

DOCKETED

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PHTA Comments to FDAS

Additional submitted attachment is included below.



October 29, 2021

Submitted via: [Docket Log 20-FDAS-01](#)

Commissioner J. Andrew McAllister, Ph.D.
California Energy Commission
Dockets Office, MS-4
1516 9th Street
Sacramento, CA 95814

Re: Comments on Flexible Demand Standards, Docket # 20-FDAS-01

Dear Commissioner McAllister:

The Pool & Hot Tub Alliance (PHTA) represents 3,432 company members, including companies that manufacture pool pump controls as well as controls for other pool equipment. PHTA has a long history of working with the California Energy Commission (Commission or CEC) and appreciates the opportunity to continue a positive collaboration to ensure the development of Flexible Demand Appliance Standards (FDAS) as required by Senate Bill 49 to benefit citizens of California and the goal to reduce greenhouse gas emissions. At the same time, it is imperative these regulations also ensure both citizens and visitors using the states 1,250,350 residential inground pools, 335,000 aboveground pools, 338,000 inground spas and 42,230 commercial swimming pools continue to enjoy a safe environment.

We submit the following general response to the Request for Information (RFI) on behalf of our member companies, many of which will also be responding individually to the specific questions posed. PHTA welcomes your careful consideration of these comments and looks forward to continuing to participate in this rulemaking. If you have any questions on these comments, please contact me at jen@jhatfieldandassociates.com on behalf of the PHTA.

Sincerely,

A handwritten signature in black ink that reads "Jennifer Hatfield".

Jennifer Hatfield
Government Affairs Consultant
Pool & Hot Tub Alliance

PHTA Comments and Suggestions on Flexible Demand Appliance Standards

In lieu of answering the specific questions posed in the RFI, PHTA is providing the following general comments for consideration by the Commission. The specific questions posed in most cases will be answered by member companies.

Safety

The primary objective of any remote operation of pool equipment has implications with human safety and equipment safety that need to be strongly considered with any functionality that allows a utility to have access to a pump's operation. Pool pumps are unique to other appliances being considered under this proposed regulation in that the pool pump is part of an entire system, and the flow dependent items in this system must be addressed if there is a change in the operation of the pump.

Water Quality - PHTA refers you to the **comments from our Recreational Water Quality Committee (RWQC)** attached within on the importance of water quality and bather safety when considering this rulemaking, which includes requirements and guidance on best practices from federal agencies and national American National Standards Institute (ANSI) Standards. In addition to the RWQC comments, we highlight specific [California Code of Regulations \(22 CCR\)](#) related to water quality:

- Section 65525. Recirculation and Water Treatment System Operation
- Section 65527. Water Clarity.
- Section 65529. Public Pool Disinfection
- Section 65530. Public Pool Water Characteristics
- Section 65533. Public Pool Cleanliness.

In addition, California Building Code, Section 3124B states "The recirculation system shall have the capacity to provide a complete turnover of pool water in:

- One-half hour or less for a spa pool; and
- One-half hour or less for a spray ground; and
- One hour or less for a wading pool; and
- Two hours or less for a medical pool; and
- Six hours or less for all other types of public pools."

Entrapment - Suction entrapment avoidance requirements have been in place at the federal level since the passage of the Virginia Graeme Baker Pool & Spa Safety Act (VGBA) in 2007. The VGBA requires suction outlets to be equipped with suction outlet fitting assemblies (also known as drain covers) complying with the ANSI/APSP/ICC-16 2017 *American National Standard for Suction Outlet Fitting Assemblies (SOFA) for Use in Pools, Spas and Hot Tubs*. In addition, the ANSI/PHTA/ICC-7 *American National Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins* has been adopted or utilized in most states across the nation to ensure pool systems are designed with

specific flow rates and water velocities to minimize the risk of entrapment. The APSP-16 standard and other suction entrapment avoidance requirements are specified in California Statutes, specifically The Swimming Pool Safety Act, Sections 115928 and 115928.5 and by the adoption of the *International Swimming Pool & Spa Code* in at least thirty-five local jurisdictions in California.

