DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

[Case No. CAC–032]

Decision and Order Granting a Waiver to LG Electronics, Inc. From the Department of Energy Commercial Package Air Conditioner and Heat Pump Test Procedures


ACTION: Decision and Order.

SUMMARY: This notice publishes the U.S. Department of Energy’s (DOE) Decision and Order in Case No. CAC–032, which grants LG Electronics, Inc. (LG) a waiver from the existing DOE test procedures applicable to commercial package air-source and water-source central air conditioners and heat pumps. The waiver is specific to the LG Multi V SYNC II and Multi V Water II variable refrigerant flow (VRF) multi-split commercial heat pumps. As a condition of this waiver, LG must use the alternate test procedure set forth in this notice to test and rate its Multi V SYNC II and Multi V Water II VRF multi-split commercial equipment line (as identified below).

Today’s decision prohibits LG from making any representations concerning the energy efficiency of this equipment unless the equipment has been tested consistent with the provisions and restrictions in the alternate test procedure set forth in the Decision and Order below, and the representations fairly disclose the test results. (42 U.S.C. 6314(d)) Distributors, retailers, and private labelers are held to the same standard when making representations regarding the energy efficiency of this equipment. Id.

Issued in Washington, DC, on October 18, 2011.

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

Decision and Order

In the Matter of: LG Electronics, Inc. (LG) (Case No. CAC–032).

Background

Title III, part C of the Energy Policy and Conservation Act of 1975 (EPCA), Public Law 94–619, Title IV, part C of the Energy Policy and Conservation Act of 1975 (EPCA), Public Law 94–619, Title IV, 441(a) established the Energy Conservation Program for Certain Industrial Equipment, a program covering commercial air conditioning and heating equipment, which includes the Multi V SYNC II and Multi V Water II VRF multi-split heat pumps that are the focus of this notice. Part C specifically includes definitions (42 U.S.C. 6311), test procedures (42 U.S.C. 6314), labeling provisions (42 U.S.C. 6315), energy conservation standards (42 U.S.C. 6313), and the authority to require information and reports from manufacturers. 42 U.S.C. 6316. With respect to test procedures, Part C authorizes the Secretary of Energy (the Secretary) to prescribe test procedures that are reasonably designed to produce results that measure energy efficiency, energy use, and estimated annual operating costs, and that are not unduly burdensome to conduct. (42 U.S.C. 6314(a)(2)) For commercial package air-conditioning and heating equipment, EPCA provides that “the test procedures shall be those generally accepted industry testing procedures or rating procedures developed or recognized by the Air-Conditioning and Refrigeration Institute [ARI] or by the American Society of Heating, Refrigerating and Air-Conditioning Engineers [ASHRAE], as referenced in ASHRAE/IES Standard 90.1 and in effect on June 30, 1992.” (42 U.S.C. 6314(a)(4)(A)) Under 42 U.S.C. 6314(a)(4)(B), the statute further directs the Secretary to amend the test procedure for covered commercial equipment if the industry test procedure is amended, unless the Secretary determines, by rule and based on clear and convincing evidence, that such a modified test procedure does not meet the statutory criteria set forth in 42 U.S.C. 6314(a)(2) and (3).

On December 8, 2006, DOE published a final rule adopting test procedures for commercial package air-conditioning and heating equipment, effective January 8, 2007. 71 FR 71340. Table 1 to Title 10 of the Code of Federal Regulations (10 CFR 431.96) directs manufacturers of commercial package air conditioning and heating equipment to use the appropriate procedure when measuring energy efficiency of this equipment. For small commercial packaged water-source heat pumps with capacities less than 135,000 Btu/h, ISO Standard 13256–1 (1998) is the applicable test procedure. For commercial package air-source equipment with capacities between 65,000 and 760,000 Btu/h, ARI Standard 340/360–2004 is the applicable test procedure.

DOE’s regulations for covered products and equipment permit a person to seek a waiver from the test procedure requirements for covered commercial equipment if at least one of the following conditions is met: (1) The petitioner’s basic model contains one or more design characteristics that prevent testing according to the prescribed test procedures; or (2) the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption as to provide materially inaccurate comparative data. 10 CFR 431.401(a)(1). Petitioners must include in their petition any alternate test procedures known to the petitioner to evaluate the basic model in a manner representative of its energy consumption. 10 CFR 431.401(b)(1)(iii). The Assistant Secretary for Energy Efficiency and Renewable Energy (Assistant Secretary) may grant a waiver subject to conditions, in addition to those applicable to alternate test procedures. 10 CFR 431.401(f)(4). Waivers remain in effect for five years unless the industry test procedure that was the basis for the waiver is amended or revised such that the test procedure requirements for the equipment are no longer the same.

