

Issued in Washington, DC, on December 8, 2009.

**Cathy Zoi,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

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## DEPARTMENT OF ENERGY

[Case No. CAC-024]

### Energy Conservation Program for Certain Industrial Equipment: Publication of the Petition for Waiver From Daikin AC (Americas), Inc. and Granting of the Application for Interim Waiver From the Department of Energy Residential Central Air Conditioner and Heat Pump Test Procedure

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

**ACTION:** Notice of petition for waiver, granting of application for interim waiver, and request for comments.

**SUMMARY:** This notice announces receipt of and publishes a petition for waiver from Daikin AC (Americas), Inc. (Daikin). The petition for waiver (hereafter "Daikin Petition") requests a waiver from the U.S. Department of Energy (DOE) test procedure applicable to residential central air conditioners and heat pumps. The waiver request is specific to the Daikin Altherma air-to-water heat pump with integrated domestic water heating. Through this document, DOE is: (1) Soliciting comments, data, and information with respect to the Daikin Petition; and (2) granting an interim waiver to Daikin from the applicable DOE test procedure for the subject residential central air conditioning heat pump.

**DATES:** DOE will accept comments, data, and information with respect to the Daikin Petition until, but no later than January 14, 2010.

**ADDRESSES:** You may submit comments, identified by case number "CAC-024," by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.

- *E-mail:*

[AS\\_Waiver\\_Requests@ee.doe.gov](mailto:AS_Waiver_Requests@ee.doe.gov).

Include either the case number [CAC-024], and/or "Daikin Petition" in the subject line of the message.

- *Mail:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J/1000 Independence Avenue, SW., Washington, DC 20585-0121.

*Telephone:* (202) 586-2945. Please submit one signed original paper copy.

- *Hand Delivery/Courier:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 950 L'Enfant Plaza, SW., Suite 600, Washington, DC 20024. Please submit one signed original paper copy.

*Instructions:* All submissions received must include the agency name and case number for this proceeding. Submit electronic comments in WordPerfect, 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).

Any person submitting written comments must also send a copy of such comments to the petitioner, pursuant to Title 10 of the Code of Federal Regulations (10 CFR) 431.401(d). The contact information for the petitioner is: Mr. Lee Smith, Director of Product Marketing, Daikin AC (Americas), Inc., 1645 Wallace Drive, Suite 110, Carrollton, Texas 75006.

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 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.

*Docket:* For access to the docket to review the background documents relevant to this matter, you may visit the U.S. Department of Energy, 950 L'Enfant Plaza, SW., (Resource Room of the Building Technologies Program), Washington, DC 20024; (202) 586-2945, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Available documents include the following items: (1) This notice; (2) public comments received; (3) the petition for waiver and application for interim waiver; and (4) prior DOE rulemakings regarding similar central air conditioning and heat pump equipment. Please call Ms. Brenda Edwards at the above telephone number for additional information regarding visiting the Resource Room.

**FOR FURTHER INFORMATION CONTACT:** Dr. Michael G. Raymond, U.S. Department of Energy, Building Technologies Program, Mail Stop EE-2J, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0121.

*Telephone:* (202) 586-9611. *E-mail:* [AS\\_Waiver\\_Requests@ee.doe.gov](mailto:AS_Waiver_Requests@ee.doe.gov).

Ms. Francine Pinto or Mr. Michael Kido, U.S. Department of Energy, Office of the General Counsel, Mail Stop GC-72, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585-0103. *Telephone:* (202) 586-9507. *E-mail:* [Francine.Pinto@hq.doe.gov](mailto:Francine.Pinto@hq.doe.gov) or [Michael.Kido@hq.doe.gov](mailto:Michael.Kido@hq.doe.gov).

## SUPPLEMENTARY INFORMATION:

### I. Background and Authority

Title III of the Energy Policy and Conservation Act, as amended ("EPCA") sets forth a variety of provisions concerning energy efficiency. Part A of Title III provides for the "Energy Conservation Program for Consumer Products Other Than Automobiles." (42 U.S.C. 6291-6309) Part A includes definitions, test procedures, labeling provisions, energy conservation standards, and the authority to require information and reports from manufacturers. Further, Part A authorizes the Secretary of Energy to prescribe test procedures that are reasonably designed to produce results which measure energy efficiency, energy use, or estimated operating costs, and that are not unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The test procedure for residential central air conditioners is contained in 10 CFR part 430, subpart B, appendix M.

