

<b>DOCKETED</b>	
<b>Docket Number:</b>	22-AAER-05
<b>Project Title:</b>	Appliance Efficiency Regulations for Water Closets
<b>TN #:</b>	269259
<b>Document Title:</b>	Request for Information Appliance Efficiency Regulations for Water Closets
<b>Description:</b>	The purpose of this Request for Information (RFI) is to invite manufacturers, consumer and environmental stakeholders, technical experts, and other interested parties to provide feedback on CEC's proposed recommendations for its near-term plans to update the efficiency standards for water closets, which include setting new baselines, shifting consumer behaviors, and updating certification requirements. CEC staff also provides context for long-term opportunities California may consider for water closets that could build from the near-term proposal. Written Comments and Proposals Due: April 20, 2026.
<b>Filer:</b>	Jessica Lopez
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	3/20/2026 8:00:41 AM
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**CALIFORNIA ENERGY COMMISSION**

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CEC-057 (Revised 1/21)



# **Request for Information (RFI)**

## **Appliance Efficiency Regulations for Water Closets**

### **Docket 22-AAER-05**

## **Written Comments and Proposals Due: April 20, 2026**

### **Purpose of Request**

The California Energy Commission (CEC) seeks information from the public and interested parties as it considers updating existing efficiency standards, test procedures, marking requirements, certification requirements, and other regulations for water closets.

The purpose of this Request for Information (RFI) is to invite manufacturers, consumer and environmental stakeholders, technical experts, and other interested parties to provide feedback on CEC's proposed recommendations for its near-term plans to update the efficiency standards for water closets, which include setting new baselines, shifting consumer behaviors, and updating certification requirements. CEC staff also provides context for long-term opportunities California may consider for water closets that could build from the near-term proposal.

### **Background**

On October 12, 2022, the CEC issued an order instituting rulemaking (OIR) to consider efficiency standards, test procedures, and marking requirements for water closets.

On December 14, 2022, the CEC published a Request for Information (RFI) and an Invitation to Submit Proposals (ITSP), soliciting technical information and alternative proposals on gravity tank-type water closets. The public comment period deadline ended February 13, 2023, and was extended until March 30, 2023.

On November 6, 2024, the CEC published the *Analysis of Proposed Efficiency Standards for Water Closets (Toilets)* (draft staff report). The draft staff report discusses proposed updates to the water closet standards in the Appliance Efficiency Regulations (California Code of Regulations (CCR), Title 20, sections 1601–1609). The draft staff report includes staff's analysis of the cost-effectiveness and technical feasibility of proposing efficiency standards for water closets. The proposal published in the draft staff report

outlined a comprehensive framework for water closets<sup>1</sup> focused on updating the maximum flow rate for single-flush and dual-flush gravity tank-type water closets. The draft proposal would have updated the water efficiency standard from 1.28 gallons per flush (gpf) to 1.1 gpf for single-flush water closets and replaced the effective flush volume of 1.28 gpf for dual-flush water closets with a full flush standard of 1.28 gpf and a reduced flush standard of 0.8 gpf. Statewide energy use and savings and related environmental impacts and benefits are also included in the draft staff report.

On December 18, 2024, the CEC hosted a public workshop to discuss the proposed standards for water closets presented in the draft staff report. The public comment period deadline for written comments ended January 6, 2025, and was extended until February 5, 2025.

Following the comment period of the draft staff report, staff reviewed the comments received to identify key technical feasibility, environmental, and economic concerns. Staff engaged in extensive outreach with various stakeholders to better understand these concerns and address them. Stakeholders included the California Department of Housing and Community Development (HCD), California Building Standards Commission (CBSC), California State Water Resources Control Board (State Water Board), California Department of Water Resources (DWR), California Investor Owned Utilities (CA IOUs), members and representatives of Plumbing Manufacturers International (PMI), manufacturers not represented by PMI, environmental advocates, including Natural Resources Defense Council (NRDC) and Appliance Standards Awareness Project (ASAP), and wastewater and water agencies, including California Association of Sanitation Agencies (CASA), Clean Water SoCal, and California Water Efficiency Partnership (CalWEP).

