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July 3, 2014

Ms. Abigail Daken
U.S. Environmental Protection Agency (EPA)
ENERGY STAR HVAC Program

Re: Rheem Comments on ENERGY STAR Most Efficient 2015 Requirements on System Statues and Messaging Requirements for Ducted and Ductless CAC/ASHP, Furnaces, GHPs

Dear Ms. Daken,

These comments are submitted by Rheem Manufacturing Company (Rheem) in response to the June 9, 2014 proposed specification and May 5, 2014 webinar 'request for comment' issued by the EPA regarding its Version 5.0 Draft 1 ENERGY STAR® CAC/ASHP specification proposal.

Rheem is privately held with headquarters in Atlanta and U.S. operations in Alabama, Arkansas, California, Indiana, North Carolina, Texas and Utah. In its 89th year of operation, the company is a global manufacturer of residential and commercial heating and cooling systems; tank, tankless, solar and hybrid heat pump water heaters; whole-home standby generators, controls, swimming pool and spa heaters; indoor air-purification products; commercial boilers; and commercial refrigeration equipment. The company's premium brands include Rheem, Raypak, Ruud and Richmond, as well as commercial refrigeration brands Russell, Witt, ColdZone and Kramer, which are part of the company's Heat Transfer Products Group (HTPG) division. Rheem products have been recognized with countless industry and consumer awards for reliability, innovative design and high quality.

Rheem has been actively engaged with the ENERGY STAR program since the program began and is recognized by EPA as manufacturing products that meet the Most Efficient Criteria.

Rheem submits the following comments to the proposed criteria outlined in your June 9, 2014 memo:

1) Unit Setup Requirements –

Automatic set up of a HVAC system is a convenience for the installer. It can provide assurance that a system will not initially be installed without adjustment of the airflow based on the individual components that have been grouped together. It can provide assurance that if the components have been selected within assumed guidelines that the evaporator will not freeze due to insufficient airflow or that the airflow is not too high for a particular installation. It cannot assure the homeowner that the HVAC system was



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properly selected and applied. It cannot avoid the electrical losses associated with overly restrictive or poorly balanced duct work. It will not provide the homeowner with an assurance of reduced energy consumption. Because of these concerns, Rheem believes EPA should more narrowly define the unit setup requirements.

2) Static Pressure and Refrigerant Charge –

Monitoring requirements for static pressure can be indirectly associated with the electrical consumption of the blower motor. The static pressure is a function of the particular mode of the operation of the HVAC system and the particular configuration of the duct system. The duct system configuration is infinitely adjustable through interaction of the homeowner who can adjust registers and open and close doors within the occupied space. It is difficult to link an observed increase in blower watts to a filter that needs to be changed versus a homeowner who closes registers in an unoccupied room. A person on site would probably use static pressure as a tool to diagnose a problem but a fault alarm based solely on increased static pressure could lead to false alarms and unneeded service calls. High pressure at the compressor could be a sign that the refrigerant charge is excessive, the indoor or outdoor fan is not operating or the filter is dirty. There are a number of system characteristics that a competent service provider will use to diagnose improper operation of a system that are not sufficient to conclusively diagnose a problem. While it is true that a properly operating HVAC system will provide the highest level of energy efficiency possible for a given configuration, it is not true that any monitoring system that signals a fault condition to the homeowner will result in reduced energy consumption. For these reasons, Rheem does not support the criteria as proposed by EPA.

3) Fault History –

Rheem agrees that fault history is important and helpful to service personnel; but note that while equipment features that detect improper installation and poorly operating components are helpful to service personnel and can improve HVAC system reliability, it could be misleading to imply that a system operating without a documented fault is the “Most Efficient.”

4) Resident Alerts in Plain Text –

Rheem supports the EPA position that alerts should be provided to residents in plain text. The issue is whether the residents should be expected to respond to an alert in any manner other than to call a certified technician. Rheem has provided multiple levels of diagnostics that are intended to communicate system faults. Some general alerts are intended to communicate with the resident at the thermostat. The Rheem condensing furnace displays fault codes on a two digit seven segment display. Rheem provides normal operation codes and detailed fault code documentation in the installation manual





that lists the status, description, expected operation, cause and solution for each fault code. There is a distinct difference between what would be truly meaningful diagnostic feedback versus something that is not effective. The EPA does not provide guidance on the quality of feedback/information and they remain open ended on whether the communications follows a given standard. Rheem believes EPA should more narrowly define the resident alerts in plain text

Rheem appreciates the opportunity to provide these comments. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Karen B. Meyers".

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