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Dated: January 25, 2010.

**Munira Mwalimu,**

*Operations Officer, U. S. Department of Education, National Assessment Governing Board.*

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**BILLING CODE 4000-01-P**

## DEPARTMENT OF ENERGY

[Case No. CAC-026]

### 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 Water-Source 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 water-source central air conditioners and heat pumps. The petition is specific to the Daikin variable capacity VRV-WIII (commercial) multi-split heat pumps. Through this document, DOE solicits

comments, data, and information with respect to the Daikin Petition, and announces the grant of an interim waiver to Daikin from the existing DOE test procedure for the subject commercial water-source, 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 March 1, 2010.

**ADDRESSES:** You may submit comments, identified by case number "CAC-026," 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-026], 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.

**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) 586-7432 or (202) 586-5827, respectively. 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 (EPCA) sets forth a variety of provisions concerning energy efficiency, including Part A of Title III, which establishes the "Energy Conservation Program for Consumer Products Other Than Automobiles." (42 U.S.C. 6291-6309) Similar to the program in Part A, Part A-1 of Title III provides for an energy efficiency program titled, "Certain Industrial Equipment," which includes commercial air conditioning equipment, package boilers, water heaters, and other types of commercial equipment. (42 U.S.C. 6311-6317)

Today's notice involves commercial equipment under Part A-1. Part A-1 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 A-1 authorizes the Secretary of Energy (the Secretary) to prescribe test procedures that are reasonably designed to produce results which 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 a covered commercial product 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. DOE adopted the International Organization for Standardization (ISO) Standard 13256-1-1998, "Water-source heat pumps—Testing and rating for performance—Part 1: Water-to-air and brine-to-air heat pumps," for small commercial package water-source heat pumps with capacities < 135,000 British thermal units per hour (Btu/h). *Id.* at 71371. Pursuant to this rulemaking, DOE's regulations under Title 10 of the Code of Federal Regulations (10 CFR) 431.95(b)(2) incorporate by reference ARI Standard 340/360-2004, and Table 1 to 10 CFR 431.96 directs manufacturers of commercial package water-source air conditioning and heating equipment to use the appropriate procedure when measuring energy efficiency of those products. The cooling capacities of Daikin's commercial VRV-WIII multi-split heat pump products at issue in the waiver petition filed by Daikin range from 72,000 Btu/hr to 252,000 Btu/hr. The Daikin products with capacities greater than 135,000 Btu/hr are not covered by this waiver because there is no DOE test procedure for water-source heat pumps with capacities greater than 135,000 Btu/hr.

DOE's regulations for covered products 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 which 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, including adherence to alternate test procedures. 10 CFR 431.401(f)(4). Waivers remain in effect 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 a period of 180 days or until DOE issues its determination on the petition for waiver, whichever occurs first, and it may be extended by DOE for an additional 180 days, if necessary. 10 CFR 431.401(e)(4).

## II. Petition for Waiver

On November 9, 2009, Daikin filed a petition for waiver from the test procedures at 10 CFR 431.96 applicable to commercial package water-source central air conditioners and heat pumps, as well as an application for interim waiver. The capacities of the Daikin VRV-WIII multi-split heat pumps range from 72,000 Btu/hr to 252,000 Btu/hr, making the applicable test procedure for Daikin's commercial VRV-WIII multi-split heat pumps with capacities less than 135,000 Btu/hr ISO Standard 13256-1 (1998), which manufacturers are directed to use pursuant to Table 1 of 10 CFR 431.96.

