

Nyle Systems LLC

June 23, 2011

Abigail Daken
ENERGY STAR Program
Via Email

Cc: Craig Haglund

Re: Water Heater Specification Frame Work

Dear Abby,

Following the call yesterday, here are some comments to the framework, focused on the add-on water heater:

- We fully agree that the objective should be to steer consumers towards the most energy efficient way to heat water, regardless of technology and under the condition that it makes financial sense. Energy efficiency is still a topic in the US that requires a lot of catching-up versus much of the rest of the world. Also note (as someone else also stated on the call) Heat Pumps are considered a renewable form of energy in many parts of the world.

- Add-on Heat Pump Water Heaters are not just bought as a retrofit to older tanks. About 30% of our sales are to new situations, including:
 - In addition to larger tanks for which no integrated units are available
 - Situations where there is no room for an integrated unit
 - Situations where people want the heat pump in a nearby but different space than the water heater
 - As back up to (new) solar and other storage tanks

We believe that if they are sold in competition with integrated units (which was stated as the reason for using the EF rating), they cannot be at the same time seen as just an aftermarket product.

- At the same time the opportunity for add on heat pumps to be connected as a retrofit with an existing tank, not just electric but also sometimes with propane, oil or wood, allows a large percentage of consumers to save large amounts of energy without investing in a new tank, a true win for the consumer! Therefore the add-on unit truly deserves an Energy Star.

- As for the EF requirement (if it is to be an EF instead of a COP), we propose to use an EF of 1.8 (similar level as the solar SEF). The reasons we believe it should not be 2.0 are the following:
 - In order to not void the tank warrantee, (no alterations to the tank) we need to pump water out of the tank, heat it using the heat pump, and pump it back in. The pump uses extra energy and the connection with the tank creates slightly larger losses, which makes the “no alterations add-on” as a category slightly less efficient than the integrated units.

The alternative add-on technology of putting the heat pump refrigeration line straight into the tank does not incur these losses but generates a lot of questions, including if it meets UL, if it

reduces the tank life, etc. so we believe our method of pumping the water through the heat pump is preferable.

- For testing purposes we are required to connect to a less than ideal tank, versus the integrated units that have maximum efficiency tanks included

For these reasons we believe that the EF should be allowed to be somewhat lower for this add-on category. Even at 1.8, it is still among the very most efficient ways to heat water, and it can be accomplished for a lower cost by retrofitting the existing tanks.

If the level were set at 2.0, there may be no product that allows the tank warranty to stay in effect and achieves this standard. This would mean that the consumers miss-out on this product category as a way to save energy (our current unit achieves 2.01, but any tiny variability in test set-up or test conditions may make it test below 2.0).

- We agree with your thoughts about the warrantee. However “Alterations to the tank” needs to be carefully defined. We believe that just adding a connection to the drain valve as we do does not alter the tank. I didn’t hear anything on the call that contradicted that but it needs to be carefully described. We think that a requirement that the heat pump can be easily switched from tank to tank (leaving the tank in its original shape), is a potentially satisfying way to draw the line from a warrantee perspective.
- We vote against making the Add-On Heat Pump Water Heater part of a class of products called “retrofit”. This name will shape people’s perceptions and as mentioned currently there is a reasonably large segment of our buyers that uses it for new situations. Most importantly, if it would take until the next revision cycle before retrofits as a class would be implemented, we would again miss out on an Energy Star rating which would be a severe blow to the credibility and market pick-up of our product. Remember, there are many utility and state rebate programs that simply require an Energy Star. Not having it really handicaps the add-on versus the integrated unit since it artificially eliminates a big part of the price advantage of add-ons.
- Last but not least, with regards to Energy Star for commercial water heaters, we strongly support that idea. We are currently working on developing Heat Pump Water Heaters for commercial applications. The size range would be from 50,000 BTUH to 300,000 BTUH (versus 5,500 BTUH for the residential unit). The applications would include restaurants, apartment buildings, institutions, Laundromats, etc. The opportunities to save energy are tremendous and an Energy Star would help add credibility to the products.

Even though we were quiet on the call yesterday, both Don and I were impressed with the way it was run and want to express our support for the way you are moving this forward.

Best regards,

Ton Mathissen & Don Lewis
Nyle Systems LLC
207 989 4335 ext 220 & 203
www.nyle.com