



March 4, 2021

Ms. Abigail Daken and Ms. Catherine Rivest
U.S. Environmental Protection Agency and U.S. Department of Energy
ENERGY STAR Products Program
E-mail: WaterHeaters@energystar.gov

Re: Comments on the Draft Final ENERGY STAR Water Heater Product Specification Version 4.0 and the Draft Final ENERGY STAR Test Method to Validate Demand Response

Dear Ms. Daken and Ms. Rivest,

A. O. Smith Corporation (“A. O. Smith”) appreciates the opportunity to submit these comments to the U. S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (“DOE or Department”) regarding its request for comment on the final draft versions of the ENERGY STAR Water Heater Product Specification Version 4.0 and the ENERGY STAR Test Method to Validate Demand Response. A. O. Smith is pleased to work with EPA and DOE in further developing the ENERGY STAR specification for water heaters more broadly and the testing requirements needed to support connected water heaters. A. O. Smith was pleased to see that EPA and DOE have addressed and incorporated previous feedback from December and is generally supportive of these final drafts. A. O. Smith has some specific feedback on definitions and the loss of connectivity requirements that it hopes both EPA and DOE will address before finalizing the specification and test procedure.

About A. O. Smith

A. O. Smith Corporation, with global headquarters in Milwaukee, Wisconsin, applies technology and energy-efficient solutions to products manufactured and marketed worldwide. Listed on the New York Stock Exchange (NYSE), the company is one of the world’s largest manufacturers of residential and commercial water heating equipment and boilers, as well as a leading manufacturer of water treatment and air purification products.

120-Volt Heat Pump Water Heaters

A. O. Smith was pleased to see that EPA proposed a separate product category for residential heat pump water heaters (HPWHs) that utilize 120 volts and are capable of being installed and run off a shared electrical circuit. A. O. Smith suggests that EPA further refine the definition to make clear that the 120-volt class is applicable to ***only*** those that can operate on a shared electrical circuit. While A. O. Smith understands that there are additional models being developed with 120-volt operation running off a dedicated circuit, A. O. Smith does not believe these models should be included in the same product category as those operating off a shared circuit. The shared circuit characteristic is what constrains the 120-volt HPWHs to the inclusion of electrical elements with a rated power less than 900 W immersed in the tank. During times of hot water use, the water heater will likely need to use an elevated tank temperature to ensure the hot water needs of its customers can be met and meet the minimum first hour requirements. The DOE test procedure requires use of the same operating mode used during the first hour test meaning that the UEF test would be run at an elevated tank temperature for shared circuit units. This inherent limitation from the shared circuit and the electrical design directly impacts

the energy efficiency of the product when tested using the DOE test procedure for UEF. This same limitation resulting in the need for a heightened tank temperature is not present in 120-volt models that are installed using a dedicated circuit. Thus, EPA should not include them in the same product category with a lower UEF when they do not have the same constraints. In sum, A. O. Smith strongly recommends that EPA clarify the definition of the 120-volt category to ensure that only models capable of operating on a shared electrical circuit are included in this category with the lower UEF requirements. In order to facilitate, A. O. Smith suggests that EPA adopt a definition of the 120-V HPWH to read as follows:

120V HPWH means a HPWH that operates at 120 volts and on a shared 15-amp circuit.

Lastly, A. O. Smith supports allowing ENERGY STAR qualification for 120-volt HPWHs operating on a dedicated circuit as long as higher UEFs are required acknowledging the allowance of larger elements in the design of these models.

Split-System Heat Pump Water Heaters

A. O. Smith supports the introduction of a separate product category for split-system heat pump water heaters. A. O. Smith would like to see one clarification in the definition of split-system heat pump water heaters to ensure that the storage tank must be designed and specified by the manufacturer for use with the split system heat pump water heater or shipped with the split system heat pump. A. O. Smith believes this was the intent of the ENERGY STAR Program to differentiate these models from add-on heat pump water heaters, which are excluded from the program. A. O. Smith believes adding this clarification to the definition is necessary to help further define what is in scope and eligible for qualification. The tank clarification is essential as it also represents how the UEF test procedures is run.

Loss of Connectivity

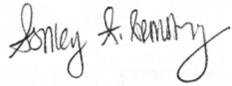
A. O. Smith does not support EPA's specification and DOE's verification method for loss of connectivity, especially for those water heaters that do not utilize the CTA-2045 connectivity pathway. Water heaters using connectivity methods other than CTA will not receive "pings" when the water heaters lose connectivity. A. O. Smith suggests that EPA adopt a more general definition of loss of connectivity and the associated requirements for the water heater to return to normal operation. A. O. Smith suggests the following language:

In the event the water heater loses connectivity, the water heater must respond within 30 mins by returning to normal operation.

If DOE wanted to verify the loss of connectivity functionality, DOE should just confirm that the water heater has returned to normal operation when the connectivity pathway is broken without adding additional specificity.

In conclusion, A. O. Smith appreciates the opportunity to provide this detailed feedback to EPA and DOE on the draft final version 4.0 specification and the connected test procedure. Should EPA or DOE have any additional questions or need additional information, please do not hesitate to contact me as we would welcome the opportunity to further work together on the ENERGY STAR water heater program.

Best Regards,

A handwritten signature in black ink, appearing to read "Ashley A. Armstrong". The signature is fluid and cursive, with the first name being the most prominent.

Ashley A. Armstrong
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