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Publica Comment Submission for Landscape Irrigation Controller Proposal

Additional submitted attachment is included below.

February 6, 2023

Mr. Michael J. Sokol
California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Responding to: **Docket # 17-AAER-10 (Irrigation Controllers) – Staff Analysis of Proposed Efficiency Standards for Landscape Irrigation Controllers**

To whom it may concern,

Thank you for providing the opportunity to offer feedback on the Proposed Efficiency Standards for Landscape Irrigation Controllers, developed by the California Energy Commission. Hunter Industries, a global irrigation manufacturer headquartered in San Marcos, California, aligns itself with the ideals of the California Energy Commission in promoting water and energy conservation. This commitment is reflected in our product innovation, development, manufacturing practices, educational and training investments, and go-to-market strategies. Hunter Industries proudly holds the distinction of being a three-time EPA WaterSense Excellence award recipient and stands as the sole irrigation manufacturer with a dedicated corporate social responsibility team, which annually publishes our sustainability journey in a CSR report.

While appreciative of the intent behind the Proposed Efficiency Standards, we believe that the current Staff Analysis may lead to unintended consequences. These consequences include heightened environmental impacts, such as increased carbon emissions due to amplified transportation and logistics needs, and a surge in waste streams attributed to heightened packaging requirements. Moreover, the proposal introduces complexities for end users in managing landscape water through irrigation controllers by deviating from established technological advances proven to save water and energy. The proposal's ripple effects extend to manufacturers, distributors, and retailers, resulting in increased costs for consumers.

The comments provided below aim to spotlight these unintended consequences and propose equitable solutions that not only address market needs but also achieve water and energy savings.

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Topic: Chapter 2: Background, Landscape Irrigation Controller Equipment, U.S. EPA WaterSense Plug-In and Add-On Controllers
The CEC staff report found that, “plug-in and add-on devices can provide a pathway for compliance of basic irrigation controllers with the proposed standards if sold together and the overall product meets the proposed standards when tested per the proposed test procedure”.

Comment:
The California Energy Commission (CEC) proposal diverges from established practices observed with U.S. EPA WaterSense certified landscape irrigation controllers, which permit plug-in or add-on components to be sold separately. The proposed total component packaging requirement, outlined by the CEC, introduces burdensome impacts across the value chain, affecting consumers and end users.

1. Packaging Development: Manufacturers will incur substantial labor and material costs in developing new packaging and branding to meet the proposed CEC requirement.

2. Packaging Logistics: The proposed requirement disrupts package management logistics, resulting in larger packages. This impacts warehouse storage at the manufacturing level, translating to additional volumetric challenges, increased shipping costs, and environmental impacts. Points of purchase at retailers and distribution centers face shelf space reconfiguration, leading to restocking and ordering challenges.

3. Packaging SKUs: The CEC proposal necessitates additional SKUs, with Hunter products alone requiring an additional 56 SKUs from the currently U.S. EPA WaterSense certified landscape irrigation controllers. Managing California-specific SKUs alongside nationally or multi-state represented SKUs imposes additional management requirements on manufacturers, retailers, and distribution centers.

4. Packaging Waste: Larger volume packaging contributes to increased packaging waste.

5. Redundant and Unnecessary Products: Manufacturers have designed sustainable irrigation management solutions allowing a single plug-in or add-on component to communicate with multiple irrigation controllers,

reducing costs, waste, and offering flexibility in management and maintenance. The CEC's proposed total packaging requirement counteracts these sustainability practices, introducing unnecessary costs, additional waste, more materials on project sites, and increased management and maintenance requirements.

6. Water Savings Not Ensured: Including plug-in and add-on devices with weather-based landscape irrigation controller complete packaging does not automatically result in water savings. Consumers and installers are still obligated to possess knowledge regarding the appropriate installation of these devices, many of which may need placement in challenging locations such as rooftops or communication poles. Imposing a total packaging requirement could be daunting for non-professional consumers and installers, potentially leading to the non-installation of plug-in and add-on products thus achieving no additional water savings.

It is recommended to remove the plug-in and add-on total component packaging requirement from the CEC proposal, aligning with the current accepted point of purchase practices from U.S. EPA WaterSense. This adjustment promotes sustainability, reduces costs, and maintains flexibility for consumers and end users.

