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October 19, 2016

Ms. Abigail Daken
U.S. Environmental Protection Agency
(LCHVAC@energystar.gov)

Re: AHRI Comments on Draft 2 Version 3.0 Product Specification for ENERGY STAR Qualified Light Commercial HVAC Equipment (REV 1)

Dear Ms. Daken:

These comments are submitted by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) in response to the Environmental Protection Agency (EPA) request for comments on Draft 2 Version 3.0 Product Specification for ENERGY STAR Qualified Light Commercial HVAC Equipment which was issued on September 22, 2016.

AHRI is the trade association representing manufacturers of heating, cooling, water heating, and commercial refrigeration equipment. More than 300 members strong, AHRI is an advocate for the industry and develops standards for and certifies the performance of many of the products manufactured by our members. In North America, the annual output of the HVACR industry is worth more than \$20 billion. In the United States alone, our members employ approximately 130,000 people and support some 800,000 dealers, contractors, and technicians.

We have the following comments on Draft 2 Version 3.0 Product Specification for ENERGY STAR Qualified Light Commercial HVAC Equipment:

1. AHRI supports EPA's proposed efficiency levels for light commercial air conditioners (AC), and heat pumps (HP) and appreciates the alignment with current CEE Specifications levels, Tier 2 for cooling performance and Tier 1 for heating performance. However, AHRI is concerned that there is an unintended exception in the harmonization of the heating performance level proposed for these products. The EPA has proposed aligning with CEE Tier 1 levels; however, for the 135,000-240,000 Btu/h air-source heat pumps, EPA has proposed 3.3 COP at 47°F db outdoor air, instead of 3.2 COP, which would be the harmonized level. There is no benefit to the 0.1 difference in COP between the proposed EPA Energy Star level and the CEE Tier 1 levels. AHRI requests that EPA adopt the level of 3.2 COP at 47°F for air-source heat pumps between 135,000 and 240,000 Btu/h.

2. AHRI members are concerned that the part-load cooling levels proposed in Draft 2 for VRF multi-split systems, while lower, are still too high when considered in conjunction with the proposed full load metrics. It is difficult for the manufacturers to provide such high part-load performance simultaneously with the full-load levels proposed. As it is most beneficial to consumers to have products that operate very efficiently at part-load conditions, where the vast majority of operation occurs for these product, AHRI recommends that EPA keep the IEER levels it has proposed in Draft 2, while eliminating the full-load metrics and the low ambient temperature rating (COP at 17°F) from the specifications. While the low ambient temperature efficiency is certified as optional in the AHRI Directory, it is onerous to make this a requirement for VRF multi-split systems.

In the event that EPA disagrees with eliminating the full-load and low ambient temperature ratings (COP at 17°F) in favor of keeping high part-load efficiencies, AHRI recommends the alternative path of aligning the proposed levels with Tier 1 of the newly released CEE Specifications. Alignment with CEE will ensure the ENERGY STAR levels do not add a source of confusion for users and installers by adding an additional set of levels.

As above, AHRI is concerned that for all light commercial VRF multi-split air-source heat pump product categories with the exception of the 135,000-240,000 Btu/h range, EPA has proposed aligning with CEE Tier 1 levels; however, for the 135,000-240,000 Btu/h VRF multi-split air-source heat pumps, EPA has proposed 3.3 COP at 47°F outdoor air, instead of 3.2 COP. There is no benefit to the 0.1 difference in COP between the proposed EPA Energy Star level and the CEE Tier 1 levels. AHRI requests that EPA adopt the level of 3.2 COP at 47°F for VRF multi-split air-source heat pumps between 135,000 and 240,000 Btu/h.

3. AHRI supports EPA's revised proposal for the sampling approach. It is much more appropriate to build a single sample of custom-built, commercial equipment. AHRI is happy to work with EPA to craft this modified approach for the Certification Body (CB) guidance documents.

AHRI appreciates the opportunity to provide these comments. If you have any questions regarding this submission or would like to discuss any of these points further, please do not hesitate to contact me.

Sincerely,



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