

August 19, 2014

SUBJECT: Appliance Efficiency Pre-Regulatory Draft Proposed by California Energy Commission
Docket Number 14-AAER-1

Via email to: docket@energy.ca.gov

California Energy Commission

DOCKETED
14-AAER-01

TN 73694

AUG 21 2014

Dear California Energy Commission:

As representatives of water- and plumbing-related organizations from across the country, members of the **Plumbing Industry Leadership Coalition** (PILC) recommend the California Energy Commission (CEC) move forward with a formal regulatory proposal that reflects the CEC staff recommendations on the proposed appliance efficiency regulations concerning specific issues related to dual flush toilets, toilets, urinals and faucets which are outlined below. We strongly urge that the Commission to **reject** revisions that go beyond the CEC staff recommendations as outlined in their “Staff Analysis of Toilets, Urinals, and Faucets”.

The CEC staff has engaged in an extensive process with stakeholders, and developed significant new recommendations for toilets, urinals, faucets and replacement valves which PILC supports. The CEC staff recommendations would:

- Require all toilets, except those designed for prisons or mental health facilities, to have a maximum consumption, or effective flush volume for dual-flush toilets¹, of 1.28 gallons per flush (gpf) (WaterSense requirement) replacing the current limit of 1.6 gpf. Additionally toilets would have a 350 gram performance threshold that is consistent with WaterSense requirements.
- Require all replacement valves for toilets to not exceed 1.6 gpf.
- Require all urinals, except trough-type and those designed for prisons or mental health facilities, to not consume more than 0.5 gpf, replacing the current standard of 1.0 gpf.
- Require all replacement valves for urinals to not exceed 1.0 gpf.
- Require all residential lavatory faucets to not exceed a flow rate of 1.5 gallons per minute (gpm) at 60 psi and to have a minimum flow rate of 0.8 gpm at 20 psi; which replaces the current limit of 2.2 gpm.
- Require all kitchen faucets to not exceed a flow rate of 1.8 gpm and with the capability to increase to 2.2 gpm momentarily for filling pots and pans.
- Require all public lavatory faucets to not exceed a flow rate of 0.5 gpm at 60 psi.

It is our understanding that the CEC staff recommendations for toilets, urinals, and faucets would save about 8.2 billion gallons of water, 24.6 million therms (Mtherm) of natural gas, and 169 gigawatt hours (GWh) per year the first year the standard goes into effect.²

¹ A dual flush water closet with an effective flush volume that does not exceed 1.28 gallons, where effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush.

² California Energy Commission “Staff Analysis of Toilets, Urinals, and Faucets,” 2014 Appliance Efficiency Pre-Rulemaking (Docket Number 14-AAER-1); pg. iv - <http://www.energy.ca.gov/2014publications/CEC-400-2014-007/CEC-400-2014-007-SD.pdf> By the year that the toilet stock turns over (2039), the proposed standards would have a combined annual savings of about 86.6 billion gallons of water, 223 Mtherm of natural gas, and 1,660 GWh. This equates to roughly \$1.12 billion in savings to California businesses and individuals. In addition, the proposed standards would reduce greenhouse gas emissions by 1.9 million tons of carbon dioxide equivalents (CO₂e) annually.

PILC is greatly concerned with some of the proposals put forth that go further than the CEC staff proposal. Specifically, we oppose the unprecedented new statewide standards for toilets, urinals and faucets proposed by a coalition of investor-owned utilities [IOUs]. Contrary to the statements of the IOUs in their proposal, the proposed maximum flow rates would have a negative impact on building structures and the operation of plumbing systems. Specifically, the current plumbing and appliance codes and regulations should not require any further reduction in the current maximum flow and flush volumes until adequate research of the impact on existing piping systems has been conducted. In addition, the IOU proposal could impede the delivery of water safely and efficiently, and present a potential danger to public health.

PILC's Key Concerns with the IOU's Proposal:

- **Dual Flush Toilets** – The proposed change from average flush volume to maximum flush volume would only work to ban 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.
- **Toilets** – The proposed increase to the minimum toilet extraction requirement threshold to 600 grams would neither help the consumer nor decrease double flushing, would encourage manufacturers to focus unduly on solids and not sufficiently on other attributes like cleaning and scouring the bowl, and would result in products that are less effective in meeting consumer needs, not more effective.
- **Urinals** – The proposed 87.5% reduction in maximum urinal flush volume would restrict fixture compatibility with plumbing systems. 0.125 gallons per flush urinals are not proven to be effective in all installation situations leading to clogged drain lines.
- **Lavatory Faucets** – The proposed decrease in maximum flow rate from 1.5 gpm to 1.0 gpm @ 80 psi would cause an increased in wait time for hot water and hand washing time - increasing water usage. Furthermore, reduced flows can also lead to a reduction in scouring the trap to remove sediment leading to clogged lavatories and possible health complications due to opportunistic pathogens such as Legionella³.

Furthermore, our concerns with these proposals are not diminished by the recent tier proposal of the IOUs that would extend the implementation of these revisions, as it fails to take into consideration public health and safety, and system performance issues.

PILC urges the California Energy Commission to consider additional actions that can be taken immediately to accomplish real water and energy savings: replacement of legacy water closets and faucets that can be several decades old and use ten times the amount of water as products compliant with current standards. In fact, replacing legacy water closets and faucets in California will save approximately 160 billion gallons of water per year with an early retirement/early replacement program. Local programs throughout the state can be enhanced and expanded now to achieve important and long-lasting water and energy savings.

³ "Green Building Premise Plumbing: Identifying Public Health and Aesthetic Concerns," PowerPoint Presentation by Dr. Marc Edwards, Professor, Civil and Environmental Engineering, and William Rhoads, Graduate Research Assistant, Virginia Polytechnic Institute and State University – 2013 - <http://www.aceee.org/files/pdf/conferences/hwf/2013/2D-rhoads.pdf>

Once again, PILC urges the Commission to move forward with a regulation that incorporates the CEC staff recommendations regarding plumbing fixtures and rejects the proposal of the IOUs. It is critically important to consider the serious unintended consequences that can result when ill-advised plumbing regulations are adopted and put into place without acknowledging their impact on building structures, operation of plumbing systems, and public health.

PILC represents an array of trade associations and non-profit groups vested in energy and water conservation, as well as the advancement of technology. Each of the PILC organizations have members in California that will be directly impacted by the CEC proposed appliance efficiency regulations. We appreciate the opportunity to submit these important comments.

Sincerely,

Members of the Plumbing Industry Leadership Coalition

American Society of Plumbing Engineers

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