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February 3, 2021

California Energy Commission
Docket Unit, MS-4
Docket No. 20-FDAS-01
1516 9th St
Sacramento, CA 95814

Submitted Via E-Mail

RE: Flexible Demand Technologies for Appliances (Docket No. 20-FDAS-01)

Dear Commissioners,

Armada Power, LLC (Armada Power), appreciates the opportunity to submit these comments on the California Energy Commission's (CEC) efforts to enact regulations to establish standards for flexible demand technologies for appliances. Armada Power is a water heater control technology. The use of Armada on a standard electric water heater creates both grid control functionality and energy efficiency and demand response controls for customers. Armada Power is requesting the CEC codes incorporate the use of technologies which will allow for efficiencies from standard electric hot water heaters which match or exceed more expensive smart or heat pump water heaters.

TECHNICAL FEASIBILITY

Appliance category should be clearly defined for what the technology/appliance does in terms of controls. For example:

For the Consumer demand response, time of use and energy efficiency claims that do not include some form of control to achieve those uses should be designated separately from an appliance which has the controls.

For the Grid usage there should also be a distinction. If the appliance only meets energy efficiency targets but cannot be operated as a grid resource, it should be labeled solely for consumer use. If, however it allows for utility controls and utility usage for demand response, time of use controls, Circuit, Storage, grid controls then a utility or grid controller label should be used.

By separating the consumer use from grid use or combination this will allow a customer to understand the functionality of their purchase and will also eliminate a customer potentially purchasing an appliance for a purpose other than what that appliance can provide.

If a technology/appliance covers both Consumer and Grid the code should make that distinction to allow for labeling:

1. Consumer benefit – meets requirements to reduce energy and allow consumer control or the consumer to provide their utility control for demand response and time of use options. A technology/appliance which is controlled by the utility but does not also offer control



options to the consumer would not meet the Consumer Benefit definition even if the technology/device is installed or located on the customer premises.

2. Grid benefit – meets requirements to allow the grid operators to directly control or override consumer control to meet grid needs. A technology/appliance which cannot be controlled by the utility but is used by a consumer to meet a utility time of use rate would not qualify as a grid benefit technology when the utility does not also have an ability to control the tech/appliance directly.
3. Cross functional – allows for both consumer control and grid operator control.

COST EFFECTIVENESS

New appliances with factory integrated technology should not be the sole focus of the code and should be distinguished from technology that turns existing appliances into a controllable device. Codes that allow less costly appliances combined with bolt on technology are important to increase adoption, consumer choices and ensure affordability. These would have the label of controllable technology rather than appliance. For example, Consumer Benefit Technology would be a device that can be installed on an existing or non-smart water heater versus a Consumer Benefit Appliance which is a water heater that comes with the capability directly from the original equipment manufacturer.

However, the underlying functional label for usage as a Consumer or Grid function would remain the same.

CONSUMER BENEFIT LABEL

The core of the Consumer Benefit label will be consumer control over the technology. While set it and forget it features could exist the ability of the consumer to control to meet grid needs will be the defining feature. For this reason, simply energy efficient appliances which use less energy will not qualify. The appliances must allow the customer to react to specific signals such as time of use or demand response calls. The Consumer Benefit label will be distinguished from Grid Benefit as noted earlier.

RELIABILITY

Control over the appliance will be a factor in determining reliability. A water heater controller which is directed by the utility is different from a smart water heater which can be overridden like a dishwasher, smart thermostat, etc. This type of comfort override will impact reliability of an appliance as a resource. Therefore, who controls and how will be a factor.

In addition, how the appliance is connected for grid control will create a reliability concern. Wi-Fi vs. cellular or some other form of connection could create a situation where lack of customer action to connect to Wi-Fi results in less control. Devices that offer multiple connection options should have their reliability coded as such.



SUMMARY

Armada Power requests the appliance codes consider all appliance technologies. We recommend the labeling clearly show not only an energy efficiency measure but the specific control and uses of the appliance to avoid unintended purchases for unrelated purposes. Armada presents these comments to ensure a fair and accurate coding of all technologies that apply to appliance standards. This will ensure a consistent and clear labeling for consumer decisions.

Sincerely,

_____/s/____

Teresa Ringenbach
Vice President, Business Development
Armada Power, LLC
E-Mail: tringenbach@armadapower.com