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*Comment Received From: Association of Home Appliance Manufacturers (AHAM)*  
*Submitted On: 11/1/2021*  
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**AHAM's comments FDAS Pre-Rulemaking Draft**

*Additional submitted attachment is included below.*



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

November 1, 2021

J. Andrew McAllister, Ph.D.  
Commissioner  
California Energy Commission  
Docket Unit  
Re: Docket No. 20-FDAS-01  
715 P Street  
Sacramento, CA 95814

Dear Commissioner McAllister:

The Association of Home Appliance Manufacturers (AHAM) writes to comment on the request for information and Pre-Rulemaking Draft of the California Energy Commission's (CEC) Proposed Language for Flexible Demand Appliance Standards. AHAM appreciates the extension granted for comments on the RFI.

AHAM represents more than 150 member companies that manufacture 90% of the major, portable and floor care appliances shipped for sale in the U.S. Home appliances are the heart of the home, and AHAM members provide safe, innovative, sustainable and efficient products that enhance consumers' lives. The home appliance industry is a significant segment of the economy, measured by the contributions of home appliance manufacturers, wholesalers, and retailers to the U.S. economy. In all, the industry drives nearly \$200 billion in economic output throughout the U.S. and manufactures products with a factory shipment value of more than \$50 billion. In California, the home appliance industry is a significant and critical segment of the economy. The total economic impact of the home appliance industry to California is \$15.9 billion, more than 30,000 direct jobs and an additional 53,000 indirect jobs, \$2.4 billion in state tax revenue and more than \$5 billion in wages. Home appliances also are a success story in terms of energy efficiency and environmental protection. New appliances often represent the most effective choice a consumer can make to reduce home energy use and costs.

AHAM believes that connected technologies represent great potential in terms of consumer satisfaction and energy savings. AHAM seeks to work with CEC to derive those benefits; however, the proposed regulations will not achieve that goal. As currently proposed, the regulation does not pass legal muster with respect to federal law and offers a number of benefits to utilities without offering similar benefits to the consumer. Manufacturers must make an appliance that consumers want to buy and use. Products that operate in a manner or at a time inconsistent with the consumer's needs will discourage the purchase and use of appliances with flexible demand technology.

## I. Federal Energy Policy And Conservation Act Preemption

AHAM supports the use of the Internet and connected appliances to achieve the nation's and California's energy conservation goals. Where our major appliances are connected, we promote their use to conserve energy. Connected home appliances incorporate innovations that allow consumers to save time, conserve energy, and pave the way for faster and more accurate repairs. From refrigerators that automatically order groceries when supplies run low to ranges that respond to voice commands, connected appliances offer significant value for consumers and have the potential to change the way consumers approach household tasks like cooking, cleaning and grocery shopping.

The appliance industry is interested in working with the commission on incentives, prototypes, research and development, demonstration projects, and consumer/retailer education that promote how functionalities in appliances including shifting the time when it is used. Timers and connected products can result in energy and water conservation. However, regarding products that are federally regulated for the purpose of energy or water conservation, CEC cannot impose design, functionality, performance or other requirements that seek to impact energy usage. Those actions are totally preempted.

As CEC has recognized in many regulatory contexts, States are generally preempted from creating standards related to energy use for appliances and equipment that are covered by federal law under the Energy Policy and Conservation Act ("EPCA"), 42 U.S.C. 6201, et seq. Among other prohibitions, once federal standards become effective, "no State regulation concerning the energy efficiency, energy use, or water use of any [] covered product shall be effective with respect to such product[.]" 42 U.S.C. § 6297(c);

"Energy efficiency standards" refers to standards for energy efficiency, energy use and/or water use. EPCA defines a "state regulation" as any "law, regulation, or other requirement of a State and its political subdivisions." 42 U.S.C. § 6297(a)(2)(A).

This means that CEC cannot require any design, portal, functionality in any covered product or testing of that product with the goal of affecting energy or water use in a manner other than one consistent with the federal energy requirements. A regulation or prohibition on a covered product's use of energy or water at particular times would also be preempted. This still leaves plenty of room for partnership, as noted above. But, CEC is prohibited from mandating the requirements set out in CEC's draft regulations.