Daikin seeks a waiver from the applicable test procedures under 10 CFR 431.96 on the grounds that its VRV-WIII multi-split heat pumps contain design characteristics that prevent testing according to the current DOE test procedures. Specifically, Daikin asserts that the two primary factors that prevent testing of its multi-split variable speed products are the same factors stated in the waivers that DOE granted to Mitsubishi Electric & Electronics USA, Inc. (Mitsubishi) and other manufacturers for similar lines of commercial multi-split air-conditioning systems:

- Testing laboratories cannot test products with so many indoor units; and
- There are too many possible combinations of indoor and outdoor units to test. 69 FR 52660 (August 27, 2004) (Mitsubishi waiver); 72 FR 17528 (April 9, 2007) (Mitsubishi waiver); 72 FR 71387 (Dec. 17, 2007) (Samsung waiver); 72 FR 71383 (Dec. 17, 2007) (Fujitsu waiver); 73 FR 39680 (July 10, 2008) (Daikin waiver); 74 FR 15955 (April 8, 2009) (Daikin waiver); 74 FR 16193 (April 9, 2009) (Sanyo waiver); 74 FR 16373 (April 10, 2009) (Daikin waiver)

The VRV-WIII systems have operational characteristics similar to the

commercial multi-split products manufactured by Mitsubishi, Samsung, Fujitsu and Sanyo. As indicated above, DOE has already granted waivers for these products. The VRV-WIII system can be connected to the complete range of Daikin ceiling mounted, concealed, ducted, corner, cassette, wall-mounted and floor-mounted and other indoor fan coil units. Each of these units has nine different indoor static pressure ratings as standard, with additional pressure ratings available. There are over one million combinations possible with the Daikin VRV-WIII system. Accordingly, Daikin requested that DOE grant a waiver from the applicable test procedures for its VRV-WIII product designs, until a suitable test method can be prescribed.

## III. Application for Interim Waiver

On November 9, 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. DOE understands, however, that absent an interim waiver, Daikin's products would not be tested and rated for energy consumption on an equal basis with equivalent products where DOE previously granted waivers, placing Daikin 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. DOE believes that it is likely Daikin's petition for waiver for the new VRV-WIII multi-split models will be granted because, as noted above, DOE has previously granted a number of waivers for similar product designs.<sup>1</sup> The two principal reasons supporting the grant of the previous waivers also apply to Daikin's VRV-WIII products: (1) Test laboratories cannot test products with so many indoor units; and (2) it is impractical to test so many combinations of indoor units with each outdoor unit. In addition, DOE believes that similar products should be tested

<sup>1</sup> DOE notes that it has also previously granted interim waivers to Fujitsu (70 FR 5980 (Feb. 4, 2005)), Samsung (70 FR 9629 (Feb. 28, 2005)), Mitsubishi (72 FR 17533 (April 9, 2007)), and Daikin (72 FR 35986 (July 2, 2007)), for comparable commercial multi-split air conditioners and heat pumps.

and rated for energy consumption on a comparable basis. For these same reasons, DOE also determined that it is desirable for public policy reasons to grant immediate relief pending a determination on the petition for waiver.

Therefore, *it is ordered that:*

The application for interim waiver filed by Daikin is hereby granted for Daikin's VRV-WIII water-source multi-split heat pumps, subject to the specifications and conditions below.

1. Daikin shall not be required to test or rate its VRV-WIII commercial water-source multi-split products on the basis of the existing test procedure under 10 CFR 431.96, which incorporates by reference ISO Standard 13256-1 (1998).

2. Daikin shall be required to test and rate its VRV-WIII commercial water-source multi-split products according to the alternate test procedure as set forth in section IV(3), "Alternate test procedure."

The interim waiver applies to the following basic model groups:

VRV-WIII Series Outdoor Units:

- Models RWEYQ72PTJU, RWEYQ84PTJU
- Compatible Indoor Units For Above Listed Outdoor Units:

- FXAQ Series wall mounted indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000 and 24,000 Btu/hr.

- FXLQ Series floor mounted indoor units with nominally rated capacities of 12,000, 18,000 and 24,000 Btu/hr.

- FXNQ Series concealed floor mounted indoor units with nominally rated capacities of 12,000, 18,000 and 24,000 Btu/hr.

- FXDQ Series low static ducted indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000 and 24,000 Btu/hr.

- FXSQ Series medium static ducted indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000, 24,000, 30,000, 36,000 and 48,000 Btu/hr.

- FXMQ-M Series high static ducted indoor units with nominally rated capacities of 30,000, 36,000, 48,000, 72,000 and 96,000 Btu/hr.

