[6450-01-P]

DEPARTMENT OF ENERGY

[Case Number 2017-013; EERE-2017-BT-WAV-060]

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

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

ACTION: Notice of decision and order.

SUMMARY: The U.S. Department of Energy ("DOE") gives notice of a Decision and Order (Case Number 2017-013) that grants to GD Midea Heating & Ventilating Equipment Co., Ltd. ("GD Midea") a waiver from specified portions of the DOE test procedure for determining the energy efficiency of central air conditioners and heat pumps. Under the Decision and Order, GD Midea is required to test and rate specified basic models of its central air conditioners and heat pumps in accordance with the alternate test procedure specified in the Decision and Order.

DATES: The Decision and Order is effective on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. The Decision and Order will terminate upon the compliance date of any future amendment to the test procedure for central air conditioners and heat pumps located at 10 CFR part 430, subpart B, appendix M that addresses the issues presented in this waiver. At such time, GD Midea must use the relevant test procedure for this product for any testing to demonstrate compliance with the applicable standards, and any other representations of energy use.

FOR FURTHER INFORMATION CONTACT:

Ms. Lucy deButts, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. E-mail: *AS_Waiver_Requests@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:

In accordance with Title 10 of the Code of Federal Regulations (10 CFR 430.27(f)(2)), DOE gives notice of the issuance of its Decision and Order as set forth below. The Decision and Order grants GD Midea a waiver from the applicable test procedure in 10 CFR part 430, subpart B, appendix M for specified basic models of central air conditioners and heat pumps, provided that GD Midea tests and rates such products using the alternate test procedure specified in the Decision and Order. GD Midea's representations concerning the energy efficiency of the specified basic models must be based on testing according to the provisions and restrictions in the alternate test procedure set forth in the Decision and Order, and the representations must fairly disclose the test results. Distributors, retailers, and private labelers are held to the same requirements when making representations regarding the energy efficiency of these products. (42 U.S.C. 6293(c))

Consistent with 10 CFR 430.27(j), not later than [**INSERT DATE 60 DAYS AFTER THE DATE OF PUBLICATION IN THE *FEDERAL REGISTER***], any manufacturer

currently distributing in commerce in the United States products employing a technology or characteristic that results in the same need for a waiver from the applicable test procedure must submit a petition for waiver. Manufacturers not currently distributing such products in commerce in the United States must petition for and be granted a waiver prior to the distribution in commerce of those products in the United States. Manufacturers may also submit a request for interim waiver pursuant to the requirements of 10 CFR 430.27.

Signed in Washington, DC, on November 1, 2018.

Kathleen B. Hogan, Ph.D.
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy

Case # 2017-013
Decision and Order

I. Background and Authority

The Energy Policy and Conservation Act of 1975 ("EPCA"),[1] Public Law 94-163 (42 U.S.C. 6291–6317, as codified), 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. 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 (CACs) and heat pumps (HPs), the focus of this document. (42 U.S.C. 6292(a)(3)) EPCA also requires the Secretary of Energy to prescribe test procedures that are reasonably designed to produce results that measure energy efficiency, energy use, or estimated operating costs during a representative average-use cycle, and that are not unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The test procedure for CACs and HPs is contained in 10 CFR part 430, subpart B, appendix M.

DOE's regulations set forth at 10 CFR 430.27 contain provisions that allow an interested person to seek a waiver from the test procedure requirements for a particular basic model when the petitioner's basic model for which the petition for waiver was submitted contains one or

[1] All references to EPCA in this document refer to the statute as amended through the EPS Improvement Act of 2017, Public Law 115-115 (January 12, 2018).
[2] For editorial reasons, upon codification in the U.S. Code, Part B was re-designated as Part A.

more design characteristics that either (1) prevent testing according to the prescribed test procedure, or (2) cause the prescribed test procedures 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. 10 CFR 430.27(l). As soon thereafter as practicable, DOE will publish in the *Federal Register* a final rule. *Id*.