For editorial reasons, upon codification in the U.S. Code, part C was re-designated part A–I.
pursuant to the provisions of 10 CFR 431.401(g).

The waiver process also permits parties submitting a petition for waiver to file an application for interim waiver of the applicable test procedure requirements. 10 CFR 431.401(a)(2). The Assistant Secretary will grant an interim waiver request if it is determined that the applicant will experience economic hardship if the application for interim waiver is denied, if it appears likely that the petition for waiver will be granted, and/or the Assistant Secretary determines that it would be desirable for public policy reasons to grant immediate relief pending a determination on the petition for waiver. 10 CFR 431.401(e)(3). An interim waiver remains in effect for 180 days or until DOE issues its determination on the petition for waiver, whichever occurs first. It may be extended by DOE for an additional 180 days. 10 CFR 431.401(e)(4).

On April 8, 2011, LG filed a petition for waiver from the test procedure at 10 CFR 431.96 applicable to commercial package air-source and water-source central air conditioners and heat pumps, as well as an application for interim waiver. LG’s petition requested a waiver for the LG Multi V SYNC II VRF multi-split air-source heat pumps with capacities ranging from 76,400 Btu/h to 310,000 Btu/h. The applicable test procedure for these heat pumps is ARI 340/360–2004. LG’s petition also requested a waiver for its LG Multi V Water II water-source heat pumps with capacities ranging from 72,000 Btu/h to 95,900 Btu/h. The applicable test procedure for these products is ISO Standard 13256–1 (1998). Manufacturers are directed to use these test procedures pursuant to Table 1 of 10 CFR 431.96.

LG seeks a waiver from the applicable test procedures under 10 CFR 431.96 on the grounds that its Multi V SYNC II and Multi V Water II VRF multi-split commercial heat pumps contain design characteristics that prevent them from being tested using the current DOE test procedures. As stated above, LG asserts that the two primary factors that prevent testing of multi-split variable speed equipment are the same factors that led DOE to grant waivers to other manufacturers for similar lines of commercial multi-split heat pumps: (1) Testing laboratories cannot test systems with so many indoor units; and (2) there are too many possible combinations of indoor and outdoor units.

The alternate test procedure described below. After DOE granted a waiver for Mitsubishi’s R22 multi-split equipment, 69 FR 52660 (Aug. 27, 2004), ARI formed a committee to discuss testing issues and to develop a testing protocol for variable refrigerant flow systems. The committee has developed a test procedure which has been adopted by the Air-Conditioning, Heating and Refrigeration Institute (AHRI) and the American National Standards Institute (ANSI), ANSI/AHRI 1230–2010:

- **Performance Rating of Variable Refrigerant Flow (VRF) Multi-Split Air-Conditioning and Heat Pump Equipment.** This test procedure has been incorporated into ASHRAE 90.1–2010. DOE is currently assessing ANSI/AHRI 1230–2010 in light of the requirements for test procedures specified by EPCA (42 U.S.C. 6314(a)(4)(B)), and will provide a preliminary determination regarding those test procedures in a future notice of proposed rulemaking.

LG’s petition proposed that DOE apply the same alternate test procedure DOE approved in the previous waiver decisions to its Multi V SYNC II and Multi V Water II VRF multi-split commercial heat pumps as a condition of its requested waiver. As stated above, DOE has not received any comments regarding the LG petition.

DOE issues today’s Decision and Order granting LG a test procedure waiver for its commercial Multi V SYNC II and Multi V Water II VRF multi-split commercial heat pumps. As a condition of this waiver, LG must use the alternate test procedure described below.

**Alternate Test Procedure**

The alternate test procedure prescribed by DOE in previous multi-split commercial heat pump waivers, including the interim waiver granted to LG in response to the current petition, consists of a definition of a “tested combination” and a prescription for representations. ANSI/AHRI 1230–2010 also includes a definition of “tested combination,” and the two definitions are identical in all relevant respects.

