

December 9, 2020



Abigail Daken
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: ENERGY STAR® Draft 1 Version 4.0 Specification for Water Heaters

Dear Ms. Daken:

Thank you for allowing SkyCentrics the opportunity to comment on Draft 1 Version 4.0 of the ENERGY STAR® Residential Water Heater Specification released October 28, 2020.

SkyCentrics is a third-party Demand Response provider providing last mile connectivity to appliances and building loads using the open standards OpenADR, CTA-2045, and Volttron, founded in 2013 and headquartered in San Francisco, California. The company provides Demand Response (DR) services to utilities throughout the United States, as well as enabling other Demand Response providers and aggregators to connect to appliances that provide CTA-2045 ports through our OpenADR cloud and our cloud REST API. Homeowners and building owners get web, mobile and voice controlled apps to monitor and schedule their homes and loads, and utilities and aggregators are enabled to orchestrate millions of loads to support the grid. Finally, SkyCentrics has worked with Pentair on the Pentair IntelliConnect pool pump control product. SkyCentrics provided the OpenADR connection to this product and conjointly, Pentair and SkyCentrics were the first to release an Energy Star connected pool pump product, which we believe gives SkyCentrics a unique perspective to comment on your Version 4.0 specification.

SkyCentrics is currently working with efficiency organizations and manufacturers in collaborative partnerships to improve the efficiency of the water heating market. Efficiency matters, regardless of fuel type. We encourage EPA to consider the following general comments for inclusion in the ENERGY STAR Residential Water Heater Specification Version 4.0.

SkyCentrics is not well versed in water heater performance metrics, but we are expert in communications, in particular, open-standard communications.

With regard to changes for the current draft, SkyCentrics recommends that EPA set the require an open-standard communications port for the optional grid-connected criterion CTA-2045; and upgrade the communications protocol of the optional grid-connected criterion from CTA-2045-A to CTA-2045-B.

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The following details SkyCentrics' reasoning behind the above comments.

Connected Product Criteria—Optional: Demand Response (DR)

Demand Response Communications Protocols

- **SkyCentrics recommends an open-standard communications port requirement for the optional grid-connected criterion: CTA-2045.**

EPA recognizes the value of an open standard for the communications *protocol*. It is critical to realize that water heaters differ significantly from some of the other appliance types for which EPA has created a connected device standard, such as HVAC and Pool Pumps. HVAC and Pool Pumps have compelling value propositions to consumers to be remote monitor-able and remote controllable and remote schedulable. Thus, consumers have purchased these connected products and they are motivated to keep them on Wi-Fi, so that they can continue to access them for the above personal reasons, that are independent of the grid value.

Consumers have very little interest in remote monitoring and scheduling and control of their water heaters. After installation, they make sure it is at the right temperature and they typically do not think of their water heater again until 10-15 years later when it breaks.

Thus it is critical to have an independent communications path for this valuable grid resource, which can essentially ONLY be done currently by the CTA-2045 standard. A Standard which WA state has already mandated for all new water heaters sold in the state, starting in Jan 1, 2021.

“Future-proofing” both the communications ports and protocols against changes in proprietary standards ensures continuity of connectivity; it allows utility partners access to this important grid asset for the full life of the water heater.

We recommend the CTA-2045 communications port for this purpose. Inclusion of this hardware would have minimal impact on heat pump water heater cost, as it consists of only the physical plug, which will cost less than \$1 in hard costs at volume.

The requirement should not preclude a manufacturer from including their own communications ports or pathways.

It will also allow more competition into the market since communication module vendors can innovate more quickly than big appliance OEMs, and smaller OEMs can offer products without worrying about making their own Internet of Things cloud infrastructure.

- **SkyCentrics recommends upgrading the communications protocol of the optional grid-connected criterion from CTA-2045-A to CTA-2045-B.**

CTA-2045-B was recently released and offers approved updates to CTA-2045-A which, in particular, align better with evolving industry practices such as California's Building Energy Efficiency Standards, Draft Joint Appendix 13 on Water Heater Demand Management, or JA13. Key features are the ability to do advanced load-up, status and real-time pricing of energy for variable time of use pricing. Given that AHRI's current work on 1430 will include language from CTA-2045-B and JA13, having alignment would ease the path for manufacturers. SkyCentrics, supported by NEEA, the Open ADR Alliance, and the Consumer Technology Association (CTA), supported by key large utilities, is developing and providing to smart grid device makers, universal communication module makers, and key labs the test harness, test software, test method, and a path to certification to support CTA-2045-B. Industry should be sufficiently prepared for this new generation of this ANSI/CTA specification.

Please contact Tristan de Frondeville at SkyCentrics (contact information below) with questions about our comments and suggestions.

Sincerely,



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