The regulations set forth in 10 CFR 430.27 contain provisions that enable a person to seek a waiver from the test procedure requirements for covered consumer products. A waiver will be granted by the Assistant Secretary for Energy Efficiency and Renewable Energy (the Assistant Secretary) if it is determined that the basic model for which the petition for waiver was submitted contains one or more design characteristics that prevents testing of the basic model according to the prescribed test procedures, or if the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. 10 CFR part 430.27(l). Petitioners must include in their petition any alternate test procedures known to evaluate the basic model in a manner representative of its energy consumption. 10 CFR 430.27(b)(1)(iii). The Assistant Secretary may grant the waiver subject to conditions, including adherence to alternate test procedures. 10 CFR 430.27(l). Waivers remain in effect pursuant to the provisions of 10 CFR part 430.27(m).

The waiver process also allows the Assistant Secretary to grant an interim waiver from test procedure requirements to manufacturers that have petitioned DOE for a waiver of such prescribed test procedures. (10 CFR 430.27(a)(2)) An interim waiver remains in effect for a period of 180 days or until DOE issues its determination on the petition for waiver, whichever is sooner, and may be extended for an additionally 180 days, if necessary. (10 CFR 430.27(h))

## II. Petition for Waiver

On August 27, 2009, Daikin filed a petition for waiver from the test procedures at 10 CFR part 430, subpart B, appendix M, which are applicable to residential central air conditioners and heat pumps, and an application for interim waiver. The Daikin Altherma system consists of an air-to-water heat pump providing hydronic heating and cooling with the added ability to provide domestic hot water functions. It operates either as a split system with the compressor unit outside and the hydronic components in an inside unit, or as a single package configuration where all system components are combined in a single outdoor unit. In both the single package and the split system configurations, the system can include a domestic hot water supply tank that is located inside.

The test method for central air conditioners and heat pumps contained in 10 CFR subpart B, appendix M does not include any provisions to account for the operational characteristics of an air-to-water heat pump with an integrated domestic hot water component. The domestic hot water portion of the Daikin Altherma system is an integral component of the system, and it cannot operate independently. The applicable DOE test method does not account for the Daikin Altherma system's energy performance because the test method does not accurately evaluate the integrated domestic hot

water portion of the system, nor does it have any provisions for air-to-water heat pumps. Daikin proposes using the European standards that are used for testing and rating the Altherma products in Europe, using energy efficiency ratio (EER) to measure the full load performance of the cooling subsystem, coefficient of performance (COP) to measure the full load performance of the heating subsystem, and SPF to measure the seasonal performance of the combined heating and hot water subsystems. The test procedures are EN 14511 "Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling" and EN 15316 "Heating systems in buildings—Methods for calculation of system energy requirements and system efficiencies". Daikin did not petition for including the performance of the combined cooling and hot water functions in the waiver.

## III. Application for Interim Waiver

On August 27, 2009, in addition to its petition for waiver, Daikin submitted to DOE an application for interim waiver. DOE determined that Daikin's application for interim waiver does not provide sufficient market, equipment price, shipments, and other manufacturer impact information to permit DOE to evaluate the economic hardship Daikin might experience absent a favorable determination on its application for interim waiver. However, DOE understands that absent an interim waiver, Daikin's products would not otherwise be tested and rated for energy consumption on a comparable basis with equivalent products where DOE previously granted waivers. In other words, there would not be a level playing field and thus Daikin would be placed at a competitive disadvantage. Furthermore, DOE has determined that it appears likely that Daikin's Petition for Waiver will be

granted and that is desirable for public policy reasons to grant Daikin immediate relief pending a determination on the petition for waiver. In those instances where the likely success of the petition for waiver has been demonstrated, based upon DOE having granted a waiver for similar product designs, it is in the public interest to have similar products tested and rated for energy consumption on a comparable basis. DOE has previously granted waivers to Carrier (55 FR 13607, April 11, 1990) and Nordyne (61 FR 11395, March 20, 1996) for comparable heat pumps with integrated domestic water heating. Although the heat pumps for which DOE has previously granted waivers were air-to-air systems rather than air-to-water systems, like the Daikin Altherma system, the essential bases, rationale, and comparable matters-of-fact used to substantiate similar waivers are consistent throughout.

