



COALITION FOR ENERGY EFFICIENT ELECTRIC TANKLESS WATER HEATERS

September 21, 2012

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

RE: Comments on the Energy Star Product Specification for Commercial Water Heaters V1.0: Draft 1

Dear Abigail:

Thank you for providing us the opportunity to comment on Draft 1 of Version 1.0 of the Energy Star product specification for commercial water heaters. As we have stated to you in our discussions, the Coalition for Energy Efficient Electric Tankless Water Heaters (CEEETWH) believes electric tankless water heaters provide a significant savings for commercial consumers in both energy and water. We continue to appreciate the U.S. Environmental Protection Agency's (EPA) willingness to work with our industry to fashion an appropriate product specification for point-of-use (POU) electric water heaters. However, for reasons set forth in more detail below, we fundamentally disagree with the outright exclusion of POU water heaters from the scope of this specification.

POU 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 [POU] 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 POU water heaters are in use and already saving energy:

1. COMMERCIAL KITCHENS

POU water heaters are a highly efficient and cost effective option for commercial kitchens, primarily in quick-service restaurants. Due to the nature of quick-service needs, these settings often require rapid hot water for both cleaning and hand-washing and will have frequent-but-quick uses at each station. Where there are extended wait times for hot water, energy and efficiency is lost as employees wait for hot water and, where employees do not wait, food safety is compromised as employees are forced to rush washing periods in colder water.

In 2010, the Food Service Technology Center (FSTC) issued its *Design Guide: Improving Commercial Kitchen Hot Water System Performance, Energy Efficient Heating, Delivery, and*

Use. As stated in its introduction, FSTC indicated that the guide's purpose was to influence restaurant designers or engineers "to use innovative strategies that will deliver the service of hot water as efficiently as possible while meeting the increasingly challenging regulatory codes and user expectations." The heart of the guide are the "design examples" used by FSTC to walk through various steps that designers can take to increase efficiency.

In Design Example 2: Quick-Service Restaurant, the guide, as it does with each design example, begins with a conventional design as a base case. As the guide states, "[e]ach example concludes with best-case option that may be achieved through best-in-class equipment and practices." In accordance with this format, "Configuration D" or the best-case option includes the installation of high-efficiency POU water heaters at all hand-washing sinks. This option, according to the guide, reduces the length of the hot water distribution system from the base case by 75% and reduces the volume of hot water in the pipes from 1.4 to 0.4 gallons.

2. INDUSTRIAL FACILITIES

Industrial facilities represent another opportunity where POU water heaters can 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." This situation is common in industrial manufacturing and POU water heaters represent a cost-effective and energy-saving option.

3. SCHOOLS, STADIUMS, OFFICE BUILDINGS, AND OTHER COMMERCIAL FACILITIES

For many of the reasons already discussed, POU 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 POU 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 POU 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 POU 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 POU 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. It is simply inconceivable that, for example, the New York Yankees would not rely on a highly qualified professional to decide what water heaters should be installed in the

luxury suites of the new Yankee Stadium. This would also apply to any large industrial manufacturing facility, commercial kitchen, or school building.

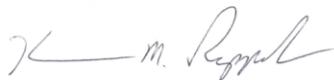
Of course there are situations where another unit might be a better option but that is also true for all of the products EPA is choosing to include in this specification. Certainly EPA would allow that gas tankless water heaters are not *always* a better option than, for example, heat pump water heaters.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

CEEETWH reiterates its appreciation for EPA’s hard work in considering a new commercial water heater specification. We urge you to continue to work with our industry to gather information and consider including POU water heaters in a future draft. Thank you for your consideration of these comments and please feel free to contact us if you have any questions.

Sincerely,



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