On May 6, 2025, staff attended the CBSC Coordinating Council Meeting for the 2025 Intervening Cycle, announcing CEC's intention to coordinate and collaborate with HCD and CBSC in the development of proposed regulations for water closets within the Title 24 process. Specifically, Title 24, Parts 5 and 11, the California Plumbing Code and the California Green Building Standards Code, respectively. However, this collaboration on Title 24 has been paused due Assembly Bill 130, which pauses residential updates to the California Building Code until 2031, with limited exceptions.<sup>2</sup>

Staff is separately and concurrently participating in DWR's Senate Bill 1157<sup>3</sup> working groups that evaluate the benefits and impacts of the indoor water use standard as

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<sup>1</sup> Lopez, Jessica. 2024. [Analysis of Proposed Efficiency Standards for Water Closets \(Toilets\)](https://efiling.energy.ca.gov/GetDocument.aspx?tn=259915&DocumentContentId=96120). California Energy Commission. Publication Number: CEC-400-2024-001-SD. Available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=259915&DocumentContentId=96120>.

<sup>2</sup> [Assembly Bill 130, Committee on Budget, Housing](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260AB130). Available at [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=202520260AB130](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260AB130).

<sup>3</sup> [Senate Bill 1157 Urban Water Use Objectives \(Hertzberg, 2022\)](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1157), Available at [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=202120220SB1157](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1157).

required by statute.<sup>4</sup> Participation is enhancing CEC’s collaboration with DWR while also adding to staff’s knowledge of, and ability to address, concerns raised in comments to the CEC’s water closet docket on upstream and downstream water infrastructure impacts. In addition, SB 1157 requires DWR to conduct a saturation indoor water use study – planned for release in 2028, providing staff with the most up-to-date information on water use patterns in California.

### **Feedback on Proposed Recommendation for Near-Term Plans (1-3 years)**

Following a period of stakeholder engagement and consultation, staff has refined specific near-term recommendations to reflect a more incremental regulatory approach while allowing for subsequent evaluation of potential long-term regulatory actions for water closets. In the near term, staff is considering only updating standards for dual-flush water closets.

This proposed direction for the near-term period is based on extensive data sharing and discussions with industry stakeholders, technical experts, and consumer and environmental stakeholders. Stakeholders have indicated that this direction is feasible to implement within the next one to three years, ensuring improved performance without compromising product reliability or causing significant market disruption. This stakeholder feedback, and staff research and analysis confirm that the recommended proposals are appropriate for the current market. While staff also recommends keeping the majority of the proposals from the draft staff report (excluding the single-flush proposal), staff has adjusted the recommendation for the dual-flush standard and is open to consideration of other proposals as outlined below.

#### *Recommendations:*

Staff recommends proposing to remove the effective flush volume standard for dual-flush water closets and instead setting a maximum flush volume standard, similar to what was intended in the *U.S. EPA WaterSense Specification for Tank-Type Toilets Version 2*.<sup>5</sup> Currently, staff is considering proposing a maximum full flush volume of 1.28 gpf and a maximum reduced flush volume of 0.9 gpf for dual-flush tank-type water closets. The change from the draft staff report proposed recommendation of 0.8 gpf for the reduced flush volume to 0.9 gpf is based on feedback from stakeholders that 0.8 gpf may be closer to a “best available technology” standard than a broadly achievable minimum level of performance, due in part to tighter manufacturing tolerances and reduced margins of error necessary for guaranteeing performance and reliability. Staff

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<sup>4</sup> California Department of Water Resource. [Water Conservation Legislation](https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation). 2026. <https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation>.

<sup>5</sup> United States Environmental Protection Agency. May 2024. [WaterSense Specification for Tank-Type Toilets Version 2](https://www.epa.gov/system/files/documents/2024-05/ws-products-indoor-tank-type-toilets-v2-final-spec.pdf). Available at <https://www.epa.gov/system/files/documents/2024-05/ws-products-indoor-tank-type-toilets-v2-final-spec.pdf>. Note: Version 2 was set to be effective on July 1, 2025 and is now paused by U.S. EPA.

estimates the potential savings for this proposal is 2.9 billion gallons per year after full stock turnover.

1. Staff seeks feedback on this recommendation for dual-flush tank-type water closets. That is, removing the effective flush volume and setting a maximum standard for the full flush volume and the reduced flush volume.
2. Staff seeks feedback on changing the draft staff report proposed recommendation from 0.8 gpf for the reduced flush volume to 0.9 gpf.

Staff is also considering the effective flush volume standard for non-tank-type toilets such as flushometer valve water closets and blowout water closets, similar to the *U.S. EPA WaterSense Specification for Flushometer-Valve Water Closets Version 1* in effect since December 17, 2015.<sup>6</sup> The specification specifies that a rated flush volume for the flushometer valve or water closet fixture, shall not exceed 1.28 gpf and shall not be less than 1.0 gpf.

