

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



**OFFICE OF
AIR AND RADIATION**

March 29, 2022

Dear ENERGY STAR® Residential Water Heaters Partner, Certification Body, or Recognized Laboratory,

The U.S. Environmental Protection Agency (EPA) has been made aware of an issue with the current ENERGY STAR Connected Residential Water Heaters Test Method to Validate Demand Response that prevents all connected water heater products capable of receiving demand response requests with a set time or duration from passing the loss of connectivity verification test. Consequently, products capable of such requests were not able to meet the optional connected criteria for water heaters. As a result, EPA is updating the test method with this [ENERGY STAR Connected Residential Water Heaters Test Method to Validate Demand Response, Version 1.1](#). The update is reflected in Step 12 of Table 2 of the updated test method, as shown below:

11	For CWHP's capable of receiving DR requests with a set duration or end time, send a General Curtailment request. Otherwise, end test. Start Time = Immediately Duration = 4 hours	The CWHP must acknowledge the request.
12	Send an Operational State query.	Acceptable responses include: "Running Curtailed Grid" or "Idle Grid"

The update allows for correct acceptable responses from connected water heater products to operational status queries received from utility equivalent communication devices following a loss of connectivity during a verification test.

This update is also reflected in the [ENERGY STAR Version 4.0 Water Heaters Final Specification](#), dated March 29, 2022, which contains a reference to the test method to validate demand response, to ensure qualifying water heaters can pursue the optional ENERGY STAR demand response requirements. The update will be reflected in Table 6 of the residential water heaters specification, as shown below:

Table 6: Test Methods for ENERGY STAR Certification

Applicable Products	ENERGY STAR Requirement	Test Method Reference
Gas and Electric products (not including gas-fired storage residential-duty commercial water heaters); FHR is applicable to storage products and Maximum GPM is applicable to instantaneous products.	Uniform Energy Factor (UEF)	10 CFR Part 430, Subpart B, Appendix E*
	First Hour Rating (FHR)	
	Maximum GPM Rating	
Gas-fired Storage Residential-duty Commercial products	Uniform Energy Factor (UEF)	10 CFR Part 431, Subpart G
Whole-home solar units	Solar Universal Energy Factor (SUEF)	ICC 900/SRCC 300-2020 Solar Thermal System Standard, Appendix A: Solar Uniform Energy Factor Procedure for Solar Water Heating Systems
Connected Products	Demand Response	ENERGY STAR Connected Water Heaters Test Method to Validate Demand Response, V1.1

In addition, during the standards working group meetings for AHRI Standard 1430 for Demand Flexible Water Heaters, it came to our attention that our specification was unclear about override for Grid Emergency events being allowed but not required. We have updated section 4.D.b. of the specification to be clear that it is at the manufacturer’s discretion whether override is provided for Grid Emergency events.

Please contact Abigail Daken, EPA, at daken.abigail@epa.gov or 202-343-9375, or Ned Bent, ICF, at ned.bent@icf.com or (571) 842-4917, with any questions or concerns about the specification. For test procedure inquiries, please contact Julia Hegarty, U.S. Department of Energy, at julia.hegarty@ee.doe.gov.

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

Best Regards,



Abigail Daken
 EPA Manager, Product Manager
 ENERGY STAR for HVAC