The alternate test procedure prescribed by DOE in previous multi-split commercial heat pump waivers provides for efficiency rating of a non-tested combination in one of two ways: (1) At an energy efficiency level determined using a DOE-approved alternative rating method or (2) at the efficiency level of the tested combination utilizing the same outdoor unit. ANSI/AHRI 1230–2010 requires an additional test and in this respect is similar to the residential test procedure set forth in 10 CFR part 430, subpart B, appendix M. Under AHRI 1230, multi-split manufacturers must test two or more combinations of indoor units with each outdoor unit. The first system combination is tested using only nonducted indoor units that meet the definition of a tested combination. The rating given to any untested multi-split system combination having the same outdoor unit and all non-ducted indoor units is set equal to the rating of the tested system having all non-ducted indoor units. The second system combination is tested using only ducted indoor units that meet the definition of
a tested combination. The rating given to any untested multi-split system combination having the same outdoor unit and all ducted indoor units is set equal to the rating of the tested system having all ducted indoor units. The rating given to any untested multi-split system combination having the same outdoor unit and a mix of non-ducted and ducted indoor units is set equal to the average of the ratings for the two required tested combinations.

With regard to the laboratory testing of commercial equipment, some of the difficulties associated with the existing DOE test procedure are avoided through the alternate test procedure’s requirements for choosing the indoor units to be used in the manufacturer-specified tested combination. For example, in addition to limiting the number of indoor units, another requirement is that all the indoor units must be subject to the same minimum external static pressure. This requirement enables the test laboratory to manifold the outlets from each indoor unit into a common plenum that supplies air to a single airflow measuring apparatus, thereby eliminating situations in which some of the indoor units are ducted and some are non-ducted. Without this requirement, the laboratory would have to evaluate the capacity of a subgroup of indoor coils separately and then sum the separate capacities to obtain the overall system capacity. Measuring capacity in this way would require that the test laboratory be equipped with multiple airflow measuring apparatuses. It is unlikely that any test laboratory would be equipped with the necessary number of such apparatuses.

Alternatively, the test laboratory could connect its one airflow measuring apparatus to one or more common indoor units until the contribution of each indoor unit had been measured. However, that approach would be so time-consuming as to be impractical.

For the reasons discussed above, DOE believes LG’s Multi V SYNC II and Multi V Water II VRF multi-split commercial heat pumps cannot be tested using the procedures prescribed in 10 CFR 431.96. After careful consideration, DOE has decided to prescribe ANSI/AHRI 1230–2010 as the alternate test procedure for LG’s commercial multi-split products with cooling capacities less than or equal to 300,000 Btu/hr (the maximum size covered by ANSI/AHRI 1230–2010) and the alternate test procedure specified in LG’s interim waiver for its multi-split commercial heat pumps with cooling capacity greater than 300,000 Btu/hr, except that tests of both ducted and non-ducted indoor units must now be conducted.

Consultations With Other Agencies

DOE consulted with the Federal Trade Commission (FTC) staff concerning the LG petition for waiver. The FTC staff did not have any objections to issuing a waiver to LG.

Conclusion

After careful consideration of all the materials submitted by LG, the absence of any comments, and consultation with the FTC staff, it is ordered that:

(1) The petition for waiver filed by LG (Case No. CAC–032) is hereby granted as set forth in the paragraphs below.

(2) LG shall not be required to test or rate its Multi V SYNC II and Multi V Water II VRF multi-split commercial heat pump models listed below according to the test procedures cited in 10 CFR 431.96, which incorporates by reference ARI 340/345–2004 for the Multi V SYNC II air-source equipment and ISO Standard 13256–1 (1998) for the Multi V Water II water-source equipment. Instead, LG shall be required to test and rate such equipment according to the alternate test procedure as set forth in paragraph (3). Multi V Series Air-Source Heat Pumps Heat Recovery Units:

SYNII 30 460V 60 Hz models:
ARUB076DT2, ARUB096DT2, ARUB115DT2,
ARUB134DT2, ARUB154DT2, ARUB173DT2,
ARUB192DT2, ARUB211DT2, ARUB230DT2,
ARUB249DT2, ARUB270DT2, ARUB290DT2,
ARUB310DT2, with nominally rated cooling capacities of 66,400, 95,900, 114,700,
133,800, 152,900, 172,000, 191,100, 211,000,
230,000, 250,000, 270,000, 290,000, and
310,000 Btu/hr, respectively. The maximum number of connectable indoor units is 16, 20, 23, 26, 29, 32, 35, 39, 42, 49, and 52, respectively.

Multi V Series Water-Sourced Heat Pumps Water-Sourced Units:

Water II 30 460V 60 Hz model:
ARWN096DA2 with nominally rated cooling capacity of 95,900 Btu/hr. The maximum number of connectable indoor units is 16.

