.27(b)(1)(iii). DOE may grant the waiver subject to conditions, including adherence to alternate test procedures. *See* 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. *See* 10 CFR 430.27(l). As soon thereafter as practicable, DOE will publish in the *Federal Register* a final rule. *Id*.

The waiver process also provides that DOE may grant an interim waiver if it appears likely that the underlying 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 underlying petition for waiver. *See* 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. *See* 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. *See* 10 CFR 430.27(h)(2).

II. LGE's Petition for Waiver and Interim Waiver

On September 5, 2019, LGE filed a petition for waiver and interim waiver from the test procedure for CACs and HPs set forth at appendix M. According to LGE, appendix M does not include provisions for determining cooling intermediate air volume rate, cooling minimum air volume rate, and heating intermediate air volume rate for the variable-speed coil-only single-split systems specified in its petition. LGE asserts that although the CAC and HP test procedure at appendix M provides for testing of variable-speed systems, it does not contemplate the variation presented by systems comprised of LGE's variable-speed coil-only single-split systems. LGE notes that DOE previously granted waivers to GD Midea Heating & Ventilating Equipment Co., Ltd. ("GD Midea") and TCL air conditioner (zhongshan) Co. Ltd. ("TCL AC"), for systems that contain variable-speed outdoor units that are non-communicative systems for which compressor speed varies based only on controls located on the outdoor unit that is paired with an indoor unit that maintains a constant indoor blower fan speed. 83 FR 56065 and 84 FR 11941. LGE asserts that testing the variable-speed coil-only single-split systems specified in its petition pursuant to the current appendix M procedure does not yield results that are representative of the systems' true energy consumption characteristics.

LGE also requests an interim waiver from the existing DOE test procedure for the same reasons set forth by GD Midea and TCL AC. DOE will 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 of the petition for waiver. *See* 10 CFR 430.27(e)(2).

III. Requested Alternate Test Procedure

EPCA requires that manufacturers use DOE test procedures when making representations about the energy consumption and energy consumption costs of covered products. (42 U.S.C. 6293(c)) Consistent representations are important when making representations about the energy efficiency of products, including when demonstrating compliance with applicable DOE energy conservation standards. Pursuant to its regulations at 10 CFR 430.27, and after consideration of public comments on the petition, DOE may establish in a subsequent Decision and Order an alternate test procedure for the basic models addressed by the interim waiver.

As noted, DOE has granted to GD Midea and TCL AC waivers from the DOE CAC and HP test procedure for variable-speed coil-only single-split systems, subject to use of an alternate test procedure. 84 FR 11941 and 83 FR 56065. In its petition, LGE requests that it be allowed to use the same alternate test procedure as that granted to GD Midea and TCL AC. That is, LGE requests that the specified basic models listed in the petition be tested according to the test procedure for CACs and HPs prescribed by DOE at appendix M, except that, as described below, the cooling full-load air volume rate would also be used as the cooling intermediate and cooling minimum air volume rates, and the heating full-load air volume rate would also be used as the heating intermediate air volume rate.

IV. Interim Waiver Order

DOE has reviewed LGE's application for an interim waiver, the alternate test procedure requested by LGE, and the additional materials LGE provided in support of its petition. Based on this review, the alternate test procedure appears to allow for the accurate measurement of the of efficiency of the products specified in LGE's petition, while alleviating the testing problems

associated with the six basic models specified in its petition. Consequently, it appears likely that LGE's petition for waiver will be granted. Furthermore, DOE has determined that it is desirable for public policy reasons to grant LGE immediate relief pending a determination of the petition for waiver.

For the reasons stated, it is **ORDERED** that:

(1) LGE must test and rate the central air conditioner and heat pump ("CAC and HP") basic models LUU189HV, LUU249HV, LUU369HV, LUU429HV, LUU488HV, and LUU489HV, which are comprised of the individual combinations listed below,[3] using the alternate test procedure set forth in paragraph (2).