- FXMQ-P Series high static ducted indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000, 24,000, 30,000, 36,000 and 48,000 Btu/hr.

- FXMQ-MF Series Outdoor Air Processing indoor units with nominally rated capacities of 48,000, 72,000 and 96,000 Btu/hr.

- FXTQ-P Series Vertical Air Handler indoor units with nominally rated capacities of 12,000, 18,000, 24,000, 30,000, 36,000, 42,000, 48,000 and 54,000 Btu/hr.

- FXZQ Series recessed cassette indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000 and 24,000 Btu/hr.

- FFXQ Series recessed cassette indoor units with nominally rated capacities of 12,000, 18,000, 24,000, 30,000 and 36,000 Btu/hr.

- FXHQ Series ceiling suspended indoor units with nominally rated capacities of 12,000, 24,000 and 36,000 Btu/hr.

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

Responding to two recent petitions for waiver from Mitsubishi, DOE specified an alternate test procedure to provide a basis from which Mitsubishi could test and make valid energy efficiency representations for its R410A CITY MULTI products, as well as for its R22 multi-split products. Alternate test procedures related to the Mitsubishi petitions were published in the **Federal Register** on April 9, 2007. See 72 FR 17528 and 72 FR 17533. For reasons similar to those published in these prior notices, DOE believes that an alternate test procedure is appropriate in this instance.

DOE understands that existing testing facilities have a limited ability to test multiple indoor units simultaneously, and the large number of possible combinations of indoor and outdoor units for some variable refrigerant flow zoned systems makes it impractical for manufacturers to test. We further note that subsequent to the waiver that DOE granted for Mitsubishi's R22 multi-split products, ARI formed a committee to discuss the issue and to work on developing an appropriate testing protocol for variable refrigerant flow systems. The committee has developed a test procedure which has been adopted by AHRI-AHRI Standard 1230-2009: "Performance Rating of Variable Refrigerant Flow (VRF) Multi-Split Air-Conditioning and Heat Pump Equipment." This test procedure has not yet been adopted by ASHRAE 90.1, so it cannot yet be considered for adoption by DOE.

Therefore, as discussed below, as a condition for granting this interim

waiver to Daikin, DOE is including an alternate test procedure similar to those granted to Mitsubishi for its R22 and R410A products. DOE plans to consider the same alternate test procedure in the context of the subsequent Decision and Order pertaining to Daikin's petition for waiver. Use of this alternate test procedure will allow Daikin to test and make energy efficiency representations for its VRV-WIII products. DOE has applied a similar alternate test procedure to other waivers for similar residential and commercial central air conditioners and heat pumps manufactured by Mitsubishi (72 FR 17528, April 9, 2007); Samsung (72 FR 71387, Dec. 17, 2007); Fujitsu (72 FR 71383, Dec. 17, 2007); Daikin (73 FR 39680, July 10, 2008); Daikin (74 FR 15955, April 8, 2009); Sanyo (74 FR 16193, April 9, 2009); and Daikin (74 FR 16373, April 10, 2009).

The alternate test procedure developed in conjunction with the Mitsubishi waiver permits Daikin to designate a "tested combination" for each model of outdoor units. The indoor units designated as part of the tested combination must meet specific requirements. For example, the tested combination must have from two to five indoor units so that it can be tested in available test facilities. The tested combination must be tested according to the applicable DOE test procedure, as modified by the provisions of the alternate test procedure as set forth below. The alternate test procedure also allows manufacturers of such products to make valid and consistent representations of energy efficiency for their air-conditioning and heat pump products.

DOE plans to consider inclusion of the following waiver language in the Decision and Order for Daikin's VRV-WIII commercial multi-split water-source heat pump models:

(1) The "Petition for Waiver" filed by Daikin Electronics, Inc. is hereby granted as set forth in the paragraphs below.

(2) Daikin shall not be required to test or rate its VRV-WIII variable capacity multi-split heat pump products listed above in section III, on the basis of the existing test procedures, but shall be required to test and rate such products according to the alternate test procedure as set forth in paragraph (3).