The principal reason supporting the granting of these waivers also applies to Daikin's Altherma product, *i.e.*, the DOE test procedure has no provisions for heat pumps that integrate domestic water heating. Thus, DOE has determined that it is likely that Daikin's petition for waiver will be granted for its new Altherma models. Therefore, *it is ordered that:*

The Application for interim waiver filed by Daikin is hereby granted for Daikin's Altherma heat pumps, subject to the specifications and conditions below.

1. Daikin shall not be required to test or rate its Altherma heat pump products on the basis of the test procedure under 10 CFR part 430 subpart B, appendix M.

2. Daikin shall be required to test and rate its Altherma heat pump products according to the alternate test procedure as set forth in section IV, "Alternate test procedure."

The interim waiver applies to the following basic model groups:

Type	Description	U.S. model name	E.U. equivalent model name
Split Altherma .....	OD Unit (Split, 3-Ton or 11kW) .....	ERLQ036BAVJU	ERLQ011BAV3
	OD Unit (Split, 4-Ton or 14kW) .....	ERLQ048BAVJU	ERLQ014BAV3
	OD Unit (Split, 4.5-Ton or 16kW) .....	ERLQ054BAVJU	ERLQ016BAV3
Monobloc Altherma .....	OD Unit (Heat Only, 3-Ton or 11kW) .....	EDLQ036BA6VJU	EDLQ011BA6V3
	OD Unit (Heat Only, 4-Ton or 14kW) .....	EDLQ048BA6VJU	EDLQ014BA6V3
	OD Unit (Heat Only, 4.5-Ton or 16kW) .....	EDLQ054BA6VJU	EDLQ016BA6V3
	OD Unit (Heat Pump, 3-Ton or 11kW) .....	EBLQ036BA6VJU	EBLQ011BA6V3
	OD Unit (Heat Pump, 4-Ton or 14kW) .....	EBLQ048BA6VJU	EBLQ014BA6V3
	OD Unit (Heat Pump, 4.5-Ton or 16kW) .....	EBLQ054BA6VJU	EBLQ016BA6V3
Hydrobox .....	HB (Heating Only, BUH 3kW) .....	EKHBH054BA3VJU	EKHBH016BA3V3
	HB (Heating Only, BUH 6kW) .....	EKHBH054BA6VJU	EKHBH016BA6V3
	HB (Heat Pump, BUH 3kW) .....	EKHBX054BA3VJU	EKHBX016BA3V3
	HB (Heat Pump, BUH 6kW) .....	EKHBX054BA6VJU	EKHBX016BA6V3
DHW .....	Hot Water Tank (50Gallon or 200L) .....	EKHWS050BA3VJU	EKHWS200B3V3
	Hot Water Tank (80Gallon or 300L) .....	EKHWS080BA3VJU	EKHWS300B3V3

Type	Description	U.S. model name	E.U. equivalent model name
Options .....	Digital I/O PCB .....	EKRP1HBAAU	EKRP1HBAA
	Solar Pump Kit .....	EKSOLHWBAVJU	EKSOLHAV1
	Wired Room Thermostat .....	EKRTWA	EKRTWA
	Condensate Kit .....	EKHBDP	EKHBDP

This interim waiver is conditioned upon the presumed validity of statements, representations, and documents provided by the petitioner. DOE may revoke or modify this interim waiver at any time upon a 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.

#### IV. Alternate Test Procedure

DOE is not aware of an alternate test procedure that is applicable within the United States to test and rate the performance of air-to-water heat pump systems that provide heating and that can also perform domestic hot water and cooling functions such as Daikin's Altherma. However, Daikin Europe N.V. (DENV) is currently marketing Daikin Altherma systems in Europe, using European Standards. Daikin shall be required to test and rate its Altherma heat pumps using these European Standards as follows:

(1) Full Load Performance and Efficiency:—Daikin Altherma shall be tested and rated according to Standard EN 14511, *Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling*. Daikin shall rate the Altherma full load heating and cooling performance (no domestic hot water, or DHW, contribution) using COP and EER.