## II. AHAM Comments on the RFI & Pre-Rulemaking Draft

The RFI and Pre-Rulemaking Draft discusses appliances, including dishwashers and electric clothes dryers, in Phase 1 of the Flexible Demand Appliance Standards (FDAS). To streamline the process and avoid confusion, the Pre-Rulemaking Draft's definitions for these products should be consistent with the Energy Conservation Program for Consumer Products (10 CFR § 430), which provides the following definitions for consumer dishwashers and consumer electric clothes dryers (10 CFR § 430.2):

***Dishwasher*** means a cabinet-like appliance which with the aid of water and detergent, washes, rinses, and dries (when a drying process is included) dishware, glassware, eating utensils, and most cooking utensils by chemical, mechanical and/or electrical means and discharges to the plumbing drainage system.

***Electric clothes dryer*** means a cabinet-like appliance designed to dry fabrics in a tumble-type drum with forced air circulation. The heat source is electricity and the drum and blower(s) are driven by an electric motor(s).

The Pre-Rulemaking Draft replaces the federal definition of “Basic Model” by adding a requirement for the product to have “the same electrical, physical, or functional characteristics that affect compliance with a flexible demand standard.” AHAM requests CEC use the federal definition of a basic model as defined in 10 CFR § 430.2 as:

***Basic model*** means all units of a given type of covered product (or class thereof) manufactured by one manufacturer; having the same primary energy source; and, which have essentially identical electrical, physical, and functional (or hydraulic) characteristics that affect energy consumption, energy efficiency, water consumption, or water efficiency.

The Draft defines a “Connected device” as “any device that is capable of connecting to the Internet, and that is assigned an Internet Protocol address or Bluetooth address.” AHAM seeks clarity on how CEC will determine if a product is “capable of connecting to the Internet.” Furthermore, CEC should abandon the term, “connected device,” and instead adopt the term, “Internet of Things Device,” as defined in the Internet of Things Cybersecurity Improvement Act of 2020. That statute uses the following definition:

***Internet of Things device*** means a device that, consistent with NISTIR 8259/8259A:

- (1) has at least one transducer (sensor or actuator) interacting directly with the physical world, have at least one network interface, and are not conventional Information Technology devices, such as smartphones and laptops, for which the identification and implementation of cybersecurity features is already well understood; and
- (2) can function on their own and are not only able to function when acting as a component of another device, such as a processor.

The use of federal definitions would provide stakeholders with the necessary clarity and consistency to make this a successful program. The proposed definitions would require physical, technical and software design changes to all dishwashers and electric clothes dryers, potentially conflicting with existing federal law.

### **III. CEC Should Not, and Cannot, Require Connected Capability From Dishwashers and Clothes Dryers**

As stated above, EPCA preempts any state effort to impose a design requirement on covered products, which include dishwashers and clothes dryers, where those design requirements seek to impact energy use. Even in the absence of preemption, appliances sold in California should not be required to have communication functions or demand response capability. Consumers may not want their clothes dryer or dishwasher to have connected functionality and offer the ability to interface their appliance to the electric utility. A delay timer would serve a similar purpose and reduce demand on the energy grid through the consumer’s scheduling of the appliance to operate at an off-peak time.

Section 1690 of the Pre-Rulemaking Draft, which identifies flexible demand appliance standards for both electric clothes dryers and dishwashers, conflates flexible demand and the delay function and appears to require these products to have both a “delay timer” *and* be a “connected device,” capable of connecting to the internet. If appliances were required to have both of these functions, then appliances with a manually operated switch, also known as an electromechanical component, would be forced from the market, to the detriment of consumers and manufacturers.

As CEC goes forward with flexible demand standards, manufacturers should have the option to choose whether a product is a “connected device” or have a “delay timer.” Appliances should not be required to have a delay timer or connected functionality. These options will allow for the design process to consider functionality and cost in a holistic manner to maximize consumer value and ensure products are available for lower income consumers. A delay timer will provide an option for disadvantaged consumers as well as those who are unable or do not want to connect to the internet.

CEC’s definition of “delay timer” is unreasonable. In the pre-rulemaking draft, this term means “a control that allows the user to delay the start of the appliance cycle up to 24 hours in increments no larger than 1 hour.” In many instances, consumers will not want their clean dishes or dry clothes an entire day after an evening meal or a completed wash cycle. This is an example of CEC placing the utilities’ needs over those of the consumer to the consumer’s detriment.

