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Comments by Water2Save, LLC

Energy Efficiency Committee
California Energy Commission

2009 Irrigation Equipment Efficiency Standards and Labeling Requirements Proceeding Scope

To: Commissioner Rosenfeld and Commissioner Levin

Please see our comments below to the 2009 Irrigation Equipment Efficiency Standards and Labeling Requirements Proceeding Scope.

SWAT Does Not Test For Water Savings

SWAT tests are not designed to determine if smart timers can save water in the real world. The stated purpose of SWAT testing is to determine if the smart timer can calculate an evapotranspiration formula correctly. SWAT openly admits that its bench tests were not designed to test for water savings.

SWAT has never done field testing of smart timers over a timeframe of several years. SWAT has not tested smart timer set-up, "user-interface", operating in a real dynamic irrigation environment, savings realized from metered data, etc.

SWAT has tested certain smart timers with only historical weather data preloaded. Given that weather is stochastic, tests should not be designed with the ability to imply a smart timer has an acceptable score when using average weather data (no real-time weather used).

To receive a label from the CEC, we recommend that real world testing be included in such label requirements. Using SWAT alone to approve or disapprove equipment for labeling efficiency would not provide the public with the information needed when making decisions of purchasing such equipment.

Conflict of Interests – SWAT and IA

SWAT program is part of the Center for Irrigation Technology (CIT) located at CSU-Fresno. SWAT is heavily funded by the Irrigation Association (IA). The IA is comprised of manufacturers of irrigation equipment including smart timers. SWAT performs testing of smart timers manufactured by companies which financial support the IA. Therefore, SWAT cannot be considered as an unbiased testing organization or fully independent of smart timer manufacturers since the very manufacturers that produce smart timers also provide funding to SWAT through the IA.

SWAT has tested certain smart timers with a score of 100%. Such smart timers with the 100% score have been found to save no water or actually use more water than that used prior to installation. Any scores or claims made by SWAT do not reflect if a smart timer will save water or not.

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For example, the Director of the CIT was the former President of the IA. Management of the IA and SWAT go back and forth within the industry. Given that management roles are deeply embedded between the organizations, CEC needs to carefully consider the implications of such conflicts.

Any testimony or comments received from the IA or their member manufacturers must be considered in light of their conflict of interests to promote and sell more equipment.

Conflict of Interests – Landscape Industry

Similar to the Irrigation Association, landscape contractors, gardeners, and retailers sell irrigation equipment to their customers. Any testimony or comments received from landscapers, contractors, or their membership associations (such as the California Landscape Contractors Association) must be considered in light of their conflict of interests to promote, sell, and install equipment. Landscapers, gardeners and others mark-up and sell equipment for financial gain and not to save water.

Federal Trade Commission Act – Advertisement

An example of failure to adhere to truth-in-advertising law, a landscape contractor in San Diego has made claims and guarantees a combined 60% savings on the property's water bill by installing new smart timers and installing new sprinkler heads from two manufacturers that are members of Irrigation Association. In order to save 60% of a baseline usage, the property would have had to be using more than double the amount of water needed by the plant material and soil conditions or more than 100% overwatering. Such overwatering is generally the exception and not the rule.

Overstatement of savings potential by landscape contractors and manufacturers through advertising claims may become more widespread should labeling imply that certain irrigation equipment will save water. Improvement in efficiency may or may not result in savings. Savings performance depends upon many variables.

Question: Will the CEC consider rules for labeling irrigation equipment similar to that found in the Federal Trade Commission's Appliance Labeling Rule and the R-Value Rule which addressed energy savings claims for appliances, lighting products, and insulation?

Conflict of Interests – Consultant Studies

A water engineering and management consulting firm was awarded a project in California to study water consumption savings from smart timers. This particular consulting firm has a prior history of selling and promoting a specific brand of smart timers on behalf of that manufacturer of smart timers. Studies that have been completed by this consultant have included that specific brand of smart timers.

Consultants that perform independent studies of smart timers must be unbias and not have conflicting relationships with smart timer manufacturers. This consultant was recently removed as an evaluator from a managed landscape pilot study funded by the California PUC. We recommend that the CEC carefully evaluate consultant's conflict of interests when reviewing such studies.

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Need for Water Savings Performance Component

Water utilities offer fixed rebates for the purchase of smart timers with no requirement for savings verification. Such financial rebates or vouchers are paid even when no water savings are realized. We recommend that the CEC take into consideration a component for water saving performance in its labeling requirements. Such performance component would include: auditing of historical usage, identify meters relative to each smart timer, continuous monitoring, consumption tracking, savings reporting, and performance verification.

For example, the Metropolitan Water District of Southern California and the Los Angeles Department of Water And Power offer a “pay-for-performance” financial incentive program which only pays based on actual water savings achieved. These programs were based upon energy savings performance programs which have been in practice for many years by electric utilities.

Establishing Historical Baseline Consumption For Savings Tracking

In order to determine if water savings is being realized, a baseline is needed to be established so that historical consumption “after” installation can be compared to “before” installation which has been the “standard” in tracking energy savings realized from the implementation of energy efficiency solutions.

Published Study on Smart Timer Savings Performance

On March 4, 2008, Municipal Water District of Orange County (MWDOC) published a report entitled Pilot Implementation of Smart Timers: Water Conservation, Urban Runoff Reduction, and Water Quality paid for with public funds under Grant Number 03-136-558-1. MWDOC hired Kennedy and Jenks Consultants for the project. MWDOC has been involved with numerous studies on smart timers installed in Orange County, CA and has actively promoted wide-spread deployment of smart timers.

In the March 4, 2008 study, 323 smart-timers (8 different major brands) were installed on common area landscapes in residential HOA communities and monitored for 2 years in Orange County, CA. Data from the study reveals 70% of the smart-timers showed no water savings or used more water as compared to previous water consumption data.

Although the report was published and posted to MWDOC web site and sent to the Bureau of Reclamation, MWDOC removed the study from public access. MWDOC has been verbally telling those that ask about the report that it was "rescinded". The study has no written or published errors or written admission that the report was rescinded or pulled from the public.

Verbally testimony by Bob Wade with California Landscape Contractors Association on April 1, 2009 who claimed the study was rescinded should be stricken from the record since MWDOC has no written statement to support such rescinding as a fact.

Public agencies are required to provide an addendum or update to any already published report and are not allowed to rescind or hide a published report from the public. We recommend that the CEC explore this matter further before taking action on setting labeling requirements for smart timers.

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See link for copy of MWDOC report: http://www.water2save.com/WLS/SmarTimerReport.pdf.

Control System Versus Appliance

Irrigation systems would not fall under the definition of an appliance. Irrigation systems are control systems in the same way that energy management systems are defined. An appliance uses energy or water when in operation. Irrigation systems are controlled and managed where water usage will vary depending upon many variables.

Operating Control System – Primary Reason for Lack of Smart Timer Savings

Unfortunately, irrigation equipment cannot, by itself, save water. The parties who actually manage irrigation water usage are either the gardener, the homeowner, or contracted landscape maintenance personnel. The more sophisticated the equipment, the more complex the job of management becomes which usually exceeds the capabilities of the landscaper, gardener, and homeowner.

A similar example of irrigation water management would be HVAC energy management. Advanced technology based HVAC equipment must be managed by building engineers in order for energy savings to be realized.

Most homeowners, gardeners, and professional landscape maintenance contractors do not have sufficient engineering knowledge to program, operate, monitor, and track savings performance using advanced technology which requires a high-level of technical operating skills and scientific knowledge.

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