(2) Annual Performance and Efficiency:—Daikin Altherma shall be rated according to EN 15316, *Heating systems in buildings—Method for calculation of system energy requirements and system efficiencies*. Under Section 4.2 of the Standard EN 15316–1, the calculation period is established to evaluate the annual energy use of the space heating and domestic hot water system. Using Section 4.3 of the Standard, the calculation methods in the standard determine operating conditions, such as heat demand and water temperatures, and energy performance for given operating conditions, including system thermal losses and recoverable losses. Standard EN 15316–4–2 provides the full energy calculation method used

under the standard for seasonal performance of space heating and an integrated domestic hot water system. Daikin shall rate the combined seasonal performance factor of the Altherma using the Seasonal Performance Factor (SPF) according to EN 15316–4–2. The cooling operation shall not be accounted for in the SPF.

In making representations about the energy efficiency of its Altherma heat pump products, for compliance, marketing, or other purposes, Daikin must fairly disclose the results of testing under the alternate DOE test procedure described above.

#### V. Summary and Request for Comments

Through today's notice, DOE announces receipt of the Daikin petition for waiver from the test procedures applicable to Daikin's Altherma heat pump products, and for the reasons articulated above, DOE grants Daikin an interim waiver from those procedures. As part of this notice, DOE is publishing Daikin's petition for waiver in its entirety. The petition contains no confidential information. Furthermore, today's notice includes an alternate test procedure that Daikin is required to follow as a condition of its interim waiver and that DOE is considering including in its subsequent Decision and Order. In this alternate test procedure, DOE prescribes the European test procedures described above to measure the full load COP and EER to characterize the Altherma's heating and cooling performance, and to measure the SPF to characterize the Altherma's combined seasonal performance of the heating and domestic hot water functions.

DOE is interested in receiving comments on the issues addressed in this notice. Pursuant to 10 CFR 430.27(d), any person submitting written comments must also send a copy of such comments to the petitioner, whose contact information is included in the section entitled **ADDRESSES** above.

Issued in Washington, DC, on December 8, 2009.

**Cathy Zoi,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

August 27, 2009

Ms. Catherine Zoi, Assistant Secretary for Energy Efficiency and Renewable Energy, U.S. Department of Energy, 1000 Independence Ave., SW., Washington, DC 20585–0121

Re: Petition for Waiver of Test Procedure

Dear Assistant Secretary Zoi: Daikin AC (Americas) Inc. (DACA) respectfully petitions the Department of Energy (DOE) pursuant to 10 C.F.R. § 430.27(a)(1) (2009) for a waiver of the test procedures applicable to central air conditioners and heat pumps, as established in 10 C.F.R. Part 430, Subpart B, Appendix M (2009),<sup>1</sup> for the Daikin Altherma system, an air-to-water heat pump system that performs a hydronic heating function but can also be configured to serve domestic hot water requirements and also cooling as necessary. The particular systems and the specific models for which DACA requests this waiver in the Daikin Altherma product class are listed below in this Petition. DACA seeks a waiver from the existing central air conditioner and central air conditioning heat pump test procedure for the Daikin Altherma line of air-to-water heat pumps because the integrated water-heating feature causes the prescribed test procedures to evaluate the Daikin Altherma in a manner that is unrepresentative of the system's true energy consumption characteristics. We are simultaneously requesting an interim waiver for the same systems pursuant to 10 C.F.R. § 430.27(a)(2) (2009).

#### General Characteristics of Daikin Altherma

The Daikin Altherma system has the following characteristics and applications:

- Daikin Altherma is an air-to-water heat pump that performs a space heating function and can be configured to provide Domestic Hot Water and

<sup>1</sup>Detailed citations to the test procedures for which DACA is requesting a waiver are included on page 3 of this petition.

additionally include the provision for space cooling.

- Daikin Altherma can be installed as a two-unit split system consisting of an outdoor compressor unit and an indoor unit or "Hydrobox" containing the hydronic parts. Alternatively, the system can be installed as a monobloc system with a single outdoor unit combining the compressor and hydronic parts.

