



May 29, 2007

Mr. Richard Karney  
U.S. Department of Energy  
1000 Independence Ave. SW  
Washington, DC 20585

RE: Energy Star Residential Water Heaters

Dear Mr. Karney

Rheem Water Heating is a leading manufacturer of water heaters in North America with distribution nationwide through retail and wholesale channels of the market. Rheem provides a comprehensive line of water heating products for use in residential and commercial applications that includes products providing attractive energy efficiency solutions for our customers. We are pleased that the U.S. Department of Energy (DOE) is considering Energy Star criteria to help further promote and differentiate energy efficient water heating products and appreciate having the opportunity to provide comment on this matter.

In response to the announced Energy Star Residential Water Heaters: Draft Criteria Analysis of May 2, 2007 we offer comments on the following topics:

- **Product Definition:** The draft Energy Star criteria for residential water heaters presents a review of several residential water heater technologies (e.g. electric-resistance storage water heaters, gas storage water heaters, heat pump water heaters, and the like) with their respective energy savings and prescriptive criteria for qualifying a residential water heater on the basis of energy factor (EF) and First Hour Rating (for storage-type heaters as an example). The proposed criteria, however, does not directly provide the definition of a “residential water heater” which is important in deciding the test methods used to qualify residential water heater efficiency and water delivery performance. To ensure clarity of the definition of product classes rated on the basis of EF and to remove potential ambiguity on the appropriate methods of test, it is recommended to utilize the definitions for residential water heaters as adopted by the DOE in Appendix E to

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Subpart B of 10 CFR Part 430 (Energy Conservation Program for Consumer Products: Test Procedure for Water Heaters). By reference, in the DOE's rulemaking to amend the existing energy conservation standards for residential water heaters, the definitions for the product classes for residential water heaters were provided in the January 16, 2007 meeting presentation (Attachment A). Such clarification is essential in providing specificity to the scope of coverage and maintains consistency on the applicable test methods (as exemplified by the proposed OG-300 certification for solar thermal) needed in defining eligibility criteria for residential water heaters. In addition, it is important to ensure that the Program is not encouraging the installation of non-residential products that are not certified to the appropriate safety standards for the intended applications.

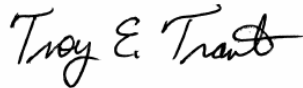
- **Reconsideration of Electric-Resistance Storage Water Heaters:** The draft Energy Star criteria cited the estimated 2006 sales of conventional electric-resistance water heaters at approximately 4.8M units, or about 49% of all residential water heater shipments in the U.S. It is a concern that electric-resistance storage water heaters are proposed as being excluded from an Energy Star rating due to the supposed limited potential energy savings. Reconsideration is warranted for this category of Energy Star since this technology is readily available today, offers an attractive option to consumers who do not have an alternative fuel source available, and the aggregate energy savings provided by this incremental change would appear to be supportive of our national interest to save energy where reasonably feasible. Referring to Table 1 of the draft criteria, it is evident that if an Energy Star EF rating of 0.95 were included, then such option would have the shortest payback time period as compared to other technologies. Having an Energy Star recognized electric-resistance storage water heater, like other successful Energy Star label products, is anticipated to help attract consumers to this affordable energy efficiency alternative in a product segment that has been driven to commoditization.
- **Warranty Period Requirements:** The draft criteria postulates that advanced water heating technologies are not widely available due to issues of high cost, poor reliability, limited availability and the general lack of consumer interest. The proposed Energy Star program attempts to reconcile these concerns by suggesting minimum warranty periods on the basis of helping to guarantee consumers an attractive payback on their investment.

As an Energy Star program for residential water heaters is anticipated to serve as an important "catalyst for consumer demand" this will certainly drive the introduction of new technologies into the marketplace where a product warranty program will be a necessity to help build consumer confidence at the point of sale. Rather than prescribing minimum warranty requirements, it is our position

that the DOE should instead provide guidance to consumers on making their purchases based on product life, warranty, maintenance costs and the like. Warranty has traditionally been part of terms and conditions of sales addressed by Federal Trade Commission (FTC) rules and should not be part of or a requirement for participation in a DOE program. At this early stage of market transformation, prescribing a warranty period based on a payback estimate holds considerable uncertainties whereas our recommendation allows consumers to make decisions based on all appropriate factors.

Rheem is eager to continue working with the Department in the development of an Energy Star program for residential water heaters and plans to participate in the Stakeholder Meeting on June 5<sup>th</sup>. The timing for this program is most appropriate as there appears to be a growing interest in energy efficiency product solutions.

Sincerely,

A handwritten signature in black ink that reads "Troy E. Trant". The signature is written in a cursive style with a prominent initial "T" and a long, sweeping underline.

Troy E. Trant, P.E  
Engineering Manager – Advanced Research

Cc: Josh Butzbaugh – D&R International, Ltd.

Attachment A



U.S. Department of Energy  
**Energy Efficiency and Renewable Energy**

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## Residential Water Heater Product Classes

<b>Storage:</b> Heat and store water at a thermostatically controlled temperature	<b>Gas-fired:</b> A nominal input of 75,000 Btu/hour or less and a rated storage volume from 20 to 100 gallons
	<b>Oil-fired:</b> A nominal input of 105,000 Btu/hour or less and a rated storage volume of 50 gallons or less
	<b>Electric:</b> A nominal input of 40,956 Btu/hour or less and a rated storage volume from 20 to 120 gallons
	<b>Heat Pump:</b> A maximum current rating of 24 amperes, voltage no greater than 250 volts, and a transfer of thermal energy from one temperature level to a higher temperature level for the purpose of heating water
	<b>Tabletop:</b> A box enclosure designed to slide into a kitchen countertop space and dimensions of 36 inches high, 25 inches deep and 24 inches wide
<b>Instantaneous:</b> Contain no more than one gallon of water per 4,000 BTU per hour of input	<b>Gas-fired:</b> A nominal input of over 50,000 Btu/hour up to 200,000 Btu/hour and a rated storage volume of 2 gallons or less
	<b>Electric:</b> An input of 12 kilowatts or less

Reference: U.S. Department of Energy, Energy Conservation Program for Consumer Products Energy Conservation Standards Rulemaking for Residential Water Heaters, Direct Heating Equipment, and Pool Heaters, January 16, 2007  
 U.S. Department of Energy, Washington DC