



Comments on the January 2009 Draft Specification for
High-Efficiency Flushing Urinals

Mar 21, 2009

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Commenter: Joel Creswell

Affiliation: Graduate Student, University of Wisconsin–Madison (not representing the University)

Comment Date: January 15, 2009

Please see attached.

Thanks,
Joel Creswell

Template for Public Comment Submission on WaterSense Documents

Commenter Name: Joel Creswell

Commenter Affiliation: Graduate Student, University of Wisconsin – Madison (not representing the University)

Date of Comment Submission:1/15/09

Topic: 0.5 gallons too much

Comment: Given the wide availability and use of no flush urinals, it doesn't make sense to me to put the WaterSense label on urinals that use up to half a gallon per flush. EPA should be encouraging the use of no flush urinals, which have the potential to save twice as much water as 0.5 gpf urinals.

Rationale: If we're going to encourage people to install more efficient equipment, we might as well encourage them to install the most efficient equipment available (i.e. no flush), rather than something that's only moderately more efficient than what they have now (i.e. 0.5 gpf).

Commenter: Stephen J. Fisher
Affiliation: Advanced Modern Technologies Corporation
Comment Date: January 28, 2009

Thank you for your time and attention.

Stephen

Stephen J. Fisher
Partner
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sfisher@hudsonferry.com
Phone: 212-308-3079.
(See attached file: AMTC - Letter to WaterSense2.pdf)



**Advanced Modern Technologies Corporation
6409 Independence Avenue
Woodland Hills, CA 91367**

January 27, 2009

Via E-Mail

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

RE: Water Saving Systems for the Commercial, Institutional and Industrial Washroom

Dear Stephanie:

I am writing you to follow up on my correspondence of January 8 to your office (not directed to a particular individual) relating to your specifications for qualifying for the WaterSense Label for High-Efficiency Flushing Urinals. I have attached a copy of that prior correspondence for your convenience. I am aware of the conference call scheduled for February 5, and plan to participate. However, as my questions relate to specific products offered by Advanced Modern Technologies Corporation (www.amtccorporation.com) (“AMTC”), a leading designer, manufacturer and distributor of innovative and reliable water saving products for the commercial, institutional and industrial washroom., I am requesting a separate call with you prior to that date.

The information released by WaterSense to date clearly indicates the intent to exclude “retrofit devices”. I would like to clarify if AMTC’s retrofit flush handle described in my prior correspondence would be considered a retrofit device that would not qualify for the WaterSense Label.

It is the stated intent of WaterSense to “to assist consumers in identifying and differentiating those products that have met the EPA’s criteria for water efficiency and performance.”¹ Further, WaterSense acknowledges that “without rebates or some other economic incentive, replacing properly functioning 1.0-gpf urinals with high-efficiency 0.5-gpf fixtures might not make sense from a purely economic standpoint.”²

Given the foregoing, I believe that consumers would want to be aware of the most cost effective means (\$50 per urinal) of converting an existing installed base of flushometer valve urinals to the high efficiency urinal (“HEU”) standard of .5-gpf (providing a payback in water and sewer

¹ Draft WaterSense High-Efficiency Flushing Urinal Specification Supporting Statement

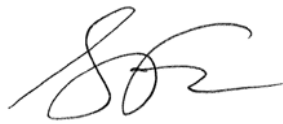
² Draft WaterSense High-Efficiency Flushing Urinal Specification Supporting Statement

savings of approximately 6-months). The AMTC retrofit flush handle can be installed by a non-plumbing professional in approximately one minute. We firmly believe that converting (rather than replacing) an existing infrastructure of functioning flushometer valve urinal fixtures to the HEU standard is the superior approach.

The AMTC retrofit flush handle can be deployed quickly and cost-effectively and can literally save billions of gallons of water each year. Because of the significant environmental benefit that can be realized by this product, I am taking the liberty of copying EPA Administrator Lisa Jackson on this correspondence.

I am requesting your assistance in this matter and thank you in advance for your consideration. I may be reached at (212-308-3079) and (sfisher@hudsonferry.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Fisher', with a stylized flourish at the end.

Stephen J. Fisher

Cc: EPA Administrator Lisa Jackson
jackson.lisa@epa.gov



Advanced Modern Technologies Corporation
6409 Independence Avenue
Woodland Hills, CA 91367

January 8, 2009

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

RE: Water Saving Systems for the Commercial, Institutional and Industrial Washroom

Dear Sir/Madam:

I have reviewed the WaterSense Notification of Intent to Develop Draft Performance Specifications for High-Efficiency Urinals (the “NOI”). I am writing you to seek clarification of the meaning/intent of a statement in the NOI and its application to certain products offered for sale by Advanced Modern Technologies Corporation (www.amtcorporation.com) (“AMTC”).

AMTC is a leading global designer, manufacturer and distributor of innovative and reliable water saving products for the commercial, institutional and industrial washroom. AMTC’s manual and automated flush retrofit systems provide a low cost solution to efficiently convert the existing installed base of flushometer valve urinals to the standards of High-Efficiency Urinal (.5-gpf) (without the necessity of changing the porcelain).

The statement in question appears on page two of the NOI under the heading “Scope”:

“Retrofit devices will not be addressed because the intent of the specification is to recognize and label complete, fully functioning fixtures or fittings, and not individual components.”

AMTC would seek to qualify two products for urinals for WaterSense labeling. AMTC considers these products to be “fully functioning fittings” that are designed to work with any Sloan or Zurn urinal flushometer (approximately 95% of the United States installed base). The products are as follows:



The AMTC High Efficiency Retrofit Flush Handle for Urinals provides the most economical means for converting an existing installed base of flushometer valve urinal fixtures to the HEU standard (can be installed in two minutes by a non-plumbing professional and does not require changing the porcelain).



The water saving benefits that can be achieved through the utilization of the AMTC High Efficiency Retrofit Flush Handle for Urinals may also be achieved through the utilization of AMTC's automated solution, with all of the additional benefits of touch-free technology.

We firmly believe that AMTC's solution for converting (rather than replacing) an existing infrastructure of functioning flushometer valve urinal fixtures to the HEU standard is the superior approach. Taking this approach will avoid the cost and environmental impact of uninstalling, transporting and disposing of the old fixtures and manufacturing, transporting and installing new fixtures. The goal of water resource conservation should not be addressed in a vacuum without consideration of other resources.

AMTC's products make saving water easy. AMTC's products are easy to install, have a quick pay-back in water and sewer savings, and are reliable and deliver on their promised performance (tested by IAPMO¹). AMTC stands behind all of its products which are backed by the best warranty in the industry.

Please advise me as to the intent of the NOI to include or exclude the above described products. I have attached the Spec Sheet for the manual handle and I would be pleased to provide you with sample product if that would be helpful in your consideration. Thank you in advance for your assistance. I may be reached at (212-308-3079) and (sfisher@hudsonferry.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Fisher', written over a white background.

Stephen J. Fisher

¹ The International Association of Plumbing and Mechanical Officials (www.iapmo.org/) works in concert with government and industry to implement comprehensive plumbing and mechanical systems around the world. All AMTC flush products have been tested by IAPMO and were determined to meet all applicable requirements of ASME A112.19.2-2003 (R08) entitled, "Vitreous China Plumbing Fixtures and Hydraulic Requirements for Water Closets and Urinals".



High Efficiency Retrofit Flush Handle for 1.0gpf Urinal

NEW!

Reduced Flush ↓

No Behavioral Change Required



***50% or More Water Savings per Flush!**

High Efficiency Water-Saving Urinal System



By using this **High Efficiency Urinal System** you are doing your part to conserve water and demonstrating your commitment to preserving the environment.

(Saves 50% Unnecessary Water)



**IMMEDIATELY
REDUCE COSTS AND
START SAVING
WATER!**

AMTC MODEL: ADH-101

Description:

High Efficiency Retrofit Flush Handle for Exposed 1.0gpf Low Consumption and Water Saver Urinal Flushometers

Benefits:

- **Green Solution-** Reduces Water Usage by 50% or More per Flush
- No Behavioral Change Required by Users to Start Saving Water
- Low Cost Solution to Achieve High Efficiency Standards
- Promotes Eco Friendly Image of Facility-Earns LEED Points
- Eliminates Costly Replacement of Porcelain Fixtures
- Easily Converts Most Commercial Urinals into High Efficiency Fixtures
- No Costly Professional Installation Required
- Excellent Return on Investment (ROI)

Features:

- Unique Patent Pending Internal Mechanism
- Push Handle DOWN for Reduced Flush (0.5gpf)
- Universal Usage Instructions on Handle

Note:

Model ADH-101 High Efficiency Retrofit Flush Handle Does Not Include Complete Flushometer.

