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Joint Comments Responding to FDAS for Pool Controls 45-Day Language

Additional submitted attachment is included below.

April 10, 2023

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Topic: Flexible Demand Appliance Standards for Pool Controls

Docket Number: 23-FDAS-01
TN Number: 248923

Dear Commission Staff,

This letter comprises the comments of the Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE), collectively referred to herein as the California Investor-Owned Utilities (CA IOUs), in response to the California Energy Commission Notice of Proposed Action regarding Flexible Demand Appliance Standards for Pool Controls.

The CA IOUs represent some of the largest utility companies, serving over 32 million customers in the Western U.S. We are committed to helping customers reduce energy costs and consumption while striving to meet their evolving needs and expectations. Therefore, we advocate for standards that accurately reflect the climate and conditions of our respective service areas.

We respectfully submit the following comments to the California Energy Commission (CEC).

1. **The CA IOUs acknowledge CEC's efforts to establish flexible demand appliance standards (FDAS) that reduce greenhouse gas (GHG) emissions. We encourage the CEC to explore flexible demand capabilities that enable appliance communication with local utilities or third parties to harmonize with the grid, while reducing GHG emissions.**

The CA IOUs acknowledge CEC's efforts to implement the statutory requirements for flexible demand appliance standards within a broader statewide energy policy framework enabling progress toward a 100% clean electricity supply that reduces GHG emissions. Senate Bill 49[1] (SB 49) defines flexible demand as the ability to "schedule, shift, or curtail [demand] through direct action by the customer or through action by a third party, the load-serving entity, or a grid balancing authority, with the customer's consent." This legislation states that FDAS should prioritize appliances with electrical demand "controlled by load-management technology and third-party load-management programs."

[1] "SB-49 Energy: Appliance Standards and State Water Project Assessment," California Legislative Information, October 10, 2019, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200SB49.

Appliances can provide various demand flexibility services, including the ability to "shape, shift, shed, and shimmy"[2] loads to support grid needs. To better align with SB 49 and provide more benefits to California consumers and the grid, we urge the CEC to prioritize appliance flexible demand capabilities such as dispatchability, third-party communication with utilities and aggregators, and the ability to shed, shift, and modulate demand in response to grid needs, in addition to the goal of reducing GHG emissions. These additional appliance characteristics support a balanced and reliable grid as California moves toward increasing renewable generation and are essential to realizing the goal of GHG emissions from FDAS.

The proposed standard for pool controls does not ensure customer devices can receive and act on signals, such as dynamic energy prices, GHG signals, and demand response event information. We recommend the CEC collaborate with utilities, manufacturers, regulatory agencies, and other stakeholders (e.g., aggregators) to develop processes to transmit rate and demand response information to flexible appliances, ensuring that customers receive relevant information based on their rate schedule, location, and class.

2. CEC's FDAS should harmonize with other CEC efforts, such as the Load Management Rulemaking and the recently created Market Informed Demand Automation Server (MIDAS) database.

The CEC recently completed the Load Management Rulemaking.[3] This rulemaking created the California Market Informed Demand Automation Server (MIDAS) database[4] and will require utilities to maintain up-to-date rate information in MIDAS. The CEC should consider the outcome of this rulemaking when developing FDAS. For example, CEC could require FDAS devices or their manufacturer clouds to connect to the MIDAS Application Programming Interface (API), download relevant rate schedules, GHG signals, or price signals, and schedule device operation in response to those signals. If the CEC does not incorporate these capabilities into the proposed pool control FDAS, at a minimum, the CEC should remain receptive to future amendments to the pool control FDAS to leverage MIDAS data.

The CEC may also consider a limited waiver process for FDAS that allows manufacturers of highly flexible pool controls to waive the appliance-specific default operating schedule requirement (section 1693(b)(2)(C)) if the device can connect by default to the MIDAS database, access the relevant rate schedule, dynamic price signal, or GHG signal for the customer, and schedule operation to avoid high demand processes during times with high prices or high GHG emissions.

3. The CA IOUs recommend clarifying the proposed regulatory language to differentiate requirements intended for all FDAS appliances from those that apply solely to pool controls.

