

February 9th, 2015

Christopher Kent
US Environmental Protection Agency
Ariel Rios Building 6202J
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Mr. Kent:

The Consortium for Energy Efficiency (CEE) would like to share the following comments regarding the proposed Draft 3 criteria for connected pool pumps.

CEE is the binational organization of energy efficiency program administrators and a staunch supporter of the ENERGY STAR Program. CEE members are responsible for ratepayer-funded efficiency programs in 45 US states, the District of Columbia, and seven Canadian provinces. In 2012, CEE members directed nearly \$6.6 billion of the \$8 billion in energy efficiency and demand response program expenditures in the two countries. These comments are offered in support of the local activities CEE members carry out to actively leverage the ENERGY STAR brand. CEE consensus comments are offered in the spirit of strengthening ENERGY STAR so it may continue to serve as the national marketing platform for energy efficiency.

Since 2011, CEE has been actively engaged with EPA, DOE, and manufacturers to assess the market conditions and specification requirements that would be necessary for the ENERGY STAR Program to successfully address “connected.” Our members, who manage voluntary energy efficiency and demand response programs, continue to work with EPRI, and affected industries to develop an acceptable set of minimum communication requirements that will serve a critical mass of DSM administrator in the U.S. and Canada. To that end, CEE is developing specific performance requirements for connected functionality for a host of products, including pool pumps. We are committed on working closely with EPA as we expand the CEE Pool Pump Initiative to address connectivity.

Our previously conveyed comments regarding connected pool pumps are still relevant to Draft 3. However, we would like to comment, as expressed below, on three significant aspects of the proposal relative to setting a minimum response time, reporting status, and designating a national peak avoidance time period. CEE members are continuing to build consensus regarding the desired characteristics of a connected pool pump to deliver consumer value and grid benefit,

and we will continue to convey our findings to EPA in the future. We wish to recognize the contribution of the Electric Power Research Institute (EPRI) towards the development of these specific comments, particularly its leadership with regard to the necessary functional requirements of connected pool pumps capable of demand response functionality.

Establishing a Minimum Response Time to a Demand Response Signal Will Benefit Programs

In order for many Demand Response programs to leverage a connected pool pump, they must have the ability to discern the pool pump has received a Demand Response signal, and has taken action within a reasonable amount of time. We understand from EPA that pool pump manufacturers have concerns with reporting response times publicly because a laboratory-tested value may not precisely characterize performance in the field, and they don't want such a parameter to become a basis for market competition. Consequently, EPA's current proposal does not require any response times, which is likely to undermine its value to DSM program administrators. Demand Response program managers indicate that a response within five minutes would prove adequate for many current programs, and would be a reasonable initial requirement for the ENERGY STAR Program.¹ While faster response time capability could enable additional benefits, we recommend EPA require manufacturers to demonstrate in the laboratory that qualifying equipment is capable of responding at least within five minutes of receiving a Demand Response signal. We recognize in-field responses may not occur within five minutes (for example if the consumer overrides the response); however, CEE members currently administering demand response programs believe all connected pool pumps recognized by ENERGY STAR should be capable of responding within a specified time, and believe that five minutes represented a reasonable initial requirement.

Expand the Operational Status Requirements to Address Demand Response *Availability*

Reporting the available load that can be shed by a pool pump is critical in order for DSM administrators to leverage ENERGY STAR-recognized connected pool pumps. During CEE's work with air conditioning manufacturers to develop a framework document on connected equipment we identified a need for connected products to provide a standardized summary of its characteristics (e.g. its rated capacity and current capacity) and capabilities (e.g. how much load it can unload). To this end, we encourage EPA to expand the requirements regarding Demand Response Operational Status (Section 4.6 A2) to include "Availability before, during, and after a

¹ Five minutes is the currently proposed response time within the Australian Pool Pump Demand Response Standard, which was developed by a technical committee..
<http://d1yk905d96mksd.cloudfront.net/wp-content/uploads/2014/02/DraftDRED.pdf>

Demand Response Event.” In simple terms, *availability* can be determined by taking the difference between *maximum allowed capacity change* and the *actual current loading* as determined by the devices status (e.g. on/off and mode of operation).

Establishing a Single “Peak Demand Avoidance” Time Period is Not Desirable Given the Diversity of Load Management Challenges Nationally

System peak differs throughout the U.S. and Canada, and there is no national grid control structure that can harmonize each system’s characteristics. Any time period requirements established by EPA will have a very short shelf life and will not address various differences among utilities and the regional balancing authorities. The following examples demonstrate the types of regional variations affecting the duration, timing and magnitude of system peaks:

- Some utilities with significant pool pump penetration in their service territory (e.g. in the Southeast United States) do not simply manage a single afternoon summer peak. These utilities may be winter peaking, or dual-peaking. We are concerned that EPA’s proposal to denote 12:00 p.m. – 6:00 p.m. (even with the prescribed requirement that all systems are configurable on-site to a different peak period) could increase load during their peaks that occur outside that time period. Further, not all utilities with a “summer peak” fall entirely within EPA’s proposed time period.
- Utility system peaks are dynamic in nature, and can shift year to year relative to a predicted time period as a result of weather, new plug loads, changing human behavior, and the emergence of photovoltaic power production. CEE members in California report the “peak’ they historically managed has shifted significantly due to the increased penetration of solar resources. The California ISO indicates the resulting “duck curve²” could result in the risk of over generation at approximately 2:00 p.m. with the steepest peak occurring after 6:00 p.m.

For these reasons, we recommend EPA simply specify that all connected pool pumps are configurable on-site, so that installers may consult with their local utility to determine the appropriate setting.

² http://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf

Thank you for your consideration of these comments. Please contact CEE Principal Program Manager John Taylor at (617) 532-0944 with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Ed Wisniewski". The signature is written in a cursive style with a large initial "E" and "W".

Ed Wisniewski

Executive Director