

ENERGY STAR Water Heaters Draft 1 Version 4.0 Comment Matrix

Topic	Stakeholder Comment Summary	EPA Response
Gas water heaters	<p>Many commenters supported the proposal to maintain the gas water heater criteria at current levels. Many of these stakeholders noted objections to sunsetting the specification for gas products in the future. These commenters indicated that the upfront cost of gas storage and instantaneous water heaters have improved, which could improve payback for these products.</p> <p>Some commenters advocated for EPA to raise the level for gas water heaters to a heat pump level, either in this revision or in a future revision. Commenters expressed that these products are anticipated to enter the market in two to three years.</p> <p>One commenter supported either raising the efficiency requirements for gas water heaters in the Version 4.0 of the specification, or sunsetting the specification for gas products at this time. One commenter supported the proposed version 4.0 levels and sunsetting the gas product specification in the future.</p>	<p>EPA appreciates these comments. EPA is proposing to maintain the current levels for gas storage products, to continue to identify efficient gas products. Without gas heat pump water heaters on the market, EPA does not see value in raising the criteria to that level in this version but will continue to monitor product availability. EPA is also monitoring action on gas products regionally to inform future direction.</p>
Most efficient level for water heaters	<p>Two commenters advocated for a Most Efficient level for water heaters, with one commenter explicitly recommending a most efficient level for gas heat pump water heaters.</p>	<p>The largest barrier to heat pump adoption is consumer unfamiliarity. Given this and the small market penetration is so small for heat pump water heaters at this time, EPA does not want to confuse the market by introducing a Most Efficient recognition for water heaters.</p>
Gas Instantaneous Water Heaters Maximum Gallons Per Minute	<p>One commenter noted that revising the requirement for maximum gallons per minute for gas instantaneous water heaters from 2.9 GPM to 2.8 GPM is unnecessary and would only reflect a very small product.</p>	<p>EPA appreciates this comment but does believe there is value in aligning with the medium-usage draw pattern, as established in the Appendix E test method. EPA consistently receives feedback from stakeholders that more alignment with DOE makes managing ENERGY STAR certification easier.</p>

Electric Storage FHR	Several commenters expressed support for the proposed First Hour Rating of 45 gallons per hour for electric storage water heaters.	EPA would like to clarify that the current Version 3.2 Water Heater specification has a minimum FHR of 45 gallons per hour, per the UEF test method, and is not proposing a change to the FHR requirement in the Version 4.0 specification. The FHR requirement for electric storage water heaters is 50 gallons per hour per the previous test method, but that difference is due to differences in the test method and is intended to recognize the same subset of products.
Higher warranty	Commenters requested that EPA require a 10-year warranty on the sealed system for electric water heaters, as they advocate this could increase market share. This would align with Tier 2 of the Northwest Energy Efficiency Alliance's (NEEA's) Advanced Water Heater Specification, so the commenters expressed this may not be responsible for higher cost.	Manufacturers have indicated they would charge more for the same product with a longer warranty. In addition, EPA believes that the current requirement for a 6-year warranty adequately ensures consumer comfort with heat pump water heaters.
Efficiency at different temperatures	Commenters requested EPA require reporting efficiency at 50 F and 95 F for electric water heaters.	At this time, manufacturers do not appear to have this information on hand, which would make a mandatory reporting requirement burdensome. EPA's experience is that voluntary reporting requirements that aren't backed by market demand are not generally fulfilled. EPA will reconsider this as either a required or optional reporting field if this information starts to drive market adoption.
AHRI 1430	Several commenters noted that the AHRI 1430 Standard working group commenced and began work on a draft standard for Demand Response for Electric Water Heaters.	EPA encourages the development of the AHRI 1430 Standard and will continue to monitor and support this effort. EPA hopes the standard will align with the optional connected criteria in Version 4. Once the standard is completed and published EPA will consider how our criteria and AHRI 1430 work together.
Stored time of use schedule	One commenter recommended aligning with California's Building Energy Efficiency Standards (Title 24, Part 6), Joint Appendix 13 (JA13) and requiring that if a connected water heater experiences a loss of connectivity, the product should revert to a stored time of use (TOU) schedule.	As connected products are just entering the market, EPA believes this requirement may be too specific for the ENERGY STAR specification at this time. EPA will allow products to indicate if they can store TOU schedules in the Qualified Product List as an initial step.