(3) *Alternate test procedure.*

(A) Daikin shall be required to test the products listed in section III above according to the test procedures for central air conditioners and heat pumps prescribed by DOE at 10 CFR 431.96, except that Daikin shall test a "tested combination" selected in accordance

with the provisions of subparagraph (B) of this paragraph. For every other system combination using the same outdoor unit as the tested combination, Daikin shall make representations concerning the VRV-WIII products covered in this waiver according to the provisions of subparagraph (C) below.

(B) Tested combination. The term "tested combination" means a sample 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 2 and 5 indoor units; 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.

(C) *Representations.* In making representations about the energy efficiency of its VRV-WIII variable capacity water-source multi-split heat pump products, for compliance, marketing, or other purposes, Daikin must fairly disclose the results of testing under the DOE test procedure, doing so in a manner consistent with the provisions outlined below:

(1) For VRV-WIII combinations tested in accordance with this alternate test procedure, Daikin may make representations based on these test results.

(2) For VRV-WIII combinations that are not tested, Daikin may make representations based on the testing results for the tested combination at the same energy efficiency level as the tested combination with the same

outdoor unit and which is consistent with either of the two following methods:

(i) Representation of non-tested combinations according to an Alternative Rating Method (ARM) approved by DOE; or

(ii) Representation of non-tested combinations at the same energy efficiency level as the tested combination with the same outdoor unit.

## 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 VRV-WIII commercial multi-split heat pump products. For the reasons articulated above, DOE also 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 is defining a "tested combination" that Daikin could use in lieu of testing all retail combinations of its VRV-WIII multi-split heat pump products.

DOE is interested in receiving comments on the issues addressed in this notice. Pursuant to 10 CFR 431.401(d), any person submitting written comments must also send a copy of such comments to the petitioner. The contact information for the petitioner is: Mr. Akinori Atarashi, President, Daikin AC (Americas), Inc., 1645 Wallace Drive, Suite 110, Carrollton, Texas 75006. 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).

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.

Issued in Washington, DC, on January 22, 2010.

**Cathy Zoi,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

Daikin AC (Americas), Inc., 1645 Wallace Drive, Suite 110, Carrollton, TX 75006 USA. TEL: 866-4DAIKIN, FAX: 972-245-1038, <http://www.daikinac.com>

November 9, 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 CFR 431.401(a)(1) (2009) for a waiver of the test procedures applicable to commercial air conditioners and heat pumps, as established in 10 CFR 431.96 (2009) and ARI Standard 340/360-2004<sup>2</sup> and ISO Standard 13256-1 (1998)<sup>3</sup>, for the Daikin VRV-WIII system. The specific models for which DACA requests this waiver in the Daikin VRV-WIII 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 listed Daikin VRV-WIII systems because the basic models contain design criteria that prevent testing of the basic models according to the prescribed test procedures. We are simultaneously requesting an interim waiver for the same systems pursuant to 10 CFR 431.401(a)(2) (2009).

## Background

DACA is a leading manufacturer of variable speed and Variable Refrigerant Volume (VRV) zoning systems that DACA offers for sale in the North American market. These products combine advanced technologies such as high efficiency variable speed compressors and fan motors with electronic expansion valves and other devices to insure peak operating

<sup>2</sup> The AHRI has updated this standard from version ARI 340/360-2004 to version AHRI 340-360-2007. However, DOE has not yet updated the reference to the standard in 10 CFR part 431.

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

performance of the overall system and to optimize energy efficiency. DACA has designed the VRV–VIII systems to operate in commercial applications, and this product class employs zoning to provide users with peak utility of the system and with significant energy savings compared to competing technologies.

