



California Energy Commission
Docket's Office, MS-4
Re: Docket Number 14-AAER-1
1516 Ninth Street
Sacramento, CA 95814-5512
Attention: Mr. Tuan Ngo, P.E.

Via email: docket@energyca.gov

Dear Mr. Ngo,

The Geberit Group (Geberit) thanks the California Energy Commission for this opportunity to submit comments related to Docket 14-AAER-1, Water Appliance Efficiency.

Geberit is the European market leader in sanitary technology with a global orientation, with its own representatives in 41 countries, including the US and Canada. The range includes the product areas of sanitary systems and piping systems. Geberit brand products are innovative, durable and eco-efficient, leading to the worldwide recognition of Geberit as number thirty-six (36) on the *2014 Corporate Knights Global 100 Most Sustainable Corporations* list. Geberit generated a sales volume of CHF 2.3 billion (USD 2.6 billion) in 2013 and employs 6,200 people.

Geberit supports the CEC Staff recommended efficiency levels for toilets, urinals, faucets, and replacement valves:

- All toilets, except those designed for prisons or mental health facilities, shall not consume more than an effective flush volume of 1.28 gpf and shall have a MaP score of no fewer than 350 grams.
- All urinals, except trough-type and those designed for prisons or mental health facilities, shall not consume more than 0.5 gpf.
- All home lavatory faucets shall not exceed 1.5 gpm flow rate with pipe pressure at 60 pounds per square inch (psi) and shall have a minimum flowrate of 0.8 gpm at 20 psi.
- All kitchen faucets shall not exceed 1.8 gpm flowrate and may have capability to increase to 2.2 gpm momentarily for filling pots and pans.
- All public lavatory faucets shall not exceed 0.5 gpm flowrate at 60 psi.

The recommendations are consistent with existing industry consensus standards, as well as the *2013 California Plumbing Code*, *CalGreen 2013* and the voluntary *WaterSense*® specifications for plumbing products. Taken in combination, the recommendations are well ahead of the rest of the country in terms of water saving levels. Geberit commends the Committee for this.

By all accounts, manufacturers have done an impressive job balancing these multiple requirements. Currently, there is no statistically valid data to indicate that products manufactured to these existing efficiency levels fail to consistently deliver excellent end user satisfaction in all areas of performance. This is especially true with respect to the primary performance criteria of water closets:

- **Solid and liquid waste removal** ... all fecal matter, wet toilet paper and other sanitary matter, or miscellaneous "floating slurry" matter.
- **Bowl and rim cleaning** ... remove unsightly "skid marks" and improve hygiene.
- **Minimal clogging** ... no headaches. No repeat of the early 1990's.
- **Water-savings** ... effective flush volumes of 1.28 gpf or less via single or dual-flush tanks.

However, more stringent requirements in any one of these areas could easily put the entire system out of balance. If the designers of future water closet fixtures are forced to significantly "bulk up" one or more criteria without regard to the others, unintended performance consequences could manifest



themselves with end users. For example, a significant increase of MaP score combined with an effective flush volume reduction may force the designer to use more of the now smaller flush water to evacuate the larger waste amount (and achieve the higher required MaP score), all the while increasing the likelihood of end user dissatisfaction in other areas (skid marks, slurry, clogging, etc.). In addition to unhappy users, these results reinforce a double flushing behavior as “routine”, ultimately contributing to higher water usage.

In addition, Geberit appreciates the CEC advocacy for all stakeholders – especially the end user – regarding the unknown effects of reduced flushing volumes on the drainage systems of existing buildings. While resisting the temptation to apply more stringent requirements, the CEC Staff pragmatically points out:

“Staff did not propose more stringent standards because they may not be cost-effective and may cause adverse effects on the existing infrastructure”

“Efficiency improvement of toilets, urinals, and faucets may cause additional stress to some older sewer collection systems because of the reduced volume of water for carrying solid waste through the sewage pipes”

“the proposed standards for toilets and urinals restrict just the right amount of water flow necessary to carry waste to the main sewage drainage system without requiring modifications to the existing drainage system”

As an early pioneer dual-flush technology (with nearly 20 years of experience) Geberit is deeply aware that a 1.6/0.8 gallon flushing system capably meets the performance needs - both the known and unknown - of today and tomorrow:

- **Real water savings** ... a 1.6/0.8 gpf dual-flush system saves at least 17% more water per flush than a 1.28 gallon single flushing system.
- **No performance sacrifice** ... Just the right amount of water is delivered every time - more water to evacuate and clean solid deposits in the bowl; less water to do the same for liquids.
- **No additional stress to existing sewage systems** ... the 1.6 gallon large flush facilitates efficient solid waste transport through the sewage system, without fear of the unknown.

Finally, Geberit commends and supports the CEC staff for their commitment to a systemic approach to water conservation, despite the challenge of taking such a position:

“Although the Energy Commission staff recognizes that there is some controversy about the cause of sewage clogging, staff believes the solution is not to slow down efforts to achieve water conservation and water efficiency goals. Staff also believes that evaluation of the systematic impacts of water conservation, wastewater collection and treatment systems, and development of a strategy to achieve water conservation goals without compromising the reliability of wastewater collection and treatment systems should be taken on a statewide basis.”

Thank you again for the opportunity to comment on the CEC’s Water Appliance Efficiency program.

Respectfully,

A handwritten signature in blue ink, appearing to read "Andreas Nowak".

Andreas Nowak
President & CEO Geberit North America