- The split system includes R-410A refrigerant piping between the outdoor unit and the Hydrobox, and water piping between the indoor unit and the indoor heating appliances. The monobloc system includes water piping between the outdoor unit and the heat emitters/DHW tank.

- Both the Daikin Altherma monobloc system and split system can be combined with under floor heating, fan coil units, and low temperature radiators.

- Depending on the model and the conditions, a Daikin Altherma air/water heat pump delivers between 3 and 5 kWh of usable heat for every kWh of electricity used.

- The Daikin Altherma system heat pump compressor incorporates inverter technology, with an integrated frequency-converter that adjusts the rotational speed of the compressor to meet the heating or cooling demand. Therefore, the system seldom operates at full capacity.

- The domestic hot water tank includes a supplemental electrical

heating element to boost the Domestic Hot Water temperature if necessary.

- The Altherma system also can be tied into a solar thermal collector system that supports the production of domestic hot water.

- The Hydrobox for the split system and contained in the outdoor unit in the monobloc system both include a built-in electric back-up heater to provide additional heating during extremely cold weather.

#### Particular Basic Models for Which DACA Requests a Waiver

DACA requests a waiver from the test procedures for the following basic model groups:

Type	Description	U.S. model name	E.U. equivalent model name
Split Altherma .....	OD Unit (Split, 3-Ton or 11kW) .....	ERLQ036BAVJU	ERLQ011BAV3
	OD Unit (Split, 4-Ton or 14kW) .....	ERLQ048BAVJU	ERLQ014BAV3
	OD Unit (Split, 4.5-Ton or 16kW) .....	ERLQ054BAVJU	ERLQ016BAV3
Monobloc Altherma .....	OD Unit (Heat Only, 3-Ton or 11kW) .....	EDLQ036BA6VJU	EDLQ011BA6V3
	OD Unit (Heat Only, 4-Ton or 14kW) .....	EDLQ048BA6VJU	EDLQ014BA6V3
	OD Unit (Heat Only, 4.5-Ton or 16kW) .....	EDLQ054BA6VJU	EDLQ016BA6V3
	OD Unit (Heat Pump, 3-Ton or 11kW) .....	EBLQ036BA6VJU	EBLQ011BA6V3
	OD Unit (Heat Pump, 4-Ton or 14kW) .....	EBLQ048BA6VJU	EBLQ014BA6V3
	OD Unit (Heat Pump, 4.5-Ton or 16kW) .....	EBLQ054BA6VJU	EBLQ016BA6V3
	HB (Heating Only, BUH 3kW) .....	EKHBH054BA3VJU	EKHBH016BA3V3
Hydrobox .....	HB (Heating Only, BUH 6kW) .....	EKHBH054BA6VJU	EKHBH016BA6V3
	HB (Heat Pump, BUH 3kW) .....	EKHBX054BA3VJU	EKHBX016BA3V3
	HB (Heat Pump, BUH 6kW) .....	EKHBX054BA6VJU	EKHBX016BA6V3
	Hot Water Tank (50Gallon or 200L) .....	EKHWS050BA3VJU	EKHWS200B3V3
DHW .....	Hot Water Tank (80Gallon or 300L) .....	EKHWS080BA3VJU	EKHWS300B3V3
	Digital I/O PCB .....	EKRP1HBAU	EKRP1HBAU
Options .....	Solar Pump Kit .....	EKSOLHWBAVJU	EKSOLHAV1
	Wired Room Thermostat .....	EKRTWA	EKRTWA
	Condensate Kit .....	EKHBDP	EKHBDP

#### Daikin Altherma System Characteristics Constituting the Grounds for DACA's Petition

The Daikin Altherma system consists of an air-to-water heat pump providing hydronic heating with the added availability to provide domestic hot water and cooling functions that operates either as a split system with the compressor unit outside and the hydronic components in an inside unit, or as a monobloc configuration where all system components are combined in a single outdoor unit. In both the monobloc and the split system configurations, the system can include a domestic hot water supply tank that is located inside.

The test method for central air conditioners and heat pumps contained in 10 CFR Part 430, Subpart B, Appendix M does not include any provision to account for the operation characteristics of an air-to-water heat pump of the function and energy

consumption characteristics of a domestic hot water component that is integrated into an air-to-water heat pump system. The domestic hot water tank portion of the Daikin Altherma system is a regular element of the complete system, and it cannot operate independent of the rest of the system. Therefore, the currently applicable test method does not accurately account for the Daikin Altherma system's energy performance because the test method does not accurately evaluate the integrated domestic hot water portion of the system.

