GAMA-*An Association of Appliance & Equipment Manufacturers*
2107 Wilson Boulevard • Suite 600 • Arlington, VA 22201 • Phone: (703) 525-7060 • Fax: (703) 525-6790 • www.gamanet.org



May 29, 2007

Mr. Richard H. Karney, P.E.
Energy Star Product Manager
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Mr. Karney,

The Gas Appliance Manufacturers Association (GAMA) is a national trade association of manufacturers of gas, oil, and electric appliances and equipment and related products. GAMA's members account for more than 90% of U. S. shipments of gas, oil, and electric water heaters. We appreciate the opportunity to comment on the U.S. Department of Energy's (DOE) Draft Criteria Analysis for Energy Star Residential Water Heaters.

We support the establishment of Energy Star program for residential water heaters and recommend that the program address all varieties of residential water heaters to maximize the benefits of the program. One of the initial purposes of the Energy Star program was to identify the most efficient products on the market. This was traditionally considered the upper 25% most efficient products. As this program evolves and particularly in view of the current variety of residential water heaters available, we urge DOE to establish Energy Star criteria that include both the most efficient of conventional models and advanced technology models of residential water heater.

Before addressing the draft criteria presented for specific technologies, we have several comments that apply to all or several of the technologies.

> All specific warranty requirements should be deleted from the draft criteria. The warranty is a condition of sale and, of itself, does not assure either product quality or reliability. The Energy Star programs for residential furnaces and boilers do not include any specific warranty criteria and the technologies used for those products are as varied and complex as the technologies used on water heaters.
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> We do not agree with the decision not to implement capacity based energy factor criteria for storage water heaters. Because of the specified parameters in the DOE efficiency test procedures for residential water heaters, the energy factor determination is volume dependent. Using a single energy factor criterion limits consumer choice and may mislead consumers to select undersized storage water

heater models. A capacity based criteria is not complicated; it is simple as providing a table of EF per standard volume size.

One new criterion that is needed is a requirement that the water heater be listed by a recognized third party certification agency as complying with the nationally recognized safety standard applicable to the specific type of water heater. All water heaters by the nature of their purpose have the potential to present a scald hazard. Additional safety requirements apply depending on the energy source. It is a fundamental principle that Energy Star products should be safe products and that only products listed as water heaters should be included in the Energy Star program for residential water heaters

The following are our comments on the specific technologies identified in the draft criteria analysis.

Electric Storage Water Heaters: We disagree with the decision to not consider this product for the Energy Star program and think that this is counter to the basic idea of this program. As the analysis shows, the most efficient electric storage water heaters represent about a 5 % energy savings compared to the same size minimum efficiency electric water heater model. While this may seem insignificant, the annual electric savings from this 5 % efficiency improvement can be as much as the assumed benefit of using high efficiency motors on furnace fans. Since EPA has already indicated their intent to establish an Energy Star criterion for those motors, DOE should establish criteria for another product that has the potential for similar energy savings, i.e. electric storage water heaters. Equally important the Energy Star mark would help consumers easily identify the most efficient residential electric storage water heaters available. The criterion for these products should be the top of the range of current EFs for each common volume size.

Gas Storage Water Heaters: We disagree with the decision to not consider conventional models of this product for the Energy Star program for the same basic reasons noted above. The analysis shows that the most efficient gas storage water heaters currently available represent about a 10 % energy savings compared to the same size minimum efficiency gas water heater model. In a market that approaches 5 million units a year, actions that cause even a relatively small percentage of that market to use products that are 10% more efficient can amount to some significant energy savings. The criterion for these products should be the top of the range of current EFs for each common volume size.

This criterion could be combined with the “Advanced Non-Condensing Gas Storage” criteria in a Tier I /Tier II approach. The value of such an approach is that the Tier I criteria could be implemented very quickly since products are

currently available. Also, the intent to move to Tier II criteria would be made known while allowing the time that is needed to develop those products and determine the appropriate criterion.

The analysis for gas storage water heaters uses a 50 gallon model as the base. This is incorrect. The predominant size of residential gas storage water heater installed in the U.S. is a 40 gallon model. That is the volume size that should be used in the analysis.

Whole-Home Tankless Water Heaters: We agree with the EF criterion but recommend that the minimum gallon per minute (GPM) requirement be lowered to 3.0. The DOE efficiency test procedures for tankless water heaters are conducted at 3.0 gpm with 77° rise if the product can meet that test condition. That test condition reflects a determination that 3 gpm heated through a 77° rise is adequate for a typical household. It should be noted that within the context of the proposed draft criteria, this requirement could be simplified to identify the range of hourly input that qualifies a model as a "whole house tankless water heater." This range is about 140,000 to 200,000 Btu/h.

Gas Condensing Water Heaters: We agree with the EF criterion. The minimum first hour rating is unnecessary and should be deleted. The least efficient, 30 gallon gas water heaters available today have first hour ratings of at least 50 gallons. Appling this criterion to condensing gas storage water heaters is meaningless.

This criteria should be expanded to include small commercial condensing gas water heaters (i.e. input $\leq$ 200,000 Btu/h) that cannot be rated for EF but which are sometimes used in residential applications. The criteria for these models would be a minimum thermal efficiency of 90% and a standby loss no greater than $Q/800 + 110\ (V)^{1/2}$, where Q is the input and V is the rated volume.

Advanced Non Condensing Gas Storage: We agree with this concept as a Tier II criterion that would be implemented at some date later than Tier I as products are developed and brought to market. While the proposed .70 EF criterion is a useful indicator of the expected performance of these models, the exact EF criterion would also be determined later and should be a table of EF per volume size.

There is one area where the analysis is incomplete. It has a fundamental shortcoming that the draft criteria do not address all the types of water heaters that are being installed in residential applications today to provide all or some part of the hot water need in that residence. Recognizing that the purpose of Energy Star is to help consumers identify the most efficient products available, criteria should be specified for oil-fired storage water heaters; for "non-whole house" residential gas tankless water heaters; and electric tankless water heaters.

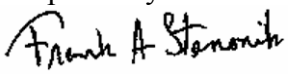
There are Energy Star criteria for oil-fired furnaces and boilers, developed in response to the needs of consumers who use fuel oil as there energy source. Those same consumers should also have the benefit of a water heater Energy Star program.

There are a number of gas tankless water heater models that have hourly inputs less that 140,000 Btu/h that are efficient products and which are being installed in residences as point of use applications or to serve only some part of the "whole house." These models should be included in the Energy Star program so that in the case where consumers have decided to buy and install one of these models to meet their need, there is information available to them to identify these efficient models.

Electric tankless water heaters with inputs larger than 12 kW also are being installed in residential applications. These models are practically 100% efficient. Similar to the case above, where consumers have decided to buy and install one of these models to meet their need, there should be information available to them in the form of an Energy Star label to identify these efficient models.

We will provide additional detail on these comments at the meeting on June 5, 2007.

Respectfully submitted,



Frank A. Stanonik
Chief Technical Advisor