

DOCKETED	
Docket Number:	22-AAER-05
Project Title:	Appliance Efficiency Regulations for Water Closets
TN #:	269842
Document Title:	Plumbing Manufacturers International (PMI) Response to CEC RFI Appliance Efficiency Regulations for Water Closets TN #269259
Description:	N/A
Filer:	System
Organization:	Plumbing Manufacturers International (PMI)
Submitter Role:	Public
Submission Date:	5/5/2026 9:48:47 AM
Docketed Date:	5/5/2026

*Comment Received From: Plumbing Manufacturers International (PMI)
Submitted On: 5/5/2026
Docket Number: 22-AAER-05*

**Plumbing Manufacturers International (PMI) Response to CEC RFI
Appliance Efficiency Regulations for Water Closets TN #269259**

Additional submitted attachment is included below.



May 5, 2026

California Energy Commission
Docket No. 22-AAER-05
715 P Street
Sacramento, CA 95814

PMI 2026
Board of
Directors

RE: PMI's Response to CEC Request for Information Appliance Efficiency Regulations for Water Closets, TN #269259

Bob Neff
Delta Faucet
Company
President

Dear Commissioners,

Lowell Lampen
Kohler Co.
Vice President

Plumbing Manufacturers International (PMI) appreciates the opportunity to respond to the California Energy Commission's (CEC) Request for Information Appliance Efficiency Regulations for Water Closets. As the leading trade association representing manufacturers of plumbing fixtures and fittings, PMI and its members are committed to innovation, environmental stewardship, and meeting the diverse needs of consumers and stakeholders, including utilities, suppliers, and policymakers.

Paige Riddle
LSP Products
Group LLC
Secretary-
Treasurer

Belinda Wise
Neoperl, Inc.
Immediate Past
President

Plumbing Manufacturers International (PMI) appreciates the opportunity to submit comments in response to the California Energy Commission's (CEC's) Request for Information (RFI) regarding appliance efficiency regulations for water closets. PMI is the international trade association of manufacturers of plumbing fixtures, fittings, and related products used in residential, commercial, and institutional buildings throughout California and the United States. PMI supports practical water efficiency and has worked closely with regulators, utilities, standards developers, and the U.S. Environmental Protection Agency (EPA) WaterSense program to advance conservation measures that preserve product performance, reliability, public health, and consumer satisfaction. PMI appreciates that the CEC's latest RFI reflects a more measured approach, including recognition that very low reduced-flush volumes can approach best-available-technology thresholds and that further reductions in single-flush volumes may raise unresolved concerns for wastewater infrastructure, drainline carry, and existing plumbing systems.

Troy Benavidez
LIXIL

John Confrey
Falcon Water
Technologies

Tim O'Keeffe
Symmons
Industries

Kate Olinger
GF

These following comments respond to each of the 13 questions raised in the RFI. PMI has organized its responses into the CEC's near-term and long-term categories and has focused particular attention on harmonization with nationally recognized requirements, avoidance of California-only product mandates, and the broader system consequences of declining indoor water flows.

Near-Term Plans (1-3 Years)

1. Dual-flush tank-type toilets: removal of effective flush volume and separate full/reduced flush standards.

PMI supports removal of the effective flush volume construct for dual-flush tank-type water closets. PMI participated in the development of EPA WaterSense Specification for Tank-Type Toilets, Version 2.0, which removed the effective flush approach and instead sets the maximum full flush volume to 1.28 gpf. That change already represents a meaningful reduction in the practical average flush volume because the prior effective flush concept assumed a usage profile of two reduced flushes and one full flush. When the effective flush construct is removed and the full flush is limited to 1.28 gpf, the resulting practical average flush volume is already reduced to approximately 1.16 gpf. In PMI's view, that is a significant change in itself and should be recognized as the primary near-term efficiency gain associated with this proposal.

2. Reduced flush volume for dual-flush tank-type toilets.

For the reasons stated in 1. above, PMI does not support an additional reduction of the reduced flush volume to 0.9 gpf. After eliminating the effective flush construct and reducing the full flush volume to 1.28 gpf, the CEC's proposal already captures a substantial reduction in overall flush volume. Seeking a further reduction in the reduced flush mode effectively asks manufacturers and consumers to absorb a second reduction on top of the first. PMI recommends instead a maximum reduced flush volume of 1.1 gpf. This level is more consistent with existing broadly recognized requirements, better preserves product reliability, and avoids pushing the market toward a California-only engineering specification. By contrast, a 0.9 gpf requirement would narrow design margins, increase manufacturing complexity, and create pressure for separate California SKUs, certification pathways, and inventory streams. The CEC has already recognized that 0.8 gpf may be too close to a best-available technology threshold. PMI holds that the same practical concern applies to 0.9 gpf as a statewide baseline.

