



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

OFFICE OF
AIR AND RADIATION

April 16, 2019

Dear ENERGY STAR® Water Heater Partner or Other Interested Party:

The Environmental Protection Agency (EPA) has maintained optional criteria for connected functionality in ENERGY STAR specifications for numerous products since 2011. In response to broad interest in criteria for large loads of particular value to the grid, the Agency is advancing this work and proposing optional connected criteria and a corresponding test procedure for ENERGY STAR certified water heaters.

The [Draft 1, Version 3.3 ENERGY STAR Water Heater Product Specification](#) includes new optional connected criteria applicable to products within scope. Both currently-covered electric and gas water heaters will be eligible to certify to optional criteria to be identified as connected on the ENERGY STAR qualified products list. This draft builds on the [Connected Criteria for Large Load ENERGY STAR Products Discussion Guide](#), which lays out the landscape of grid evolution. These changes will not affect previously certified water heaters.

In this work, EPA seeks to harmonize with and expand on other efforts to define the performance of connected water heaters, including the California Optional Water Heating Demand Management Credit--Title 24 Joint Appendix 13, the Northwest Energy Efficiency Alliance (NEEA) Advanced Water Heating Specification, and the CEE Water Heater initiative. In addition, our proposal is informed by the recently released Air Conditioning Heating and Refrigeration Institute (AHRI) 1380 Specification for Variable Capacity HVAC.

Connected criteria include the following:

- As is typical for connected criteria in ENERGY STAR specifications, EPA proposes remote management, energy reporting, and user alerts be available, supported by open standards with access for 3rd parties.
- The water heater manufacturer remains responsible for product safety and is expected to ignore any remote requests that interfere with it.
- Demand Response: The Agency's intent is to develop a set of criteria that specify messaging and operational responses to ensure that all certified connected water heaters would support at minimum the same demand response feature set and informational feedback, supporting interoperability with a wide variety of operator networks. A more limited feature set is also proposed for gas storage water heaters. DR criteria include:
 - Expected responses to grid requests, with enough flexibility to allow manufacturers to compete on the basis of how much flexibility they can provide without interfering with user satisfaction.
 - Specific information that water heaters will be able to send to a grid management entity.
 - A waiver of DR requirements for gas instantaneous products, which are a poor target for it.

- User override, except for a grid emergency condition, intended to be used, rarely, to prevent blackouts rather than for economic or environmental dispatch.

The U.S. Department of Energy (DOE) will be developing a corresponding DR test procedure: Evaluation of Demand Response in Connected Water Heaters. DOE will be holding an in-person kickoff meeting for this development effort on May 21, 2019, at Navigant Consulting in Washington DC. RSVP to WaterHeaters@energystar.gov for the test method kick-off meeting, indicating whether you will attend in person or via webinar. Other connected criteria would be confirmed by examination of products and product literature.

EPA will hold a webinar to discuss the proposed connected requirements on Thursday, May 2 from 2pm to 4pm; please [RSVP here for the specification webinar](#). We encourage stakeholder input on the Draft 1, Version 3.3 ENERGY STAR Water Heater Product Specification. Please submit any comments to WaterHeaters@energystar.gov by **May 17, 2019**.

All comments will be posted to the ENERGY STAR [Product Development website](#) unless the submitter requests otherwise.

Please direct any specific questions to Abigail Daken at EPA, Daken.Abigail@epa.gov, or 202-343-9375 and Dan Baldewicz at ICF, Dan.Baldewicz@icf.com or 518-452-6426. Please direct test procedure questions to Catherine Rivest at DOE, Catherine.Rivest@ee.doe.gov or (202) 586-7335.

Thank you for your continued support of the ENERGY STAR program.

Sincerely,



Abigail Daken
EPA Manager, ENERGY STAR HVAC Program