Daikin Altherma products share the design characteristics and basic features of two other products for which DOE has previously granted waivers. One product was Carrier's Hydrotech system,<sup>2</sup> and the other product was Nordyne's Powermiser system.<sup>3</sup> The Carrier and Nordyne systems that

previously received waivers from DOE were both air source heat pump systems providing both heating and cooling functions. Both of these systems also included a domestic hot water supply tank as an integral part of the system. The same energy consumption calculation constraints apply equally to all of these products.

DOE stated the following in its March 20, 1996 approval notice issuing the Nordyne: "DOE agrees [with Nordyne] that, using the current central air conditioning test procedure, the company cannot account for the energy savings associated with integrated water heating." 61 Fed. Reg. at 11,396.

Based on this conclusion, the DOE granted the Nordyne Powermiser system waiver petition (*Id.*), and based on a similar analysis DOE granted the Carrier Hydrotech system waiver petition. (55 Fed. Reg. at 13,607).

The rationale for DACA's Petition for a waiver from testing standards for the Daikin Altherma system is virtually

<sup>2</sup> 55 Fed. Reg. 13,607 (April 11, 1990).

<sup>3</sup> 61 Fed. Reg. 11,395 (March 20, 1996).

identical to the basis for the other manufacturers' previous requests for waivers noted above. DACA requests that DOE apply the same rationale to DACA's Petition for waiver for the Daikin Altherma system that DOE used to grant the previous Carrier and Nordyne waiver petitions for their similar systems.

#### *Specific Testing Requirements Sought To Be Waived*

The test procedures from which DACA is requesting a waiver are contained in 10 C.F.R. Part 430, Subpart B, Appendix M, which is incorporated by reference into 10 C.F.R. § 430.23(m), and which is applicable to central air conditioner and heat pump equipment with a capacity of <65,000 Btu/hr.

#### *Detailed Discussion of Need for Requested Waiver*

Although the capacity of the Daikin Altherma product class is within the scope of 10 C.F.R. Part 430, Subpart B, Appendix M, the design characteristics of the Daikin Altherma product class prevent testing of the system according to the prescribed test procedures in a manner that represents the system's true energy consumption characteristics. Specifically, application of the existing prescribed test method does not define Air-to-water Heat Pump operating characteristics and also cannot account for energy savings associated with the system's integrated water heating.

The absence of a waiver from the required testing procedure will restrict the availability to consumers in the United States of the Daikin Altherma system's energy savings benefits that result from integrating domestic hot water production into the system.

#### **Manufacturers of Other Basic Models Incorporating Similar Design Characteristics**

DACA is aware of no other manufacturers that currently produce products incorporating similar design characteristics to the Daikin Altherma system in the United States market.<sup>4</sup>

#### **Alternative Test Procedures**

To our knowledge, there is no alternative test procedure that is applicable within the United States to test accurately and to rate the performance of air-to-water heat pump systems that provide both heating and that can also serve domestic hot water

and cooling functions such as Daikin Altherma. However, DACA's sister division, Daikin Europe N.V. (DENV) is currently marketing Daikin Altherma systems in Europe. To address the local EU requirements regarding testing and rating of the Daikin Altherma system, DENV has approached the matter in two ways as follows:

Full Load Performance and Efficiency: Daikin Altherma is tested and rated to EN14511

Annual Performance and Efficiency: Daikin Altherma is rated to EN15316 Standard EN14511, *Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling*, is an internationally recognized standard that is used throughout Europe.

Standard EN14511 is published in 4 sections and clearly defines Terms and Conditions (–1), Test Conditions (–2), Test Methods (–3) and Requirements (–4). The overall scope of the standard is stated in EN14511–1:2004(E), Section 1, Scope, which states that the standard:

*Specifies the terms and definitions for the rating and performance of air and water cooled air conditioners, liquid chilling packages, air-to-air, water-to-air, air-to-water and water-to-water heat pumps with electrically driven compressors when used for space heating and/or cooling. This European Standard does not specifically apply to heat pumps for sanitary hot water, although certain definitions can be applied to these.*

Standard EN14511, which is attached, provides the full criteria to establish full load performance ratings for Air-to-water Heat Pump Systems.