The proposed regulatory language contains sections that would, as written, apply to all flexible demand appliance standards. Given that the CEC published this proposed regulatory language in the context of

[2] See LBNL's 2025 California DR Potential Study for more details. Peter Alstone, Lawrence Berkeley National Laboratory, Et. Al, "2025 California DR Potential Study," October 9, 2017.

[3] California Energy Commission, "Load Management Rulemaking," https://www.energy.ca.gov/proceedings/energy-commission-proceedings/load-management-rulemaking.

[4] California Energy Commission, "Market Informed Demand Automation Server (MIDAS) Documentation Version 1.2: Connecting to and Interacting with the MIDAS Database and Application Programming Interface," 2021, https://www.energy.ca.gov/publications/2021/market-informed-demand-automation-server-midas-documentation-version-12.

the pool controls rulemaking, we recommend limiting this rulemaking to pool controls and moving the relevant proposed regulations to the pool control-specific sections.

Future FDAS appliances will have different requirements than those proposed for pool controls and definitions (e.g., on connectivity) and general requirements for those appliances should be considered in future rulemakings. This could be achieved by organizing requirements in the Scope, Definitions, General Requirements, and Appliance Specific Requirements sections by appliance type and including only requirements common to *all* appliances as "general" requirements within these sections.

4. The CA IOUs recommend changes to the *Scope* requirements of the proposed regulatory language.

Section 1690 (Scope) applies broadly to all FDAS, not just to pool controls. The proposed scope is limited to consumer products, which is appropriate for pool controls given the health and safety requirements of commercial pools. However, it may be appropriate for future FDAS to apply to commercial or industrial products, so restricting the scope of FDAS to just consumer products will not be suitable. We recommend striking the consumer product requirement from the overarching scope and creating a pool controls specific scope section that states that the pool control regulation is limited to consumer products.

In support of this recommendation and others in this letter, a table of recommended changes to the proposed regulatory language is included in an appendix.

5. The CA IOUs recommend changes to the *Definitions* in the proposed regulatory language.

We recommend changes to the "Connected Device" definition in section 1691(a). The current language would apply this definition to *all* FDAS, not just pool controls. Moreover, the text's ambiguity may invite multiple interpretations. The definition should be clarified to remove extraneous language and enhance clarity and enforceability, e.g., "with or without" certain connections or "by means of integrated or separate" equipment. Additionally, we recommend that the CEC create a specific definition for connected pool controls to require integrated connectivity at the time of sale rather than allowing "separate" equipment to provide this feature. Moving beyond the current connectivity definition, we would support a connectivity definition that requires devices to have two-way communication capability (i.e., both sending and receiving information) between the consumer and the grid, utility, or aggregator, instead of just the ability to receive signals via one-way communication. Furthermore, the definition should focus on functionality requirements, allowing connectivity via other open and secure protocols that exist today and that may exist in the future rather than TCP/IP compatibility. If the "TCP/IP signal" requirement is maintained, we recommend revision to add detail and clarity.

Additionally, we recommend other changes to the definitions in section 1691 of the proposed regulatory language. To support a requirement for communication based on open and secure standards that enable demand flexibility, we suggest adopting the "open standards" and "communications" definitions from the United States EPA ENERGY STAR® Specification for Pool Pumps Connected Product Criteria, which could be extended to pool controls.[5] In accordance with SB 49, which states that CEC's FDAS should prioritize interoperable and open-source appliances, we propose that communication requirements should be based on open and secure standards and allow for several operational

[5] U.S. EPA, ENERGY STAR. "ENERGY STAR Program Requirements Product Specification for Pool Pumps, Version 3.1," https://www.energystar.gov/sites/default/files/asset/document/ENERGY%20STAR%20Version%203.1%20Pool%20Pumps%20Final%20Specification.pdf

pathways including device control by third-party aggregators enabled by cloud-to-cloud communication between aggregators and utility distributed energy resource or demand response management systems.

