

June 6, 2014

California Energy Commission  
Dockets Office, MS-4  
Re: Docket No. 14-AAER-1  
1516 Ninth Street  
Sacramento, CA 95814-5512

California Energy Commission

**DOCKETED**

**14-AAER-1**

**TN 73133**

**JUN 06 2014**

**RE: CEC DOCKET NO. 14-AAER-1, APPLIANCE EFFICIENCY PRE-RULEMAKING**

Dear Commissioners:

As a global leader, Toto embraced water and energy conservation years before government mandates in the early 1990's. Through our constantly evolving manufacturing practices and advanced product technology, we have consistently led the way in plumbing fixture efficiency and sustainability. Toto's advanced innovations have helped to advance society and help protect its future at the same time. We have reviewed the draft staff analysis of toilets, urinals, and faucets for the CEC's forthcoming Appliance Efficiency Rulemaking. Below you will find out comments related to the matter.

**Toto opposes the recommendation for a maximum flush volume of 1.28 gpf for dual-flush toilets.**

- A move to only consider the maximum flush volume will only work to ban this innovation from the marketplace. Current California law established by AB 715 [Chapter 499, Statutes of 2007] establishes a weighted average approach for dual flush toilets and is the model that should be followed.
- The decision to use the 2 small flushes and 1 large flush for dual-flush toilets was made several years ago with the concurrence of manufacturers, regulators, and non-government organizations. The 2:1 ratio is set as the reference for tank type WaterSense ratings and legislation in California, Texas, Georgia, Florida, Colorado, New York City, Los Angeles and green plumbing codes. Any change to this established ratio would be detrimental to existing legislation as well as codes.
- Considerable resources have gone into the design, marketing and installation of dual-flush toilets to inform and promote this considerable water savings innovation in the residential and commercial markets and cannot be disregarded. This ration should be maintained for flushometer valve products too.
- In areas of high frequency usage and therefore increased misuse such as airport, and stadiums, the need exists to rely on a full flush mode of 1.6 gpf to evacuate objects that normally are not placed in a residential environment.
- Furthermore, retention of a 1.6 gpf full flush mode allows for the option of applications where water pressure is consistently low such as in some high rise applications or even when there is projected multiple flushing at the same time starving the system of supply line pressure. In these cases, a 1.6 gpf will better assist with evacuation and drain line carry. Essentially, this is offered as a solution to those situations.

**Toto opposes the recommendation for a minimum 600 gram extraction requirement for toilets.**

- The EPA's WaterSense High Efficiency Toilet Specification, and 350 gram threshold, has proven to be very effective since its introduction in 2006.
- Clogging is not a reported concern of Toto's as a result of designing to a 350 gram specification.
- The 350 gram limit was set based on a thorough vetting from industry experts based not only on medical studies, but research, lab performance and industry know-how.
- Any requirement above 350 grams does not help the consumer nor decrease double flushing. It does, however, encourage manufacturing practices to focus unduly on solids and not sufficiently on other attributes like cleaning and scouring the bowl. Going to 600 grams will result in products that are less effective in meeting consumer needs, not more effective ones.
- The IOU proposal adds burdensome labeling requirements as well as testing at 600, 800 and 1000 grams which is completely unnecessary and arbitrary.
- Federal OMB Circular A-119 establishes policies on Federal use and development of voluntary consensus standards. Toto recommends utilizing the reference to the ASME/CSA A112.19.2-2013 standard and that the extraction test therein be required as the protocol for the determination of compliance to the 350g evacuation. This result should be recorded as a pass/fail.
- Consumer choice will be negatively impacted as many high-efficient products will be unfairly removed from the marketplace.
- Manufacturers will be required to retest most, if not all, models to the new 600 gram threshold at great cost.

**Toto opposes the recommendation for a maximum flush volume of 0.125 gpf for urinals.**

- A mandatory reduction of 87.5% in urinal flush volume over federal baseline is too excessive and would restrict fixture compatibility with plumbing systems.
- Not having a wider selection of fixture flush volumes to offer also impacts manufacturing inventory levels and availability.
- 0.125 gpf urinals are not proven to be effective in all installation situations, which may lead to clogged drain lines, especially when it comes to existing construction. Thus, having an alternative of 0.5 gpf is desirable.
- There has been no evidence submitted to demonstrate that those who maintain 0.125 gpf urinals (ex: facility managers, building owners, etc.) have been solicited for their input which is a critical step before proceeding with a statewide implementation.

**Toto opposes the recommendation for a maximum flow rate of 1.0 gpm at 80 psi and 0.5 gpm at 20 psi for residential lavatory faucets.**


- This proposal has no supporting technical justification and only rationalizes itself in terms of water, energy and carbon savings. There is no supporting research to look at the unintended consequences and impact on health, safety or sanitation.
- There are unintended consequences for lowering lavatory flow rates below those of EPA WaterSense and CALGreen:

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- Increased sediment buildup within the trap and drain lines, thereby resulting in an increase in clogged lavatories.
  - Increased wait time for hot water.
  - Increased time in washing hands, thereby resulting in more water usage.
- Due to recent reductions in flow rate and consumption levels of plumbing fixtures, fixture fittings, and appliances, potable water piping in most existing structures becomes inherently oversized. Reducing the maximum flow rate of residential lavatory faucets to 1.0 gpm will reduce scouring action from the already low levels mandated in CALGreen. This is of great concern considering that many researchers and forensic engineers cite reductions in water velocities within potable water pipes as a contributing factor to legionellosis outbreaks.

In closing, Toto USA, Inc. strongly encourages the Commission to adopt the water consumption recommendations of CEC staff as outlined in their analysis, "Staff Analysis for Toilets, Urinals, and Faucets" along with the Plumbing Manufacturers International's (PMI) technical edits to the Protocol. Furthermore, Toto would like to thank the California Energy Commission for the opportunity to provide comments for the rulemaking being promulgated for Title 20 through Docket No. 14-AAER-1 on appliance efficiency.

Respectfully submitted,



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