***Patent Pending**

Architect/Engineer Approval



Advanced Modern Technologies Corporation

Toll Free Tel: 800-874-7822 - Fax: 818-883-2620 - Email: sales@amtcorporation.com - Website: www.amtcorporation.com

Commenter: David Broustis

Affiliation: Seattle Parks

Comment Date: February 3, 2009

Section 5.4 is a bit vague. I think I understand the intent --- to not allow the capability for flush mechanism part replacement to negate any water savings. However, the ability to properly maintain urinals and replace limited parts is important for both resource efficiency (not having to replace an entire flush valve), labor efficiency (quick repairs), and for financial reasons (replacing a part instead of an entire flushing unit). Maybe re-word to something like "any maintainable or replaceable flushing device parts must be designed that such parts are not interchangeable with parts that would cause the flushing device to exceed the initial rated flush volume of the flushing device."

Commenter: Klaus Reichardt
Affiliation: Waterless Company
Comment Date: February 4, 2009

Hi Stephanie,

Here are some edits for the draft specification for clarity and correctness.

- Anywhere in document and PowerPoint where it states IAPMO Z124.9 it should read ANSI Z124.9; IAPMO was sponsor of this ANSI standard but it is an ANSI not an IAPMO standard.
- Page 1: 4.1 “.....must conform to ASME A112.19.2” (needs latest update date here) (I am traveling and do not have this info on hand.)
- Page 2: 9.0 definitions — strike IAPMO line, per above

Support Statement:

- Page 1, 2nd paragraph, “...to convey waste through a liquid trap seal ...”
- Page 2, 1st paragraph “...to convey waste through a liquid trap seal...”
- 2nd paragraph-Vitreous China Nonwater Urinals and American Norms and Standards Institute (ANSI) Z124.9 -American National Standard for Plastic Urinal Fixtures.
- Page 5, V. Other Issues: “....restricted flow or clogging. Strike raised primarily in the context of non-water urinals. My comment: this last part is rather subjective and in the prior telcons it showed that clogging is an occurrence in all flushed fixtures. Eliminating this last part of the sentence will help the discussion on TH.

Hope this all helps and thanks for all your work.

Regards

Klaus Reichardt
Founder and CEO
Waterless Company
1050 Joshua Way
Vista, CA 92081
Tel: 800-244-6364 or 760-727-7723 x102
Fax: 760-727-7775
Web: www.waterless.com

Commenter: John Watson
Affiliation: Sloan Valve Company
Comment Date: February 4, 2009

Attached you will find my comments on the most recent draft of your specification for HEU's. Please review it and contact me with any questions you may have.

Regards,
John
John Watson
Sloan Valve Company
p (847) 233-2015
f (800) 737-3061
e-mail: john.watson@sloanvalve.com

February 3, 2009

United States Environmental Protection Agency
USEPA Headquarters
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: High Efficiency Flushing Urinal Specification

Dear HEU Author(s),

I have reviewed the latest draft of the High-Efficiency Flushing Urinal Specification and have some comments and several recommendations for change that I believe will strengthen the specification. My comments and proposed changes are outlined below along with rationale to support the change where appropriate. Should you have any questions about my comments or recommended changes, please don't hesitate to contact me.

Comments

Although I think some changes are required to strengthen the document, I believe that overall this specification has gotten stronger and is very close to being completed. I commend you on the addition of stronger requirements like non-hold-open actuators and non-adjustability as these features are not sustainable-friendly and can result in water being wasted. Lastly, continuing to acknowledge and reference existing industry standards as a baseline and accepting their performance requirements will ensure that future HE plumbing products meet consumer satisfaction.

Recommended Changes

1. When referencing the ASME standard A112.19.2, you should reference it as ASME A112.19.2-2008/CSA B45.1-08.
Rationale: This correctly identifies the latest edition of this standard which is a Joint Harmonized Standard between ASME & CSA.
2. In section 4.0 Urinal Fixture Requirements, when identifying the flush volume it should read as follows; "...pressurized flushing device with ~~the same~~ a rated flush volume that meets the maximum requirements of outlined in Sections..."
Rationale: More clearly identifies a maximum flush volume and relates it back to an outlined section within the document.
3. Section 5.4 under Pressurized Flushing Device Requirements regarding interchangeable parts should be removed.
Rationale: This is unnecessarily design restrictive for the following reasons (1) with the fixture clearly marked, maintenance personnel and plumbers alike are trained to replace inside components with proper repair components based on flush volume; (2) all aftermarket documentation including parts lists and maintenance guides clearly identify the proper components to use and all segments of the distribution chain know where to find these and how to use them; (3) most HEU's have different drain

specifications that will not support components that flush at a higher flush volume (the product would simply overflow), in other words, high flush volume components won't work in these applications; and (4) I am not aware of a product available on the market that can meet this requirement. Additionally, this is no different than supplying a faucet with a 1.5 gpm outlet that can be changed in the field after installation, so we should at least review how we addressed that in the High Efficiency Bathroom Faucet specification.

4. While not included in this draft document, I struggle to find the rationalization of why we continue to leave out the HIGHEST EFFICEINCY URINAL in the likes of non-water-consuming urinals. I recommend that we include non-water-consuming urinals in this standard even if we need to create a separate section for it in this document.

Rationale: When considering water savings for urinals, it doesn't seem appropriate to leave out the highest efficiency urinals that save the most water – non-water consuming urinals. This may potentially confuse the market and call into question the validity of a program that rates the water efficiency of various products that leaves a 'no brainer' product out (e.g. if they can't get this one right, why should anyone believe their other ratings). It also unfairly omits a product segment that has a history of successful use.

That concludes my comments and proposed changes. As previously mentioned, should you have any questions regarding my feedback, please don't hesitate to contact me.

Respectfully,



John Watson
Director, Technical Services

Cc: Stephanie Tanner, Shelia Frace – USEPA
Roy Sieber, Kim Wagoner – ERG
Jim Allen, John Aykroyd, Peter Jahrling, Joe Somerville – Sloan Valve Co.

Commenter: Al Dietemann
Affiliation: Seattle Public Utilities
Comment Date: February 10, 2009

Section 5.4 is a bit vague. I think I understand the intent --- to not allow the capability for flush mechanism part replacement to negate any water savings. However, the ability to properly maintain urinals and replace limited parts is important for both resource efficiency (not having to replace an entire flush valve), labor efficiency (quick repairs), and for financial reasons (replacing a part instead of an entire flushing unit). I suggest it be reworded to something like "any maintainable or replaceable flushing device parts must be designed such that such parts are not interchangeable with parts that would cause the flushing device to exceed the initial rated flush volume of the flushing device."

Al Dietemann
Water Conservation Team Leader
Seattle Public Utilities
PO BOX 34018
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www.savingwater.org
www.seattle.gov/util

Commenter: Steve Cummings
Affiliation: Caroma Dorf (Australia)
Comment Date: February 18, 2009

Dear Watersense

In reference to the proposed draft of High - Efficiency Flushing Urinal Specification we wish to make the following comments for consideration.

Please find attached a completed 'Public comment' document.

Regards

Steve

Dr Steve Cummings
R&D Manager

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Building C
4 Ray Road
Epping NSW 2121
T (02) 9202 7101
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M 0412 388 918
E steve.cummings@caromadorf.com

Template for Public Comment Submission on WaterSense Documents

Commenter Name: Steve Cummings

Commenter Affiliation: R&D Manager Caroma Dorf (Australia)

Date of Comment Submission: 29th Jan 2009

Topic: In reference to the proposed draft of High - Efficiency Flushing Urinal Specification we wish to make the following comments for consideration.

Comment: The inclusion and definition of 'Gravity flush tanks' in addition to 'pressurized flushing devices' .

Rationale: As per ASME A112.19.2 both flushing devices are allowed. Caroma has a IAPMO listing, certificate 3745, detailing a Leda 2000 urinal that is gravity feed urinal with a 1.8 liter water consumption. This does not exceed the water-efficiency criteria.

Suggested Change (or Language):

1.0 Scope and Objective

Pressurized and **gravity flush tanks** flushing devices that deliver water to urinal fixtures.

2.0 Summary of Criteria

The urinal pressurized flushing or **gravity flush tank** device must conform to the requirements in Section 5.0.

4.0 Urinal Fixture Requirements

4.1 Vitreous china urinal fixtures must conform to ASME A112.19.2 requirements when tested with a pressurized or **gravity flush tank** flushing device with the same rated flush volume that meets the requirements of Sections 3.0 and 5.0 of this specification.

4.2 Plastic urinal fixtures must conform to IAPMO Z124.9 requirements when tested with a pressurized or **gravity flush tank** flushing device with the same rated flush volume that meets the requirements of Sections 3.0 and 5.0 of this specification.

5.0 Pressurized Flushing or gravity flush tank Device Requirements

5.5 The **gravity flush tank** flushing device must conform to ASSE#1037 **or ASME A112.19.2 as applicable.**

Commenter: Sally Remedios
Affiliation: Delta Faucet Company, Masco Corporation
Comment Date: February 25, 2009

Attached please find our comments on the Draft Urinal Specification.

Please contact me with any questions,

Sincerely,

Sally Remedios,
Delta Faucet Company
317 587 1270.

Comments of the Draft WaterSense High-Efficiency Flushing Urinal Specification

Submitted by: Sally Remedios
Delta Faucet Company,
Masco Corporation.