All the above national and state regulations, as well as best practices, must be considered when developing the FDAS regulations in order to ensure safe pool and spa environments for users. PHTA recommends that the Commission consider a limitation of how frequent and when a demand response event would occur to ensure proper water quality, circulation and velocity conditions remain. To do otherwise could defeat the purpose of the proposed regulations in that consumers may opt-out of the program if they have negative effects that could require costly repairs or much worse by causing health issues, injury, or death that open utilities and other parties to possible liability. Finally, there are critical distinctions between residential and commercial pools, and they simply cannot be lumped together. FDAS regulations may simply be more appropriate for residential application.

Alignment with the Energy Star Program

PHTA requests that the FDAS regulations ensure alignment with the voluntary Energy Star Program to every extent feasible. PHTA recognizes that other states are looking at similar FDAS regulations and programs, and it does not benefit anyone to have numerous different protocols to follow. This causes manufacturers to produce different products by state or region, which in turn is more costly and that cost is passed on to consumers. One national standard is better for industry, consumers and regulators. PHTA looks forward to working with the Commission to not only align with the current Energy Star Demand Response Program in every way possible, but to work on what can be implemented nationwide to prevent a patchwork of requirements from occurring.

Definitions

In the September 30 pre-rulemaking draft posted, one singular definition for a “pool pump control” was suggested. PHTA would suggest instead that the Commission considered two separate definitions: one for integral pool pump controls and one for non-integral controls. By doing so there would be two avenues to ensure products can control the demand.

Overly prescriptive

The September 30 pre-rulemaking draft is overly prescriptive when it comes to language around requirements to set up schedules that no one in the industry currently does today. The draft specifies how manufacturers build their products, which stifles innovation and is also unreasonable in terms of suggesting these specifics can be developed within the two-year timeframe given by putting pool pump controls in Phase 1, which requires a January 1, 2024, compliance date.

In addition, the Commission should consider not simply looking at the pool pump control but at the larger scope of “pool controls.” Current pool automation systems include the ability to control not just the pump, but other pool equipment such as the heater, chlorinator, lights, cleaners, and water features. PHTA would urge the Commission to remove pool pumps from Phase 1 and work with the industry on including “pool controls” in a Phase 2 or Phase 3 product.

Conclusion

PHTA and its members recognize the need and legislative requirement to develop FDAS regulations and look forward to working with the CEC on ways to include our industry in a way that will ensure pools remain safe for consumers. This will take time for product development, training of industry installers and service technicians, and for consumers to embrace. We believe there is more work to be done for a holistic approach and recommend consideration of moving us from a Phase 1 product to a later phase to allow for the necessary time to consider and work on all the items laid out.

October 21, 2021

California Energy Commission

Docket Unit

Re: Docket No. 20-FDAS-01

715 P Street

Sacramento, CA 95814

Re: Docket 20-FDAS-01 - Flexible Demand Appliance Standards, Request for Comments

The Pool and Hot Tub Alliance (PHTA) Recreational Water Quality Committee (RWQC) appreciates the opportunity to provide comments regarding the California Energy Commission's Flexible Demand Appliance Standards Pre-rule making, docket 20-FDAS-01. The RWQC is a cross-industry committee dedicated to the development of standards and information regarding chemical products, processes and devices that affect water quality maintenance in the swimming pool, spa and hot tub industry. Notable publications include **ANSI/APSP/ICC-11 American National Standard for Water Quality in Public Pools and Spas** developed by PHTA. Our comments are intended to highlight the importance of water quality and bather safety when considering any rulemaking in the recreational water space.

Peak energy demand is always in the heat of the day, the exact time pool use is at its highest peak, and water quality and recirculation are most essential. Water quality is a critical component to ensuring bather safety, as well as pool maintenance and the user experience. Guidelines and requirements for disinfectant levels, sanitation efficacy, water chemistry, and water clarity have been established at a federal level through agencies such as the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control and Prevention (CDC); as well as codes and standards such as the Model Aquatic Health Code, NSF-50, and the aforementioned ANSI/APSP/ICC-11 *Standard for Water Quality in Public Pools and Spas*.