### General Characteristics of DACA's Water Source VRV–VIII Products

DACA's VRV–VIII system has the following characteristics and applications:

- DACA's water source VRV–VIII is an air conditioning system that includes numerous individually controllable discrete indoor units utilizing water as a heat source. In this unique system, water is piped from a cooling tower or boiler to the VRV–VIII (which is the equivalent of the outdoor unit of an air cooled conditioning system). After heat exchange, refrigerant is piped from the VRV–VIII to each indoor unit.
- The VRV–VIII system consists of multi-split, multi-zone units utilizing one or multiple outdoor units that serve up to twenty indoor units.
- The VRV–VIII system employs variable speed technology that matches system capacity to the current load thereby utilizing the minimum amount of energy required for optimal system operation.
- Due to its multi-zone applications, each VRV–VIII indoor unit can be independently controlled with a local controller allowing the occupant to alter their environmental condition to meet their needs. Individually controlled system functions include temperature, fan speed and mode of operation.
- The VRV–VIII system can efficiently operate the compressor at loads as small as 10% of the rated capacity of the system, resulting in significant energy savings.
- Some VRV–VIII products offer a "heat recovery" mode that allows heat that is absorbed from one indoor zone (operating in the cooling mode) to be discharged into another indoor zone that is calling for heat. This function reduces the load on the outdoor unit and improves overall system performance and utility.
- The VRV–VIII system employs variable speed indoor and outdoor high efficiency fan motors to precisely control operating pressures and airflow rates.
- The VRV–VIII system uses electronically controlled expansion valves to precisely control refrigerant flow, superheat, sub-cooling, pump down functions and even oil flow throughout the system.

- The VRV–VIII can be applied into a Geothermal or Ground Source application for additional energy savings and use of the renewable energy in the earth.

### Particular Basic Models for Which a Waiver Is Requested

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

- VRV–VIII Series Outdoor Units:
  - Models RWEYQ72PTJU, RWEYQ84PTJU, RWEYQ144PTJU, RWEYQ168PTJU, RWEYQ216PTJU, and RWEYQ252PTJU with capacities ranging from 72,000 to 252,000 Btu/hr.
  - Compatible Indoor Units For Above Listed Outdoor Units:
    - FXAQ Series wall mounted indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000 and 24,000 Btu/hr.
    - FXLQ Series floor mounted indoor units with nominally rated capacities of 12,000, 18,000 and 24,000 Btu/hr.
    - FXNQ Series concealed floor mounted indoor units with nominally rated capacities of 12,000, 18,000 and 24,000 Btu/hr.
    - FXDQ Series low static ducted indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000 and 24,000 Btu/hr.
    - FXSQ Series medium static ducted indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000, 24,000, 30,000, 36,000 and 48,000 Btu/hr.
    - FXMQ–M Series high static ducted indoor units with nominally rated capacities of 30,000, 36,000, 48,000, 72,000 and 96,000 Btu/hr.
    - FXMQ–P Series high static ducted indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000, 24,000, 30,000, 36,000 and 48,000 Btu/hr.
    - FXMQ–MF Series Outdoor Air Processing indoor units with nominally rated capacities of 48,000, 72,000 and 96,000 Btu/hr.
    - FXTQ–P Series Vertical Air Handler indoor units with nominally rated capacities of 12,000, 18,000, 24,000, 30,000, 36,000, 42,000, 48,000 and 54,000 Btu/hr.
    - FXZQ Series recessed cassette indoor units with nominally rated capacities of 7,000, 9,000, 12,000, 18,000 and 24,000 Btu/hr.
    - FXFQ Series recessed cassette indoor units with nominally rated capacities of 12,000, 18,000, 24,000, 30,000 and 36,000 Btu/hr.
    - FXHQ Series ceiling suspended indoor units with nominally rated capacities of 12,000, 24,000 and 36,000 Btu/hr.

### Design Characteristics Constituting the Grounds for DACA's Petition

DACA's VRV–VIII product offering consists of multiple indoor units being connected to a water-cooled outdoor unit. The indoor units for these products are available in a very large number of potential configurations, including but not limited to the following: 4–Way Cassette, Wall Mounted, Ceiling Suspended, and Floor Standing. DACA is currently developing additional indoor unit models for future market introduction. Each of these units has nine different indoor static pressure ratings as standard, with additional pressure ratings available.