February 2009

Suggest the **Title** be changed to eliminate the word “Flushing”.

Rationale: This specification under Appendix A indicates this specification can cover either the complete system or separately the urinal fixture and the pressurized flushing device. Literally the fixture is not a flushing device.

3.0 Water Efficiency Criteria

Suggest change as follows:

The title of the standard is ASME A112.19.2/CSA B45.1. This standard, published in 2008, is the new harmonized standard between the ASME A112.19.2 and CSA B45 Series of standards.

Rationale: To reference the latest edition of the standard covering vitreous china urinals.

Suggest add CSA B125.3 and ASSE 1037 which are standards which cover the testing of pressurized flushing devices.

Rationale: This seems to be a general section on the testing needed for both fixture and fitting. Section 4.0 and 5.0 cover the specifics of fixtures and fittings requirements.

4.0 Urinal Fixture Requirements

4.1 Suggest change the fixture standard title to:

ASME A112.19.2/CSA B45.1.

Rationale: To reference the latest edition of the standard covering vitreous china urinals. See explanation in Section 3.0 above.

5.0 Pressurized Flushing Device Requirements

5.1 Suggest add the comparable CSA standard for pressurized flushing devices “CSA B125.3”.

Rationale: This CSA standard is referenced in many US model plumbing codes as being equivalent to the ASSE 1037 standard and has a publication date of 2005.

5.2 This specification does not adequately address the electronic type flushing devices which cannot be controlled by the user and depending on their setting, the environment, the users clothing, and other factors, can flush several times during one visit to the fixture. This is more of a concern for water conservation than having a hold open feature that is self closing and would only be used on demand when extra water is needed.

5.3 If a design was such that flush volume was adjustable, however the maximum flush volume of 0.5 gpf was not exceeded, this should be acceptable. The rated flush volume could be less than 0.5 gpf.

5.4 Consideration should be given as to how this type of requirement can be policed? There would be nothing to stop anyone making a replaceable part for any given design that would allow the device to flush at a higher volume.
Suggest delete.

6.0 Marking

What does the term "in accordance with 16 CFR 305.11(f)" add to this sentence. Could it be deleted and still meet the WaterSense needs? Does the term "this specification" refer to the WaterSense specification or the 16CFR 305.11(f) specification?

9.0 Definitions

Suggest change as follows:

The title of the standard is ASME A112.19.2/CSA B45.1. This standard, published in 2008, is the new harmonized standard between the ASME A112.19.2 and CSA B45 Series of standards.

Rationale: To reference the latest edition of the standard covering vitreous china urinals.

Suggest add the comparable CSA standard for pressurized flushing devices "CSA B125.3".

Suggest include:

CSA – Canadian Standards Association

Rationale: to include the other standards developer associated with the new harmonized standard.

General Comments:

Specifications that require testing of pressurized flushing devices on fixtures from different manufacturers discriminate against the pressurized flushing device manufacturer.

A similar requirement that the urinal fixture must be tested with different pressurized flushing devices is not required.

Since a pressurized flushing device is only providing a certain volume of water over a time frame at a specified pressure, perhaps its time to rethink how pressurized flushing devices are evaluated and how a fixture affects the use of that amount of water, instead of trying to match fixtures and fittings.

The ASSE 1037 standard has not been revised for over 18 years during which time the technology and usage of water for this application has seen several changes. Perhaps it is time to think outside the box and concentrate of developing a meaningful standard for pressurized flushing devices that does not require testing on a urinal fixture.

The goal being to reduce testing costs and ensure the public can be assured of a satisfactory flushing device no matter with which fixture it is used.

In the January 8, 2009 letter to Interested Parties, it indicates that this draft WaterSense specification is for *commercial* plumbing products. Does this therefore exclude *residential* urinals and pressurized flushing devices used in residential applications?

Commenter: Dudley Greeley
Affiliation: University of Southern Maine
Comment Date: February 26, 2009

I am writing to encourage Watersense to do a thorough evaluation of the life-cycle impacts of using the available "waterless" urinals including Ifo's "Airflush". Our university has installed waterless urinals and found them acceptable when maintenance protocols were properly followed but our experiment has not been without precipitate clogged waste lines and complaints from our front line service staff (believe the old flush urinals in practice often received minimal attention from staff - water use is an unseen cost to them.... This service would be of great value to universities and institutions across the country.

Dudley Greeley, Sustainability Coordinator
University of Southern Maine
96 Falmouth Street
Portland, ME 04104
dgreeley@usm.maine.edu

Commenter: Rachel Morris

Affiliation: Ventura Climate Care Options Organized Locally (VCCool)

Comment Date: February 27, 2009

To WaterSense and Stephanie of the EPA,

Good morning and thank you for your help and the e-mail address corrections.

Please accept VCCool's comments on the Draft Performance Specifications for High-Efficiency Urinals.

(See attached cover letter and Comment Enclosure in PDF format.)

Appreciatively Yours,

-Rachel Morris

VCCool President

www.vccool.org

(805)648-1267

VCCool is a Ventura County global warming action group. Our mission is to engage all people of Ventura County in promoting a healthy climate.

Interested parties are encouraged to submit data and comments to WaterSense regarding any of the issues presented in this notice by submitting written comments to watersenseurinals@erg.com.

Ventura Climate Care Options Organized Locally
(VCCool)
345 West Center St.
Ventura, CA93003
www.vccool.org

Subj: Submission Of Comments - Watersense Notification Of Intent (NOI) Draft Performance Specifications For High-Efficiency Urinals

Greetings:

We are submitting the comments related Draft Performance Specifications for High-Efficiency Urinals. See enclosure (1). In general, we strongly support the WaterSense Program as a tool for encouraging commercialization of products that achieve higher standards for water conservation. We believe improving water efficiency is one of the key changes that will be needed to adapt to climate change over the next century.

Our comments are summarized as follows:

1. Adopt a 0.125 gpf standard for all WaterSense labeled urinals.
2. Adjust potential benefits to more accurately reflect common building practices, and standardized use rates.

Thank you for your work on the proposed standard and thank you in advance for your consideration of our comments to the proposed standard. If you have any questions please feel free to contact us at: 805/648-1267.

Respectfully,

Rachel Morris
President, VCCool

Enclosure (1)

Comments
WaterSense Notification of Intent (NOI) and
Draft Performance Specifications for High-Efficiency Urinals

SUBMITTED BY

Ventura Climate Care Options Organized Locally (VCCool)
January 14, 2009

1. Proposed Standard Not Sufficiently Strict

Reference. WaterSense is considering establishing in a draft specification for urinals, a maximum allowable flush volume of 0.5 gpf.

Comment. The proposed 0.5 gallon per flush standard is not sufficiently strict to have a meaningful long-term benefit over existing federal, state and local standards.

Discussion. Given the potential for climate change to increase the duration and intensity of drought conditions in every state and the demand for water related infrastructure caused by growing population we believe it is imperative that EPA take aggressive action seek the highest possible standards under the WaterSense program. We believe current proposed 0.5 gpf standard for WaterSense standard does not achieve that goal.

A preliminary market survey indicates that virtually every large plumbing manufacturer sells at least one waterless or ultralow flush urinal. We believe with proper incentives such as adoption of a stricter standard by the WaterSense program, the market would expand significantly and potentially become the defacto standard for all new construction and renovation work. The following is a partial list of manufacturers which have at least one urinal design with a flush volume of 0.125 gpf or less includes: 1) American Standard; 2) Duravit; 3) Ecotech Water; 4) Falcon; 5) Kohler; 6) Sloan; 7) Toto; 8) Zero Flush; and 9) Zurn.

Based on information contained in the NOI and our research we believe at least 30 waterless urinal models are currently commercially available and at least 3 models¹ which meet a 0.125 gpf standard.

Adoption of a 0.125 gpf standard would save 75% to 100% over the proposed WaterSense standard potentially saving 660,000 gallons over the life of a single fixture. This savings translates to reduced demand on limited water resources, lower energy consumption, reduced need for water production and treatment infrastructure.

¹ 1) Zurn Z5798; 2) American Standard Washbrook™ FloWise® 0.125 GPF Urinal; 3) Sloan High-Efficiency Urinal.

State governments are already moving toward adoption of a 0.5 gpf standard for all new urinal installations. For example, the maximum flush rate for all urinals sold in California starting in 2014 is 0.5 gpf (California Health And Safety Code Section 17921.3). This renders the proposed WaterSense standard effectively irrelevant for in California which is particularly prone to water shortages and droughts.

At least one Federal Agency has also adopted a waterless urinal standard. Specifically, the Army Corps of Engineers adopted in Engineering and Construction Bulletin 2006-7R and requirement that non-water using urinals be used for all new construction and major renovations. This requirement makes a 0.5 gpf WaterSense Standard irrelevant for a large share of all federal construction projects.

Given the life of many water using appliances it is reasonable to assume that decisions made today will have an impact on water consumption rates in 2050 when America is starting to face serious impacts climate change and population. We believe it is imperative to make the best possible decisions to avoid expensive fixes for our children.