3. Staff seeks feedback on this recommendation for dual-flush non-tank type toilets. That is, removing the effective flush volume and setting separate flush volume standards for the full flush volume and the reduced flush volume.
4. Should the recommended maximum flush volumes align with WaterSense, align with the proposal for dual-flush tank-type water closets, or be at a different level?

Staff is also recommending updating the performance criteria for water closets used in ASME A112.19.2/CSA B45.1 *Ceramic Plumbing Fixtures* to align with U.S. EPA WaterSense® specifications for tank-type water closets and flushometer valve-type water closets as proposed in the draft staff report and outlined in **Table 1**.

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<sup>6</sup> United States Environmental Protection Agency. December 2015. [WaterSense Specification for Flushometer-Valve Water Closets Version 1](https://www.epa.gov/sites/default/files/2017-01/documents/ws-products-spec-fv-toilets.pdf). Available at <https://www.epa.gov/sites/default/files/2017-01/documents/ws-products-spec-fv-toilets.pdf>.

**Table 1: U.S EPA WaterSense Performance Requirements for Tank-Type Toilets and Flushometer-Valve Water Closets**

<b>Performance Requirements ASME A112.19.2 ASME A112.19.2/CSA B45.1</b>	<b>WaterSense Specification for Tank-Type Toilets<sup>7</sup></b>	<b>WaterSense Specification for Flushometer-Valve Water Closets<sup>8</sup></b>
Section 7.5 – Granule and Ball test	Yes	Yes
Section 7.6 – Surface Wash Test	Yes	Yes
Section 7.7 – Drain Line Transport Characterization Test	Yes	Yes
Section 7.8 – Overflow Test	Yes	Not Applicable
Section 7.9 – Waste Extraction Test	Yes	Yes
Section 7.12 – Adjustability Test for Tank-Type Gravity Water Closets with Original Equipment	Yes	Not Applicable
Section 7.13 – Adjustability Test for Tank-Type Gravity Water Closets with Aftermarket Closure Seals	Yes	Not Applicable

Source: Draft Staff Report (2024)

- Staff is seeking further input on the proposed performance criteria for tank-type toilets and flushometer-valve water closets, providing further opportunity for stakeholder review of the proposal presented in the draft staff report.<sup>9</sup>

Staff is also proposing to include requirements for test lab reports that ensure compliance with the proposed recommendations. The proposal is that test lab reports include the reporting requirements from CCR, Title 20, Section 1606 Table X and the reporting requirements specified in each section listed in **Table 1** from ASME A112.19.2/CSA B45.1-2018.

<sup>7</sup> United States Environmental Protection Agency. 2022. [WaterSense Performance Overview: Tank-Type Toilets](https://www.epa.gov/system/files/documents/2022-05/ws-products-performance-toilets.pdf). Washington, D.C.: United States Environmental Protection Agency. <https://www.epa.gov/system/files/documents/2022-05/ws-products-performance-toilets.pdf>.

<sup>8</sup> United States Environmental Protection Agency. 2022. [WaterSense Performance Overview: Flushometer-Valve Water Closets](https://www.epa.gov/system/files/documents/2022-05/ws-products-performance-commercial-toilets.pdf). Washington, D.C.: United States Environmental Protection Agency. <https://www.epa.gov/system/files/documents/2022-05/ws-products-performance-commercial-toilets.pdf>.

<sup>9</sup> See pages 52-54. Lopez, Jessica. 2024. [Analysis of Proposed Efficiency Standards for Water Closets \(Toilets\)](https://efiling.energy.ca.gov/GetDocument.aspx?tn=259915&DocumentContentId=96120). California Energy Commission. Publication Number: CEC-400-2024-001-SD. Available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=259915&DocumentContentId=96120>

6. Staff is seeking further input on the recommendation to include the test lab report requirements discussed above, providing further opportunity for stakeholder review of the proposal presented in the draft staff report.<sup>10</sup>

Staff also recommends updating reporting requirements to California's Modern Appliance Efficiency Database System (MAEDbS) to distinguish one-piece and two-piece models, to align terms with industry terminology, and to generally improve the categorization of water closets in the database.