Topic: Chapter 2: Background, Landscape Irrigation Controller Equipment, Battery-Operated Controllers

The CEC staff report, “found battery-operated controllers can accept an input from a soil moisture sensor and are within the scope of the staff proposal”.

Comment:

Battery-operated irrigation controllers play diverse roles beyond standard irrigation management in California. These controllers find applications in temporarily irrigated landscapes for establishment purposes, retrofits to sustain landscape health when power is unavailable, and large two-wire projects where infrastructure installation is ongoing. Incorporating battery-operated controllers within the scope of the California Energy Commission (CEC) proposal introduces additional costs and complexities for consumers. This includes on-site sensor and total component packaging requirements, resulting in minimal to no water savings.

It is recommended to exclude battery-operated landscape irrigation controllers from the scope of the CEC proposal. This adjustment aims to alleviate the financial and logistical burden on consumers, considering the limited water-saving benefits associated with the inclusion of battery-operated controllers in the proposal.

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Topic: Chapter 4: Proposed Standards for Landscape Irrigation Controllers, Certification
The CEC staff report proposal states that, “Manufacturers would be required to certify each model of landscape irrigation controllers to the CEC’s appliance efficiency database”.

Comment:
Mandating manufacturers to re-certify landscape irrigation controllers through the California Energy Commission (CEC), despite prior certification through the U.S. EPA WaterSense program, is deemed unnecessary, costly, and burdensome. This redundancy imposes additional management challenges on manufacturers. In a parallel industry practice, U.S. EPA WaterSense has successfully certified pressure-regulated spray bodies through its voluntary program, aiding consumers in identifying water-efficient solutions.

Since its inception, 13 states, including California, and one district have embraced point-of-purchase or use requirements for U.S. EPA WaterSense certified spray bodies. Notably, all states, excluding California, rely on the testing and certification protocols of U.S. EPA WaterSense to identify products that promote water and energy savings within their jurisdictions. The proposed certification requirements by the CEC overlook the success observed in other states and impose an extra burden on manufacturers.

It is recommended to eliminate the certification requirement outlined in the CEC proposal and instead adopt the existing, regularly updated U.S. EPA WaterSense certified landscape irrigation controller list. This approach aligns with proven industry standards, reduces redundancy, and acknowledges the success demonstrated by other states in promoting water-efficient solutions.

Topic: Chapter 6: Technical Feasibility
The CEC staff report states, “As of July 2023, the U.S. EPA WaterSense product website showed more than 960 weather-based landscape irrigation controller models with the WaterSense label” and uses this data to prove feasibility for the proposed efficiency standards in California.

Comment:
Contrasting the California Energy Commission (CEC) proposed Efficiency Standards for Landscape Irrigation Controllers with the 960+ landscape irrigation controllers currently certified under the U.S. EPA WaterSense certification for feasibility justification is inherently unequal. The CEC proposal introduces distinct requirements, such as storing historical crop evapotranspiration (ETc) data characteristics, employing an onsite weather or ET sensor, and mandating the packaging of all irrigation controller and sensor components together at the point

of sale. Notably, there are presently zero (0) U.S. EPA WaterSense certified landscape irrigation controllers that fulfill the specific criteria outlined in the CEC proposal.

It is recommended to omit the feasibility statement that refers to the 960+ currently applicable landscape irrigation controllers, as the unique and additional requirements in the CEC proposal set it apart from the existing U.S. EPA WaterSense certification standards.

Topic: Appendix B: Proposed Regulatory Language, 1602. Definitions, (3) Landscape Irrigation Controllers, "Weather-Based Landscape Irrigation Controller"
The CEC staff report proposal states that a weather-based landscape irrigation controller must be capable of , "1. Storing historical crop evapotranspiration (ETc) data characteristics of the site and modifying these data with an onsite sensor …".

Comment:
The utilization of evapotranspiration (ETc) crop coefficients for water management is considered a complex and outdated approach designed for field crops. While the landscape industry initially adopted smart irrigation control based on this method, it encountered barriers hindering actual water savings.