[3] The specified basic models contain individual combinations that each consist of an outdoor unit that uses a variable speed compressor matched with a coil-only indoor unit.

Basic Model Number	Brand	Outdoor Unit	Coil-Only Indoor Unit
LUU189HV	LG Electronics U.S.A., Inc.	LUU189HV	LG-C1-24-14L
	LG Electronics U.S.A., Inc.	LUU189HV	LG-C1-24-14R
	LG Electronics U.S.A., Inc.	LUU189HV	LG-C1-24-17L
	LG Electronics U.S.A., Inc.	LUU189HV	LG-C1-24-17R
	LG Electronics U.S.A., Inc.	LUU189HV	LG-A1-24-14L
	LG Electronics U.S.A., Inc.	LUU189HV	LG-A1-24-14R
	LG Electronics U.S.A., Inc.	LUU189HV	LG-A1-24-17L
	LG Electronics U.S.A., Inc.	LUU189HV	LG-A1-24-17R
LUU249HV	LG Electronics U.S.A., Inc.	LUU249HV	LG-C1-24-14L
	LG Electronics U.S.A., Inc.	LUU249HV	LG-C1-24-14R
	LG Electronics U.S.A., Inc.	LUU249HV	LG-C1-36-17L
	LG Electronics U.S.A., Inc.	LUU249HV	LG-C1-36-17R
	LG Electronics U.S.A., Inc.	LUU249HV	LG-A1-24-14L
	LG Electronics U.S.A., Inc.	LUU249HV	LG-A1-24-14R
	LG Electronics U.S.A., Inc.	LUU249HV	LG-A1-36-17L
	LG Electronics U.S.A., Inc.	LUU249HV	LG-A1-36-17R
LUU369HV	LG Electronics U.S.A., Inc.	LUU369HV	LG-C2-36-14L
	LG Electronics U.S.A., Inc.	LUU369HV	LG-C2-36-14R
	LG Electronics U.S.A., Inc.	LUU369HV	LG-C1-36-17L
	LG Electronics U.S.A., Inc.	LUU369HV	LG-C1-36-17R
	LG Electronics U.S.A., Inc.	LUU369HV	LG-A2-36-14L
	LG Electronics U.S.A., Inc.	LUU369HV	LG-A2-36-14R
	LG Electronics U.S.A., Inc.	LUU369HV	LG-A1-36-17L
	LG Electronics U.S.A., Inc.	LUU369HV	LG-A1-36-17R
LUU429HV	LG Electronics U.S.A., Inc.	LUU429HV	LG-C2-48-17L
	LG Electronics U.S.A., Inc.	LUU429HV	LG-C2-48-17R
	LG Electronics U.S.A., Inc.	LUU429HV	LG-C2-48-21L
	LG Electronics U.S.A., Inc.	LUU429HV	LG-C2-48-21R
	LG Electronics U.S.A., Inc.	LUU429HV	LG-A2-48-17L
	LG Electronics U.S.A., Inc.	LUU429HV	LG-A2-48-17R
	LG Electronics U.S.A., Inc.	LUU429HV	LG-A2-48-21L
	LG Electronics U.S.A., Inc.	LUU429HV	LG-A2-48-21R
LUU488HV	LG Electronics U.S.A., Inc.	LUU488HV	LG-C2-48-17L
	LG Electronics U.S.A., Inc.	LUU488HV	LG-C2-48-17R
	LG Electronics U.S.A., Inc.	LUU488HV	LG-C2-48-21L
	LG Electronics U.S.A., Inc.	LUU488HV	LG-C2-48-21R
	LG Electronics U.S.A., Inc.	LUU488HV	LG-A2-48-17L
	LG Electronics U.S.A., Inc.	LUU488HV	LG-A2-48-17R
	LG Electronics U.S.A., Inc.	LUU488HV	LG-A2-48-21L
	LG Electronics U.S.A., Inc.	LUU488HV	LG-A2-48-21R
LUU489HV	LG Electronics U.S.A., Inc.	LUU489HV	LG-C2-48-17L
	LG Electronics U.S.A., Inc.	LUU489HV	LG-C2-48-17R
	LG Electronics U.S.A., Inc.	LUU489HV	LG-C2-48-21L
	LG Electronics U.S.A., Inc.	LUU489HV	LG-C2-48-21R
	LG Electronics U.S.A., Inc.	LUU489HV	LG-A2-48-17L
	LG Electronics U.S.A., Inc.	LUU489HV	LG-A2-48-17R
	LG Electronics U.S.A., Inc.	LUU489HV	LG-A2-48-21L
	LG Electronics U.S.A., Inc.	LUU489HV	LG-A2-48-21R