The ENERGY STAR specification has been vetted by a wide variety of stakeholders, and alignment with this specification would strengthen the FDAS for pool controls by promoting device dispatchability and allowing connectivity and communication requirements to remain flexible for future innovation. At least two brands offer connected pool pumps that are ENERGY STAR-compliant and could therefore also comply with FDAS without additional effort. The software-based communications costs of ENERGY STAR connected pool pump requirements may be similar to the incremental cost of the CEC's current proposal. The ENERGY STAR specification uses open standards for communication, meeting the SB 49 requirement to prioritize interoperable and open-source appliances. Section 4.3 of this specification also includes provisions to allow for remote management of devices and to provide feedback to consumers on device operation, aligning with the SB 49 requirement to prioritize appliances with "a user-friendly interface" and a "straightforward setup and connection process, such as remote setup by means of an internet website or application." The ENERGY STAR requirements further protect the consumer compared to the proposed FDAS TCP/IP connectivity requirement, which does not ensure the use of open standards. Aligning the proposed regulation with ENERGY STAR requirements could result in additional benefits compared to the CEC proposal.

If revisions are made to the proposed regulatory language, we recommend striking from the proposed regulatory language definitions no longer needed to support the pool controls regulation. Predicting future general requirements is difficult, so we recommend restricting the definitions in this standard to only those necessary for pool controls. If it is necessary to move some of the regulatory language into a "general" section after the adoption of more FDAS regulations, those changes could be made at the time of the new regulation.

6. **The CA IOUs recommend changes to the *General Requirements* of the proposed regulatory language.**

We recommend the CEC clarify the Cybersecurity requirements in section 1692 (General Requirements). These requirements refer to "state laws relating to reliability and cybersecurity" and North American Electric Reliability Corporation's (NERC) Critical Infrastructure Protection standards. However, the requirements do not cite statutes or specific standards and do not incorporate documents by reference. Additionally, we recommend revisions to the password requirement. Recommended revisions are noted in the appendix table.

7. **The CA IOUs recommend changes to the *Appliance Specific Requirements* for pool controls in the proposed regulatory language.**

We recommend changes to the requirements for pool controls in section 1693 (Appliance Specific Requirements). For section 1693(b)(2)(A), we recommend a pool controls specific connectivity definition. For pool controls the connectivity functionality should be required to be integrated into the device rather than be enabled by "separate" equipment. Furthermore, adding a requirement that pool controls be able to communicate using open and secure standards would strengthen the regulation. The CEC could align with the publicly vetted ENERGY STAR Specification for Pool Pumps Connected Product Criteria, incorporating this communication as a mandatory requirement or as an optional pathway via a waiver process.

For section 1693(b)(2)(B) on clock requirements, we recommend adding a requirement for pool controls to use their connectivity to sync with local time without using a separate device. The proposed

regulatory language requires that pool controls that communicate with a separate device "have the ability to automatically synchronize their system clock to the local time specified by that device." However, there is no explicit requirement to sync with local time for pool controls with integrated connectivity that do not communicate with a separate device. The addition of this requirement would enhance the regulation's clarity.

Section 1693(b)(2)(C) proposes a default operating schedule requirement for pool controls. This schedule may reduce GHG emissions by promoting load shifting to the late morning and early afternoon when GHG emissions from electricity production are lower. However, shifting operation to a fixed period is not flexible enough to accommodate future changes in electricity use patterns, GHG emissions, electricity rates, and grid needs. In addition to the default scheduling requirement, we recommend the FDAS regulation require pool controls to use open and secure communication protocols that enable the device to respond to signals and modify operations in response to changing conditions, event signals, and price signals. If the CEC maintains the proposed regulation, we suggest clarifying the language.

The June 2022 CEC Draft Staff Report Analysis of Flexible Demand Standards for Pool Controls[6] included an adjustment to the default schedule requirement to account for daylight savings time. This adjustment no longer appears in the current regulation. We recommend the CEC include a time adjustment to the default schedule to account for daylight savings time, reverting to the proposed regulatory language published in June 2022.

