

Submitted via email to watersense-products@erq.com

August 9, 2023

WaterSense
U.S. Environmental Protection Agency
Office of Wastewater Management (4204M)
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460



Re: WaterSense® Notice of Intent to Revise the Specification for Tank Type Toilets

Dear WaterSense Staff:

The Alliance for Water Efficiency (“**AWE**”) is a stakeholder-based 501(c)(3) organization with more than 500 member organizations dedicated to the efficient and sustainable use of water. AWE provides a forum for collaboration around policy, information sharing, education, and stakeholder engagement. AWE appreciates the opportunity to provide comments on this Notice of Intent to Revise the Specification for Tank Type Toilets (“**NOI**”). These comments were developed by AWE’s WaterSense-Water Efficient Products Advisory Committee, which is comprised of representatives from AWE member utilities, businesses, and other industry partners; the comments were then approved by a vote of AWE’s Board of Directors.

AWE welcomes this opportunity to comment on the proposed revisions to the WaterSense specification regarding tank-type toilet efficiency, which have the potential to further improve water efficiency. Particularly important is the replacement of inefficient, legacy toilets with WaterSense labeled toilets, which creates significant water savings. AWE has been working to ensure existing federal programs and funding can be used for replacing these legacy toilets, and AWE has also been advocating for new federal legislation to provide dedicated grant funding for water efficiency programs that include toilet retrofit among many other things. AWE welcomes the continued assistance of its members and partners on these retrofit efforts, and AWE encourages EPA and other federal agencies to do whatever is within their existing authorities to provide funding to state and local governments for this important work.

AWE also wants to acknowledge that according to language passed as part of the America Water Infrastructure Act of 2018, WaterSense may review specifications “**not more frequently than every 6 years** after **adoption or major revision** of any WaterSense performance criteria.” See 42 U.S.C. 6294b(b)(4), emphasis added. In this NOI, WaterSense indicates that “[b]ecause modifications to the specification would likely impact the certification status of currently labeled tank-type toilet models, EPA considers the intended revisions to constitute a major revision . . .” However, it seems that if the current revisions only address dual flush toilets, then this would be a major revision only as to dual flush toilets and would not be a major revision as to single-flush toilets. AWE is requesting clarification and, as appropriate, confirmation relating to the scope of any final major revision.

Based on the six-year limit on major revisions, AWE urges WaterSense to consider any and all supported and substantiated proposed revisions to enhance water efficiency by AWE and



others in this current update process. Additionally, AWE understands that this six-year limit would not apply if the federal standard were to be reduced from 1.6 gpf to 1.28 gpf or less nationwide as this would trigger a process by which EPA would have to consider a wholly new specification for tank-type toilets.

Regarding this NOI and tank-type toilet efficiency, AWE's comments are as follows:

1. For dual flush toilets, AWE supports eliminating the 2:1 effective flush volume and establishing a max flush volume of 1.28 gpf. Based on the existing research on user behavior, AWE agrees that many users either misunderstand how to use the full flush versus reduced flush mechanisms or intentionally choose the full flush option more often than necessary. This means the 2:1 effective flush volume is likely incorrect and the water savings anticipated from using this effective flush volume (2 reduced flushes per 1 full flush) are not being realized. Furthermore, single-flush toilets with a max flush of 1.28 gpf have an excellent track record in terms of performance, user satisfaction, and water savings, and adopting this as a max flush for dual-flush toilets makes sense from a water savings and technical perspective. AWE is not aware of any body of research that would support maintaining the current 2:1 effective flush calculation or a 1.6 gpf max flush.

2. AWE recommends that WaterSense and interested parties conduct additional research on the possibility of a 1.1 gpf max flush for single-flush toilets for WaterSense in order to address data gaps. AWE's members have a range of perspectives on the feasibility, impacts, and desirability of WaterSense requiring tank-type toilets with flush volumes of 1.1 gpf or less, which are sometimes referred to as ultra-high efficiency toilets ("UHETs"). There is broad agreement among our members that data is lacking on a variety of questions related to the potential advantages and disadvantages of changing the WaterSense max flush specification to 1.1 gpf or less.

A. Locate and Publish Information on the Share of Tank-Type Toilets Installed in single-family and multi-family residential buildings versus other building types. A view widely held by AWE members is that UHETs are more appropriate in residential buildings with smaller and simpler premise plumbing designs and more supplemental flows into the drain lines, like those from showers and clothes washers. AWE is not aware of any published data on the share of new tank-type toilets being sold that are installed in single and multi-family residential buildings versus non-residential building types. WaterSense and other interested parties should work to obtain and publish this information so it can be considered in discussions about the use of UHETs. Additionally, this information should be supplemented by an analysis or explanation of when tank-type toilets are allowed in non-residential settings under applicable building and plumbing codes compared to common examples of when tank-type toilets may be being installed contrary to applicable codes.

B. Better Data Should Be Gathered and Analyzed from Utility Programs on Customer and Property Owner Experience. Many AWE members require the use of UHETs in their residential rebate, direct install, and incentive programs for residential water efficiency. In this context, AWE members have shared anecdotally that UHETs appear to have generated very few negative comments from users and property owners participating in these programs. However, no comprehensive effort has been undertaken to gather information about these programs, evaluate the number and type of UHETs being used, and survey customers and property owners about any performance or property maintenance issues that may have arisen as a result. A focus should be placed on asking about any drainline carry and blockage issues.

C. Gather and Analyze Information on UHETs being installed in new single and multi-family residential buildings. UHETS are often used in new residential buildings that participate in voluntary

green building programs, and data may be available on UHET usage from these programs. For example, WaterSense could request summary data from the Home Certification Organizations that facilitate implementation of the WaterSense home program to evaluate UHET performance. Additionally, at least one local government requires UHETs for new residential construction and there are discussions in at least one state where a code change is being considered to require 1.1 gpf toilets in all new residential construction. Information from these programs and initiatives should be gathered, analyzed, and shared.

D. *Retail customer satisfaction data should be gathered and analyzed on UHETS.* Most major retailers allow and include customer ratings for all products that they sell. An effort should be made to gather and analyze customer rating information from these sources on a wide range of UHETs and then compare these to customer ratings on 1.28 gpf toilets.

E. *Calculating Changes to Flows and Waste Concentrations to Evaluate Potential for Sewer Collection and Treatment Impacts.* An effort should be made to calculate with specificity the changes in flow and waste concentrations at the building and sewer system level that would result if the market share for UHET grows because the WaterSense specification changes and/or state or local governments were to require at the point of sale or through code that all new tank-type toilets be UHETs. These calculations could include a range of hypothetical systems including customer mix and rainfall patterns, which results in changes in inflow and infiltration. While some qualitative surveys have been conducted, an evaluation should be made using quantitative data as to whether the changes in flow and concentration are within the collection and treatment system design parameters.

In conclusion, AWE supports advancing the water efficiency of dual flush toilets now by requiring a max flush of 1.28 gpf and by continuing research for potential future revisions to the WaterSense specification that would require 1.1 gpf or less for all tank-type toilets.

Sincerely,



Ron Burke
President and CEO
Alliance for Water Efficiency