

July 1, 2009

Steven Ryan
ENERGY STAR Product Development
Office of Air and Radiation
United States Environmental Protection Agency
Washington, D.C. 20460

**RE: COMMENTS OF DAIKIN AC (AMERICAS), INC. ON THE DRAFT 2 VERSION
2.0 ENERGY STAR LIGHT COMMERCIAL HVAC SPECIFICATION**

Dear Mr. Ryan:

Daikin AC (Americas), Inc. (Daikin) respectfully submits the following comments in response to the United States Environmental Protection Agency's (EPA) request for public input on the Draft 2 Version 2.0 ENERGY STAR Light Commercial HVAC specification. Daikin is a supplier of central air conditioning systems in the United States that all employ inverter technology, a mature, non-proprietary technology that is widely available to HVAC manufacturers, and that can significantly reduce energy consumption in all residential and commercial HVAC systems.

Key elements of Draft 2 Version 2.0 specification includes an EPA plan to conduct a review of AHRI Standard 1230 and determine whether it is appropriate to expand the specification to include VRF multi-split equipment specification once the test standard is finalized. AHRI Standard 1230 is now an approved standard. AHRI plans to publish the standard in the next 30 days.

EPA requested public input on a definition for VRF multi-split equipment or edits to the text provided in Section 1D of the draft specification. In support of that request, Daikin is recommending that the definitions in AHRI Standard 1230 be used in the ENERGY STAR Light

Commercial HVAC specifications as it is an industry accepted resource. The definitions for the various VRF multi-split equipment in AHRI 1230 are as follows:

- 3.27 VRF Multi-Split System.** 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. The system shall be capable of operating either as an air conditioner or a heat pump. Variable refrigerant flow implies three or more steps of control on common, inter-connecting piping.
- 3.28 VRF Heat Recovery Multi-Split System.** 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 alternate 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. This system is capable of operating as an air-conditioner or as a heat pump. The system is also capable of providing simultaneous heating and cooling operation, where recovered energy from the indoor units operating in one mode can be transferred to one or more other indoor units operating in the other mode. Variable refrigerant flow implies 3 or more steps of control on common, inter-connecting piping.
- 3.29 Water-to-air Heat Pump and/or Brine-to-air Heat Pump.** A heat pump which consists of one or more factory-made assemblies which normally include an indoor conditioning coil with air-moving means, compressor(s), and refrigerant-to- water or refrigerant-to-brine heat exchanger(s), including means to provide both cooling and heating, cooling-only, or heating-only functions. When such equipment is provided in more than one assembly, the separated assemblies should be designed to be used together. Such equipment may also provide functions of sanitary water heating, air cleaning, dehumidifying, and humidifying.
- 3.30 Water Loop Heat Pump.** Water-to-air heat pump using liquid circulating in a common piping loop functioning as a heat source/heat sink. The temperature of the liquid loop is usually mechanically controlled within a temperature range of 59°F [15°C] to 104°F [40.0°C].

Daikin thanks EPA for considering these comments and we are looking forward to working with EPA during the transition to the new specification.

Respectfully submitted,



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Daikin AC (Americas), Inc.