

September 21, 2012

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:

At your request, we are forwarding our comments regarding the Draft 1 Version 1.0 ENERGY STAR Commercial Water Heater Specification presented in your August 28, 2012 letter. Although we recognize that this document is a step near the end of the EPA's revision process, we must again express our concern that certain types of commercial water heaters, i.e., electric storage, electric tankless and oil fired storage, have not been included in this Energy Star program. Consumers who have those types of water heaters or who will be purchasing one of these types are not being well served by this program. We encourage EPA to give this matter additional consideration and, if this version is not further modified, to initiate activity to add specifications for those other types of water heaters as expeditiously as possible. We are also concerned about the lack of test standards that could help establish a base line for future consideration if the various water heating technologies are not added at this time.

As a U.S. based manufacturer, we are particularly interested in the inclusion of electric tankless water heaters. Electric tankless water heaters are prevalent in a number of commercial settings, particularly those settings where there is infrequent or limited need for hot water. As stated in a 2005 study issued by Electric Power Research Institute (EPRI), "[i]n situations where there is low demand for hot water, the financial benefits of reducing or eliminating standby heat losses by using (tankless) installations tend to make them more favorable compared to the alternative of using a standard tank water heater." There are myriad examples of these types of commercial settings and we estimate anywhere from a 2-3 million units have been deployed in the United States. Below are examples of typical commercial settings where tankless electric water heaters produced by Keltech are in use and already saving energy:

INDUSTRIAL OPERATIONS

Industrial facilities represent an opportunity where tankless electric water heaters generate significant energy savings. Again, this is a scenario where there is low demand for hot water, however, in an emergency, it is vital to have hot water quickly reach the end user. The 2005 EPRI study describes a pulp and paper processing facility in British Columbia, Canada where the engineer decided to install POU electric tankless water heaters "at each emergency eyewash station because it was much more economical compared to running new hot water lines from the facility's industrial

boilers.” Similarly, we worked with a titanium mining facility in Idaho where the engineer decided to install electric tankless water heaters at each emergency eyewash and emergency shower station for the same reasons; he estimated the facility *saved over \$349,000 in energy costs*. This situation is common in industrial manufacturing and tankless electric water heaters represent a cost-effective and energy-saving option.

SCHOOLS, STADIUMS, OFFICE BUILDINGS, AND OTHER COMMERCIAL FACILITIES

For many of the reasons already discussed, tankless electric water heaters have been a cost-effective and energy-saving solution for large stadiums, hotels, schools, and other similarly situated commercial facilities. These facilities all have multiple stations that are often not in use. However, when these stations are in use, e.g., during a game, concert, school period, etc., they require fast hot water distribution. The 2005 EPRI cites another EPRI project that compared tankless electric water heaters with a gas-fired recirculating-loop water heating system. EPRI reports that the project, “showed that, from a total system perspective, the electric tankless water heaters used about half the energy of the gas recirculating-loop system.” In 2002, EPRI conducted a field test in a Portland, Oregon high school where the annual energy consumption using electric tankless water heaters was compared with that of a gas-fired recirculation system. As EPRI reports, “the comparison showed the electric tankless water heaters reduced annual energy consumption by 91 percent compared to the gas-fired recirculation system, and operating costs by approximately 75 percent.”

As you can see, there are a number of potential commercial applications for tankless electric water heaters that would present consumers with an important energy- and water-saving option. It is therefore disheartening that EPA is choosing at the outset to exclude tankless electric water heaters from the scope of the specification. To reach this choice, your cover memorandum states a familiar argument: *“There are complex calculations involved to determine if the [POU] unit is a better option than other available water heaters.”* Our response to this line of reasoning, while similar to our response in relation to residential water heaters, is to even more strenuously disagree. If EPA does not agree that residential consumers almost always rely on expert advice as to the appropriate water heater to select for their space, certainly EPA must concede that commercial consumers do so. We work with many leading architectural engineering firms in the United States to develop water heating solutions because of the efficiency and performance profile of tankless electric water heaters.

Of course there are situations where another unit might be a better option but that is also true for all of the products EPA is choosing to include in this specification. Certainly EPA would allow that gas tankless water heaters are not *always* a better option than, for example, heat pump water heaters. And yet those products have simply not been held to the same standard being applied to tankless electric commercial water heaters.

Your cover memorandum also cites another familiar argument—that POU units are *“a difficult fit for a binary label like the ENERGY STAR.”* As we have stated before, EPA is well aware that the Energy Star label now drives significant consumer behavior within certain product categories. It is a fact

that, within the market, the Energy Star label now stands to assure consumers that a particular technology is highly energy efficient. For commercial consumers faced with the examples described above, the exclusion of tankless electric units from Energy Star will ultimately drive the continued purchase of less efficient water heaters. We simply cannot agree that this is the result that is most in line with the core goals and intent of the Energy Star program.

Finally, the cover memorandum includes the statement that *“there are no industry supported metrics to determine the performance of the unit.”* We stand with the CEETWH in that this is not a question that has been raised with the industry, inasmuch as we are aware, and had it been, we would have been happy (and still are) to provide EPA with information on how industry uses metrics to measure the performance of tankless electric units. In fact, units are tested via the DOE test procedures and show savings vs. standard electric tank type heaters plus there have been studies which show the significant waste of hot water when units are placed centrally versus at the point of use.

The task of the EPA in designing a new Energy Star standard for commercial water heating is a large challenge and we respect your efforts in doing so. We urge you to continue to work with our industry to gather information and consider including tankless electric water heaters in a future draft.

Thank you for your consideration of these comments and, please, feel free to contact me if you have any questions.

Sincerely,

J.R. Chaffin

Jeff Chaffin
Chief Operating Officer
Keltech, Inc.