We recommend removing the requirement in section 1693(b)(2)(C)1.c. stating the pool control default operating schedule shall "automatically operate the pool filter pump at 50 percent of the maximum operating speed of the pool filter pump or less during all remaining hours and may perform pump priming at any time." Prior requirements in this section state that high-demand activities must occur between 9 a.m. and 3 p.m. and that no automatic operation should occur between 4 p.m. and 9 p.m. Given the availability of efficient variable-speed pool pumps, this additional requirement is not necessary to support the intent of the regulation.

In section 1693(b)(2)(C)2., we recommend either clarifying the requirement to state that every preconfigured pool control schedule must meet the FDAS requirement or removing the requirement since section 1693(b)(2)(C)1. requires devices to be preconfigured with a default operating schedule.

As noted above, the CEC could consider a waiver process to waive the default schedule requirements for connected pool controls that can by default schedule operations by retrieving signals and rate information from MIDAS.

8. The CA IOUs recommend additional changes to the proposed regulatory language to increase clarity and support regulation enforceability.

We recommend changes to the proposed regulatory language to remove typos, repeated language, and incorrect references, and to ensure internal consistency between sections, e.g., Table A-2 uses different wording than the appliance requirements regulatory language. For Table A-2, we also suggest requiring manufacturers to list the open standards FDAS devices can use for communication. As noted above, the appendix contains a table of recommended changes to the proposed regulatory language.

[6] California Energy Commission, "Draft Staff Report Analysis of Flexible Demand Standards for Pool Controls," https://efiling.energy.ca.gov/GetDocument.aspx?tn=243783&DocumentContentId=77697

9. **The CA IOUs recommend the CEC provide additional information regarding price assumptions used for pool controls. We also suggest the CEC consider sensitivity cases for compliant product lifetimes.**

In the Final Staff Report Analysis of Flexible Demand Standards for Pool Controls,[7] CEC staff used $70 (in 2022 dollars) for the incremental cost of the connectivity and scheduling features to make a product compliant with the regulation. As noted in Table 7-2, the analysis assumes an identical incremental cost for all four proposals: Staff Proposal, Alternative 1 (Load Shifting Based on TOU Rate), Alternative 2 (Load Shifting Based on GHG Rate), and Alternative 3 (Load Shifting Based on Combined TOU and GHG Rate). We ask the CEC to elaborate on why the incremental cost is assumed to be the same across these alternatives. Although the staff proposal is highly cost-effective, the others offer similar consumer benefits at a similar incremental cost. These proposals address some of the concerns noted in this letter regarding the inflexibility of the proposed regulation and the need for appliances to have stronger communication capabilities.

The analysis assumes the estimated design lifetime of pool controls is ten years. We encourage the CEC to consider a sensitivity analysis of this factor to capture potential consumer costs if pool controls fail or need repair before the expected parameters or if they exceed this product lifetime. We recommend computing costs and benefits for different life expectancies outside the ten-year design lifetime.

The CA IOUs appreciate the opportunity to provide these comments regarding the CEC Rulemaking on Flexible Demand Appliance Standards for Pool Controls. We thank the California Energy Commission for its consideration. We look forward to the next steps in the process.

Sincerely,

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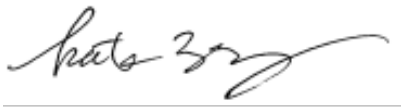

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[7] California Energy Commission, "Final Staff Report Analysis of Flexible Demand Standards for Pool Controls," https://efiling.energy.ca.gov/GetDocument.aspx?tn=248922&DocumentContentId=83469