The wavier process also provides that DOE may 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 underlying 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. GD Midea's Petition for Waiver: Assertions and Determinations

By letter dated October 27, 2017, GD Midea filed a petition for waiver and an application for interim waiver from the applicable CAC and HP test procedure set forth in Appendix M.[3] According to GD Midea, 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 its variable-speed coil-only single-split systems. Consequently, GD Midea stated that it cannot test or rate these systems in accordance with the DOE test procedure. GD Midea stated that its variable-speed outdoor units are non-communicative systems (*i.e.*, the outdoor unit does not communicate with the indoor unit) for which compressor speed varies based only on controls located on the outdoor unit and the indoor unit maintains a constant indoor blower fan speed.

GD Midea seeks to use an alternate test procedure to test and rate specific CAC and HP basic models of its variable-speed coil-only single-split systems, which would specify the use of cooling full-load air volume rates as determined in section 3.1.4.1.1.c of Appendix M as cooling intermediate and cooling minimum air volume rates, and would specify the use of heating full-load air volume rates as determined in section 3.1.4.4.1.a of Appendix M as heating intermediate air volume rate.

On May 30, 2018, DOE published a notice that announced its receipt of the petition for waiver and granted GD Midea an interim waiver. 83 FR 24767. ("Notice of Petition for Waiver"). In the Notice of Petition for Waiver, DOE granted GD Midea's application for an

[3] On June 10, 2010, and June 20, 2018, GD Midea supplemented the list of basic models listed in its petition to confirm the manufacturer and individual model numbers of the paired indoor and outdoor units for which it seeks a waiver. The updated list of basic models is available at: *https://www.regulations.gov/document?D=EERE-2017-BT-WAV-0060-0001*.

interim waiver for specified basic models of CACs and HPs. In the Notice of Petition for Waiver, DOE stated that absent an interim waiver, the specified variable-speed coil-only single-split models that are subject of the waiver cannot be tested under the existing test procedure because Appendix M does not include provisions for determining certain air volume rates for variable-speed coil-only single-split systems. 83 FR 24769. Typical variable-speed single-split systems have a communicating system, *i.e.*, the condensing units and indoor units communicate and indoor unit air flow varies based on the operation of the outdoor unit. However, as presented in GD Midea's petition, its variable-speed outdoor units are non-communicative systems and the indoor blower section maintains a constant indoor blower fan speed.[4] DOE also determined that the alternate test procedure suggested by GD Midea allows for the accurate measurement of efficiency of these products, while alleviating the testing problems associated with GD Midea's implementation of CAC and HP testing for the basic models specified in GD Midea's petition. *Id.*

In the Notice of Petition for Waiver, DOE also solicited comments from interested parties on all aspects of the petition and the specified alternate test procedure. 83 FR 24770. In response, DOE received comments from the Natural Resources Defense Council ("NRDC"), Goodman Manufacturing Company, LP ("Goodman"), and Advanced Distributor Products, LLC (ADP).[5]

[4] DOE reviewed public -facing materials (e.g., marketing materials, product specification sheets, and installation manuals) for the units identified in the petition, which supported GD Midea's assertion that the units are installed as variable-speed coil-only systems, in which the indoor fan speed remains constant at full and part-load operation.
[5] The comments can be accessed at: *https://www.regulations.gov/docket?D=EERE-2017-BT-WAV-0060*.

NRDC commented that it understood the issue identified by GD Midea with the current test procedure for GD Midea's products, but that it was concerned that the alternate test procedure suggested by GD Midea would overstate the energy efficiency of variable speed coil-only single-split systems. NRDC stated that in the field, it would expect these systems to modulate compressor speed to maintain a constant capacity regardless of outdoor ambient conditions. However, because the fan speed in the specified CACs and HPs is fixed, under test conditions the systems may deliver reduced capacity, but at a higher coefficient of performance ("COP"). NRDC states that this effect would be more pronounced with a slower compressor speed.

In response to NRDC's comment, DOE notes that the DOE test procedure calls for adjusting the measured capacity and the total power input to account for the fan input power (see Appendix M, section 3.3.d) using an adjustment that is proportional to air volume rate. In the alternate test procedure, this adjustment remains constant because of the constant air volume rate. Consequently, the lower the capacity, the more the fan power adjustment reduces COP, contrary to NRDC's concern. The fan power adjustment is intended to reflect typical fan power of indoor fan motors in the field, with which coil-only indoor units would be paired. Hence, even if the COP is higher at a lower capacity, that COP would be consistent with the pairing of the indoor unit with a typical field air moving system. In addition, even though a system may be tested at minimum capacity, the seasonal energy efficiency ratio (SEER) and heating seasonal performance factor (HSPF) are calculated using the energy efficiency ratio (EER) and heating performance factor (HPF) for each temperature bin based on capacities matching conditioning loads representative for the temperatures (see, *e.g.*, Appendix M section 4.1.4.2, which provides

a method to determine system EER when the system delivers capacity between minimum and maximum capacity). Thus, the alternate test procedure appropriately measures the energy efficiency of the GD Midea products subject to this waiver.

