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California Energy Commission

Dockets Office, MS-4

Re: Docket No. 09-AAER-1A

1516 Ninth Street

Sacramento, CA 95814-5512

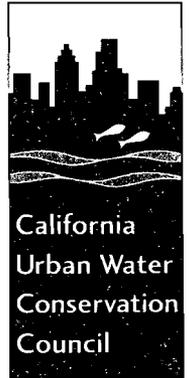
RE: 2009 Irrigation Equipment Performance Standards and Labeling Requirements Proceeding Scope

Dear California Energy Commission,

I am submitting this letter to further document the California Urban Water Conservation Council's comments and presentation at the April 1, 2009 Technical Workshop. The Council is in full support of the Energy Commission's process to adopt landscape irrigation equipment standards. Installing irrigation equipment that meets professional and scientifically-tested standards is an important element of landscape water use efficiency. Along with proper design, installation, operations, maintenance, and water management, certified and labeled irrigation equipment provide the full scope of efforts needed for water efficient landscapes in California.

A number of factors should be considered during your development of equipment standards.

- There is a need for standards that will increase the reliability, affordability, and availability of add-on equipment designed to give real time signal shutting off irrigation when not needed including rain and soil moisture sensors, as well as requirements for their use.
- Irrigation controllers need to be designed to work with municipal and government regulatory efforts during water shortages. This requires controls which can regulate the day and time of irrigation cycles, and which can reduce irrigation run times consistent with a percentage reduction of irrigation water replacement. These controls should be in addition to any weather-based features that the controller has.



455 Capitol Mall
Suite 703
Sacramento
California 95814

PHONE
916/552-5885

FAX
916/552-5877

www.cuwcc.org

The Council believes that while equipment testing based on established protocols and conducted in an unbiased setting, is essential to success; that variations in system design, and installation, operation and maintenance can undermine any potential water savings achieved through properly manufactured equipment.

Adequate labeling should be required to indicate to end users that the purchase and use of the equipment alone is not sufficient to save water; proper system design, installation, operation and maintenance, as well as the management of water through the correct settings are all necessary to achieve water savings. As seen below, significant numbers of irrigation sites in a multi-year study in California showed an increase in irrigation amounts when a weather-based irrigation controller was installed.

Field studies, such as the California Water Smart Irrigation Controller Project, coordinated by the Council, offer insight into the real world challenges of installing, programming and adjusting weather based controllers. The Council presented some preliminary results of the 2,294 smart controllers that were installed and monitored throughout California. The following Tables 1, 2, and 3 illustrate initial findings that are presently being reviewed by the participating agencies and independent reviewers. The tables indicate the variability of water savings associated with smart controllers and the reality that just by installing a smart controller, one should not assume water savings.

Table 1: Weather-Normalized Percent Change in Irrigation Application (%)

Site Locations	Weather-Normalized Change in Irrigation Application (%)				
	Descriptive Statistics				
	N	Mean	Std. Deviation	95% Confidence Boundary	Statistically Significant Reduction?
All Sites	2294	-14.5%	93.5%	+ or - 0.6%	Yes
Northern Sites	411	-4.7%	86.0%	+ or - 0.5%	Yes
Southern Sites	1883	-16.6%	95.0%	+ or - 0.7%	Yes

Table 2: Summed weather-normalized change in water use (kgal)

Site Location	Weather-Normalized Total Change in Water Use		
	kgal	hcf	acre-feet
All Sites	-316,407.6	-423,004.8	-970.6
Northern Sites	-149,382.5	-199,709.2	-458.2
Southern Sites	-167,025.1	-223,295.6	-512.3

Table 3: Number of smart controller sites with a statistically significant change in water use

Statistically significant change in water use?	# of Sites	%
Increase	959	41.8%
No change (+ or – 0.6%)	35	1.5%
Decrease	1300	56.7%

The Council will provide the final report to the Energy Commission upon completion of the final review. We plan to participate fully in this process and keep our members informed of progress. The Council has many resources available to help make California landscapes as water efficient as possible. Please contact us if we can be of any further assistance.

Sincerely,



Chris Brown, Executive Director