Recommendation. Given the potential environmental, energy, and economic benefits, we strongly recommend that the EPA WaterSense Program adopt a 0.125 gpf standard for all WaterSense labeled urinals. Adoption this standard will make it much easier for building managers and owners to specify appropriate water conservation measures for new construction.

2. Potential Benefits Understated

Reference. Page 1 Introduction states. “These new fixtures can save an additional 0.5 gallon to 1 gallon of water per flush compared to standard fixtures, resulting in a savings of between 2,300 and 4,600¹ gallons per urinal per year.” Footnote states “It is estimated that the average urinal is flushed 18 times per day.”

Comment. Potential benefits are significantly under estimated.

Discussion. Assuming 18 flushes per day per urinal for an average urinal grossly underestimates usage in most modern buildings. Building codes generally only require one water closet per 150 occupants². Typical construction practice results in about one urinal per 25 to 50 male occupants. DOD water conservation guidance³ suggests potential savings of 520 gallons per person per year. Assuming waterless urinals the

² The *Uniform Plumbing Code* and/or the *Uniform Building Code*. The UPC specifies a fixture-to-personnel-ratio of 1:25 to be equally divided between males and females. As much as 50 percent of the fixtures in men’s rooms may be urinals. For example, a facility with an occupancy of 1,000 personnel should have 40 fixtures consisting of 20 toilets in ladies’ rooms, 10 men’s room toilets, and 10 men’s room urinals for 500 men.

³ AIR FORCE WATER CONSERVATION GUIDEBOOK Page 3-9
<http://www.afcesa.af.mil/shared/media/document/AFD-070613-067.pdf>

potential range of savings is 13,000 gpy to 26,000 gpy. Assuming a HEU (0.5 gpf) the potential range of saving is 6,500 gpy to 13000 gpy.

Over a 30 year life of a fixture the potential savings could be 780,000 gallons for waterless types and 390,000 gallons for a high-efficiency urinals (0.5 gpf).

Recommendation. The proposal should correct potential benefits to more accurately reflect common building practices, building code standards, and standardized use rates.

Commenter: Gunnar I. Baldwin
Affiliation: TOTO USA, Inc.
Comment Date: March 2, 2009

Sirs:

I would like to register the following comments on the above mentioned WaterSense label specification:

1.0 As with toilets that combine a tank and a bowl or a PFD and a bowl, Urinals also combine a tank or PFD with a bowl which needs to perform a certain task, namely the removal of urine from the bowl to a point far enough down a drain line to be combined and carried to the sewer. This task cannot be completed with either a bowl or a PFD alone and its completion depends on compatibility of the hydraulic need of the bowl and the shape of the discharge curve of the PFD. In other words user satisfaction depends on the co engineering of bowl and PFD. The WaterSense label should only be applicable to combinations of PFDs and urinal bowls that have been tested as combinations.

2.0 Wording is good.

3.0 Wording is good.

4.0 Wording needs to be changed

4.1 To refer to the flush volume of a PFD is insufficient. Each PFD has a distinct flush curve. This must meet the needs of the bowl at each moment during the flush cycle. For example a flush curve of a PFD that has a very slow flow rate but lasts long enough to use 0.5 gallons will not rinse the bowl properly. Also a high flow rate for too short a time may cause splashing, not user satisfaction!

4.2 Same as 4.1

5.0 Where sensor operated PFDs are used the specification should allow for variations in flush volume dependent on the frequency of flush so long as the average flush volume does not exceed 0.5 gpf. It has been found effective to provide a full flush only after 4-5 light flushes in intensive use situations thus reducing the average flush and peak flow caused by the urinals in such as stadium or theater bathrooms that get excessive use during intermissions. Sensor operation is becoming widespread and will eventually be demanded by codes. There should be a time delay specified for sensors that prevents them from operating as people walk by. A minimum of 5 seconds is recommended.

6.0 The word "average" should be inserted between "the" and "maximum".

7.0 No comment

8.0 No comment

9.0 Definition of Rated Flush Volume should be: The stated average flush volume of the urinal and PFD, as certified.

Appendix A

1.0 No comment

2.0 No comment

3.0 As stated in 1.0 above, I complete disagree with the labeling of these two components separately. The confusion over which valves will work with each bowl needs to be preempted by having the WaterSense label indicate this. We will certainly not be able to mix and match commercial toilet bowls and valves (we don't with residential tanks and bowls!) and we should not here either. We will save many problems with poor performance if this is not allowed.



Gunnar

Gunnar I. Baldwin, LEED AP
Water Efficiency Specialist
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Mail: 363 Thornton Gore Rd., Thornton, NH 03285

Commenter: Kent Avery

Affiliation: U.S. Navy, Naval Facilities Engineering Command HQ

Comment Date: March 4, 2009

Please find the attached comments to the WaterSense High Efficiency Urinals Draft Specification.

The attached comments have been reviewed and endorsed through Naval Facilities Engineering Command HQ, which is responsible for facilities construction and maintenance for U.S. Navy facilities worldwide.

Thank you for the opportunity to comment; the Navy is very interested in saving water, energy, and related utilities.

Questions may be directed to Kent Avery, representing NAVFAC HQ. Mr. Avery may be reached at kent.avery@navy.mil or (202) 685-9322

Respectfully,
Paul McDaniel
Naval Facilities Engineering Service Center
Port Hueneme, CA
805 982 2640

Public Comment Submission on WaterSense High Efficiency Urinals

Commenter Name: Kent Avery

Commenter Affiliation: U.S. Navy, Naval Facilities Engineering Command HQ

Date of Comment Submission: March 4, 2009

Topic: The WaterSense Flushing Urinal Specification Should Challenge Manufacturers

Comment: The WaterSense program should challenge manufacturers to higher achievement by establishing a standard that is closer to the limits of what is achievable. We recommend the standard be established at one pint per flush rather than one half gallon.

Rationale: One-half gallon per flush is set to become a mandatory standard in some jurisdictions. California will apply this requirement starting January 2014. In addition, water-flush urinals are available commercially that use one pint per flush or less. Therefore, establishing a WaterSense specification at one half gallon per flush would not establish a goal that challenges manufacturers.

"California Toilet Efficiency Law" (AB 715), Signed by Governor Schwarzenegger on Oct. 15, 2007: http://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_0701-0750/ab_715_bill_20071011_chaptered.html

The Alliance for Water Efficiency lists two manufacturers that make several models of a one-pint per flush urinal, one manufacturer that makes a $\frac{3}{4}$ pint per flush urinal, and one manufacturer that makes a one quart per flush urinal. Since water-flush urinals are available commercially that use as little as one pint per flush or even less, we suggest that WaterSense should either establish a lower flush volume (than the proposed $\frac{1}{2}$ gallon per flush) as the threshold for earning the WaterSense label, or should establish two grades of product labeling – for example a WaterSense “High Efficiency”, and a WaterSense “Ultra Efficiency” label.

Alliance for Water Efficiency Listing of High Efficiency Urinal Models
<http://www.a4we.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=2118>

Suggested Change (or Language): Set the standard for earning the WaterSense label for flushing urinals at one pint per flush.

Alternatively, set a WaterSense “High Efficiency” label standard at one quart per flush and a WaterSense “Ultra Efficiency” label standard at one pint per flush.

Topic: Comparing Waterless Urinals and High-Efficiency Flushing Urinals

Comment: To facilitate comparison between flushing and waterless urinals, the WaterSense program should tabulate manufacturer’s recommended maintenance for these urinal types. The WaterSense program should also consider - for waterless and high efficiency flushing urinals to be awarded the WaterSense label – establishing maximum allowed maintenance and requiring a demonstrated track record of satisfactory use before award of the WaterSense label.

Rationale: Businesses, and government agencies, need more information to choose intelligently between flushing and non-flushing waterless urinals. In addition to flush volume and resulting potential for water savings, a complete analysis of the business case for changing or selecting a urinal design should also consider maintenance including, for waterless urinals, any special fluids, and cartridge replacements. These maintenance items have both economic and environmental costs so should not be neglected in the comparison.

In the webpage tabulating WaterSense labeled urinals, the WaterSense program could list maintenance requirements, frequency, and costs of required maintenance products.

Alternatively, the WaterSense program could establish a maximum maintenance requirement to earn the WaterSense label, for example, a maximum of one non-routine maintenance action every 90 days, such as adding oil, or replacing the cartridge.

In approving WaterSense non-flush urinals, and high-efficiency water flush urinals, it would be helpful to take account of the field performance of these designs. The WaterSense program could either require the manufacturer to document a record of a least of year of satisfactory service in field installations, or could provide for users to post feedback about specific products (or fixture and pressurized flushing device product combinations) on the WaterSense website (with a disclaimer that user posted information does not constitute EPA endorsement of specific products).

Suggested Change (or Language): Document the maintenance requirement and costs, or establish allowable maximum maintenance requirements for waterless, and high-efficiency flushing urinals qualifying for the WaterSense label.

