



September 9, 2011

Ms. Abigail Daken  
ENERGY STAR Water Heater Program Manager  
U.S. Environmental Protection Agency  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

Dear Abigail:

Supplementing our participation in the August 23, 2011 webinar, we have the following comments on the Draft 1 Version 2.0 Water Heaters Specification.

#### Definitions

As discussed during the webinar, there are activities ongoing to modify the federal definition of residential electric tankless water heater to raise the maximum input limit to 25kW. It was indicated that EPA would consider modifying this Energy Star program to include electric tankless models with inputs up to 25kW when either the law or DOE regulation is changed. Since such change may not mesh with EPA's schedule for revising the Energy Star Water Heaters Specification, we suggest that EPA add the following conditional provision under "A. Residential Water Heater":

(Note: Electric Tankless Water Heaters with an input greater than 12 kW up to 25kW, whether Whole-Home or Point-of-Use units, will be included under this specification upon inclusion of such units in section 321(27)(B) of the Energy Policy and Conservation Act (42 U.S.C. 6291(27)(B))."

The definition shown for Basic Model Group matches the DOE definition of Basic Model. To avoid confusion either the term needs to change to Basic Model or the definition needs to be revised to distinguish "group" from "model."

#### Scope:

The description of "Included Products" is unnecessarily restrictive because of the added phrase "which are intended only for sale in the residential market." There are certain low use, non-residential applications (e.g. kitchen/lunchrooms and lavatories in office buildings and factories or some types of small businesses) where the hot water load can be satisfied by a "residential" water heater. Installing contractors or plumbers do install residential water heaters in these

applications irrespective of the manufacturer's intent. This practice that occurs in the field outside the manufacturer's control should not disqualify a water heater model from being included in the Energy Star program. We suggest that this phrase be deleted from the description so that it only states:

Included Products: Only products that meet the definition of a residential water heater, as specified herein are eligible for ENERGY STAR qualification.

With regard to the description of "Excluded Products" we are disappointed that EPA continues to exclude residential electric and oil storage water heaters. By continuing to exclude these products, the Energy Star program is ignoring the millions of consumers who will replace their existing electric or oil-fired storage water heaters with the same type of water heater; in many cases because they have no viable options. These consumers would benefit from the installation of a higher than minimum efficiency water heater. Inclusion of these types of water heaters in the Energy Star program would help consumers identify those higher efficiency models. We request EPA to reconsider its position on this issue.

#### Qualification Criteria

The EF criterion for Whole Home Electric Units, as it applies to add-on heat pumps, should include a note that the EF value is relevant only to the installation of the add-on heat pump on an electric storage water heater. As we noted in our previous comments, the current DOE residential water heater efficiency test procedure provides an EF for add-on heat pump with the unit installed on a standard test tank that represents a 50 gallon electric water heater.

The criteria for Point-of-Use (POU) electric water heaters should be modified in three areas. The warranty specification appears to have been copied from the existing specification for gas tankless water heaters. This may not be appropriate. Electric POU water heaters are different than gas tankless models and the warranty specification should be based on an analysis of the warranties currently offered for POU models. The manufacturers of electric tankless models indicate that a 5 year warranty is a more appropriate specification.

Although the significance of the specification for "Booster Capability" was explained in the webinar, it is still not clear why this is an Energy Star criterion. There are many POU installations that are not booster water heaters and would not require a model with that capability. With this proposed criterion, the only Energy Star models that would be available for those installations are units that have an added capability that is not needed. It does not seem logical that non-booster models that are as efficient and could satisfy the load of the installation could not be designated Energy Star.

The draft specification recognizes POU models that may have small storage volume but does not specify any qualification criteria. We recommend the following to correct this matter:

Energy Descriptor: Standby Loss  $\leq 35$  W

Storage Volume: Less than 20 gallons

Safety: UL174

Warranty:  $\geq 10$  years on heat exchanger and 5 years on parts

Test Method: Modified standby loss measurement from DOE Residential Water Heater Efficiency Test Procedure (Specific recommendation being developed.)

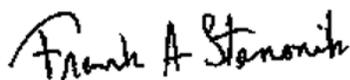
The warranty criteria for gas storage water heaters should be changed to 6 years. As explained in the draft specification, EPA had to choose between the current, different warranty criteria for high efficiency gas storage and condensing models. However, the only gas storage water heaters currently listed in the Energy Star program are high efficiency models meeting the 6 year warranty criterion. In view of that, the choice of the 8 year warranty criterion to which no Energy Star gas water heaters currently comply seems illogical and ill-advised. The concern as to whether future Energy Star condensing water heaters will pay back in less than 8 years is not a reason to change the criterion that has been in place and worked for the only gas storage water heaters that are Energy Star models.

#### Test Requirements

In conjunction with our comment on the definition of “Basic Model Group” the last sentence of B. 2) will have to be modified to reflect any changes made to address that comment. Also, in conjunction with our recommended criteria for small storage volume POU models, the Test Method table in C. will have to be modified to include the standby loss test procedure that is to be developed.

We appreciate the opportunity to comment on this draft specification document. If you have any questions, please do not hesitate to call me.

Respectfully submitted,



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Chief Technical Advisor