3. Non-tank-type toilets: removal of effective flush volume and separate full/reduced flush standards.

PMI supports this proposal to the extent it aligns with EPA WaterSense Specification for Flushometer-Valve Water Closets, Version 1.0. Alignment with WaterSense provides an established national framework that is already understood by manufacturers, certifiers, specifiers, and enforcement personnel and avoids unnecessary divergence between California requirements and a recognized national program

4. Appropriate maximum flush volumes for non-tank-type products.

PMI recommends aligning the maximum flush volumes for non-tank-type products with WaterSense rather than creating a separate California framework or forcing them to mirror tank-type requirements. WaterSense already provides a tailored structure for these products and is the most practical basis for consistent compliance and enforcement.

5. Updating the table of records to indicate passed performance criteria.

PMI supports updating California's requirements to align with the latest applicable editions of ASME A112.19.2/CSA B45.1 and the relevant EPA WaterSense specifications. However, PMI does not support expanding the regulatory table to require a model-by-model listing of true/false or pass/fail entries for every individual test. If a product is listed as compliant, it has of necessity passed the required tests. A duplicative reporting table adds paperwork without improving product assurance. CEC should instead specify the governing standards and allow compliance to be demonstrated through accepted evidence, including accredited third-party certification, WaterSense certification where applicable, or complete laboratory reports when needed.

6. Test laboratory report content requirements.

PMI recommends that the regulations do not prescribe unnecessary additional laboratory report formatting or content requirements beyond what is needed to verify compliance. A valid test report already identifies the product tested, the applicable test methods, and the results. California should accept complete reports and nationally recognized certification documentation rather than create bespoke California-only reporting templates.

7. MAEDbS updates to distinguish one-piece and two-piece models.

PMI agrees with this proposal. Distinguishing one-piece and two-piece models and improving database terminology would enhance product identification and administrative clarity for manufacturers, regulators, retailers, and consumers.

8. Dual-flush markings, labels, directions, and associated costs.

PMI appreciates the CEC's effort to understand current market practices. Today, some manufacturers use permanent markings or molded indicators, while others rely on temporary labels, packaging, or instructions. Current approaches vary by product architecture, actuator design, and brand presentation. PMI does not support a mandatory permanent marking requirement at this time. Even where per-unit cost increments appear modest, the full burden of permanent marking includes tooling changes, redesign, validation, inventory management, and the potential need for California-specific production runs. Legibility requirements should therefore remain flexible and performance-based rather than prescriptive as to font size or exact placement because those issues depend heavily on model shape, button geometry, installed orientation, and available surface area.

9. Consumer education strategies for dual-flush products.

PMI supports consumer education and recommends that CEC rely on flexible educational strategies rather than rigid California-specific product marking mandates. CEC can encourage consumer understanding through guidance, website materials, retailer coordination, and best-practice examples that explain commonly used visual distinctions such as larger versus smaller buttons, more versus fewer drops, or longer versus shorter icons. Education should also explain

that reduced flush operation is generally intended for liquid waste while the full flush remains important for solids removal and line carry when needed.

Long-Term Plans (3-10 Years)

10. Option A - More efficient single-flush water closets (1.28 gpf to 1.1 gpf).

PMI does not support reducing the maximum flush volume for single-flush water closets from 1.28 gpf to 1.1 gpf. It is not certain that 3 years is sufficient time for California to evaluate the cumulative effects of the state's existing low-flow product policies on drinking-water systems, building plumbing, wastewater conveyance, wastewater treatment, and recycled-water production.

California's current plumbing landscape is already the product of a major statewide policy shift that began with the CEC's 2015 Title 20 appliance efficiency rulemaking and took effect in phases beginning in 2016. That rulemaking established or accelerated lower-flow requirements for multiple plumbing products, including water closets and faucets, with later implementation milestones for additional fitting categories. As a result, California is still living through a broad, real-world transition in indoor water use that extends well beyond toilets alone. Importantly, the installed base has not yet fully turned over. PMI's commissioned GMP market penetration study found that only about 22 percent to 26 percent of residential toilets statewide are already 1.28 gpf-or-less, with disadvantaged communities lower still at roughly 20 percent to 22 percent. For several major fitting categories, statewide turnover is only about halfway complete. In practical terms, California has not yet experienced the full system effects of the standards it has already adopted. For toilets, the transition is only about one-quarter complete; for several major fitting categories, it is only about halfway complete.