There are over one million combinations possible with the current DACA VRV–VIII product offering. It is completely impractical for testing laboratories to test a product such as the VRV–VIII with multiple indoor units because of the astronomical number of potential system configurations.

DACA's VRV–VIII products share many of the design characteristics and features of DACA's VRV, VRV–S and VRV–VIII product lines, and of Mitsubishi Electric and Electronics USA, Inc.'s (MEUS) CITY MULTI product class, for all of which DOE has previously granted waivers.<sup>4</sup> The principal design characteristic difference between DACA's VRV and VRV–S products, and its VRV–VIII products, is the method of heat rejection. Similarly, the method of heat rejection is the most significant design characteristic that distinguishes the basic operation of the VRV–VIII product class and the MEUS CITY MULTI product class that has received a waiver from DOE. Like the VRV–W–II products for which DOE granted a waiver, the VRV–VIII products use water instead of air to reject heat. In contrast, the VRV and VRV–S products, as well as MEUS' CITY MULTI products use air to reject heat. The same testing constraints and limitations apply to all of these products.

The DOE relied on similar rationales to grant MEUS' petition for waiver and DACA's VRV–WII waiver. DOE stated the following in the notice granting DACA a waiver for VRV–WII:

DOE believes that the VRV–WII Daikin equipment and equipment for which waivers have previously been granted [MEUS, Fujitsu General Ltd. and Samsung] are alike with respect to

<sup>4</sup> DOE granted DACA a waiver for its VRV and VRV–S product lines on July 10, 2008. 73 FR 39,680. DOE granted MEUS a waiver for its CITY MULTI VRFZ class of products. 69 FR 52,660 (August 27, 2004). DOE also granted DACA a waiver for its VRV–WII product lines on January 7, 2008. 73 FR 1,213.

the factors that make them eligible for test procedure waivers.

74 FR 16,375. Based on these conclusions, the DOE proceeded to grant DACA's VRV-WII waiver request. *Id.*

The DACA VRV-WIII system operates in the same configurations as the VRV-WII system. The reasons and rationale that DOE has already articulated to support previous DACA, MEUS, Sanyo, and Fujitsu waivers for multi-split, multi-zoned air conditioners (including the DACA VRV W-II system) also apply to the DACA VRV-WIII products. Therefore, DOE should conclude that the design characteristics of DACA's VRV-WIII product class prevent testing of the basic VRV-WIII model according to the prescribed test procedures.

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

The test procedures from which DACA is requesting a waiver are ARI Standard 340/360-2004 and ISO Standard 13256-1 (1998). These standards, which are applicable to large commercial and industrial unitary air conditioning and heat pump equipment with a capacity of  $\geq 65,000$  Btu/hr to  $< 240,000$  Btu/hr, are referenced in Table 2 to 10 CFR 431.96, and are made applicable to DACA's large commercial water source VRV-WIII products in 10 CFR 431.96(a).

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

Although the capacity of DACA's VRV-WIII product class is within the scope of ARI 340/360-2004 and ISO Standard 13256-1 (1998), the design characteristics of the VRV-WIII product class prevent testing of the basic model according to the prescribed test procedures. The testing procedures outlined in these standards do not provide for:

- The testing of multi-split products when all connected indoor units physically cannot be located in a single room.
- The operation of indoor units at several different static pressure ratings during a single test.
- The precise number of part load tests that ARI Standard 340/360-2004 requires for fully or infinitely variable speed products.

DACA especially requires the requested waiver because ARI Standard 340/360-2004 and ISO Standard 13256-1 (1998) provide no direction or guidance about how to test systems with millions of combinations of indoor units configurable to a single outdoor unit.

A further reason that DACA needs the requested waiver is that ARI Standard

340/360-2004 and ISO Standard 13256-1 (1998) do not provide a test method to measure part load performance of a system operating in simultaneous cooling and heating modes (i.e., performing both heating and cooling functions at the same time).