7. Staff is seeking further input on the recommendation to update the database criteria, providing further opportunity for stakeholder review of the proposal presented in the draft staff report.<sup>11</sup>

Lastly, staff is also considering evaluating new marking requirements to improve consumer utilization of dual-flush toilets. As discussed in the water closet report submitted by the California Investor-Owned Utilities, the observed reduced flush to full flush ratio is significantly below the theoretical ratio.<sup>12</sup> While it is estimated that the average person generates liquid-only waste in four of every five bathroom trips, the average flush ratio observed in six field studies conducted from 2000 to 2011 was only 1.28, significantly below the theoretical ratio of four. The aspiration of the questions below is to ensure that the consumer is informed about the functionality of the dual-flush toilet and is intentional when choosing between the full or reduced flush.

8. Staff seeks feedback on different marking methods for dual-flush toilets and associated manufacturing costs.
  - a. What type of labeling, temporary or permanent, are manufacturers currently implementing to distinguish between a full flush and a reduced flush on a dual-flush toilet?
  - b. What is the estimated incremental cost per unit to implement permanent marking (e.g., laser etching, embossed parts) versus traditional adhesive labeling?
  - c. What minimum font sizes or placement locations are necessary to ensure legibility without interfering with product aesthetics or functionality?
9. Staff seeks feedback on different strategies the CEC can consider within the Appliance Efficiency Regulations to educate consumers about the functionality of dual-flush toilets and to encourage the use of the reduced flush when

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<sup>10</sup> Ibid., see page 55.

<sup>11</sup> Ibid., see pages 55-57.

<sup>12</sup> Becking, Steffi, Bill Gauley, John Koeller, Mary Ann Dickinson, Helen Davis, and Kathleen Bryan. 2023. [\*Draft Analysis of Standards Proposal and Response to Request for Information for Water Closets\*](#). California Investor-Owned Utilities.

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=249521&DocumentContentId=84153>.

appropriate. For example, standardizing dual-flush labeling or flushing mechanisms.

Any measures resulting from this section will be incorporated into California Code of Regulations (CCR), Title 20, sections 1601–1609, the Appliance Efficiency Regulations.

### **Feedback on Long-Term Plans (3-10 years)**

The near-term plan discussed leaves significant technically feasible and inexpensive water savings potential of 11.6 to 23.5 billion gallons of water per year. The proposed long-term strategy for water closets is focused on achieving greater water savings by considering standards that encourage the development of more water-efficient products. Below are options related to water closets that have been previously evaluated in the draft staff report or recommended by stakeholders. Staff aims to provide industry with the necessary lead time for research and feedback to meet increasingly tight water-saving targets, projected water scarcities, and state conservation goals.

#### *Option A: More Efficient Single-Flush Water Closets*

This option proposes to update the water efficiency standard from 1.28 gallons per flush (gpf) to 1.1 gpf or lower for single-flush water closets as recommended in the draft staff report.<sup>13</sup> While this option is technically feasible and achieves significant water savings, stakeholders raised concerns regarding upstream and downstream impacts to the wastewater and water infrastructure, and drainline carry issues in commercial settings and in existing residential plumbing systems. Therefore, staff have identified this pathway as a potential long-term measure to provide industry with the necessary time for technical development and to provide an opportunity to investigate and mitigate system impacts. The estimated water savings of this pathway range from 11.6 to 18.1 billion gallons of water per year after full stock turnover.

10. Staff seeks feedback on the proposal stated in Option A.

#### *Option B: Require Dual-Flush Water Closets*

This option proposes establishing a dual-flush requirement for all water closets sold in California with a maximum flush volume of 1.28 gpf. While Option A remains a viable option, Option B is designed to specially address or bypass several of the concerns raised in Option A while maintaining the same level of water efficiency goals. Specifically, the concerns regarding drainline carry in existing plumbing systems should be diminished as long as the 1.28 gpf full flush remains available. This option also reflects a common approach used internationally to manage water-scarcity challenges such as in Australia, New Zealand, the European Union, Japan, and other countries. The

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<sup>13</sup> Lopez, Jessica. 2024. [Analysis of Proposed Efficiency Standards for Water Closets \(Toilets\)](https://efiling.energy.ca.gov/GetDocument.aspx?tn=259915&DocumentContentId=96120). California Energy Commission. Publication Number: CEC-400-2024-001-SD. Available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=259915&DocumentContentId=96120>.

potential water savings of this option range from 16.1 to 23.5 billion gallons of water per year after full stock turnover.