(2) The alternate test procedure for the LGE basic models identified in paragraph (1) of this Interim Waiver Order is the test procedure for CACs and HPs prescribed by DOE at 10 CFR part 430, subpart B, appendix M ("appendix M"), except that as described below, for coil-only combinations: the cooling full-load air volume rate as determined in section 3.1.4.1.1.c of appendix M shall also be used as the cooling intermediate and cooling minimum air volume rates, and the heating full-load air volume rate as determined in section 3.1.4.4.1.a of appendix

M shall also be used as the heating intermediate air volume rate. All other requirements of appendix M and DOE's regulations remain applicable.

In 3.1.4.2, *Cooling Minimum Air Volume Rate*, include:

f. For ducted variable-speed compressor systems tested with a coil-only indoor unit, the cooling minimum air volume rate is the same as the cooling full-load air volume rate determined in section 3.1.4.1.1.c.

In 3.1.4.3, *Cooling Intermediate Air Volume Rate*, include:

d. For ducted variable-speed compressor systems tested with a coil-only indoor unit, the cooling intermediate air volume rate is the same as the cooling full-load air volume rate determined in section 3.1.4.1.1.c.

In 3.1.4.6, *Heating Intermediate Air Volume Rate,* include:

d. For ducted variable-speed compressor systems tested with a coil-only indoor unit, the heating intermediate air volume rate is the same as the heating full-load air volume rate determined in section 3.1.4.4.1.a.

(3) *Representations*. LGE may not make representations about the efficiency of the basic models identified in paragraph (1) of this Interim Waiver Order for compliance, marketing, or other purposes unless the basic model has been tested in accordance with the provisions set forth above and such representations fairly disclose the results of such testing.

(4) This Interim Waiver Order shall remain in effect according to the provisions of 10 CFR 430.27.

(5) This Interim Waiver Order is issued on the condition that the statements, representations, test data, and documentary materials provided by LGE are valid. If LGE makes any modifications to the controls or configurations of these basic models, the Interim Waiver Order will no longer be valid and LGE will either be required to use the current Federal test method or submit a new application for a test procedure interim waiver. DOE may rescind or modify this Interim Waiver Order at any time if it determines the factual basis underlying the petition for Interim Waiver Order is incorrect, or the results from the alternate test procedure are unrepresentative of a basic models' true energy consumption characteristics. *See* 10 CFR 430.27(k)(1). Likewise, LGE may request that DOE rescind or modify the Interim Waiver Order if LGE discovers an error in the information provided to DOE as part of its petition, determines that the Interim Waiver Order is no longer needed, or for other appropriate reasons. *See* 10 CFR 430.27(k)(2).

(6) Issuance of this Interim Waiver Order does not release LGE from the certification requirements set forth at 10 CFR part 429.

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. LGE may submit a new or amended petition for waiver and request for grant of interim waiver, as appropriate, for additional basic models of CACs and HPs. Alternatively, if appropriate, LGE 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).

Signed in Washington, DC, on June 26, 2020.

Alexander N. Fitzsimmons,
Deputy Assistant Secretary for Energy Efficiency,
Energy Efficiency and Renewable Energy.