Yet another problem that prevents testing of the VRV-WIII product class under these two standards, and another major reason why DACA requires the requested waiver, is the wide variety of indoor unit static pressure ratings available with these and other multi-split products. Testing facilities cannot effectively control multiple indoor static pressures as would be required to test many of the indoor unit combinations available. To accomplish such testing, a testing lab would be required to use a large number of test rooms simultaneously, and each test room would have to be networked into the data recording instrumentation. Also, extensive piping configurations would need to be routed throughout the various test rooms. This process would be extraordinarily expensive, and the logistical challenges presented by the testing might be insurmountable.

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

DACA is aware of the following manufacturers that produce basic models incorporating similar design characteristics to the VRV-WIII in the United States market:

- Sanyo Fisher (USA) Corp.
- Mitsubishi Electric & Electronics USA, Inc.
- Fujitsu General America, Inc.

#### **Alternative Test Procedures**

DACA proposes that DOE apply the same alternate test procedure to the covered VRV-WIII products as DOE applied to DACA's VRV-WII products in the waiver that DOE granted for those products on April 10, 2009. 74 FR 16,373. The alternate test method appears on pages 16,375-76 of the VRV-WII waiver.

#### **Application for Interim Waiver**

DACA also hereby applies pursuant to 10 CFR 431.401(a)(2) for an interim waiver of the applicable test procedure requirements for the VRV-WIII 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 ARI Standard 340/360 can be properly applied to DACA's VRV-WIII product class. As explained above in the DACA's Petition

for Waiver, the design characteristics of the VRV-WIII product class clearly prevent testing of the basic model according to the prescribed test procedures. The likelihood of DOE approving DACA's Petition for Waiver is buttressed by the DOE's history of approving previous waiver requests from DACA and from several other manufacturers for other products that are similar to the VRV-WIII product class, based on the same rationale put forth by DACA in this Petition for Waiver. See preceding discussion of waivers granted by DOE to MEUS, Fujitsu General, and Sanyo Fisher (USA) Corp.

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 VRV-WIII 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 research, development and production costs associated with the VRV-WIII product class. In addition to these economic hardship costs, DACA will lose market share to MEUS, especially if DOE grants MEUS' pending interim waiver application for its CITY MULTI WR2 and WY product classes, which will compete directly with DACA's VRV-WIII product class.

DOE approval of DACA's interim waiver application is also supported by sound public policy reasons. As DOE stated in its August 14, 2006 approval of DACA's interim waiver for the VRV and VRV-S 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 a similar product design, it is in the public interest to have similar products tested and rated for energy consumption on a comparable basis.

The VRV-WIII product class will provide superior comfort to the end user, will allow for independent zoning of facilities from a single outdoor unit, and will incorporate state of the art technology such as variable speed compressors utilizing neodymium magnets to increase efficiency and electronic control of compressor speed, fan speed and even metering device opening positions. The VRV-WIII product class includes 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 VRV-WIII 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, and from competition for other manufacturers who may have already received waivers.

#### 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. Corporation respectfully requests DOE to grant its Petition for Waiver of the applicable test procedure to DACA for the VRV-WIII product design, 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 currently being 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 Marketing at 972-245-1510 or by e-mail at [Lee.smith@daikinac.com](mailto:Lee.smith@daikinac.com).

Sincerely,  
Akinori Atarashi,  
President.

[FR Doc. 2010-1759 Filed 1-28-10; 8:45 am]

BILLING CODE 6450-01-P

#### DEPARTMENT OF ENERGY

##### Notice of Availability of the Draft Long-Term Management and Storage of Elemental Mercury Environmental Impact Statement and Notice of Public Hearings

**AGENCY:** Department of Energy.

**ACTION:** Notice of availability.

**SUMMARY:** The Department of Energy (DOE) announces the availability of the *Draft Long-Term Management and Storage of Elemental Mercury Environmental Impact Statement* (DOE/EIS-0423D, "Draft Mercury Storage EIS" or "Draft EIS") for public review and comment during a public comment period that extends through March 30, 2010. This Draft EIS has been prepared in accordance with the implementing

regulations under the National Environmental Policy Act (NEPA) and evaluates the potential health and environmental effects of storing a projected total of up to 10,000 metric tons (11,000 tons) of elemental mercury. Seven alternative sites across the U.S. are evaluated. DOE invites the public to comment through the several avenues listed under **ADDRESSES** and **SUPPLEMENTARY INFORMATION**. The U.S. Environmental Protection Agency (EPA) and the Mesa County (Colorado) Board of Commissioners are cooperating agencies on this Draft EIS.