Appendix: Recommended Changes to Proposed Regulatory Language

Proposed Regulatory Language Section	Original Text	Proposed Change	Rationale for Proposed Change
1690(a)	This Article applies to the following types of new appliances sold or offered for sale, rented, imported, distributed or leased for use in California as consumer products regardless of the physical location of the seller and includes, without limitation transactions conducted over telephone or the internet. Unless otherwise specified, each provision applies only to units manufactured on or after the effective date of the provision.	This Article applies to the following types of new appliances ~~sold or offered for sale, rented, imported~~, distributed <u>in commerce</u> ~~or leased~~ for use in California ~~as consumer products regardless of the physical location of the seller and includes, without limitation transactions conducted over telephone or the internet~~. Unless otherwise specified, each provision applies only to units manufactured on or after the effective date of the provision.	1) Change to clarify the intended scope as any new appliance distributed in commerce for use in California and remove multiple terms to reduce ambiguity. 2) Strike consumer products from this statement as future FDAS rulemakings may require standards for appliances that are not consumer products.
1690(a)(1)	Pool controls.	Pool controls <u>that are consumer products</u>.	Clarify that the scope is only for pool controls that are consumer products to match the scope of the analysis within the CEC Final Staff Report Analysis of Flexible Demand Standards for Pool Controls, February 2023.
1691(a)	"Authentication" means a method of verifying the authority of a user, process, or device to access resources in an information system.	"Authentication" means a method of verifying the authority of a user, process, or device to access resources in <u>a connected device</u> ~~an information system~~.	Clarify definition to apply to a connected device that is within the scope of the proposed regulation rather than an information system that could be outside the scope of the proposed regulation.
1691(a)	"Authentication credentials" means a temporary certificate of clearance or a credential, certificate, or permit authorizing service.	~~"Authentication credentials" means a temporary certificate of clearance or a credential, certificate, or permit authorizing service.~~	1) Definition lacks clarity in that temporary is not defined. Definition provides two meanings creating ambiguity. Meaning 1: "Authentication credentials" means a temporary certificate of clearance. Meaning 2: "Authentication credentials" means a credential, certificate, or permit authorizing service. 2) Definition not used in proposed regulation, so not needed.

Proposed Regulatory Language Section	Original Text	Proposed Change	Rationale for Proposed Change
1691(a)	none	"Communication layers" means the organization of communications into separate functional components that interact in a sequential and hierarchical way.	Definition needed to support amendment to connected device standard.
1691(a)	none	"Communication link" means the mechanism for bidirectional data transfers between the connected device and one or more external applications, devices or systems.	Definition needed to support amendment to connected device standard.
1691(a)	"Connected device" means any device that is capable of receiving TCP/IP signals from the internet, with or without the connections through common home network equipment or radio broadcasting, by means of integrated or separate communications module.	"Connected device" means any device that can communicate with entities outside the device using open standards for all communication layers for the consumer consent functions listed in section 1694 (b-d), by means of integrated or separate communications hardware or software. If the connected device is sold or offered for sale without the communication hardware or software required for a connected device, then the device shall have a user-friendly interface and a straightforward setup and connection process for the consumer or installer to pair the device with the communication hardware or software required to enable the device to communicate as stated in the connected device definition. ~~is capable of receiving TCP/IP signals from the internet, with or without the connections through common home network equipment or radio broadcasting, by means of integrated or separate communications module.~~	1) Additions to definition to require a connected device support open standards and bidirectional communication. 2) Ambiguity in the proposed definition on if a connected device needs an integrated or separate communications module at the point when it is "sold or offered for sale, rented, imported, distributed or leased". The proposed change clarifies requirements for when the communications module is included with the connected device at the point of sale and also requirements for when a communications module is not included at the point of sale. 3) Proposed changes align with the U.S. EPA ENERGY STAR Specification for Pool Pumps Connected Product Criteria. This is a consensus-based standard developed by the U.S. EPA with input from the pool industry.

Proposed Regulatory Language Section	Original Text	Proposed Change	Rationale for Proposed Change
1691(b)	none	"Connected pool control" means a pool control that is a connected device.	Applies the connected device definition to pool controls.
1691(a)	"TCP/IP signal" means a type of data format used to carry data through the network.	~~"TCP/IP signal" means a type of data format used to carry data through the network.~~	1) Definition lacks details that would make "TCP/IP signal" more specific versus any other data format used to carry data through the network. 2) Proposed change to "connected device" definition does not use term "TCP/IP signal" so definition is not needed.
1691(a)	none	"Open standards" mean standards: A. Included in the Smart Grid Interoperability Panel (SGIP) Catalog of Standards, and/or B. Included in the National Institute of Standards and Technology (NIST) Smart Grid Framework Tables 4.1 and 4.2, and/or C. Adopted by the American National Standards Institute (ANSI) or another well-established international standards organization such as the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), International Telecommunication Union (ITU), Institute of Electrical and Electronics Engineers (IEEE), or Internet Engineering Task Force (IETF).	1) Definition proposed to support open communication requirements of the "connected device" definition. 2) Specific details are consistent with the U.S. EPA ENERGY STAR Specification for Pool Pumps Connected Product Criteria. 3) Defining open standards will improve consumers' ability to control their devices by providing more options through innovation by manufacturers and third-party developers.