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September 5, 2019

Via Electronic Mail

U.S. Department of Energy
Building Technologies Program
Test Procedure Waiver
C/O Ms. Lucy deButts
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Mailstop EE-5B
Washington, DC 20585-0121
AS_Waiver_Requests@ee.doe.gov

Via Electronic Mail

Writer's Direct Access
Jean-Cyril Walker
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Re: PUBLIC Petition for Waiver and Application for Interim Waiver from the Uniform Test Method for Measuring the Energy Consumption of Central Air Conditions and Heat Pumps by LG Electronics U.S.A., Inc.

On behalf of our client, LG Electronics U.S.A., Inc. (hereinafter, "LGE"), we respectfully submit this Petition for Waiver and Application for Interim Waiver requesting exemption by the Department of Energy ("DOE" or "Department") from certain parts of the test procedure for measuring the energy consumption of central air conditioners ("CAC") and heat pumps under 10 C.F.R. § 430.27. LGE is the U.S. affiliate of LG Electronics, Inc., a manufacturer of air conditioners and other related home appliance and home entertainment products sold worldwide, including in the United States. LG Electronics, Inc.'s worldwide headquarters is located at LG Twin Towers 20, Yoido-dong, Youngdungpo-gu Seoul, Korea 150-721. LGE is headquartered at 1000 Sylvan Avenue, Englewood Cliffs, NJ 07632.

I. Petition for Waiver

LGE seeks the Department's approval of this proposed amendment to the CAC and heat pump test procedure to allow representative testing of its single-split air conditioner and heat pump outdoor units with variable-speed compressors, when matched with the specified coil-only indoor units.[1] Although the CAC test procedure at 10 C.F.R. § 430, Appendix M provides for testing of variable-speed systems, it does not contemplate the variation presented by systems comprised of LGE's variable-speed outdoor condensing units matched with coil-only indoor units (hereinafter, "variable-speed, coil-only single-split systems").

Specifically, Appendix M does not provide a means to determine the cooling minimum, cooling intermediate, or heating intermediate air volume rates for these products and thus, prevents manufacturers from: (1) establishing product ratings in compliance with 10 C.F.R. Part 430, (2) determining the products' compliance with DOE's minimum energy efficiency standards under 10 C.F.R. § 430.32; (3) certifying the products pursuant to DOE's requirements at 10 C.F.R. Part 429; and (4) distributing the products in commerce. Accordingly, testing variable-speed, coil-only single-split systems pursuant to the current Appendix M procedure does not yield results that are representative of the systems' true energy consumption characteristics.

This limitation in the DOE test procedure has already been identified in petitions for waiver by GD Midea Heating & Ventilating Equipment Co., Ltd. ("GD Midea"),[2] and TCL Air Conditioner (Zhongshan) Co., Ltd. ("TCL").[3] Both of these companies also petitioned for a waiver from the test procedure for their variable-speed, coil-only single-split systems because they (1) operate as non-communicative systems, and (2) maintain constant indoor air volume rates. Recognizing that these systems "cannot be tested and rated for energy consumption on a basis representative of their true energy consumption characteristics," DOE previously granted test procedure waivers to both GD Midea and TCL for these products.[4]

Accordingly, LGE now seeks a similar waiver for its variable-speed, coil-only single-split systems pursuant to the Department regulations at 10 C.F.R. § 430.27. This provision provides that any person may submit a petition to waive the requirements of 10 C.F.R. § 430.23

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[1] Although the LGE outdoor units covered by this petition are sold on an individual basis, they are not currently marketed or sold in the configuration contemplated by this Petition, nor are the [REDACTED] indoor units specified herein currently being distributed in commerce in the United States**.** Accordingly, this petition is timely filed pursuant to 10 C.F.R. § 430.27(j).