Require manufacturers to document a record of a least of year of satisfactory service in field installations to earn the WaterSense label, or provide for users to post feedback about specific products on the WaterSense website (with a disclaimer that user posted information does not constitute EPA endorsement of specific products).

Topic: Estimating Water Savings from High-Efficiency Urinals in Work Settings

Comment: EPA appears to have significantly underestimated the potential for water saving for high-efficiency flushing urinals and waterless urinals in work settings. The urinal flushes per day figures EPA is quoting seem unrealistically low, particularly for office settings.

Rationale: In the Notice of Intent and materials supporting the proposed draft voluntary standard for low flush urinals, EPA calculates potential water savings based on an estimated number of 18 flushes per day, and 260 days of use annually.

In estimates for Energy Savings Performance Contracting we have used the figure, for office work-settings, of 2.25 uses of a urinal per male employee per day. A typical office might have 30 to 40 male employees per installed urinal which translates to 70 to 90 flushes per day. Therefore it appears to us that an estimate of 18 flushes per day underestimates the potential water savings several fold.

In high traffic settings such as restrooms in an airport, it is easy to imagine the numbers would be significantly higher.

Suggested Change (or Language): Change the estimated savings to a higher figure - based on urinal use in an office setting. Provide a footnote indicating the underlying assumptions and calculations, and noting that the calculation may be performed for each individual building to make the business case for retrofitting urinals.

Commenter: Bill Pottorff
Affiliation: AEG, STAPLES Center and NOKIA Theatre
Comment Date: March 4, 2009

Dear EPA

AEG owns and operates numerous public venues throughout the world. As Vice President of Engineering for STAPLES Center and Nokia Theatre, LA Live, I am responsible for providing an enjoyable experience to over 250,000 people who attend our facilities in any given week. I am writing to urge you to adopt the attached draft specification for urinals which should include nonwater urinals based on AEG's overwhelmingly positive results with these fixtures in all of the aforementioned venues, and additionally at Home Depot Center in Carson, CA. At Staples Center, we have 178 nonwater urinals installed. At Nokia live, we have 95 nonwater urinals installed. And at the Home Depot Center, we have another 215 nonwater urinals installed. Our water savings, annually, are over 20 million gallons! No more leaks, no more floods, no more constantly running valves wasting our region's water. Additionally, there have been no adverse effects on our existing plumbing systems. These successful installations in Southern California have led to implementation of these fixtures in our other properties around the country.

EPA's draft is quite simply flawed. Nonwater urinals are the most cost effective and water efficient plumbing fixture available, and they should be included in this WaterSense Program.

Please correct this error by adopting the attached specification which rightfully includes both water and nonwater urinals.

Bill Pottorff
Vice President - Engineering
AEG
STAPLES Center and NOKIA Theatre
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Los Angeles, CA 90015
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bpottorff@aeqworldwide.com

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.

Commenter: Tim Richardson
Affiliation: PBJ Facility Solutions, Ltd
Comment Date: March 4, 2009

I would like you go on record urging you to accept and apply the findings in the attachment for the application and use of waterless technologies in the US. The attachment reflects changes to the “generic program” you are proposing. These changes make meaningful sense and I urge that you accept them. The systems are effective, efficient and show good faith effort on behalf of the US Government to be a leader in environmental concerns.

I had 84 waterless urinals installed as a retrofit to an existing facility 18 months ago and cannot begin to express my pleasure with their operation and the environmental stewardship that was blossomed on this educational facility because of this. The choice was obvious, save water – reduce operating costs but the challenge was difficult because the local municipal agency did not accept the retrofit from water flush systems to a waterless type. Building codes had not been updated for 20 years although outside efforts were being waged to obtain revisions and acceptance. Nonetheless, these were embraced and we have estimated that we have saved over 3 million gallons of potable drinking water since their placement. During this drought season it was pleasing to know that this drinking water went for other purposes. Additionally, the placement of these urinals spawned an interest by a group of student to start an Environment Club that has grown to over 45 students that manage the recycling of all plastic and aluminum containers at this educational facility.

I have shared this experience with others urging them to embrace this technology, I urge you as well.

Tim Richardson
PBJ Facility Solutions, Ltd
5495 Via Rocas
Westlake Village, Ca 91362
office - 818-575-9219
cell - 805-331-0493
fax - 818-889-4510

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.

Commenter: Ron George
Affiliation: Ron George Design & Consulting Services
Comment Date: March 5, 2009

I was reviewing the latest WaterSense program draft for “High-Efficiency Flushing Urinal Specification” for labeling non-water urinals with the WaterSense label. I noticed it did not have provisions for non-water using urinals. I feel non-water urinals should be included in the specification.

I have been specifying non-water urinals for several years and if maintained and cleaned properly they perform well and save 100 percent more water than the most efficient water using urinal.

Please consider adopting the following changes to the WaterSense draft for “High-Efficiency Flushing Urinal Specification”.

Thank You,

Ron George, CIPE, CPD, President
Ron George Design & Consulting Services

Michigan Office Address:
3525 N Dixie Hwy.
Monroe, Michigan 48162
Phone: 734-322-0225
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300 Thomas Ln.
Lillian, TX 76061
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E-mail: rgdc@rongeorgedesign.com
Website: www.rongeorgedesign.com

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.

Commenter: Gary Goodale
Affiliation: Westminster School District
Comment Date: March 5, 2009

TO EPA :

At Westminster School District we have 120 waterless urinals installed for approx. 2 years now. We are saving approx. 3 million gallons of water per year. They were purchased and installed through a rebait program at no cost to the district. They are working good. Any questions please call me at 714-894-7311 ext. 513.

Commenter: Roian Atwood
Affiliation: Sole Technology, Inc.
Comment Date: March 5, 2009

March 5, 2009

Dear Madam or Sir of the Environmental Protection Agency,

Sole Technology is a privately held action sports company located in Southern California, managing six brands of apparel and footwear. We have a strong environmental commitment that includes becoming carbon neutral by 2020 and reducing our water footprint as much as possible throughout every part of our business process.

We are concerned about the most recent WaterSense labeling system for urinals for the purpose of promoting water conservation. Quite simply, we feel that this system does not reflect the benefits of waterfree/waterless technology. We installed Falcon Waterfree urinals approximately 18 months ago and have been very impressed with their performance and feel that they are a superior technology to any flush system on the market.

In one year we have demonstrated that 10 waterfree urinals saved 334,056 gallons of potable water. We can attest that these urinals are durable, maintenance free, and do not smell.

Please consider adding them to the eligible technology under this water labeling standard. Attached is an edited copy of the water standard that I would endorse.

Thank you for your consideration. If you have any questions please do not hesitate to contact me.

Sincerely,

Roian Atwood
Manager of Environmental Affairs
Sole Technology, Inc.
20162 Windrow Drive
Lake Forest, CA 92630
Roian.Atwood@soletechnology.com

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.

Commenter: Lucian Gray
Affiliation: Jack in the Box
Comment Date: March 5, 2009

On behalf of the Jack in the Box organization, let me state that we are thrilled to participate in an endeavor that conserves consumption of a dwindling natural resource. In the past year we have installed over one hundred water-free urinals in our system, and now specify them for all of our new locations. With over 2500 locations across the country we would love to reduce our water foot print even more.

Our efforts, with our vendor partners and the foresighted thinking of the Metropolitan Water District of SoCal, have resulted in over 5,000,000 gallons saved on an annual basis.

We are not only being able to contribute to the long term stewardship of this precious resource; we are also seeing as a return on investment, an average in excess of \$200 annual savings at each of our 125 location installed to date.

We urge the EPA to include the below attached in their new regulations and guidelines surrounding water conservation as it relates to urinals. It makes great WATER SENSE!

(See attached file: NEW WaterSense Strikethrough Spec.pdf)

Lucian Gray
Director
Ops, Engineering & Resources
Jack in the Box

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.

Commenter: Bobby McKenna
Affiliation: Las Vegas Motor Speedway
Comment Date: March 6, 2009

Dear EPA,

The Las Vegas Motor Speedway has had 300 water free urinals installed and in use for the last 4 years. Our spring NASCAR event is attended by 300,000 over a 3 day period. While I have many things to worry about during our events, water free urinals are not one of them. They are easy to maintain, and costs are minimal. Housekeepers wages versus plumbers wages. We have had no issues with these fixtures and there has been no impact on our existing plumbing systems.

Living in the desert and watching water levels at Lake Mead, I am not sure why EPA Watersense would put out a draft standard that excludes these fixtures. I would want to have all the possibilities in front of me prior to choosing the fixture going into our next expansion.

Thank you.

Bobby McKenna
Director of Facilities
Las Vegas Motor Speedway
7000 Las Vegas Blvd. North
Las Vegas, NV 89115
O: 702-632-8128
F: 702-632-8298

Commenter: Daniel Danowski
Affiliation: Zurn One Systems
Comment Date: March 6, 2009

Hello,

Please accept our comments regarding the HEU Draft Specification.