Proposed Regulatory Language Section	Original Text	Proposed Change	Rationale for Proposed Change
1691(a)	“Security feature” means a collection of functions used to protect the connected device from unauthorized use or disclosure of data.	~~“Security feature” means a collection of functions used to protect the connected device from unauthorized use or disclosure of data.~~	1) The definition lacks specificity on what functions are used to protect the connected device from unauthorized use or disclosure of data. 2) Definition does not provide further clarity to the cybersecurity requirements found in section 1692(c). 3) Exact "security feature " definition duplicated within 1691(a). 4. Definition not needed. Recommend deleting both occurrences from section 1691.
1691(a)	“Special character” means any non-alphanumeric character that can be rendered on a standard, American-English keyboard. The list of ASCII special characters follows: !"#$%&'()*+,-./:;<=>?@[\]^_`{|}~	~~“Special character” means any non-alphanumeric character that can be rendered on a standard, American-English keyboard. The list of ASCII special characters follows: !"#$%&'()*+,-./:;<=>?@[\]^_`{|}~~	Proposed changes to password requirements in section 1692(c) would eliminate the need for this definition.
1691(b)	“Pool equipment” means electrical appliances found around the pool including, but not limited to, dedicated-purpose pool pumps, electric pool heaters, electrolytic chlorinators, lights, cleaners, and water features.	“Pool equipment” means electrical appliances ~~found around the pool~~ including~~, but not limited to~~, dedicated-purpose pool pumps, electric pool heaters, electrolytic chlorinators, lights, cleaners, and water features.	Making definition more concise.
1691(b)	“Pool control” and “pool controls” mean any component or group of components including software that:	“Pool control” ~~and “pool controls”~~ means any component or group of components including software that:	Defining plural of pool control not needed since definition is identical.

Proposed Regulatory Language Section	Original Text	Proposed Change	Rationale for Proposed Change
1691(b)	"Pump Priming" means an operation that initiates water circulation by pulling water from the pool into the pool circulation system with a duration time less than or equal to 15.0 minutes.	~~"Pump Priming" means an operation that initiates water circulation by pulling water from the pool into the pool circulation system with a duration time less than or equal to 15.0 minutes.~~	Not needed since requesting to delete 1693(b)(2)(C)1.c. where pump priming is used.
1692(c)(4)	Passwords. The connected device shall contain a security feature that requires a user to generate a new means of authentication before access is granted to the device for the first time, and shall support the use of passwords meeting the NERC password strength requirements listed below: (A) Each password shall be a minimum of six characters. (B) Each password shall consist of a combination of alpha, numeric, and special characters.	Passwords. All factory default connected device passwords shall be unique and shall not be resettable to any universal factory default value. ~~The connected device shall contain a security feature that requires a user to generate a new means of authentication before access is granted to the device for the first time, and shall support the use of passwords meeting the NERC password strength requirements listed below:~~ ~~(A) Each password shall be a minimum of six characters.~~ ~~(B) Each password shall consist of a combination of alpha, numeric, and special characters.~~	1) Factory default passwords are commonly exploited to compromise security. The change makes the requirement consistent with requirement in Table 2-4 of the CEC Final Staff Report Analysis of Flexible Demand Standards for Pool Controls. 2) The Initial Statement of Reasons provides no description of the necessity for the specific password requirements.
1693(b)(2)(A)	Pool controls shall be a connected device as defined in section 1691 of this Article.	Pool controls shall be a connected ~~device~~ pool control as defined in section 1691 of this Article~~.~~ and shall use integrated communications hardware or software.	Specifies that connected pool controls are required to have integrated communication functionality.