Goodman stated the alternate test procedure should provide the exact same air volume rate for testing of both the cooling mode and heating mode, but it was not clear that the alternate test procedure accomplished this for heating mode.

DOE notes that the air volume rates are the same for all tests under the alternate test procedure. As instructed in the alternate test procedure specified in the interim waiver and this Decision and Order, 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 of Appendix M. Section 3.1.4.4.1.a requires use of the cooling full-load air volume rate for full-load heating. Further, the heating minimum-load air-volume rate is specified to be equal to the heating full-load air volume rate for ducted coil-only systems. Hence, air volume rates are the same for all operating conditions under the alternate test procedure, as recommended by Goodman.

ADP agreed that the current test procedure does not allow for testing of variable-speed coil-only single-split systems, and that an alternate test procedure is needed. ADP suggested that to address other potential waiver requests, allowance should be made for different air volume rate settings, similar to the allowances in the current DOE test procedure for two-stage coil-only systems. ADP also expressed concern that GD Midea appeared to publish ratings in the AHRI certification database for the specified basic units prior to submission of the waiver request, and

prior to being granted an interim waiver. ADP also noted that this also calls into question any compliance statement made to DOE about these products pursuant to 10 CFR 429.12(c). ADP further expressed concern regarding the length of time between the submission of the petition for waiver and the publication of the Notice of Petition for Waiver.

DOE notes that a Decision and Order applies only to those basic models specified in the Order. The petition for waiver for GC Midea did not require DOE to consider or evaluate a test procedure that specifies different air volume rate settings such as that used in the current test procedure for two-stage coil-only systems. Accordingly, DOE is treating ADP's comment on this point to apply more generally than to the specific waiver request at issue. DOE will consider this issue in greater detail if it should decide to amend the CAC and HP test procedure in the future, or if it receives an application for a test procedure waiver for other basic models in which issues with different air volume rates are presented.

DOE appreciates ADP's remaining comments regarding the timeframe of the waiver process and GD Midea's basic models appearing on the AHRI Certification Directory, but because they are outside the scope of the petition for waiver they will be considered separate from this Decision and Order.

For the reasons explained here and in the Notice of Petition for Waiver, DOE understands that absent a waiver, the basic models identified by GD Midea in its petition cannot be tested and rated for energy consumption on a basis representative of their true energy consumption characteristics. DOE has reviewed the recommended procedure suggested by GD Midea and

concludes that it will allow for the accurate measurement of the energy use of the products, while alleviating the testing problems associated with GD Midea's implementation of DOE's applicable CAC and HP test procedure for the specified basic models. Thus, DOE is requiring that GD Midea test and rate the specified CAC and HP basic models according to the alternate test procedure specified in this Decision and Order, which is identical to the procedure provided in the interim waiver.

This Decision and Order applies only to the basic models listed and does not extend to any other basic models. DOE evaluates and grants waivers for only those basic models specifically set out in the petition, not future models that may be manufactured by the petitioner.

GD Midea may request that the scope of this waiver be extended to include additional basic models that employ the same technology as those listed in this waiver. 10 CFR 430.27(g). GD Midea may also submit another petition for waiver from the test procedure for additional basic models that employ a different technology and meet the criteria for test procedure waivers. 10 CFR 430.27(a)(1).

DOE notes that it may modify or rescind the waiver at any time upon DOE's determination that the factual basis underlying the petition for waiver is incorrect, or upon a determination that the results from the alternate test procedure are unrepresentative of the basic models' true energy consumption characteristics. 10 CFR 430.27(k)(1). Likewise, GD Midea may request that DOE rescind or modify the waiver if the company discovers an error in the

information provided to DOE as part of its petition, determines that the waiver is no longer needed, or for other appropriate reasons. 10 CFR 430.27(k)(2).