[2] See 2017-10-27 Petition for Waiver and Interim Waiver for certain GD Midea's variable speed coil-only single- split systems, Rulemaking Docket Document EERE-2017-BT-WAV-0060-0001.

[3] See 2018-07-19 Request for waiver from test procedures for variable speed coil-only single-split system air conditioners, Rulemaking Docket Document EERE-2018-BT-WAV-0013-0001.

[4] Energy Conservation Program: Decision and Order Granting a Waiver to GD Midea Heating & Ventilating Equipment Co., Ltd. From the Department of Energy Central Air Conditioners and Heat Pumps Test Procedure, 83 Fed. Reg. 56,065 (Nov. 9, 2018) [hereinafter Decision and Order Granting a Waiver to GD Midea]; Energy Conservation Program: Decision and Order Granting a Waiver to TCL Air Conditioner (Zhongshan) Co., Ltd. from the Department of Energy Central Air Conditioners and Heat Pumps Test Procedure, 84 Fed. Reg. 11,941 (March 29, 2019) [hereinafter Decision and Order Granting a Waiver to TCL].

or the applicable test procedure for a basic model on grounds that:

> *...the basic model contains one or more design characteristics which either prevent testing of the basic model according to the prescribed test procedures or cause the prescribed test procedures to evaluate the basic model in a manner so unrepresentative of its true energy and/or water consumption characteristics as to provide materially inaccurate comparative data*.[5]

LGE respectfully submits that sufficient grounds exist for DOE to grant this Petition because, as indicated above, the test procedure at Appendix M does not provide a method of testing the variable-speed, coil-only systems to the fullest extent of the test procedure.

A. Test Procedure

Generally, 10 C.F.R. § 430.23(m) directs that the energy efficiency or other useful performance measures of CACs and heat pumps must be determined using the test procedure at Appendix M to 10 C.F.R. § 430, Subpart B. The scope of the test procedure includes single-split air conditioners and heat pumps but lacks coverage for manufacturers to test systems with variable-speed compressors in a coil-only configuration in full compliance with the test procedure. Specifically, Tables 8 and 14 provide six air volume rates (*i.e.*, minimum, intermediate, and full-load cooling and heating) for variable-speed single-split systems in cooling and heating mode test conditions. The specified air volume rates are determined in accordance with sections 3.1.4.1 through 3.1.4.6. of Appendix M. However, sections 3.1.4.2. (cooling minimum air volume rate), 3.1.4.3 (cooling intermediate air volume rate), and 3.1.4.6. (heating intermediate air volume rate) do not provide procedures for testing variable-speed, coil-only systems, making testing and rating the systems in accordance with the test procedure infeasible. Without the ability to test and rate the systems, compliance with the energy efficiency standards at 10 C.F.R. § 430.32(c) cannot be determined.

B. LGE's Proposed Modifications to the Test Procedure

With this Petition, LGE requests that DOE grant a test procedure waiver that will allow the Company to test its variable-speed, coil-only split-systems. The basic and individual models subject to this Petition include:

Basic Model	Outdoor Unit (Brand: LGE)	Coil-Only Indoor Unit (Brand: [REDACTED])
LUU189HV	LUU189HV	LG-C1-24-14L
	LUU189HV	LG-C1-24-14R
LUU249HV	LUU249HV	LG-C1-24-14L
	LUU249HV	LG-C1-24-14R
	LUU249HV	LG-C1-36-17L
	LUU249HV	LG-C1-36-17R
	LUU369HV	LG-C2-36-14L

[5] 10 C.F.R. § 430.27(l).