Proposed Regulatory Language Section	Original Text	Proposed Change	Rationale for Proposed Change
1693(b)(2)(B)1.b.	pool controls that are configured by or communicate with a separate device shall have the ability to automatically synchronize their system clock to the local time specified by that device.	pool controls <u>that are connected devices</u> ~~that are configured by or communicate with a separate device~~ shall have the ability to automatically synchronize their system clock to the local time~~ specified by that device~~.	Clarifies that all connected pool controls must be able to sync to local time without the use of separate devices.
1693(b)(2)(C)1.c.	automatically operate the pool filter pump at 50 percent of the maximum operating speed of the pool filter pump or less during all remaining hours and may perform pump priming at any time.	~~automatically operate the pool filter pump at 50 percent of the maximum operating speed of the pool filter pump or less during all remaining hours and may perform pump priming at any time.~~	Requirement needs clarification as a reasonable interpretation is the default schedule <u>must</u> run the pool filter pump at 50 percent of the maximum operating speed of the pool filter pump or less during all remaining hours and may perform pump priming at any time. The requirement to run the pool filter pump in this manner could lead to the wasteful, uneconomic, inefficient, or unnecessary consumption of energy.
1693(b)(2)(C)2.	Pool controls may contain multiple preconfigured schedules that may be selected by the user. If so, the pool controls shall be preprogrammed with a preconfigured or default operating schedule that complies with the requirements of section 1693(b)(2)(C)(1) of this Article.	~~Pool controls may contain multiple preconfigured schedules that may be selected by the user. If so, the pool controls shall be preprogrammed with a preconfigured or default operating schedule that complies with the requirements of section 1693(b)(2)(C)(1) of this Article.~~	Section 1693(b)(2)(C)(1) states that pool controls shall be preprogrammed with a preconfigured or default operating schedule meeting certain requirements, so this additional statement is not needed.

Proposed Regulatory Language Section	Original Text	Proposed Change	Rationale for Proposed Change
1694(b)	none	(b) Appliances subject to this Article shall be capable of receiving and responding to consumer authorized remote requests via a communication link, similar to consumer controllable functions on the appliance. At a minimum, the appliance shall be capable of responding to consumer authorized signals received via a communication link requesting: (1) the start or stop of operation (2) changes to equipment operation or schedule based on demand response event information, electricity price signals, greenhouse gas emissions signals.	The requirement will improve consumer ease of use by prescribing minimum requirements for remote control by the consumer.
1694(c)	none	(c) Appliances subject to this Article shall be capable of providing the following information to consumers and consumer authorized third parties via a communication link: (1) Operational status including, On, Off, and Standby, and (2) Program schedule including schedule times and scheduled operation.	The requirement will improve consumer ease of use by prescribing minimum requirements for remote access to information on the appliance operation by the consumer and consumer-authorized third party.
1694(d)	none	(d) Appliances subject to this Article shall be capable of transmitting measured or estimated data representative of its real-time power draw to consumers and consumer authorized third parties via a communication link. (1) Real-time power draw shall be reported in watts.	The requirement will improve consumer ease of use by prescribing minimum requirements for transmitting information on the appliance operation to the consumer and consumer-authorized third party.

Proposed Regulatory Language Section	Original Text	Proposed Change	Rationale for Proposed Change
1696(a) Table A-2	none	If the connected device is sold or offered for sale without the communication hardware or software required for a connected device, then the device has a user-friendly interface and a straightforward setup and connection process for the consumer or installer to pair the device with the communication hardware or software required to enable the device to communicate as stated in the connected device definition.	Provides clear certification criteria in support of the requested change to the connected device definition.
1696(a) Table A-2		Change is to make text in certification table match exactly the connected device standards found in section 1692(c)	Provides clarity to the requirements that manufacturers must certify that their products meet. Removes ambiguity on these requirements because the text in section 1692(c) does not match text in section 1696(a) Table A-2.
1696(b) Table B-1		Change is to make text in certification table match exactly the connected device standards found in section 1693(b)(2)	Provides clarity to the requirements that manufacturers must certify that their products meet. Removes ambiguity on these requirements because the text in section 1693(b)(2) does not match text in section 1696(b) Table B-1.