



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
WASHINGTON, D.C. 20460

OFFICE OF  
AIR AND RADIATION

October 12, 2017

Dear ENERGY STAR® Commercial Water Heaters Brand Owner or Other Interested Party:

The U.S. Environmental Protection Agency (EPA) welcomes your input on the attached Draft 1 Version 2.0 ENERGY STAR Commercial Water Heaters specification. EPA will hold a stakeholder webinar on October 19, 2017 to discuss the Draft 1 specification in greater detail. Stakeholders are encouraged to submit comments on this draft proposal to EPA no later than November 10, 2017.

**Background**

The ENERGY STAR program helps businesses and individuals save money and protect the environment by identifying products with superior energy efficiency. This revision is prompted, in part, by a new Federal test procedure for commercial water heaters scheduled to take effect in November 2017. The ruling establishes new test procedures for determining the efficiency of commercial heat pump water heaters (larger than 12 kW input) as well as determining standby loss of instantaneous water heaters.

With the availability of the new Federal test procedure, EPA's focus for this revision will be to update definitions to better align with the Department of Energy (DOE), propose efficiency requirements for heat pump water heaters, propose standby loss requirements for large instantaneous water heaters, and propose reporting requirements for products with system status and messaging functions. EPA is not proposing any updates to the current product performance requirements that will affect currently-certified products.

**Draft 1 Proposal**

EPA is pleased to include product performance requirements for commercial heat pump water heaters in this Draft 1 specification. Upon review of the heat pump water heater market, EPA determined that there are two types of heat pump water heaters that will be in scope of this specification. One type is a heat pump water heater that fits DOE's definition of a commercial heat pump water heater, as a product with a rated electric power input greater than 12 kW. EPA is proposing that these products meet a minimum coefficient of performance (COP<sub>h</sub>) of 3.0 and be tested according to DOE's commercial heat pump water heater test procedure (10 CFR Part 431.106, Subpart G, Appendix E). The second type is a commercial-duty residential heat pump water heater with a rated electric power input less than or equal to 12 kW, but intended for sale in the commercial market. The second type does not meet DOE's definition of a commercial heat pump water heater, but is capable of heating water separate from a tank or storage-type water heater. As such, EPA understands that, though these water heaters are designed for commercial applications, they must be tested under DOE's residential (consumer) water heater test procedure (10 CFR Part 430, Subpart B, Appendix E). EPA is proposing that this category of water heaters meet a minimum uniform energy factor (UEF) of 2.20. Overall, EPA estimates a purchaser payback of 3.6 years for heat pump water heaters, based on a weighted distribution of average performance across a variety of installation sites in the United States.

EPA is also proposing reporting requirements for all commercial water heaters that have system status and messaging functions such as fault detection and display, performance reporting, energy savings reporting, and predictive maintenance alerts. EPA intends to highlight these products on the ENERGY STAR Product Finder as they have the potential to address energy use and user convenience in several ways.

Important modifications from Version 1.0 to the Draft 1 Version 2.0 specification include:

- **Definitions:** Updated several commercial water heater definitions to better align with DOE definitions. New definitions outside of the DOE test method include those for commercial-duty residential heat pump water heaters, fault detection and display, performance reporting, energy savings reporting, and predictive maintenance alert.
- **Product Performance Requirements:** Removal of Energy Factor requirements and inclusion of gas-fired instantaneous products greater than or equal to 10 gallons in the standby loss requirements currently applicable to gas-fired storage products. Proposal of COP<sub>h</sub> or UEF and warranty requirements for heat pump water heaters. Proposal of reporting requirements for products capable of displaying system status and messaging to users.
- **Test Methods:** Proposal of a test methods for COP<sub>h</sub> of heat pump water heaters, UEF for commercial-duty residential heat pump water heaters, and removal of the reference to the Energy Factor test method.

More details regarding EPA's rationale for proposing these requirements are included in note boxes throughout the draft specification document.

### **Stakeholder Meeting**

EPA plans to host a stakeholder webinar meeting on **October 19, 2017 at 1 pm EDT** to discuss the Draft 1 document and address initial stakeholder comments and questions. If you'd like to participate, please register prior to the webinar [here](#). Stakeholders are encouraged to inform EPA of any industry events that may conflict with this proposed date.

### **Comment Submittal Process**

Stakeholders are encouraged to provide written comments for EPA consideration to [CommercialWaterHeaters@energystar.gov](mailto:CommercialWaterHeaters@energystar.gov) by **November 10, 2017**. All comments will be posted to the ENERGY STAR Product Development webpage unless the submitter requests otherwise. To track EPA's progress in revising the ENERGY STAR Commercial Water Heaters specification, visit the Product Development webpage at [www.energystar.gov/revisedspecs](http://www.energystar.gov/revisedspecs) and click on the Commercial Water Heaters "Version 2.0 is in development" link.

Please direct any specific questions to Abigail Daken at EPA, [Daken.Abigail@epa.gov](mailto:Daken.Abigail@epa.gov) or 202-343-9375, and Jacob Bayus at ICF, [Jacob.Bayus@icf.com](mailto:Jacob.Bayus@icf.com) or 202-791-8871. Please direct any questions about test procedures to Catherine Rivest at DOE, [Catherine.Rivest@ee.doe.gov](mailto:Catherine.Rivest@ee.doe.gov) or 202-586-7335.

Thank you for taking the time to review this draft specification. I look forward to working with you over the next few months.

Sincerely,



Abigail Daken, Manager  
ENERGY STAR HVAC Program