III. Consultations with Other Agencies

In accordance with 10 CFR 430.27(f)(2), DOE consulted with the Federal Trade Commission ("FTC") staff concerning the GD Midea petition for waiver. The FTC staff did not have any objections to DOE granting a waiver to GD Midea for the specified basic models.

IV. Order

After careful consideration of all the material that was submitted by GD Midea, the various public-facing materials (e.g., marketing materials, product specification sheets, and installation manuals) for the units identified in the petition, and the comments received in this matter, it is **ORDERED** that:

(1) GD Midea must, as of the date of publication of this Order in the *Federal Register*, test and rate the GD Midea Heating & Ventilating Equipment Co., Ltd brand and Bosch Thermotechnology Corp brand single-split CAC and HP basic models MOVA-36HDN1-M18M and MOVA-60HDN1-M18M (which contain individual combinations that each consist of an outdoor unit that uses a variable speed compressor matched with a coil-only indoor unit, and is designed to operate as part of a non-communicative system in which the compressor speed varies based only on controls located in the outdoor unit and the indoor blower unit maintains a constant indoor blower fan speed), using the alternate test procedure set forth in paragraph (2):

GD Midea basic models MOVA-36HDN1-M18M and MOVA-60HDN1-M18M include the following individual combinations, which do not specify a particular air mover, listed by brand name:

Brand Name	Basic Model Number	Outdoor Unit	Indoor Unit
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**2430ANTF
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**2430BNTF
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**3036ANTD
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**3036BNTD
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-36HDN1-M18M	MOVA-36HDN1-M18M	MC**3036CNTD
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4248BNTF
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4248CNTF
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4248DNTF
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4860CNTF
GD MIDEA HEATING & VENTILATING EQUIPMENT CO., LTD	MOVA-60HDN1-M18M	MOVA-60HDN1-M18M	MC**4860DNTF
BOSCH THERMOTECHNOLOGY CORP	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*2430ANTD
BOSCH THERMOTECHNOLOGY CORP	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*2430BNTD
BOSCH THERMOTECHNOLOGY CORP	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*3036ANTD
BOSCH THERMOTECHNOLOGY CORP	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*3036BNTD
BOSCH THERMOTECHNOLOGY CORP	MOVA-36HDN1-M18M	BOVA-36HDN1-M18M	BMA*3036CNTD
BOSCH THERMOTECHNOLOGY CORP	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4248BNTF
BOSCH THERMOTECHNOLOGY CORP	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4248CNTF
BOSCH THERMOTECHNOLOGY CORP	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4248DNTF

BOSCH THERMOTECHNOLOGY CORP	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4860CNTF
BOSCH THERMOTECHNOLOGY CORP	MOVA-60HDN1-M18M	BOVA-60HDN1-M18M	BMA*4860DNTF

(2) The alternate test procedure for the GD Midea basic models identified in paragraph (1) is 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.a.

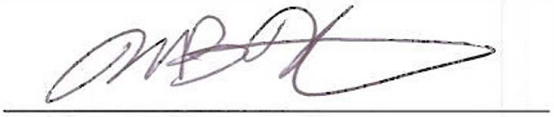
(3) *Representations*. GD Midea may not make representations about the efficiency of the basic models identified in paragraph (1) of this Order for compliance, marketing, or other purposes unless the basic model has been tested in accordance with the provisions set forth above and such representations fairly disclose the results of such testing in accordance with 10 CFR part 430, subpart B, appendix M, as specified in this Order, and 10 CFR part 429, subpart B.

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

(5) If GD Midea makes any modifications to the controls or configurations of these basic models, the waiver would no longer be valid and GD Midea would either be required to use the current Federal test method or submit a new application for a test procedure waiver. DOE may revoke or modify this waiver at any time if it determines the factual basis underlying the petition for waiver is incorrect, or the results from the alternate test procedure are unrepresentative of the basic models' true energy consumption characteristics. 10 CFR 430.27(k)(1). Likewise, GD Midea may request that DOE rescind or modify the waiver if GD Midea discovers an error in the information provided to DOE as part of its petition, determines that the waiver is no longer needed, or for other appropriate reasons. 10 CFR 430.27(k)(2).

(6) Granting of this waiver does not release GD Midea from the certification requirements set forth at 10 CFR part 429.

Signed in Washington, DC, on November 1, 2018.



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