The complexity arises from the requisite knowledge of ETc crop coefficients, demanding a high level of horticultural expertise from both installers and end users. Most end users of irrigation controllers lack this horticultural background, making it challenging to manage such a sophisticated system. For instance, Hunter's Hydrawise product offers an 'advanced mode' based on crop coefficients, but its limited usage highlights the complexity and inherent knowledge needed for appropriate management. Consequently, manufacturers have evolved towards solutions using weather sensor data and adjusting irrigation run times based on user input schedules, offering water efficiency and savings in a user-friendly manner.

Onsite ET sensors, originally employed for managing irrigation schedules, are described as large, costly, and complex. Operating and maintaining these units demand a high level of technical expertise, which most end users lack. In response, the landscape industry has shifted towards simpler, effective solutions, with weather sensors largely replacing ETc sensors. This trend reflects the industry's ongoing growth in favor of user-friendly alternatives.

Technological advancements in weather-based irrigation controllers have introduced remote operation and management capabilities, enhancing accessibility for end users. Data from irrigation controllers are now stored and managed in the 'cloud' and apps rather than within physical controllers. This shift contributes to sustainable practices, resulting in smaller physical units on-site, reduced packaging, and less waste.

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The proposed requirement to store historical ETc data characteristics of the site and modify these data with an onsite sensor is viewed as a regression from successful technological advances in the market. Moreover, this practice contradicts current weather-based irrigation controller requirements set by U.S. EPA WaterSense.

To align with accepted and certified weather-based landscape irrigation controller technologies recognized by U.S. EPA WaterSense, it is recommended to remove the stipulation for storing historical crop evapotranspiration (ETc) data characteristics of the site and modifying these data with an onsite sensor. This adjustment ensures alignment with prevailing industry standards and advancements.

Topic: Appendix B: Proposed Regulatory Language, 1602. Definitions, (3) Landscape Irrigation Controllers, "Weather-Based Landscape Irrigation Controller"
The CEC staff report proposal states that a weather-based landscape irrigation controller must be capable of, "2. Using onsite weather sensors as a basis for calculating real-time ETc" and "4. Using onsite weather sensors".

Comment:
The landscape irrigation industry initially embraced smart weather-based irrigation control management with onsite sensors providing data for schedule adjustments. However, challenges arose due to the complexity of sensor placement and maintenance, often resulting in inaccurate data and system malfunctions. Onsite sensors required specific locations, leading to misplacement by users lacking knowledge. Maintenance, crucial for sensor performance, was neglected by typical end users, causing malfunctions and landscape damage.

In response to these challenges and technological advancements, the industry shifted towards remote weather sensing devices and virtual weather stations. These solutions, maintained by professionals, deliver accurate weather and evapotranspiration (ET) data to irrigation controllers and web/app-based platforms, ensuring efficient irrigation scheduling and water savings for end users. Remote and virtual weather stations utilize data from various sources, including paid service providers, airplanes, satellites, and cellular phones.

The move away from onsite sensors is justified by their drawbacks, such as reliance on end users' knowledge and maintenance lapses. This transition aligns with U.S. EPA WaterSense certification, which recognizes onsite, remote, and virtual weather sensors. The proposed California Energy Commission (CEC) requirements contradict this trend and while also deviating from the California Model Water-Efficiency Landscape Ordinance (MWELO).

MWELO mandates irrigation controllers using evapotranspiration data but allows flexibility with onsite, remote, and/or virtual sensors. However, MWELO does require onsite rain sensor which this CEC proposal has chosen not to pursue as outlined in "Chapter 5: Alternatives Considered for Landscape Irrigation Controllers, Alternative 1: Include Rain Sensor with Landscape Irrigation Controller Standard" and "Staff Proposal," diverges from MWELO. Departures from both MWELO and U.S. EPA WaterSense will create confusion amongst industry professionals and consumers.

To align with industry practices, U.S. EPA WaterSense certification, and MWELO, it is recommended to eliminate the onsite sensor requirement from the CEC proposal. This adjustment acknowledges and supports the proven technology already prevalent in the market and ensures consistency with existing standards and ordinances.

We trust that our comments will serve as valuable guidance for the Commission's staff in refining this proposal to offer equitable solutions for both the State and the landscape irrigation industry. We appreciate the opportunity to provide input and eagerly anticipate the prospect of collaborating with you to accomplish water and energy savings.

Sincerely,

Bryce Carnehl
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