Water II 30 208/230V 60 Hz model:
ARWN072B2A2 with nominally rated cooling capacity of 72,000 Btu/hr. The maximum number of connectable indoor units is 16.

Water II Heat Recovery 30 208/230V 60 Hz model:
ARWB072BA2 with nominally rated cooling capacity of 72,000 Btu/hr. The maximum number of connectable indoor units is 16.

Water II Heat Recovery 30 460V 60 Hz model:
ARWB096DA2 with nominally rated cooling capacity of 95,900 Btu/hr. The maximum number of connectable indoor units is 16.

2 There is no technical justification for the 300,000 Btu/hr limit, which was simply the largest multi-split capacity at the time ANSI/AHRI 1230 was drafted.

Compatible indoor units for the above-listed air-source and water-source units:

Wall Mounted: ARNU073SEL2, ARNU093SEL2, ARNU115SEL2, ARNU135SEL2, and ARNU243SSL2, with nominally rated cooling capacities of 7,500, 9,600, 12,300, 15,400,
19,100, and 24,200 Btu/hr, respectively.

Art Cool Mirror: ARNU073SE*2, ARNU093SE*2, ARNU115SE*2, ARNU135SE*2, and ARNU243S3*2, with nominally rated cooling capacities of 7,500, 9,600, 12,300, 15,400,
19,100, and 24,200 Btu/hr, respectively.

4 Way Cassette: ARNU073TEC2, ARNU093TEC2, ARNU115TEC2, and ARNU135TEC2, with nominally rated cooling capacities of 7,500, 9,600, and 12,300 Btu/hr, respectively.

Ceiling Concealed Duct—Low Static:

ARUN093BHG2, ARNU093B1G2, ARNU115B1G2, ARNU135B1G2, ARNU183B2G2, and ARNU243B2G2, with nominally rated capacities of 7,500, 9,600, 12,300, 15,400, 19,100, and 24,200 Btu/hr, respectively.

Ceiling Concealed Duct—High Static:

ARNU073BHA2, ARNU093BHA2, ARNU115BHA2, ARNU123B1G2, ARNU153B1G2, ARNU183B1G2, and ARNU243B1G2, with nominally rated capacities of 7,500, 9,600, 12,300, 15,400, 19,100, and 24,200 Btu/hr, respectively.

Ceiling Concealed Duct—Low Static:

ARUN093BHG2, ARNU093B1G2, ARNU115B1G2, ARNU135B1G2, ARNU183B2G2, and ARNU243B2G2, with nominally rated capacities of 7,500, 9,600, 12,300, 15,400, 19,100, and 24,200 Btu/hr, respectively.

Ceiling Concealed Floor: ARNU073V2A2 and ARNU123V2A2, with nominally rated capacities of 9,600 and 12,300 Btu/hr, respectively.

Ceiling Suspended: ARNU183V2A2 and ARNU243V2A2, with nominally rated capacities of 9,600 and 12,300 Btu/hr, respectively.

Floor Standing with Case: ARNU073CEA2, ARNU093CEA2, ARNU115CEA2, ARNU153CEA2, ARNU183CEA2, ARNU243CEA2, and ARNU243CA2, with nominally rated capacities of 7,500, 9,600, 12,300, 15,400, 19,100, and 24,200 Btu/hr, respectively.

Floor Standing Without Case: ARNU073CEU2, ARNU093CEU2, ARNU115CEU2, ARNU123CEU2, ARNU153CEU2, and ARNU183CEU2, ARNU243CEU2, with nominally rated capacities of 7,500, 9,600, 12,300, 15,400, 19,100, and 24,200 Btu/hr, respectively.

Floor Standing Without Case: ARNU073CEU2, ARNU093CEU2, ARNU115CEU2, ARNU123CEU2, ARNU153CEU2, and ARNU183CEU2, ARNU243CEU2, with nominally rated capacities of 7,500, 9,600, 12,300, 15,400, 19,100, and 24,200 Btu/hr, respectively.
ARNU183CFU2, and ARNU243CFU2, with nominally rated capacities of 7,500, 9,600, 12,300, 15,400, 19,100, and 24,200 Btu/h, respectively.

Vertical Air Handler: ARNU183NJA2, ARNU243NJA2, ARNU303NJA2, ARNU363NJA2, ARNU423NKA2, ARNU483NKA2, and ARNU543NKA2, with nominally rated capacities of 18,000, 24,000, 30,000, 36,000, 42,100, 48,000, and 54,000 Btu/h, respectively.

(3)Alternate test procedure.