11. Staff seeks feedback on the proposal stated in Option B.

*Option C: Establish Water Efficiency Standards in the Residential California Building Code*

This option revisits the opportunity to update standards for water closets in the residential building code. The advantage of this approach is the ability to focus on residential new construction, and thereby eliminate concerns related to existing plumbing systems and commercial applications. This option can incorporate options A or B, but within a narrower scope that can eventually lead to full state-wide implementation of either option A or B. Note that updates to the residential Building Code cannot be made until 2031, at the earliest, due to AB 130, unless the updates fall within a listed exemption.<sup>14</sup>

12. Staff seeks feedback on the proposal stated in Option C.

While the three options above represent the primary pathways currently under evaluation for plans in the long-term, staff recognizes that alternative regulatory structures may offer superior outcomes. The CEC remains fully open to considering other options, technical pathways, or hybrid approaches to achieve further savings from water closets that may not be explicitly detailed in this document.

13. We encourage stakeholders to propose alternative regulatory strategies that could achieve similar or greater water efficiency gains while maintaining product performance and consumer satisfaction.

**Submitting Comments to the CEC Docket**

Written comments must be submitted to the Docket Unit by **April 20, 2026**. Written comments, attachments, and associated contact information (for example, address, telephone number, email address) will become part of the public record of this proceeding with access available via any internet search engine.

The CEC encourages use of its electronic commenting system. Visit the [e-commenting page](https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=22-AAER-05), <https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=22-AAER-05>, which links to the comment page for this docket. Enter your contact information and a comment title describing the subject of your comment(s). Comments

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<sup>14</sup> [Assembly Bill 130, Committee on Budget, Housing](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260AB130). Available at [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=202520260AB130](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260AB130).

may be included in the "Comment Text" box or attached in a format consistent with CCR, Title 20 section, 1208.1. The maximum file size is 10 MB.

Written materials may also be submitted by email. Include the docket number **22-AAER-05** and "Water Closets RFI" in the subject line and send to [docket@energy.ca.gov](mailto:docket@energy.ca.gov).

If preferred, a paper copy may be submitted to:

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

If interested parties wish to maintain the confidentiality of specific data or information, they should submit an application for confidentiality and the confidential documents directly to the Docket Unit through the e-filing system. For information on applying for confidentiality, interested parties should contact the Docket Unit in the CEC's Chief Counsel's Office before submitting a response to this RFI. Otherwise, all responses received will become publicly available. Visit the [Docket Unit page](#), <https://www.energy.ca.gov/about/divisions-and-offices/chief-counsels-office/docket-unit>, which links the application for confidentiality.

Questions regarding submitting comments to the docket, including inquiries regarding confidentiality, should be referred to the Docket Unit at [docket@energy.ca.gov](mailto:docket@energy.ca.gov) or (916) 654-5076.

### **Public Advisor and Other Commission Contacts**

The CEC's Public Advisor assists the public with participating in CEC proceedings. To request interpreting services, reasonable modification or accommodations, and other modifications, contact the Public Advisor at [publicadvisor@energy.ca.gov](mailto:publicadvisor@energy.ca.gov) or by phone at (916) 957-7910. Requests should be made as soon as possible but at least five days in advance. The CEC will work diligently to meet all requests based on the availability of service or resource needed.

Direct questions on the subject matter of this RFI to Jessica Lopez at [jessica.lopez@energy.ca.gov](mailto:jessica.lopez@energy.ca.gov), or David Johnson at [david.johnson@energy.ca.gov](mailto:david.johnson@energy.ca.gov). The CEC's Appliance Efficiency Branch can also be contacted by phone at (916) 651-7100.

## **Media**

Direct media inquiries to the Media and Public Communications Office at [mediaoffice@energy.ca.gov](mailto:mediaoffice@energy.ca.gov) or call (916) 654-4989.

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## **Availability of Rulemaking Proceeding Documents**

All records for the process will be accessible in the [Appliance Efficiency Regulations for Water Closets docket 22-AAER-05](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-AAER-05), <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-AAER-05>. When new information is posted, an email will be sent to those on the Appliances subscription list. To receive these notices, subscribe at the [Appliance Efficiency Proceedings webpage](https://www.energy.ca.gov/rules-and-regulations/appliance-efficiency-regulations-title-20/appliance-efficiency-proceedings), at <https://www.energy.ca.gov/rules-and-regulations/appliance-efficiency-regulations-title-20/appliance-efficiency-proceedings>.