



HAYWARD INDUSTRIES, INC.
One Hayward Industrial Drive
Clemmons, NC 27012
1.336.712.9900
www.hayward.com

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USEPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Via email: ConnectedProducts@energystar.gov

RE: Connected Criteria for Large Load Products

To Whom It May Concern:

Hayward Industries would like to thank the USEPA Energy Star staff for the opportunity to review and comment on the Connected Criteria for Large Load Products strategy for Pool Pumps.

Hayward Industries, Inc. is a leading global manufacturer of residential and commercial pool equipment and industrial flow control products. Headquartered in Elizabeth, New Jersey with over 1,500 US-based employees, Hayward designs, manufactures, distributes, and markets a complete line of residential pool equipment including pumps, filters, heaters, automatic cleaners, sanitizers, automation, and lights. As an Energy Star partner, Hayward is a strong advocate of energy saving products as witnessed by its leading portfolio of energy efficient equipment, including a broad range of ENERGY STAR® approved variable speed pumps.

As a leading equipment manufacturer, representing thousands of employees and, in turn, thousands more pool professional partners and their customers, we believe that connected functionality will have an impact on the user experience and request EPA's thorough evaluation of this issue.

We wish to provide this initial feedback to the topics discussed in the February 2019 Discussion Guide and March 2019 Webinar regarding the EPA's strategy for current and future Connected Criteria for pool pumps

FEEDBACK REQUEST

1) Market Changes: In 2019 and 2021, ENERGY STAR requirements will reward increased availability of variable speed products. Further, Federal 2021 Standards are expected to drive this market change further, which can support more advanced Demand Response. Is this anticipated to drive more pool pump DR products, interests, and programs?

Hayward believes the growth of variable speed pumps can, in turn, facilitate DR adoption but will not do so without a concerted effort from all stakeholders to promote DR benefits. DR has been an optional part of ENERGY STAR for many years but we feel has not been implemented due to lack of clearly defined benefits and methods.

2) Technical: What are the technical barriers to pool pump DR and to creating an out-of-the-box connected product? Would industry or reference standards mitigate some of these issues?

Hayward sees the lack of standardization as the biggest technical barrier regarding pool pump DR. The outdoor environment that pool pumps and other pool equipment operate in is challenging as well. The absence of industry or reference standards greatly increases the risk of having to support multiple methods, which increases both product complexity and the associated field support.

3) Market Adoption: What are the current adoption barriers for pool pump DR? Stakeholders have previously mentioned: first cost, lack of equipped products, and lack of consumer interest/awareness. Will connected criteria lower some of these barriers?

The benefits with respect to DR in the pool industry have not been clearly identified and thereby do not outweigh the perceived risks of the impact to the "health" of the pool (e.g. pumps being reduced in speed or turned off resulting in "green" or improperly sanitized pools), damage to pool equipment (e.g. pumps being turned off during a heating cycle resulting in damage to heating equipment, or pumps being turned off in winter resulting in frozen pool plumbing and damage to equipment) or pumps being turned off to a water feature resulting in occupants not being able to enjoy the pool without having to physically override the DR event. Both consumer and trade awareness of the benefits are essential. Educating for the consumer experience and benefit is primary however equally important is educating the trade as they are typically the ones recommending specific pump models, e.g. with or without DR.

4) Cost: First cost is often considered a key driver in pool pump purchases. Does the industry anticipate the incremental costs for connected and DR equipped pool products to decrease significantly? What would help drive adoption to reach a critical mass?

Standardization as noted above can help to optimize incremental costs. As volumes increase, costs may improve but it must be recognized that the majority of pools still utilize a single speed pump so the incremental initial cost will already be notably higher as the consumer upgrades to a variable speed pump without DR. Market adoption of DR will largely depend on the awareness of its benefits and payback.

5) What data would pool pumps need to be able to send to a DR management entity (DRMS, etc.) about their state to optimize usefulness to the grid (e.g. daily filtering remaining)?

A variety of information is possible such as remaining daily schedule, power consumption while running, total power consumed, etc. Note there may be intellectual property (IP) that could be related to this issue. Further many pools are managed by an onsite automation system which coordinates the operation of pumping (filtration), sanitization, heating, etc. the state of each being important to a decision to reduce or stop pumping.

6) Can manufacturers remain in control of user experience when service may be impacted by use of pool pumps as grid resources? If so, are there any criteria necessary to ensure it's possible? If not, how will user impact be minimized?

There would need to be some sort of local temporary override or service mode so that a servicer can clean the pool even if DR says the pump should be running at a lower or stopped. Also, the user may want to heat their pool and if DR says that it's a low speed time or time to be stopped, this would create a conflict and negative consumer experience.

Hayward would like to thank the EPA Energy Star staff for the opportunity to participate and comment on its strategy for connected functionality for pool pumps and looks forward to an ongoing dialogue on this important topic.

Respectfully submitted,

John O'Hare
Sr. Manager Product Compliance
(336) 712-9900
johare@Hayward.com

Scott Petty
Global Product Manager
Pumps and Filters
(336) 712-9900
spetty@Hayward.com