Standard EN15316, *Heating systems in buildings—Method for calculation of system energy requirements and system efficiencies*, is an internationally recognized standard that is also used throughout Europe.

The portion of the standard that is relevant to Daikin Altherma is Standard EN15316–4–2, which is attached. A brief conceptual summary of Standard EN15316–4–2 follows:

The Scope of Standard EN15316–1 (Section 1) states that this standard “specifies the structure for calculation of energy use for space heating systems and domestic hot water systems in buildings.” *The standard's calculation method enables the energy analysis of the various sub-systems of the heating system, “including control (emission, distribution, storage, generation), through determination of the system energy losses and the system performance factors. This performance*

*analysis permits the comparison between sub-systems and makes it possible to monitor the impact of each sub-system on the energy performance of the building.” Id.*

Under Section 4.2 of the Standard EN15316–1, the calculation period is established to evaluate the annual energy use of the space heating and domestic hot water system.

Pursuant to Section 4.3 of the Standard, the calculation methods in the standard determine operating conditions, such as heat demand and water temperatures, and energy performance for given operating conditions, including system thermal losses and recoverable losses.

The full attached Standard EN15316–4–2 provides the full energy calculation method used under the standard for seasonal performance of space heating and an integrated domestic hot water system. No methodology exists for determining the seasonal performance of space cooling and an integrated domestic hot water system, as the air-to-water heat pump systems are primarily focused as being a “heating” solution. Cooling is deemed as an added optional benefit.

DACA aims to utilize the performance and efficiency characteristics of the Daikin Altherma system as tested and determined by the EN testing and rating standards, as an alternate rating method for Daikin Altherma in lieu of an applicable U.S. testing and rating standard being available at this time. This utilization specifically means that DACA would promote the following characteristics:

*Full Load Heating Capacity and COP* (Per EN Std 14511—Test Conditions and Methods defined in section 2 and section 3 of std 14511 respectively).

*Full Load Cooling Capacity and EER* (Per EN Std 14511—Test Conditions and Methods defined in section 2 and section 3 of std 14511 respectively).

*Seasonal Performance Factor (SPF)* (Per EN15316–4–2—Full energy calculation method is defined).

No representation will be made to any Seasonal Performance Factor for the cooling operation.

#### *Application for Interim Waiver*

DACA also hereby applies pursuant to 10 C.F.R. § 430.27(a)(2) for an interim waiver of the applicable test procedure requirements for the Daikin Altherma product class models listed above. The basis for DACA's Application for Interim Waiver follows.

DACA is likely to succeed in its Petition for Waiver because there is no reasonable argument that the test method contained in 10 C.F.R. Part 430,

<sup>4</sup>DACA believes that Carrier is no longer marketing its Hydrotech system for which DOE previously granted a waiver, and DACA believes that Nordyne is no longer marketing its Powermiser system for which DOE also previously granted a waiver.

Subpart B, Appendix M can be accurately applied to the Daikin Altherma product class. As explained above in the DACA's Petition for Waiver, the design characteristics of the Daikin Altherma product class clearly prevent testing the Daikin Altherma system with the prescribed test procedures and obtaining a representative result of the system's true energy consumption characteristics.

The likelihood of DOE approving DACA's Petition for Waiver is supported by the DOE's history of approving previous waiver requests from other manufacturers for products that are similar to the Daikin Altherma product class, based on the same rationale offered by DACA in this Petition for Waiver.

Additionally, DACA is likely to suffer economic hardship and competitive disadvantage if DOE does not grant its interim waiver request. DACA is now preparing to introduce its Daikin Altherma product class in a matter of months. If we must wait for completion of the normal waiver consideration and issuance process, DACA will be forced to delay the opportunity to begin recouping through product sales its production and marketing costs associated with introducing the Daikin Altherma product class into the United States market.

