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California Energy Commission

**DOCKETED
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California Energy Commission
Dockets Unit
Docket # 12-AAER-2C
docket@energy.ca.gov

RE: 2013 Water Appliances Efficiency Rulemaking – Invitation to Submit Proposals re: Water Meters

Dear Commissioners:

Badger Meter submits the following, in response to your 13 June 2013 Invitation to Submit Proposals, for Water Appliances.

I. Water meters are not appliances, and should not be subject to rulemaking by the Commission:

- A. In Badger Meter's 30 May, 2013 submittal (from William Bergum, Vice President – General Counsel and Secretary), we provided legal arguments regarding the Commission's authority to regulate water meters.
- B. The operation of a water meters does not drive the use of water (or of energy) by the consumer. A change in the operating characteristics of a water meter does not result in a specific change in the amount of water being expended.

II. Badger Meter's recommendations for meter standards, for those instances in which rulemaking is indeed appropriate, in utility-type water distribution systems:

- A. ANSI/AWWA meter standards C700, C701, C702, C703, C704, C708, C710, C712 and C713 should be used for those metering technologies that they address. Note that AWWA Standards Committee on Water Meters reviews each of these standards on a regular basis, and these reviews of course include an assessment of proposals such as those recently submitted by NRDC.
- B. For metering technologies that are not (at present) covered by ANSI/AWWA meter standards, we recommend that meter accuracies and flow ranges be held to requirements comparable to those found in ANSI/AWWA standards. Proven metering technologies that would be covered under this category include ultrasonic meters and mag meters. There is on-going AWWA committee activity to develop standards for these solid-state metering technologies

III. As alternatives to the existing accuracy and flow range requirements from ANSI/AWWA water meter standards, we are aware of the proposed extended low flow performance requirements given in NRDC and California IOUs submittals to the Commission. Badger Meter has already expressed technical concerns with these submittals, both during the 31 May, 2013 workshop, and in our

follow-up 3 June, 2013 submittal to the Commission. In the interest of brevity, we will not repeat those points, all of which are still valid. Additional technical concerns that we now wish to present:

- A. The Aquacraft study (referenced by the California IOUs) includes data on ‘leak-like’ flows seen in California residences. However, the report’s authors stress that some of these flows might not represent actual leaks (resulting in wasted water and energy) – they may instead be deliberate usage of water from appliances operating at low flow rates. Any use of this Aquacraft data must therefore keep in mind the following caveats:
- 1—The amount of water actually being lost to leakage might be considerably less than the sum of all ‘leak-like’ flows being reported.
 - 2—The distribution of flow rates associated with actual leaks may be substantially different than the full spectrum of low flows being reported.
 - 3—One might be able to estimate increased meter registration under scenarios of improved accuracy at extended low flows. However, not all of this increased registration would represent added financial incentives for homeowners to correct leaks, since some of this registration would merely represent improved accountability of intentional water uses, not of leaks.
- B. During the 31 May, 2013 workshop on water appliances, CEC staff questioned whether a proposed increase in meter performance at extended low flows would directly lead to a calculable decrease in water leakage.
- 1—Badger Meter believes this is a valid concern, and we note that this demonstrates one of the differences between a water appliance and a water meter: When the performance of a water appliance changes, there is a direct, measurable change in water usage, but this is certainly not the case for changes in the performance of a water meter.
 - 2—In response to this CEC staff question during the workshop, Forest Kaser stated that one of the California IOU submissions referenced a Journal AWWA article that provided methodologies for quantifying the amount of savings. The referenced article is by Richards et alia, from the May 2010 issue of the Journal AWWA. This article does provide methodologies for calculating increases in the amount of registered flow, for differences in meter accuracy at lower flow rates. However, it does not provide methodologies for calculating any direct savings in water use (or specifically, in any water no longer lost through leaks).

Sincerely,

BADGER METER



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cc: William Bergum, Badger Meter, VP – General Counsel & Secretary
Kim Stoll, Vice President – Sales and Marketing