Many dishwashers currently have delay timers that allow consumers to run them during the overnight hours or after they leave for the day. This functionality encourages the use of a dishwasher at times when energy demand may be lower and it is convenient for the consumer. The COVID-19 pandemic has altered our daily routines as public health experts and authorities encourage us to stay home. This has drastically changed the frequency and time of day consumers run their dishwashers. The rise in people who work or attend school from the home has likely increased the frequency and altered the time of day a dishwasher is used. The pandemic has reshaped our daily routines, including how and when we use appliances. Consumers may not have the luxury of changing when they run their dishwasher if it is when they are out of the house or sleeping. Consideration of shifts in consumer use of dishwashers should be included in the commission’s FDAS rulemaking.

Displaying the energy costs, present or future, on a dishwasher may lead consumers to believe it is cheaper and faster to hand wash soiled dishes. The ENERGY STAR program reports that a “certified dishwasher uses about a quarter of the energy used when washing dishes by hand and saves more than 7,000 gallons of water each year.” In addition to energy and water, “an ENERGY STAR certified dishwasher can save over 230 hours of personal time over the course of a year” and lower utility bills by about \$111 per year.<sup>1</sup>

Rulemakings that impact clothes dryers should take into account consumer behavior and use. Once the clothes wash cycle is complete, people should remove wet clothing from the washing machine. Clothes left in a washer or not promptly dried are susceptible to unpleasant odors and often the solution to these unpleasant smells is to rewash the clothes. It is not practical to expect a consumer to leave wet clothing in a dryer for any period of time prior to the drying process to begin. The inclusion of electric clothes dryers in a flexible demand program is unnecessary due to consumer use and the potential of adverse impacts of any delay in drying wet clothes.

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<sup>1</sup> [https://www.energystar.gov/products/appliances/dishwashers/dishwashers\\_best\\_practices](https://www.energystar.gov/products/appliances/dishwashers/dishwashers_best_practices)

#### **IV. AHAM Developed Model Regulatory Language That Maintains Robust Cybersecurity While Offering Manufacturers Design Flexibility**

As CEC considers rules to establish flexible demand appliance standards, it is essential that the consumer experience is focused on as a main driver for the successful implementation and use of flexible demand technologies. Critical to the consumer experience is their confidence in the security of the connected appliance. The RFI and Pre-Rulemaking Draft suggest cybersecurity measures or options to secure the device. However, again CEC has no authority to set requirements for connected products that are regulated by the Department of Energy with the goal of regulating energy use. SB49 specifically provides CEC its authority to adopt cybersecurity protocols when “adopting the flexible demand appliance standards.” With that said, for products that are not regulated by the Department of Energy or in relation to some voluntary program for federally-regulated products, AHAM requests CEC include a cybersecurity standard that is both robust and flexible, which is specified below:

- (a) A manufacturer of an IoT device shall equip the product with a reasonable security feature or features, appropriate to the nature and function of the product, and the information it may collect, contain, or transmit, designed to protect the product and any information contained therein from unauthorized access, destruction, use, modification, or disclosure. Compliance with subdivisions (b) and (c) of this section fulfills the requirement of this to equip an IoT device with a reasonable security feature or features but compliance with subdivisions (b) and (c) of this section is not the sole sufficient method of equipping a product with a reasonable security feature.
- (b) Equipping an IoT device with a means to protect the product consistent with one or more of the following:
  - (i) A consensus standard that addresses commonly known or reasonably foreseeable vulnerabilities where such consensus standard is effective on the date of manufacture of the product shall be deemed a reasonable security feature or features under subdivision (a). Examples include ANSI/UL/CSA 2900 or ANSI/CTA 2088;
  - (ii) A security rating from a Certifying Body (CB) with a recognized expertise in security or connected or IoT technologies. Examples include security ratings programs at UL, Intertek, CSA, or CTIA; or
  - (iii) Design features that are based on widely recognized guidelines such as NISTIR 8259, the CSDE C2 Consensus Guidelines, or IEST Safe By Design - UK Code of Practice for Consumer IoT Security/ETSI TS 103 645; or
  - (iv) Standards and guidelines promulgated by the National Institute of Standards & Technology under the Cybersecurity Improvement Act of 2020.
- (c) When a consensus standard is used as the basis for determining that an IoT device has been equipped with a reasonable security feature or features under subdivision (b) of this section and that consensus standard is amended, a manufacturer whose products conform to the previous version of the consensus standard shall be deemed to have equipped its IoT device with a reasonable security feature or features under subdivision (b) of this section so long as the product is manufactured not more than one year after the effective date of the amended consensus standard.

