

operating only at one speed. Thus, the test procedure's baseline test is conducted at full load. The test procedure includes a crude mechanism designed to measure energy use in the cooling mode at specified part-loads. ARI 210/240 5.2 (1989) provides that "[s]ystems which are capable of capacity reduction shall be rated at 100% and at each step of capacity reduction provided by the refrigeration system(s) as published by the manufacturer. These rating points shall be used to calculate the [integrated part load value, or] IPLV."¹⁰ The CITY MULTI VRFZ Systems, by contrast, have variable frequency inverter driven scroll compressors, and therefore have nearly infinite steps of capacity. For this reason, the test procedure's "step" analysis of capacity reduction cannot be practically applied to the CITY MULTI VRFZ compressors.

In addition, the existing test standards do not provide a test method for integrated part load value during heating operation of heat pumps. The CITY MULTI heat pump products' part load capability in heating mode is not accounted for in any way in the test procedure.

In order to provide accurate data for product comparisons by consumers, it is critical that the efficiency rating of a system be derived at its normal operating state. While other system compressors run at full load as their normal state, the CITY MULTI VRFZ Systems run at part load as their normal state. EER measurements at full load are not representative of typical customer usage of the CITY MULTI product. Thus, the problems with the IPLV methodology described above are particularly problematic with respect to the CITY MULTI VRFZ Systems.

4. *The current test procedure does not account for the capability of simultaneous heating and cooling.*

The CITY MULTI VRFZ R2 products are the only 2-pipe simultaneous heating and cooling systems available in the United States at the current time. These simultaneous heating and cooling systems achieve significant energy efficiency because they transfer heat recovered from one zone and discharge it into another zone needing heat. The test procedures in ARI 210/240 5.2 (1989) and ARI 210/240 5.2 (1994) do not include any mechanism for testing a multi-split heat pump that can operate with one or more indoor coils cooling while one or more other indoor units are heating.

For all of these reasons, the existing test procedures evaluate the CITY MULTI VRFZ products "in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data."¹¹ Thus, this petition for waiver should be granted.

It is not surprising that the existing test procedures do not address the issues listed above, because VRFZ systems like the CITY MULTI were not in distribution in the U.S.

when the Energy Policy Act was enacted in 1992, or when the industry standards and test procedures incorporated by reference in the Energy Policy Act were developed.

Without a waiver of the test procedure, MEUS is at a competitive disadvantage in the market. Utilities, customers, and State and local governments expect MEUS to provide energy efficiency ratings that will enable the comparison of HVAC products, the determination of building code compliance, and the calculation of energy savings. The current test procedure, however, cannot be meaningfully applied to CITY MULTI VRFZ systems, for the reasons described above. Moreover, if there is an applicable test procedure for a covered product, section 343(d)(1) of EPCA prohibits a manufacturer from making representations about the energy consumption of the equipment unless the equipment has been tested in accordance with such test procedure and the representation fairly discloses the results of the testing. Therefore, MEUS is handicapped in its ability to provide information on energy consumption to its customers. This is particularly counterproductive for the CITY MULTI VRFZ systems because these systems are specifically designed to deliver energy savings for customers.

No Known Alternative Test Procedures

There are no alternative test procedures known to MEUS that could evaluate these products in a representative manner.¹²

Similar Products

To the best of our knowledge, VRFZ products are also offered in the United States by Samsung Electronics Company, Ltd., Sanyo Fisher (USA) Corp., and Mitsubishi Heavy Industries Climate Control, Inc. Each of the manufacturers has incorporated a different technology to achieve variable refrigerant flow. None of these manufacturers offer a product comparable to the CITY MULTI VRFZ R2 products that offer simultaneous heating and cooling with a 2-pipe system.

We believe that a test procedure could be developed to address appropriately variable refrigerant flow zoning systems, part-load performance by variable speed compressors, and simultaneous heating and cooling operations. Given the differences in technology used by manufacturers of other VRFZ systems, however, it is uncertain whether a test procedure developed for the CITY MULTI VRFZ systems would also appropriately apply to these other manufacturers' products.

Conclusion

MEUS seeks a waiver of current test procedures established in ARI 210/240 (1989). Such a waiver is necessary because the current prescribed test procedures produce materially inaccurate and unrepresentative data for regulatory and consumer information purposes.

MEUS respectfully asks the Department of Energy to grant a waiver from existing test

standards until such time as a representative test procedure is developed and adopted for this class of products. MEUS expects to work with ARI through the process of developing appropriate test procedures.

If we can provide further information, or if it would be helpful to discuss any of these matters further, please contact Paul Doppel, Brand Manager, at (678) 376-2923.

Sincerely,

William Rau
President, HVAC Advanced Products
Division
Mitsubishi Electric & Electronics USA, Inc.
4505-A Newpoint Place
Lawrenceville, GA 30043

Certificate

I hereby certify that I have this day served the foregoing document upon the following companies known to Mitsubishi Electric & Electronics USA, Inc. to currently market systems in the United States which appear to be similar to the CITY MULTI VRFZ System design:

Samsung Air Conditioning
Samsung Electronics Company, LTD.
2865 Pellissier Pl.
Whittier, CA 90601
Attn: John Miles, Director, Engineering & Technical Support
Sanyo Fisher (USA) Corp.
1165 Allgood Road
Suite 22
Marietta, GA 30062
Attn: Tetsushi Yamashita, Engineering Manager, HVAC
Mitsubishi Heavy Industries Climate Control, Inc.
3030 E. Victoria Street
Racho Dominguez, CA 90221
Attn: Mario B. Santos, Assistant Manager, Service Engineer
Dated this 13th day of June 2003.
William Rau
President, HVAC Advanced Products
Division
Mitsubishi Electric & Electronics USA, Inc.
4505-A Newpoint Place
Lawrenceville, GA 30043

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DEPARTMENT OF ENERGY

Energy Information Administration

Agency Information Collection Activities: Proposed Collection; Comment Request

AGENCY: Energy Information Administration (EIA), Department of Energy (DOE).

ACTION: Agency information collection activities: proposed collection; comment request.

SUMMARY: EIA is soliciting comments on the proposed new survey Form EIA-913, "Monthly and Annual Liquefied Natural Gas (LNG) Storage Reports."

¹⁰ The same language appears in ARI 210/240 5.2 (1994).

¹¹ 10 CFR 431.29 (2002)(a)(1) (standard for granting waiver from test procedures for electric motors). See also 10 CFR 430.27(a)(1) (2002) (standard for granting waiver from test procedures for consumer products).

¹² Although ARI 210/240 has been modified several times since 1989 (the most recent version being ARI 210/240 (2003)), even these revised test procedures do not address the problems identified above.