Best regards,

Dan Danowski
Manager of Fixture Engineering
Zurn One Systems
1801 Pittsburgh Ave
Erie, PA 16502
Phone: (814) 875-1289
Email: dan.danowski@zurn.com

Template for Public Comment Submission on WaterSense Documents

Commenter Name: Daniel Danowski

Commenter Affiliation: Manager of Fixture Engineering / Zurn Industries

Date of Comment Submission: 2/19/09

Topic:

**High Efficiency Urinal Draft Specification
Section 5.2 Flushing Device Requirement of a Non-Hold Open Actuator**

Comment:

We believe that a pressurized flushing device that is primarily operated by a sensor actuator meets the intent of this draft specification for water savings, even if there is a secondary mechanical override actuator that does not comply with the “non-hold open actuator” requirement in Section 5.2.

Rationale:

Our comment is on the wording for the non-hold open actuator requirement for pressurized flushing devices. Our company completely agrees with the intent of the non-hold open actuator requirement for pressurized flushing devices. If the

specification was only for manual operated flushing devices, this requirement need would no further modification.

However, due to the public demand for sensor operated flushing devices in commercial restrooms to improve hygiene, the primary flushing mechanism would be a sensor that is inherently a non-hold open flush actuator. The common user of a sensor operated flushing urinal will not touch the urinal unless it is absolutely necessary, so the primary flushing mechanism (the sensor) will be the actuator during normal usage.

The exception is when there is a problem with the power supply or electronics in the sensor operated valve, such as batteries needing changed. It is our experience that the maintenance staff needs a way to operate the valve to evacuate waste and maintain hygienic bathrooms with out use of the sensor during these situations. Therefore, mechanically operated manual override buttons have been placed on sensor operated pressurized flushing devices as an emergency means of actuation. These mechanically operated manual override actuators are not intended to be the primary flushing actuator. They are typically small buttons on the flushing device and in some cases placed in discrete areas to prevent everyday users from actuating or even noticing them. Since these secondary mechanical override actuators are independent of the electronics for emergency use only, they are typically not compliant with the Section 5.2 “non-hold open actuator” requirement. Making these secondary actuators compliant to the “non-hold open” requirement could add significant manufacturing cost to the flushing devices that we feel is unnecessary.

While we agree that the primary actuator for the pressurized flushing devices should be a non-hold open design, we also feel a provision is necessary to allow for an secondary or emergency actuator that does not need to have a “non-hold open” design.

Suggested Change (or Language):

Section 5.2

The pressurized flushing device must not exceed the rated flush volume of water even if the **PRIMARY** actuator is maintained in the flush position (i.e., **THE device'S PRIMARY FLUSH ACTUATOR** must **BE** a non-hold-open **DESIGN**).

Topic:

**High Efficiency Urinal Draft Specification
Section 5.4 Interchangeable Parts Requirements for Pressurized Flushing Devices**

Comment:

We agree with the intent of this requirement to minimize the risk of the customer knowingly or unknowingly placing alternative components into the device to flush at a higher volume. However, we are not sure what the definition should be of

“commonly available alternative components that would allow the device to flush at a higher volume.” This seems to be vague terminology and needs further defining.

Rationale:

Suggested Change (or Language):

Commenter: James Darrish
Affiliation: Westfield, LLC
Comment Date: March 6, 2009

To Whom It May Concern:

Attached is the specification that we are recommending.

James Darrish, LEED AP
Senior Director of Technical Operations
Westfield, LLC
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Los Angeles, CA 90025
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C 310.893.9338
jdarrish@westfield.com

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.

Commenter: Nathan Moore
Affiliation: Not Disclosed
Comment Date: March 6, 2009

Good afternoon, this is Nathan Moore. I am writing because I personally feel strongly about drinking water use in urinals. Please consider the changes proposed in the attached document. The most water-efficient urinal is one that uses no water at all to remove waste. The building that I manage in Denver has 6 water-free urinals, which we have used with complete success and enjoyment for 3 years now. We estimate those urinals save us a combined 60,000 gallons of water per year, as a part of our dramatic water efficiency project undertaken in 2005/2006.

Thank you,

Nathan

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.

Commenter: Sharon Sarris
Affiliation: GREENFUSE
Comment Date: March 7, 2009

EPA WaterSense:

I urge you to add non-water urinals in the WaterSense specification that is being developed.

It is amazing to me that it is not included currently. Every year, billions of gallons of water are saved with non-water urinals, and the technology has been commercially available in the United States for more than ten years.

I have worked with many U.S. Green Building LEED certified buildings, campuses and building owners in California and found non-water using urinals to be successful. It is one major way these projects achieve water efficiency points for their LEED certification.

Upon proper installation and maintenance they work wonderfully, are odorless and save huge amounts of water.

I urge you to revise the proposed specification according to changes noted in the attachment.

Thank you,

Sharon Sarris
LEED Accredited Professional
Principal
GREENFUSE
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www.sustainabilityworks.biz
Member, USGBC, USGBC-NCC, Build It Green
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831-239-6819 - cell
413-677-0711 - fax

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.

Commenter: Nick Covino
Affiliation: American Standard
Comment Date: March 9, 2009

<<American_Standard_HEU_Comment_030909.doc>>

Nick Covino
American Standard
865 Centennial Avenue
Piscataway, NJ 08854
T (732) 980-3141
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Template for Public Comment Submission on WaterSense Documents

Commenter Name: Nick Covino

Commenter Affiliation: American Standard

Date of Comment Submission: March 9, 2009

Topic: 5.2 Pressurized Flushing Device Requirements

Comment: The stipulated non-hold-open actuator requires further clarification as to when this specification is applicable.

Rationale: Many electronically activated products incorporate a secondary manual actuator feature to provide continued functionality during emergency electrical power outages or battery failures. The flush volume of water may exceed 0.5 gpf when operated in this manner. The short term excessive water consumption is far outweighed by preventing unsanitary and unhealthy conditions during these situations.

Suggested Change (or Language): The pressurized flushing device must not exceed the rated flush volume of water ~~even~~ if the actuator is maintained in the flush position (i.e., device must have a non-hold open actuator).

EXCEPTION: The flush volume of water may exceed 0.5 gpf when a secondary emergency actuator [if so equipped] is used.

Commenter: James Darrish
Affiliation: Westfield, LLC
Comment Date: March 9, 2009

To Whom It May Concern:

We have installed non-water urinals at several locations in California. With over 40 of these fixtures installed, we will help save over 1.5 million gallons of water this year alone. We are looking to expand our implementation nationally as water issues are prevalent in all areas of the United States. We hear positive comments from both our facility managers and our shoppers. Non-water urinals have only positive impacts on our facilities: environmental and resource benefits along with real dollar savings. In these challenging times, we are pleased with the reduced operating and maintenance costs that we have realized by using these fixtures. We also know that there is no negative effect on our plumbing systems from these fixtures.

We intend to continue retro-fitting our restrooms with waterless urinals over the next few years as incentives and capital become available.

Regards,

James Darrish, LEED AP
Senior Director of Technical Operations
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jdarrish@westfield.com

Commenter: Rob Zimmerman
Affiliation: Kohler Co.
Comment Date: March 9, 2009

Please feel free to contact me directly with any responses or questions.
Thanks!

<<Kohler WS HEU Comments--Final.doc>>

Rob Zimmerman
Sr. Staff Engineer--Water Conservation Initiatives
Kohler Co.
Kohler, Wisconsin
p: (920) 457-4441, xt. 73353
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Template for Public Comment Submission on WaterSense Documents

Commenter Name: Rob Zimmerman

Commenter Affiliation: Kohler Co.

Date of Comment Submission: March 9, 2009

Topic: 4.0 Urinal Fixture Requirements

Comment: Kohler Co. would like to reiterate its support of including non-water urinals in the WaterSense program.

Rationale: Many of the potential drain line issues that have been cited about non-water urinals have not been adequately studied in high efficiency urinals, particularly those with very low flush volumes. It seems arbitrary to allow urinals that flush 0.13 gallons or less, but not allow non-water urinals. Further, WaterSense addressed potential performance issues with lavatory faucets in a different way—by requiring a minimum flow. If a minimum flush volume is required, adequate testing needs to be done to establish that volume.

Absent that, non-water urinals should be included in this specification since WaterSense has no basis to propose improvements to the two existing non-water urinal standards. As non-water urinals serve the same basic function as flushing urinals, it is fair to include them based on their inherent water efficiency. The WaterSense specification is designed to ensure both sustainable, efficient water use and a high level of user satisfaction as quoted from Section 1.0. Kohler Co. feels that there is sufficient positive field experience with non-water urinals that they meet these criteria.

Suggested Change (or Language): Add the following text as Sections 4.3 and 4.4:

- 4.3 Vitreous china non-water urinal fixtures must conform to ASME A112.19.19 requirements.
- 4.4 Plastic non-water urinal fixtures must conform to IAPMO Z124.9 requirements.

Topic: 5.2 Non-Hold-Open Requirement for PFDs

Comment: The non-hold open requirement should apply only to the primary flushing mechanism of pressurized flushing devices.

