

December 9th, 2020

VIA E-mail: WaterHeaters@energystar.gov

Abigail Daken
EPA Manager
ENERGY STAR HVAC Program
U.S. Environmental Protection Agency

Re: Draft 1, Version 4.0 ENERGY STAR Water Heater Product Specification and Draft 2, Test Method to Validate Demand Response.

Dear Ms. Daken,

Giant Factories Inc. respectfully submits the following comments in response to the U.S. Environmental Protection Agency's (EPA) revision of the ENERGY STAR specification for water heaters announced on October 28, 2020. In the announcement, EPA released the first draft of the Version 4.0 ENERGY STAR specification and the second draft Test Method to Validate Demand Response for Residential Water Heaters.

Giant Factories Inc. is a water heater manufacturer located in Montreal, Quebec. We are the last major water heater manufacturer in Canada and we manufacture electric, gas and oil residential and commercial storage water heaters. Our sale network is from coast to coast in Canada and the New England region in the United States.

Draft 1, Version 4.0 ENERGY STAR Water Heater Product Specification

We are in general agreement with EPA staff's decision to not make significant changes to Version 4.0 ENERGY STAR Water Heater Product Specification. We appreciate the EPA staff recognition that little to no savings can be found in existing Gas Storage and Instantaneous Water Heaters that would justify raising the current levels for those products. However, we believe that those products play an important role in the energy saving mission of the Energy Star program. Thus far, we do not agree with EPA comment in Section 7C – Future Specification Revisions, where EPA is considering sunsetting those categories of products. We believe that consumer choice is important and that Energy Star Specifications should include different categories of water heaters from various technologies and fuel types. This will help consumers make an energy efficient decision

within those categories. It seems that EPA is going towards an Energy Star Specification exclusive to electric Heat Pump Water Heaters but we know that not every installation is well suited for those products. Thus far, consumers will turn to other technologies for that reason, or other reasons, and it is our opinion that they need to have some direction towards most efficient products.

We understand that electric heat pump water heaters are showing significant energy savings on average and support that EPA is promoting those, with reason, in their Energy Star Specifications. Nevertheless, HPWH performance is based on a test procedure that was developed, with specific parameters, as a base of comparison for different products and not as a test method to evaluate real life performance of those products in the field. Also, we know that many factors are going to influence their performance in the field such as draw profiles, water inlet temperature, ambient temperature and relative humidity just to name a few. Moreover, customer payback period for those products is also highly variable and some factors can contribute to drastically extend this period. Some of those factors are space constraints, availability of electrical services, access to an appropriate drain and specific pricing for electricity depending on the region. Natural Resources Canada, CanmetENERGY study on the matter: “*Heat Pump Water Heaters in the Canadian Residential Market*” (May 18th, 2017), concluded the following:

A simple payback period was calculated and a 13 year life cycle cost analysis was performed to evaluate the economic viability of HPWHs in the Canadian residential market. For the regions where natural gas is inexpensive, the HPWH never demonstrated economic benefits. For the regions where an electric hot water tank was replaced with the HPWH, annual utility cost savings were realized, but high first costs rarely resulted in a viable simple payback period under the estimated lifetime of the HPWH (> 13 years). Similarly, the 13 year life cycle cost analysis consistently concluded that, from a solely economic perspective, it is better for the end-user to install a conventional hot water heating system instead of a HPWH, as high initial costs combined with low utility rates are difficult to overcome.

We recognize that this study was done for the Canadian market but we know that some regions of the United States are showing similar conditions.

With that said, we believe that electric Heat Pump Water Heaters are generating significant energy savings and really interesting payback periods and that they should take an important role in the Energy Star Specifications. But, we believe that we also need to be cognizant that in some installations (mainly retrofit), the use of HPWH is just impossible or not justified on an energy saving or payback period point of view. In those instances, it is our belief that customers still need some direction on the most efficient water heater technologies that are better suited for their particular needs. Hence why, we spur EPA to include various water heater technologies in their future Energy Star Specifications that can offer significant energy savings to consumers.

We appreciate this opportunity to submit comments and thank you in advance for your consideration.

Sincerely,



Paul Hikspoors, Eng.
Director of Engineering
Giant Factories Inc.