LUU369HV	LUU369HV	LG-C2-36-14R
	LUU369HV	LG-C1-36-17L
	LUU369HV	LG-C1-36-17R
LUU429HV	LUU429HV	LG-C2-48-17L
	LUU429HV	LG-C2-48-17R
	LUU429HV	LG-C2-48-21L
	LUU429HV	LG-C2-48-21R
LUU488HV	LUU488HV	LG-C2-48-17L
	LUU488HV	LG-C2-48-17R
	LUU488HV	LG-C2-48-21L
	LUU488HV	LG-C2-48-21R
LUU489HV	LUU489HV	LG-C2-48-17L
	LUU489HV	LG-C2-48-17R
	LUU489HV	LG-C2-48-21L
	LUU489HV	LG-C2-48-21R

LGE proposes to follow the alternate test procedure set out by the Department in petitions for waiver granted to both GD Midea and TCL,[6] by using:

> *...the test procedure for CACs and HPs prescribed by DOE at 10 CFR part 430, subpart B, appendix M, except that as described below, for coil-only combinations: The cooling full-load air volume rate as determined in section 3.1.4.1.1.c of Appendix M shall also be used as the cooling intermediate and cooling minimum air volume rates, and the heating full-load air volume rate as determined in section 3.1.4.4.1.a of Appendix M shall also be used as the heating intermediate air volume rate. All other requirements of Appendix M remain applicable.*
>
> *In 3.1.4.2, Cooling Minimum Air Volume Rate, include:*
>
> > *f. For ducted variable-speed compressor systems tested with a coil-only indoor unit, the cooling minimum air volume rate is the same as the cooling full-load air volume rate determined in section 3.1.4.1.1.c.*
>
> *In 3.1.4.3, Cooling Intermediate Air Volume Rate, include:*
>
> > *d. For ducted variable-speed compressor systems tested with a coil-only indoor unit, the cooling intermediate air volume rate is the same as the cooling full-load air volume rate determined in section 3.1.4.1.1.c.*
>
> *In 3.1.4.6, Heating Intermediate Air Volume Rate, include:*
>
> > *d. For ducted variable-speed compressor systems tested with a coil-only indoor unit, the heating intermediate air volume rate is the same as the heating full-load air volume rate determined in section 3.1.4.4.1.*

II. Application for Interim Waiver

[6] Decision and Order Granting a Waiver to GD Midea, 83 Fed. Reg. at 56,067; Decision and Order Granting a Waiver to TCL, 84 Fed. Reg. at 11,942.

The DOE may grant an Interim Waiver if the applicant can "demonstrate likely success of the petition for waiver and address what economic hardship and/or competitive disadvantage is likely to result absent a favorable determination on the petition for interim waiver."[7] LGE submits that it is likely to succeed on the merits as this Petition is predicated on the same infeasibilities of the Appendix M test procedure that were recognized and addressed by the Department in granting waiver petitions to GD Midea and TCL. In addition, LGE is proposing a technically sound, proven, and easily justifiable alternative test procedure already approved by the Department to address the void in the Appendix M test procedure for similarly situated variable-speed, coil-only single-split systems produced by GD Midea and TCL.

An Interim Waiver is also warranted from a competitive standpoint, as a denial of LGE's petition would place the Company in a significant competitive disadvantage as it would not be able to rate, certify, and sell its variable-speed, coil-only single-split systems alongside its competitors' products. Public policy considerations also support granting the interim waiver because the current void in the test procedure prevents LGE from distributing products to U.S. consumers that are not only easy to install and use, but also provide significant energy efficiency savings.

III. Conclusion

LGE urges DOE to grant its Petition for Waiver and Application for Interim Waiver to test its variable-speed, coil-only single-split air conditioners and heat pumps systems as noted above. Granting LGE's Petition for Waiver will encourage the introduction of advanced technologies while providing proper consideration of energy consumption.

IV. Affected Persons

Primarily affected persons in the variable-speed, coil-only single-split air conditioner and heat pump category are identified in Exhibit 1 of this Petition. Provided DOE grants LGE an Interim Waiver, the Company will notify all of these entities as required by the Department's regulations and provide them with a version of this Petition upon publication.

Respectfully submitted,

/ s /

Jean-Cyril Walker

[7] 10 C.F.R. § 430.27(b)(2).