Emphasis on price response	One commenter recommended that the connected criteria should more heavily emphasize price response capabilities.	While price responsiveness is being prioritized by some programs, not all efforts are in line with this strategy. For this specification, EPA intends to keep the ENERGY STAR Connected Criteria more widely applicable.
User Interface	One commenter supported aligning the user interface requirements with the requirements of JA13.	EPA appreciates the work of JA13 and intends for all JA13 compliant products to meet the user interface requirements of this specification, but the requirements from JA13 are too specific for inclusion in the connected criteria at this time.
Labelling	One commenter requested that EPA revise information regarding connected capabilities on the product packaging and product itself, citing that most water heaters are not sold in a consumer-facing manner.	EPA will not require or offer an additional Connected label for products that meet the criteria. EPA is not proposing changes to the current labelling requirements for water heaters, which do not require a label on packaging and allow the certification mark to be incorporated into the Energy Guide label required by the FTC.
Terminology	One commenter suggested that connected water heating product (CWHP) be changed to smart grid device (SGD) to align with CTA-2045.	EPA will keep the current terminology, in order to be clear that there are subtle differences between the intent of the terms in the ENERGY STAR context and the CTA-2045 context. The ENERGY STAR specification has additional flexibility on the protocol requirements and less flexibility on response to DR messages than CTA-2045.

ENERGY STAR Water Heaters Draft 2 Test Method Comment Matrix

Topic	Stakeholder Comment Summary	EPA Response
Test Labs	One commenter stated that test labs should be able to perform this testing with current capabilities and equipment.	The Test Method to Validate Demand Response should be possible to perform with the test lab's current capabilities, in terms of setting up the water heater to run within the bounds of the test method. However, test labs may need to make updates to their software to accommodate the new demand response capabilities that are being tested.
Flow Meter Location	Two commenters recommended that figures 1 and 2 should be updated to show the location of the flow meter to be at the inlet.	The Test Method to Validate Demand Response is intended to align with the DOE test procedure for consumer water heaters as closely as possible. The DOE test procedure allows for a flow meter to be installed on either the inlet or the outlet of the water heater. To allow for testing facilities that are currently set up to measure water flow at the outlet of the water heater to continue to test with their current setup, DOE and EPA are not requiring that a flow meter be installed on the inlet side of the water heater.
Additional Verification tests	One commenter recommended that EPA and DOE perform additional verification tests with the updated test method.	The final test method that is presented is almost identical to the test method used for verification testing, with only minor changes for increased clarity. Therefore, DOE and EPA are not performing further verification tests.

<p>Terminology alignment with CTA-2045</p>	<p>One commenter suggested that appliance communication module (ACM) be changed to universal communications module (UCM) to align with CTA-2045.</p>	<p>EPA will keep the current terminology, in order to be clear that there are differences between the intent of the terms in the ENERGY STAR context and the CTA-2045 context. The ACM could be a manufacturer-supplied module that connects to the water heater with an RJ-45 connector and itself contains either a WiFi chip to enable OpenADR response or a CTA-2045 port. Or, it could be entirely internal to the WH. Both would be within the boundary of the unit under test for ENERGY STAR. Neither of these would meet the definition of the UCM, which refers to the module that plugs into the CTA-2045 port, and which in most cases would be outside the test boundary for ENERGY STAR.</p>
<p>Outlet Temperature</p>	<p>One commenter encouraged EPA to harmonize with the temperatures used in the DOE 24-hour simulated use test since both test methods are intended for a national audience.</p>	<p>DOE and EPA agree that the outlet discharge temperature should align with the DOE test procedure and that the procedures presented in this the Test Method to Validate Demand Response do align with the DOE test procedure.</p>