

July 2, 2009

Ms. Christina Chang
ICF International
1725 Eye St., NW
Suite 1000
Washington, DC 20006

Re: Mitsubishi Electric & Electronics USA, Inc.'s Comments on ENERGY
STAR Light Commercial HVAC Specifications Version 2.0 – Draft 2

Dear Ms. Chang;

Mitsubishi Electric & Electronics USA, Inc. (MEUS) appreciates the opportunity to submit the following comments in response to the U.S. Environmental Protection Agency's (EPA) request for public comment on Draft 2 of the ENERGY STAR[®] Light Commercial HVAC Specification Version 2.0. We commend EPA for considering the inclusion of highly efficient variable refrigerant flow (VRF) multi-split systems in the Version 2.0 specification.

MEUS's key comments are summarized as follows:

- In June, the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) approved AHRI 1230, a test procedure for rating of VRF multi-split air-conditioning and heat pump equipment. This test procedure should be specified in Version 2.0 as the appropriate test procedure for VRF multi-split air conditioners and heat pumps of all sizes.
- Version 2.0 should incorporate a definition of VRF multi-split system that is drawn from AHRI 1230.
- The proposed minimum energy efficiency criteria for air-source air conditioners with capacities between 135,000 and 240,000 Btu/h should be lower than those for air-source air conditioners with capacities between 65,000 and 135,000 Btu/h.
- EPA should adopt appropriate transition provisions that allow for immediate ENERGY STAR designation of VRF multi-split systems qualifying under the current program, rather than requiring the manufacturer to wait for the January 1, 2010 effective date of Version 2.0.
- The proposed January 1, 2010 effective date for Version 2.0 is appropriate.

AHRI 1230 – Test Procedure for VRF Multi-split Systems

In its notes to Draft 2 of the Eligibility Criteria, EPA noted that it had received a request to include VRF multi-split equipment in the revised specification. EPA stated that once AHRI completed and adopted the appropriate test procedure for VRF equipment – AHRI 1230 – EPA would conduct a review and consider the inclusion of this equipment in Version 2.0. In June 2009, AHRI approved Standard 1230 as the appropriate test procedure for VRF multi-split air conditioning and heat pump equipment.¹ Therefore, AHRI 1230 should be specified in Version 2.0 as the appropriate test procedure for VRF multi-split air conditioners and heat pumps.

Attached are suggested changes to Draft 2 in redline/strikeout format, implementing the comments made herein. At the appropriate places in the Eligibility Criteria, MEUS suggests adding references to AHRI 1230 as the test procedure for VRF multi-split systems.

Definition of VRF Multi-split Systems

EPA solicited input on the appropriate definition for “VRF multi-split systems.” MEUS recommends use of a definition consistent with the definition of those systems in AHRI 1230. AHRI 1230 defines VRF multi-split systems as:

A split system air-conditioner or heat pump incorporating a single refrigerant circuit, with one or more outdoor units, at least one variable speed compressor or an alternative compressor combination for varying the capacity of the system by three or more steps, multiple indoor fan coil units, each of which is individually metered and individually controlled by a proprietary control device and common communications network.

MEUS proposed revisions to the Eligibility Criteria include a definition for VRF systems that is consistent with that contained in AHRI 1230. This change will align ENERGY STAR with the categorization of VRF systems in AHRI 1230 and allow industry-wide standardization.

Minimum Energy Efficiency Criteria for Certain Air Conditioners

In Table 1 of Section 3, Energy-Efficiency Specification for Qualifying Products, EPA provides the minimum efficiency criteria for light commercial air conditioners. For air-source air conditioners with capacities greater than or equal to 65,000 Btu/h, but less than 135,000 Btu/h, the proposed Tier 1 minimum energy efficiency criteria are 11.5 EER and 11.6 IEER. For air-source air conditioners with capacities greater than or equal to 135,000 Btu/h, but less than 240,000 Btu/h, the proposed Tier 1 criteria are higher – 11.7 EER and 11.8 IEER.

¹ Final publication of AHRI 1230 is expected by mid-July.

As system capacities increase, efficiency generally decreases incrementally. Thus, the proposed criteria should be reversed. Accordingly, for air-source air conditioners with capacities greater than or equal to 65,000 Btu/h, but less than 135,000 Btu/h, the Tier 1 minimum energy efficiency criteria should be 11.7 EER and 11.8 IEER. For air-source air conditioners with capacities greater than or equal to 135,000 Btu/h, but less than 240,000 Btu/h, the Tier 1 criteria should be 11.5 EER and 11.6 IEER.

Transition for Products Ineligible Under Version 1.0

Under Version 1.0 of the Eligibility Criteria for Light Commercial HVAC equipment, VRF products were found to be ineligible to receive the ENERGY STAR designation because of the lack of a specific test procedure for testing and rating VRF products. With AHRI's adoption of Standard 1230, there now exists an appropriate test procedure to test and rate VRF products. Thus, with the adoption of MEUS's suggested changes, VRF products will be eligible for the ENERGY STAR designation under Version 2.0 of the Eligibility Criteria for Light Commercial HVAC equipment.

Version 2.0 will not, however, go into effect until January 1, 2010. This leaves a significant period of time before VRF products can obtain ENERGY STAR designation.² At a minimum, this delay could discourage potential users of VRF technology from considering these highly efficient HVAC systems.

As VRF systems are extremely efficient products, they should not be penalized and required to wait until 2010 for ENERGY STAR designation simply because of the previous lack of an appropriate test procedure. Thus, EPA should reserve the flexibility to grant ENERGY STAR certification immediately for VRF products that meet the current requirements, rather than requiring the manufacturer to wait for the January 1, 2010 transition date from Version 1.0 to Version 2.0.

In the attachment, MEUS proposes language to permit any product (e.g., VRF multi-split systems) which could not establish eligibility under Version 1.0 because of the absence of an appropriate test procedure, but which qualifies under the specifications of Version 2.0, to receive ENERGY STAR certification prior to January 1, 2010.

The Proposed Effective Date for Version 2.0 Is Appropriate

EPA asked for comments regarding the effective date of Version 2.0. MEUS believes that the proposed effective date, January 1, 2010, represents an appropriate implementation schedule for Version 2.0. It will be feasible for manufacturers to transition product literature and other ENERGY STAR materials prior to the proposed effective date. In addition, using the January 1, 2010, effective date will align the schedule for the new ENERGY STAR requirements with the effective date for new federal minimum efficiency standards for commercial air conditioning and heating equipment.³

² This gap would only grow larger if the proposed effective date were to slip.

³ See 10 C.F.R. § 431.97(b).

Thank you for your consideration of these comments on Draft 2 of Version 2.0 of the ENERGY STAR Light Commercial HVAC specifications. If you have any questions regarding the information discussed above, please do not hesitate to contact me or Paul Doppel at (678) 376-2923.

Sincerely,

A handwritten signature in black ink, appearing to read 'William Rau', with a large, stylized flourish above the name.

William Rau
Senior Vice President and General Manager
HVAC Advanced Products Division
Mitsubishi Electric & Electronics USA, Inc.
3400 Lawrenceville-Suwanee Road
Suwanee, GA 30024

CC: Steven Ryan, EPA

Attachment: Proposed changes to Draft 2 of Version 2.0