DOE approval of DACA's interim waiver application is also supported by sound public policy reasons. As DOE stated in its January 7, 2008 approval of DACA's interim waiver for the VRV-WII product classes:

[I]n those instances where the likely success of the Petition for Waiver has been demonstrated, based upon DOE having granted a waiver for similar products design, it is in the public interest to have similar products tested and rated for energy consumption on a comparable basis.

73 *Fed. Reg.* at 1215. The Daikin Altherma product class will provide superior comfort to the end user, and will incorporate state of the art technology such as variable speed compressors and a solar kit to enhance the energy efficiency performance of the integrated domestic hot water production system component. The Daikin Altherma product class will introduce technologies that will increase system efficiency and reduce national energy consumption, and that will also offer a new level of comfort and control to end users.

DACA requests that DOE grant our Application for Interim Waiver so we can bring the new highly energy efficient technology represented by the

Daikin Altherma product class to the market as soon as possible, thereby allowing the U.S. consumer to benefit from our high technology and high efficiency product.

#### *Confidential Information*

DACA makes no request to DOE for confidential treatment of any information contained in this Petition for Waiver and Application for Interim Waiver.

#### **Conclusion**

Daikin AC (Americas), Inc. respectfully requests DOE to grant its Petition for Waiver of the applicable test procedure to DACA for specified models of the Altherma system, and to grant its Application for Interim Waiver. DOE's failure to issue an interim waiver from test standards would cause significant economic hardship to DACA by preventing DACA from marketing these products even though DOE has previously granted a waiver to other products that were offered in the market with similar design characteristics.

We would be pleased to respond to any questions you may have regarding this Petition for Waiver and Application for Interim Waiver. Please contact Lee Smith, Director of Product of Product Marketing at 972-245-1510 or by email at [Lee.smith@daikinac.com](mailto:Lee.smith@daikinac.com).

Sincerely,

Akinori Atarashi  
President  
Daikin AC (Americas), Inc.  
1645 Wallace Drive, Suite 110  
Carrollton, Texas 75006  
(Submitted in triplicate)

Encls: Copy of Daikin Altherma  
Brochure, Engineering Data, EN  
Testing & Rating Standards

[FR Doc. E9-29785 Filed 12-14-09; 8:45 am]

BILLING CODE 6450-01-P

#### **DEPARTMENT OF ENERGY**

[Case No. CAC-025]

#### **Energy Conservation Program for Certain Industrial Equipment: Publication of the Petition for Waiver From Daikin AC (Americas), Inc. and Granting of the Interim Waiver From the Department of Energy Commercial Package Air Conditioner and Heat Pump Test Procedure**

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

**ACTION:** Notice of petition for waiver, granting of application for interim waiver, and request for comments.

**SUMMARY:** This notice announces receipt of and publishes a petition for waiver from Daikin AC (Americas), Inc. (Daikin). The petition for waiver (hereafter "petition") requests a waiver from the U.S. Department of Energy (DOE) test procedure applicable to commercial package air-cooled central air conditioners and heat pumps. The petition is specific to the Daikin variable capacity VRV-III-C (commercial) multi-split heat pumps. Through this document, DOE: (1) Solicits comments, data, and information with respect to the Daikin Petition; and (2) announces the grant of an interim waiver to Daikin from the applicable DOE test procedure for the subject commercial air-cooled, multi-split air conditioners and heat pumps.

**DATES:** DOE will accept comments, data, and information with respect to the Daikin Petition until, but no later than January 14, 2010.

**ADDRESSES:** You may submit comments, identified by case number "CAC-025," by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.

- *E-mail:*

[AS\\_Waiver\\_Requests@ee.doe.gov](mailto:AS_Waiver_Requests@ee.doe.gov).

Include either the case number [CAC-025], and/or "Daikin Petition" in the subject line of the message.

- *Mail:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J/ 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-2945. Please submit one signed original paper copy.

- *Hand Delivery/Courier:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 950 L'Enfant Plaza SW., Suite 600, Washington, DC 20024. Please submit one signed original paper copy.

*Instructions:* All submissions received must include the agency name and case number for this proceeding. Submit electronic comments in WordPerfect, 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).

Any person submitting written comments must also send a copy of such comments to the petitioner, pursuant to 10 CFR 431.401(d). The contact information for the petitioner is: Mr. Lee Smith, Director of Product Marketing, Daikin AC (Americas), Inc.,