



AHI Technologies, LLC
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Wilmington, DE 19810

September 9, 2011

Abigail Daken
Water Heater Program Manager
Energy Star Program
U.S. EPA
Washington DC

Dear Ms. Abigail Daken,

Thank you for the opportunity to comment on the Energy Star Version 2.0 Draft 1 for Water Heaters.

AHI Technologies (AHI) is a developer, manufacturer and marketer of tankless water heaters. AHI supports Energy Star program for water heaters, and believe that Energy Star has played an important role in guiding consumers on energy efficient products available in the market. The following comments from AHI relate to proposed eligibility criteria for point-of-use electric units in Energy Star Version 2.0 Draft 1 for Water Heaters.

Temperature Adjustment

For water heaters to produce maximum energy savings, the units should be temperature controlled to $\pm 3^{\circ}\text{F}$ (full modulating) so that regardless of the full KW capacity of the units, the electric energy consumption will only be as much as needed. For example, a 12kw unit may have two heating elements that are 6kw each. With temperature adjustment, which is not necessary temperature controlled, the unit may be adjusted to consume either 6kw or 12 kw, i.e. one heating element powered on or both heating elements powered on fully. If a hand washing application needs 5 kw based on the flow and the water temperature need to be raised, with temperature control, the unit will use 5 kw only. With temperature adjustment function, the unit may consume 6kw instead of 5kw needed.

In addition, in order to be able to use the unit as a booster, which is a proposed criterion, the unit must be able to take warm water in as well as be able to handle a demand that requires a small temperature raise without overshooting. That means that the unit must be temperature controlled within a reasonable fluctuation range. Since human body detects temperature fluctuation of $> \pm 3^{\circ}\text{F}$ and booster application typically require a delta T of more than 3°F (i.e. $\pm 3^{\circ}\text{F}$ is good enough for booster application), AHI suggest modifying "Temperature Adjustment" to "Temperature Controlled to $\pm 3^{\circ}\text{F}$ ".

AHI Technologies made above suggestions to be constructive and to promote fair and clear Energy Star criteria for the American consumers. AHI looks forward to working with Energy Star program and the industry on Energy Star criteria development for water heaters. AHI respectively requests Energy Star program considers above comment and suggestion.

Sincerely,

Shimin Luo
President
SL/sf