Rationale: Many pressurized flushing devices that are sensor-activated also have manual flush (or “courtesy flush”) mechanisms that allow them to function without power, such as when batteries wear out. On sensor-activated devices, the manual flush is only rarely used. Requiring this secondary flushing mechanism to also be self-closing is unnecessary and will add cost to sensor-activated products.

Suggested Change (or Language): The primary flushing mechanism of the pressurized flushing device must not exceed the rated flush volume of water, even if the actuator is maintained in the flush position (i.e., primary flushing mechanism must have a non-hold-open actuator).

Topic: 5.4 Non-Interchangeable Parts Requirement for PFDs

Comment: Interchangeable parts should be allowed for different products that meet the WaterSense specification.

Rationale: Use of interchangeable parts allows facility managers to reduce spare parts inventories and allows for standardized components across product lines. Rather than forcing manufacturers to create special components and tooling for various products that meet the WaterSense specification, we suggest that interchangeable parts be allowed so long as their use does not allow the pressurized flushing device to exceed 0.5 gpf.

Suggested Change (or Language): The pressurized flushing device must not contain interchangeable parts, such as pistons or diaphragms, which if replaced with commonly available alternative components would allow the device to flush more than 0.5 gpf.

Commenter: Raymond B. Ludwiszewski
Affiliation: Gibson, Dunn & Crutcher LLP
Comment Date: March 9, 2009

Attached please find comments regarding EPA's proposed High-Efficiency Urinal Specification.

<<Letter to EPA re proposed high-efficiency urinal specification 3-9-09.pdf>>

Zia C. Oatley*
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* Admitted only in the state of Maryland. Practicing under the supervision of principals of the firm.

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.

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LAWYERS

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March 9, 2009

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Client Matter No.
27200-00018

VIA ELECTRONIC MAIL

WaterSense
United States Environmental Protection Agency
Office of Wastewater Management (4204M)
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: *Exclusion of non-water urinals from specification on high-efficiency urinals*

Dear WaterSense Program Administrator:

I represent Falcon Waterfree Technologies, a manufacturer of non-water urinals. I write to urge you to revise WaterSense's performance specification on high-efficiency urinals to include non-water urinals. This could be easily accomplished by adopting the revisions proposed to the specification in the enclosed draft. The current specification, which excludes non-water urinals, is inconsistent with the principal goal of the WaterSense program—water conservation—in that the specification excludes the most water-efficient urinals of all, non-water urinals. A decision to limit the specification to flushing urinals would competitively disadvantage manufacturers and sellers of non-water urinals. Moreover, such a decision will result in vastly greater water use for urinals than is necessary. Nothing in the public record justifies EPA's decision to exclude non-water urinals from the specification.

The current specification is unfair and lacks support in the record.

The stated goal of the WaterSense program is to decrease water use through more efficient products, equipment, and programs. Success of the program is measured in terms of the amount of water saved by individuals and organizations purchasing water-efficient products in place of those that consume more water. On the criteria set by the program—the amount of water used—non-water urinals are, by definition, superior to their flushing counterparts. As a

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result, it is unfair to severely disadvantage non-water urinals in the marketplace by excluding them from the specification.

EPA's current draft of the specification seeks to boost newer urinals that use less water over older, water-wasting models. The volume of the precious water that EPA's specification could hope to save will be dwarfed by the amount wasted due to the harm EPA will do to the installation of urinals that use no water.

Limiting the specification to flushing urinals will dramatically damage manufacturers of non-water urinals. Companies like Falcon will not be able to compete on equal footing with low-water flush urinals that receive the WaterSense certification. Eligibility for rebates, funding, and other "green" certifications are often tied to using products with the WaterSense label. Even when a non-water urinal is objectively superior to a flushing urinal in all characteristics, a builder whose financing or sales plan depends on obtaining a green certification for his building will be forced to choose a flushing urinal with the WaterSense label over a non-water urinal unfairly barred from receiving such a designation.

For example, some cities offer rebates for purchasing a high-efficiency toilet or urinal. However, eligibility for the rebate programs is often tied to purchasing a product with the WaterSense label. (*See, e.g.,* City of Durham Toilet Rebate Program (offering \$100 rebate for purchase of high-efficiency toilet with WaterSense label); City of Gallup High-Efficiency Toilet & Showerhead Rebate Program (same); Madison Water Utility rebate program (same).) In addition, the recent stimulus legislation allocates over \$25 billion for green buildings. This construction and retrofitting will occur in the near-future, and it is expected that projects funded by that money will similarly require WaterSense certified urinals to be installed. With non-water urinals excluded from the WaterSense specification, EPA will permanently miss a substantial opportunity to conserve water.

EPA states that the WaterSense program "does not intend to limit manufacturer's options or be design specific in any way. Ultimately, it is up to consumers to weigh all the associated costs and benefits of each technology and decide for themselves whether it is the optimal system for their operations." (Notification of Intent to Develop Performance Specification For High-Efficiency Urinals, p. 5 (May 22, 2008) ("NOI").) However, excluding non-water urinals from the specification is tantamount to handicapping them in the marketplace.

The record contains no justification for excluding non-water urinals.

There is no question that non-water urinals surpasses the water-efficiency specification of not exceeding 0.5 gallons per flush. As EPA acknowledges, "non-water urinals, by design, are inherently water-efficient." (Draft WaterSense High-Efficiency Flushing Urinal Specification Supporting Statement, p. 2 (Jan. 8, 2009) ("Supporting Statement").)

EPA has indicated that it "noted previously some concerns regarding the build up of urine solids in the drain line leading to restricted flow or clogging, raised primarily in the context of

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non-water urinals.” (Supporting Statement, p. 5.) However, EPA states that the information it received on this issue was “insufficient to draw any firm conclusions about the build up and subsequent blockage of drain lines resulting from the use of *high-efficiency urinals*.” (*Id.*) As EPA states, it was unable to draw conclusions as to either flushing or non-water urinals. On this record, it is improper to allow flushing urinals to obtain the market advantage of the WaterSense mark and to comparatively disadvantage non-water urinals.

Turning away from the issue of EPA’s unsupportable decision to treat flushing and non-water urinals differently, EPA has gone beyond its area of core competency by, in the first instance, evaluating drain line build up. The issue of drain line build up should be left for review by the organizations who have expertise in building and maintaining plumbing systems, and those organizations have universally approved the use of non-water urinals.

As EPA recognizes, all urinals, including non-water urinals, “are already subject to rigorous performance standards.” (NOI, p. 3.) Non-water urinals are subject to performance requirements promulgated by the American National Standards Institute: American Society of Mechanical Engineers (ASME) A112.19.19 covers vitreous china urinals, and International Association of Plumbing and Mechanical Officials (IAPMO) Z124.9 covers plastic urinals. In addition, the International Plumbing Code and the Uniform Plumbing Code have established standards for the design and installation of proper sanitary drainage. All three model plumbing codes in the United States have approved use of non-water urinals. Given that the experts have already evaluated the performance and reliability of non-water urinals, EPA should defer to their expertise and include non-water urinals in the WaterSense specification.

Furthermore, non-water urinals have an established track record. For example, Falcon Waterfree Technologies alone has successfully installed non-water urinals in every conceivable commercial facility that has urinals—from large public assembly venues to municipal buildings, from K-12 schools to major universities, and from Class A office buildings to warehouses. There are over 75,000 Falcon non-water urinals currently in operation in the United States, including 260 installed in the Rose Bowl Stadium in Pasadena, California, and 230 installed at the Staples Center in Los Angeles, California.

Many of Falcon’s customers have written EPA to support inclusion of non-water urinals in the WaterSense specification, and tout the benefits of non-water urinals over their flushing counterparts. Indeed, a representative of the Las Vegas Motor Speedway, which has had 300 Falcon non-water urinals in operation for four seasons, writes:

During our three day events, we have over 350,000 people attend the races. While I have many things to worry about during these races, the nonwater urinals are not one of them. They are clean, odorfree, and reduce both my operating costs and maintenance costs. We have had no issues with these fixtures or any impact on our existing plumbing systems since they were installed. In fact, the reduced amount of waste to the sewer system is an added benefit.

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(Bobby McKenna, Las Vegas Motor Speedway.)

Manufacturers of non-water urinals are harmed by any delay in certification.

As mentioned above, the stimulus spending bill has allocated billions of dollars for green buildings, and this money will be spent quickly. Given the boom of green building likely to occur in the next 18 months, delaying the WaterSense certification process by even a short period will cost the environment innumerable one-time opportunities to conserve water and will similarly cost non-water urinal producers considerable sales revenue. That problem is exacerbated by the sunk costs of plumbing a building for flushing urinals. Once that has occurred, it is unlikely that the building will in the future switch to non-water urinals. Not only do companies like Falcon lose out on business, EPA permanently loses out on the chance to conserve hundreds of thousands of gallons of water.