(A) LG shall be required to test any equipment with cooling capacities of 300,000 Btu/h and below listed in paragraph (2) above according to the test procedure prescribed in ANSI/AHRI 1230–2010.

(B) LG shall be required to test the equipment listed in paragraph (2) above with cooling capacities above 300,000 Btu/h according to the test procedures for commercial central air conditioners and heat pumps prescribed by DOE at 10 CFR 431.401(g), except that LG shall test each model of outdoor unit with two or more combinations of indoor units. The first system combination shall be tested using only non-ducted indoor units that meet the definition of a tested combination, as set forth in paragraph C. The second system combination shall be tested using only ducted indoor units that meet the definition of a tested combination, as set forth in paragraph C. LG shall make representations concerning the Multi V SYNC II and Multi V Water II VRF multi-split heat pump equipment covered in this waiver according to the provisions of subparagraph (D).

(C) Tested combination. The term tested combination means a sample of a basic model comprised of units that are production units, or are representative of production units, of the basic model being tested. For the purposes of this waiver, the tested combination shall have the following features:

(1) The basic model of a variable refrigerant flow system used as a tested combination shall consist of one outdoor unit, with one or more compressors, that is matched with between two and five indoor units. (For systems with nominal cooling capacities greater than 150,000 Btu/h, as many as eight indoor units may be used, so as to be able to test non-ducted indoor unit combinations). For multi-split systems, each of these indoor units shall be designed for individual operation.

(2) The indoor units shall—

(i) Represent the highest sales model family or another indoor model family if the highest sales model family does not provide sufficient capacity (see ii);

(ii) Together, have a nominal cooling capacity that is between 95% and 105% of the nominal cooling capacity of the outdoor unit;

(iii) Not, individually, have a nominal cooling capacity that is greater than 50% of the nominal cooling capacity of the outdoor unit;

(iv) Operate at fan speeds that are consistent with the manufacturer’s specifications; and

(v) Be subject to the same minimum external static pressure requirement while being configurable to produce the same static pressure at the exit of each outlet plenum when manifolded as per section 2.4.1 of 10 CFR Part 430, subpart B, appendix M.

(D) Representations. In making representations about the energy efficiency of its Multi V SYNC II and Multi V Water II VRF multi-split commercial heat pumps, for compliance, marketing, or other purposes, LG must fairly disclose the results of testing under the DOE test procedure in a manner consistent with the provisions outlined below:

(i) For Multi V SYNC II and Multi V Water II VRF multi-split combinations tested in accordance with this alternate test procedure, LG may make representations based on those test results.

(ii) For Multi V SYNC II and Multi V Water II VRF multi-split combinations that are not tested, LG may make representations based on the testing results for the tested combination and that are consistent with one of the following methods:

(a) Rating of non-tested combinations according to an alternative rating method approved by DOE.

(b) Rating of non-tested combinations having the same outdoor unit and all non-ducted indoor units shall be set equal to the rating of the tested system having all non-ducted indoor units.

(c) Rating of non-tested combinations having the same outdoor unit and all ducted indoor units shall be set equal to the rating of the tested system having all ducted indoor units.

(d) Rating of non-tested combinations having the same outdoor unit and a mix of non-ducted and ducted indoor units shall be set equal to the average of the ratings for the two required tested combinations.

(4) This waiver shall remain in effect from the date this Decision and Order is issued, consistent with the provisions of 10 CFR 431.401(g).

(5) This waiver is issued on the condition that the statements, representations, and documentary materials provided by the petitioner are valid. DOE may revoke or modify the waiver at any time if it determines that 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.

(6) This waiver applies only to those basic models set out in LG’s petition for waiver.

(7) Grant of this waiver does not release a petitioner from the certification requirements set forth at 10 CFR part 429.

Issued in Washington, DC, on October 18, 2011.

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

[FR Doc. 2011–27409 Filed 10–21–11; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY
Office of Energy Efficiency and Renewable Energy
[Case No. CAC–037]

Decision and Order Amending Waivers Granted to Mitsubishi Electric & Electronics USA, Inc. From the Department of Energy Commercial Package Air Conditioner and Heat Pump Test Procedures


ACTION: Decision and Order.

SUMMARY: This notice publishes the U.S. Department of Energy’s (DOE) Decision and Order in Case No. CAC–037, which amends the current waivers applicable to Mitsubishi’s S&L Class and WR2 and WY Series products to require the use of Air conditioning, Heating and Refrigeration Institute 1230 (AHRI) as the alternative test procedure.

DATES: This Decision and Order is effective October 24, 2011.