The proposed framework above allows for CEC reliance on existing cybersecurity standards that provide robust security and are appropriate for appliances envisioned for inclusion in the flexible demand appliance standard. Ultimately, no single standard or set of requirements would be appropriate as a wide range of products and connection methods are envisions for FDAS. Existing, approved cybersecurity standards allow for flexibility while ensuring security.

## **V. Cloud-Based API Is Preferable To A Physical Requirement, Such As A Port**

A flexible communications standard that includes an option for a cloud-based application programming interface (API) framework ensures consumers and manufacturers have options to connect demand-response systems while also remotely connecting to an appliance. A consumer's ability to remotely connect to their appliance allows for energy management capabilities that go beyond demand response and provides the potential to integrate the whole house in an energy management system. Visibility into home energy use is a proven method to help people save energy. A standard that relies on limited, proscribed design requirements would not be practical for certain appliances and ultimately constrain the deployment or use of flexible demand technologies.

In addition, a Cloud API-based standard creates an environment that promotes the evolution of flexible demand products and consumer use. A Cloud API system simplifies the user experience by allowing for over-the-air updates to products. These post-sale updates allow companies to deploy innovative solutions that improve functionality. Over-the-air updates are a fast and effective response that will enhance the appliance's performance over time, lower costs, limit the impact of deficiencies and enable the interoperability of a range of smart products for the connected home and device management systems. Furthermore, Cloud APIs ensure an appliance's functionality is not limited or degraded by flexible demand communication needs. It allows for information communicated to and from an appliance as well as the appliance's reaction to information received from a utility to change over time more easily than a limited, hardware specific technology standard that is based solely on a specific port technology.

AHAM understand that some stakeholders place a premium on uniformity in connection methods and demand response signals and response. Such uniformity, however, is ultimately detrimental to the success of the FDAS program and is not even possible due to legal restraints on federally preempted products. Appliances that rely solely on one connection standard, such as a physical port, are problematic for numerous reasons. These include potentially blocking consumer connection to their devices; adding unnecessary cost through single purpose radios, chips, and other components; increasing target density for malicious actors; and limiting the development of new features or functions that increase the energy impact and consumer satisfaction with a flexible demand program.

Market alignment on a certain flexible demand response solution for appliances currently exists through the voluntary ENERGY STAR program. The Energy Efficient and Smart Appliances Agreement of 2010, which was supported by, among others, the American Council for an Energy-Efficient Economy (ACEEE), AHAM and CEC, included a petition to the United States Environmental Protection Agency and Department of Energy for a 5% ENERGY STAR credit for connected appliances.

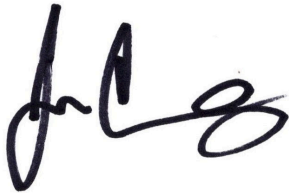
ENERGY STAR requirements, which explicitly adopt the flexible model encouraged by AHAM, are a strong model for the CEC Flexible Demand Appliance Standards as they are already incorporated at a federal level and proven effective in home appliances currently available to



consumers. Examples of this include ENERGY STAR certified pool pumps that enable Open Standards-based communication between the Connected Pool Pump System (CPPS) and an external application or device<sup>2</sup> and the Air-Conditioning, Heating, Refrigeration Institute's (AHRI) *2019 Standard for Demand Response through Variable Capacity HVAC Systems in Residential and Small Commercial Applications* (AHRI Standard 1380 (I-P)), which includes OpenADR as a method for communication. CEC should capitalize on the developing market alignment towards voluntary flexible demand response capabilities that include elements that best suits the needs of the consumer and the functionality of the appliance.

AHAM appreciates the opportunity to on the RFI and the Pre-Rulemaking Draft of the Proposed Language for Flexible Demand Appliance Standards. We understand and appreciate CEC's stated commitment and willingness to address this matter and look forward to continuing to work with CEC.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jacob Cassady', with a stylized, cursive script.

Jacob Cassady  
Director, Government Relations

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<sup>2</sup>[https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20Version%203.1%20Pool%20Pumps%20Final%20Specification\\_0.pdf](https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20Version%203.1%20Pool%20Pumps%20Final%20Specification_0.pdf)