For residential pools, **ANSI/APSP/ICC-5 American National Standard for Residential Inground Swimming Pools** provides the following requirements for turnover and water clarity:

9.1.3 Turnover and water clarity. The equipment shall be sized to provide a turnover of the pool water at least once every twelve (12) hours. The system shall be designed to give the proper turnover rate based on the manufacturer's specified maximum flow rate of the filter, in clean media condition of the filter. Water clarity shall be maintained. (Clarity is a function of proper filtration and maintenance of proper chemical operational parameters; for recommendations, see Appendix A.) When standing at the pool's edge at the deep end, the deepest portion of the pool floor shall be visible.

Excerpt from APSP-5 **Appendix A**

H. Water Clarity	
Minimum	Comments
<p>The deepest part of the pool or spa and/or main drain shall be visible and sharply defined.</p> <p>Pools: Pool water shall be of a clarity to permit an 8 in. (203 mm) diameter black and white Secchi disc or main suction outlet (main drain) located on the bottom of the pool at its deepest point to be clearly visible and sharply defined from any point on the deck up to 30 feet (9.14 m) away in a direct line of sight from the disc or main drain.</p> <p>Spas: The bottom of the spa at its deepest point shall be clearly visible.**</p> <p>** This test shall be performed when the water is in a non-turbulent state and bubbles have been allowed to dissipate.</p>	<p>If water is turbid:</p> <ul style="list-style-type: none"> • Sanitizer level may be low • Filtration/circulation system may require maintenance or increased run (filtering) time • Improper chemical balance (Section B) • Consult remedial practices (Section F)

It may also be noted that the same equipment used in residential pools is often used in commercial public pools such as community pools, hotels, and apartments. These commercial pools are required to circulate 24 hours with a minimum turnover every 6 hours. Any interference in turnover rate would reduce the requirement of 98% filtered water based on 4 turnovers in 24 hours, requiring a pool closure until adequate circulation was restored. Without being able to monitor every pool and its condition, it would not be possible to ensure that an interruption of the pool circulation system will not cause a dangerous condition that could result in serious illness or loss of life in both public and residential pools.

Even with national and local code requirements and guidelines in place, it is important to understand no two swimming pools are exactly alike. As it relates to water quality and sanitation, every swimming pool can be considered its own unique ecosystem with individual requirements for water disinfection, chemistry, balance, and clarity. Pool design, environment, fill water, intended use, and bather load, are just some of the contributing factors to water chemistry. Pool filtration, disinfectant systems, circulation, and turnover are key factors in controlling water quality, all of which are directly impacted by the performance of the pool filtration pump. Changes in pump performance means changes in the performance and operation of all sanitizing systems in the pool.

A pool is designed with specific pump performance settings based on specific hydraulic, flow, and sanitation requirements of the pool, among other considerations. Pool owners rely on qualified pool professionals and service personnel to ensure their pools are operating to maintain a pool environment that is safe for bathers, including friends and loved ones. Interruptions in pump performance due to loss of power and adjustments by unqualified personnel is one of the many challenges faced by pool professionals in maintaining a safe pool. Not only can these interruptions be very costly to both the pool owner and/or the pool professional to correct, but they may also lead to more severe health hazards to bathers, particularly young children, pregnant women, and those with compromised immune systems. These may include skin, ear, respiratory, eye, and digestive infections that can range from mild to fatal.

Below are just some of the illness-causing organisms that may be present in a poorly sanitized pool and/or spa.

- *Cryptosporidium*
- *Legionella*
- *Pseudomonas*
- Norovirus
- *Shigella*
- *Escherichia coli* (*E. coli*)
- *Giardia*
- Avian schistosomes
- Algal Toxins
- *Naegleria fowleri* (Brain-eating amoeba)

As well as excessive chemical exposure to bathers due to poor or insufficient water circulation and turnover rate.

In Conclusion

The RWQC strongly recommends any regulation affecting pool water circulation include consideration and provisions for the safety requirements outlined in these comments. It is vital for CEC regulation to account for the effects of large-scale Demand Response events of pool pumps as they relate to water quality and pool safety. Any rulemaking that does not take into consideration the total requirements of a pool's sanitizing system would be incomplete, and potentially pose a serious public health hazard. Regulation must always fault to safety first.

The RWQC appreciates the opportunity to comment, and we look forward to providing any further assistance to ensure pool safety.

Respectfully,

PHTA Recreational Water Quality Committee