The unresolved risks are not speculative. California utility and wastewater stakeholders have documented that declining flows can increase water age and reduce disinfectant residual in drinking-water systems, while also increasing solids deposition, odors, corrosion, and treatment challenges in wastewater systems and reducing recycled-water production. These California-specific findings are directly relevant to whether the state should press still further below the current toilet baseline.

Available plumbing research likewise counsels' caution. PERC Phase 2.0 found a significant decline in drainline transport performance between 1.28 gpf and 1.0 gpf. While 1.1 gpf is not identical to 1.0 gpf, it is materially closer to the range where performance degradation was observed than to the current 1.28 gpf standard. The better course is to allow additional time for field experience, stock turnover, and further study before imposing another statewide reduction.

For these reasons, PMI recommends that the CEC refrain from lowering the single-flush maximum below 1.28 gpf until California has better field evidence on the long-term combined impacts of its existing standards and more mature penetration of already-compliant products across the installed stock.

11. Option B - Require dual-flush water closets.

PMI opposes a statewide requirement that all water closets be dual-flush products.

A dual-flush mandate would reduce consumer choice, constrain design flexibility, and push the market toward a more prescriptive California-only product regime without establishing that such a mandate is necessary to achieve cost-effective savings beyond those available through legacy product replacement. California should not replace a performance-based market with a design specific mandate where other approaches can achieve water savings with less disruption.

Just as important, requiring dual-flush products would not resolve the broader infrastructure and public-health questions associated with declining indoor flows. The central issue before the state is not simply whether one flushing platform may save additional water on paper, but whether further reductions in delivered water volume are prudent before California better understands the effects of the standards already in place across toilets, faucets, and showerheads.

If the CEC wishes to encourage dual-flush adoption, it should do so through voluntary programs, incentives, consumer education, and harmonization with nationally recognized specifications rather than through a mandatory design requirement.

12. Option C - Establish water efficiency standards in the residential California Building Code.

PMI supports continued coordination among CEC, the Department of Housing and Community Development, and the California Building Standards Commission so that any future Title 24 code-based pathway is aligned with Title 20 and the broader state code cycle. PMI appreciates that CEC is limited by Assembly Bill 130 which has affected the previously anticipated effort to work with the BSC.

13. Other options for consideration.

PMI recommends that the CEC prioritize legacy product replacement, targeted incentives, and field research before pursuing additional flush-volume reductions.

The strongest near- and medium-term opportunity for water savings remains replacement of older installed stock. PMI's GMP study found that only about 22 percent to 26 percent of residential toilets statewide are already 1.28 gpf-or-less, meaning most installed residential toilets remain older products. The study further indicates that replacing approximately 26 million 1.6+ gpf toilets with 1.28 gpf models could save up to 326 billion gallons over 30 years, with substantial savings achieved much sooner under accelerated replacement scenarios.

That approach would deliver larger and faster water savings than marginally, ratcheting down already efficient products from 1.28 gpf to 1.1 gpf, while avoiding immediate new risks to drainage performance and water and wastewater infrastructure. California should therefore prioritize legacy toilet replacement programs, especially in disadvantaged communities; utility and field pilots evaluating cumulative low-flow impacts; continued coordination with water,

wastewater, and public-health stakeholders; and further research before adopting any new statewide product mandates below 1.28 gpf.

Thank you for your consideration of these comments.

Sincerely,



Kyle Thompson
Technical Director
Plumbing Manufacturers International
Office: 847-217-7212
kthompson@safeplumbing.org

PMI Members

*Blanco *Bradley *Brasscraft Manufacturing Company *CSA Group Testing & Certification, Inc. *Delta Faucet Company *Dornbracht Americas, Inc. *Duravit USA, Inc.
*Falcon Water Technologies, LLC *Fisher Manufacturing Company *Fluidmaster, Inc. *Gerber Plumbing Fixtures, LLC *GF *Hansgrohe, Inc.
*Haws Corporation *IAPMO *International Code Council – Evaluation Service (ICC-ES) *KEROX LTD *Kohler Co. *LAUFEN Schweiz AG *Lavelle Industries, Inc. *LIXIL
*LSP Products Group, LLC *MOEN *mSupply *NEOPERL, Inc. *NSF *Pfister *Reliance Worldwide Corporation
*Sloan Valve Company *Sprite Industries *Symmons Industries, Inc. *T & S Brass and Bronze Works, Inc. *TOTO USA *UL Solutions *Viega, LLC *WCM Industries, Inc.
*Zurn Elkay Water Solutions