**DATES:** The public is invited to submit oral and/or written comments on this Draft EIS during the public comment period, which extends through March 30, 2010. DOE will consider all comments received or postmarked by that date in preparing the Final EIS, expected in fall 2010, and will consider late comments to the extent practicable. DOE will hold public hearings on the dates and at the times and locations listed under **SUPPLEMENTARY INFORMATION** below.

**ADDRESSES:** Written comments on the Draft Mercury Storage EIS may be submitted by U.S. mail to the following address. Mr. David Levenstein, EIS Document Manager, U.S. Department of Energy, Draft Mercury Storage EIS Comments, P.O. Box 2612, Germantown, Maryland 20874.

Comments may be submitted electronically via the Mercury Storage EIS Web site at <http://www.mercurystorageeis.com>, where the Draft EIS can be found, or by faxing toll-free to (877) 274-5462. The Draft EIS is also available on DOE's NEPA Web site at <http://www.gc.energy.gov/nepa>.

**FOR FURTHER INFORMATION CONTACT:** For further information about this Draft EIS, please contact Mr. Levenstein at the mailing address or EIS Web site listed above.

For information regarding the DOE NEPA process, please contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC-54), U. S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, Telephone: (202) 586-4600, or leave a message at (800) 472-2756.

**SUPPLEMENTARY INFORMATION:** The Mercury Export Ban Act (the Act) prohibits the export of elemental mercury from the U.S., effective January 1, 2013 (subject to certain essential use exemptions). Section 5 of the Act, *Long-Term Storage*, directs DOE to designate a facility or facilities for the long-term management and storage of elemental mercury generated within the U.S. and,

by January 1, 2013, to have the facility or facilities operational and ready to accept custody of such elemental mercury delivered there.

DOE thus needs to develop a capability for the safe and secure long-term management and storage of elemental mercury generated within the U.S. as required by the Act. To this end, DOE proposes to select one or more existing (including modifications if needed) or new facilities for this purpose. Facilities to be constructed as well as existing or modified facilities must comply with applicable requirements of Section 5(d) of the Act, *Management Standards for a Facility*, including the requirements of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA). DOE is using the NEPA process to identify and evaluate candidate sites for the facility or facilities. EPA and the Mesa County (Colorado) Board of Commissioners are cooperating agencies on the EIS, which has been prepared pursuant to Council on Environmental Quality NEPA implementing regulations at 40 CFR Parts 1500-1508 and DOE NEPA Implementing Procedures at 10 CFR Part 1021.

DOE issued a Notice of Intent to prepare the EIS on July 2, 2009 (74 FR 31723). Comments received during the subsequent scoping period were considered in preparing the Draft EIS. Based on a structured process described in the Draft EIS, DOE identified seven government and commercial sites as the range of reasonable alternatives to be evaluated in the EIS: DOE Grand Junction Disposal Site, Grand Junction, Colorado; DOE Hanford Site, Richland, Washington; Hawthorne Army Depot, Hawthorne, Nevada; DOE Idaho National Laboratory, Idaho Falls, Idaho; DOE Kansas City Plant, Kansas City, Missouri; DOE Savannah River Site, Aiken, South Carolina; and Waste Control Specialists, LLC, Andrews, Texas. As required under NEPA, the Draft EIS also analyzes a No Action Alternative to serve as a basis for comparison.

DOE's evaluation includes the facilities themselves and their locations, their construction, facility operations, and transportation to the storage facility(ies). Consideration of potential location includes climate, proximity of human populations, and environmental resource areas for each alternative, along with the potential human health and socioeconomic impacts. DOE has identified the Waste Control Specialists, LLC facility as its preferred alternative.