Enclosures

cc: Sean Kim, LG Electronics U.S.A., Inc.

Exhibit 1

LGE Notification List

Table 1. Affected Company Notification List	
Company	**Representative Contact**
Aaon, Inc.	alexf@aaon.com
Advanced Distributor Products, LLC	greg.goetzinger@adpnow.com
Allied Air Enterprises, LLC	Jennifer.george@alliedair.com
AllStyle Coil Company, LP	justinm@allstyle.com
Amana Company, LP	Pete.alexander@goodmanmfg.com
Aspen Manufacturing, LLC	Jason.Makowski@aspenmfg.com
AUX Air Conditioner Co., Ltd.	Kangyuqin@auxgroup.com
Carrier Corporation	Matthew.P.Gunn@carrier.utc.com
Daikin Applied Americas Inc.	thanh.bui@goodmanmfg.com
Daikin North America	shinichi.nakaishi@goodmanmfg.com
ECOER Inc.	yeson@ecoer.com
Enviromaster International LLC	davdre@ecrinternational.com
First Co.	gwright@firstco.com
Friedrich Air Conditioning, LLC	pkendrick@friedrich.com
Fujitsu General America, Inc.	athrudekoos@fujitsugeneral.com
GD Midea Air-Conditioning Equipment Co., Ltd.	zhaoxh1@midea.com.cn
GD Midea Heating & Ventilating Equipment Co., Ltd.	yangss@midea.com
Goodman Manufacturing Company, L.P. dba Daikin Manufacturing Company, L.P. and Goodman Company, L.P. dba Daikin Company, L.P.	thanh.bui@goodmanmfg.com james.kistler@goodmanmfg.com
Gree Electric Appliances, Inc. of Zhuhai	gree.certification@cn.gree.com
Guangdong Chigo Air-conditioning Co., Ltd	adyzang@126.com
Guangdong Chigo Heating & Ventilation Equipment Co., Ltd	zhujianen@chigo-cac.com
Haier US Appliance Solutions, Inc., dba GE Appliances, a Haier Company	yhu@haieramerica.com
Hisense (Guangdong) Air Conditioning Co., Ltd.	luoguojian@hisense.com
Ingersoll Rand Company	jim.vershaw@irco.com
Johnson Controls, Inc.	jessie.a.bell@jci.com
Lennox Industries, Inc.	todd.mcintosh@lennoxind.com
Mitsubishi Electric Cooling & Heating	pdoppel@hvac.mea.com
Mortex Products, Inc. dba Summit Manufacturing	gpatterson@mortx.com
National Comfort Products	KFordJr@nrac.com
Nortek Global HVAC LLC	Matt.lattanzi@nortek.com
Panasonic Corporation of North America	hiroaki.tanaka@us.panasonic.com
Petra Engineering Industries Co.	m-bahaa@petra-eng.com.jo
Qingdao Haier Air Conditioner General Co., Ltd.	liuxuefeng@haier.com
Refrigeration Industries Company	edmundo.gabriel@ric.com.kw
Rheem Sales Company, Inc.	scott.creamer@rheem.com
Samsung Electronics Co., Ltd.	ck.kolandayan@samsunghvac.com

Table 1. Affected Company Notification List	
Company	**Representative Contact**
Sharp Electronics Corporation	tpruitt@sharpsec.com
SpacePak, A Mestek Company	glenz@mestek.com
Summit Manufacturing, Inc.	tsmall@mortx.com
TCL Air Conditioner (ZhongShan) Co., Ltd.	kt_zhengkai@tcl.com
Texas Furnace, LLC	acanales@allstyle.com
Unico, Inc.	craig@unicosystem.com
Villara Corporation	radcliffb@villara.com
Wolf Steel Ltd	WBesada@napoleonproducts.com
Zamil Air Conditioners & Home Appliances Co. (L.L.C.)	sirajuddinm@zamilac.com

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