* * *

Given that non-water urinals are superior to flushing urinals on the principal criteria of the WaterSense program, water conservation, and given that there is no reasoned basis in the record for non-water urinals to be excluded from the performance specification for high-efficiency urinals, I urge EPA to reconsider its preliminary decision to exclude them from the specification. A failure by EPA to revise the specification to include non-water urinals would leave non-water urinal manufacturers with little choice but to consider legal action, including moving for an injunction to prevent implementation of the WaterSense high-efficiency urinal certification program until non-water urinals are included in the specification.

Sincerely,

/s/ Raymond B. Ludwiszewski
Raymond B. Ludwiszewski

RBL/zco

Encl: Revised Draft High-Efficiency Urinal Specification

Commenter: Levi Heidelberg
Affiliation: Lake Avenue Church
Comment Date: March 9, 2009

Dear EPA Watersense

I am writing to urge you to adopt the attached specification for high efficiency urinals. Lake Avenue Church, based in Pasadena, CA, has had over 30 nonwater urinals installed for over 5 years. In that timeframe, we have seen substantial water savings (over 5 million gallons) and cost savings due to reduced water/sewer costs and greatly reduced maintenance costs due to the lack of any flush valves. There are no more leaks or running valve during our services. We are both a church, community center, educational center, and community resource. We have functions almost daily and are not just limited to weekend services.

The decision to install these urinals was a beneficial one for our facility, our congregants, and our community. There has been an increase in restroom hygiene since they were installed. Equally important, there has been no adverse effect on any of our existing piping or plumbing systems. These fixtures are easier to clean and to maintain than the flush urinals we replaced.

If EPA's program is intended to inform consumers of water-efficient products, then this program must include nonwater urinals. They are the most water efficient and cost-effective fixture that we have in our entire facility. EPA's program is deficient and incomplete until such time as the attached draft is adopted. Therefore, we again urge you to adopt the attached specification for high efficiency urinals.

Sincerely,
Levi Heidelberg
Director of Operations
Lake Avenue Church

Commenter: Mary Ann Dickinson
Affiliation: Alliance for Water Efficiency
Comment Date: March 9, 2009

Hello,

Please accept the attached as public comment on the EPA WaterSense Draft High-Efficiency Flushing Urinal Specification. Thank you for the opportunity.

Kind regards,

~ Jeffrey

=====

Jeffrey Hughes
Administrative Director
Alliance for Water Efficiency
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PUBLIC COMMENT SUBMISSION ON WATERSENSE DRAFT HIGH-EFFICIENCY FLUSHING URINAL SPECIFICATION

Commenter Name: Mary Ann Dickinson, Executive Director

Commenter Affiliation: Alliance for Water Efficiency

Date of Comment Submission: March 9, 2009

Topic: 1.0 Scope and Objective

Comment: The Alliance for Water Efficiency supports the establishment of a WaterSense specification for flushing urinals. We urge the adoption of this specification at the earliest practical date. In this, and all WaterSense specifications, EPA should state its commitment to periodically review and update the specification as warranted by economic and technological developments in the marketplace.

Topic: 1.0 Scope and Objective

Comment: The scope of the specification should also include tank-type urinals.

Rationale: While tank-type urinals represent a small fraction of the market, they could be manufactured to meet the water efficiency and performance requirements of the specification.

Suggested Change (or Language): Add the following bullet point to the points in Section 1.0:

- Tank-type (gravity-fed) flushing devices that deliver water to urinal fixtures.

Topic: 5.0 Pressurized Flushing Device Requirements

Comment: WaterSense should consider developing a sensor performance requirement for sensor-activated pressurized flushing devices.

Rationale: A common complaint about sensor-activated pressurized flushing devices is that false actuation (flushing when it's not supposed to) wastes water. We feel that otherwise compliant PFDs that are equipped with poor sensors will visibly waste water and have the potential to detract from the WaterSense brand. However, at this time there is no industry standard test of sensor performance. Such a test would need to be developed with support from product manufacturers. We do not wish to hold up release of the specification on this point, but would suggest future revisions include such a requirement.

Suggested Change (or Language):

Topic: 5.4 Non-Interchangeable Parts Requirement for PFDs

Comment: Interchangeable parts should be limited to those that maintain the urinal's rated flush volume.

Rationale: Field adjustability has the potential to erode water savings, degrade flushing performance, and compromise the WaterSense brand. To ensure rated performance, limits on interchangeable parts should preclude flushing at lower than rated volumes as well as higher than rated volumes.

Suggested Change (or Language): Modify the current text as follows:

The pressurized flushing device must not contain interchangeable parts, such as pistons or diaphragms, which if replaced with commonly available alternative components would allow the device to flush at other than its rated flush a higher volume.

Topic: 6.0 Marking

Comment: Both the product and the product packaging should be marked with maximum flush volumes.

Rationale: Permanent marking of the flush volume on the product itself, as well as on its original packaging, is very desirable, because commercial building owners, managers, and maintenance staff all change over time, sometimes rapidly. A permanent mark on both fixture and valve is necessary to ensure proper maintenance, and to facilitate any future on-site audit of water consumption.

Suggested Change (or Language): Revise “The product and/or the product packaging must be marked . . .” to read “The product and the product packaging must be marked . . .”

Topic: Appendix A – 3.0 Independent Labeling of Urinal Fixtures and Pressurized Flushing Devices

Comment: Since pressurized flushing devices (PFDs) and urinal fixtures are often sold separately and may be supplied by different manufacturers, specific pairings of PFDs and fixtures need to be tested in combination in order to be listed as a WaterSense urinal.

Rationale: PFDs do not all have the same discharge curves even if they might have the same flush volume. This can mean very different performance in creating a water exchange in the trapway which will prevent odor, unpleasant visible remaining urine and, worst of all mineral deposit build up in the trapways. We believe labeling independent components of a system that needs to perform as a singular product is asking for failures that might backlash against the WaterSense brand.

Suggested Change (or Language): Modify the current text as follows:

Certified urinal fixtures and pressurized flushing devices ~~may~~ **shall** be labeled as a complete system ~~or separately as a urinal fixture or pressurized flushing device~~. If labeled **sold** separately, the manufacturer of each part must clearly indicate on product documentation that the part must be used with a WaterSense labeled counterpart that has ~~the same rated flush volume~~ **been tested and certified in combination with that part**, in order to ensure that the entire system meets the requirements of this specification for water efficiency and performance.

Topic: Awareness of Potential Drainline Issues from HEUs

Comment: Non-water urinals have been specifically excluded from this draft specification due to lack of sufficient research on the causes and risks of solids buildup in drainlines. We ask that as such research on non-water urinals (and very low volume flushing urinals) is published, that the specification be amended accordingly.

Rationale:

Suggested Change (or Language):

Commenter: Daniel Gleiberman
Affiliation: Falcon Waterfree Technologies
Comment Date: March 9, 2009

Please see attached comments and recommended changes to the Watersense Specification for High Efficiency Urinals.

Thank you

Danny Gleiberman
Vice President Government Affairs
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Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.



March 9, 2009

WaterSense
United States Environmental Protection Agency
Office of Wastewater Management
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

RE: Draft Specification for High Efficiency Urinals (HEUs)

Dear WaterSense Program Administrator:

We are writing to urge EPA to adopt a specification for high efficiency urinals that addresses both water and non-water urinals. With a few slight modifications detailed in the attached revision, this can and should be easily accomplished.

EPA launched WaterSense, a voluntary water efficiency program, to protect the future of our nation's water supply by promoting water efficiency and enhancing the market for water-efficient products, services and programs. We fully support this goal. However, the current draft for high-efficiency, flushing urinals fails to meet this goal by unnecessarily and unfairly omitting non-water urinals. We will review each of the criteria that EPA has published in selecting products for evaluation and after this review it will be apparent that non-water urinals should be included in the specification.

For reference, EPA states that in order to be considered for a label, products must:

- Perform as well or better than their less efficient counterparts.
- Be about 20 percent more water-efficient than average products in that category.
- Realize water savings on a national level.
- Provide measurable results.
- Achieve water efficiency through several technology options.
- Be effectively differentiated by the WaterSense label.
- Be independently certified.

Do non-water urinals perform as well or better than their less efficient counterparts?

While EPA's draft is labeled and intended to cover only flushing urinals, the two consensus based American National Standards Institute (ANSI) standards, ASME A112.19.2 and ANSI Z124.9, both explicitly include non-water urinals. EPA is correct in using ANSI accredited standards as the basis for establishing performance of plumbing fixtures. The term consensus in this context is critical because it means that there is a wide-range of experts and stakeholders that comprise these standard-writing organizations. These experts have thoroughly analyzed both the

products and the testing protocols. This process brings together volunteers representing varied viewpoints and interests to achieve consensus on the issues of appropriate fixture performance and testing protocols.

In the supporting documentation, EPA correctly indicates that these two standards are designed to ensure a high-level of performance for non-water urinals. EPA further acknowledges that WaterSense has no basis to propose improvements to these existing standards. Quite simply, if the standards are sufficient to establish baseline performance criteria for flushing urinals than they must logically also be sufficient for non-water urinals. They are the SAME standards.

EPA has answered this question in the affirmative. The ANSI standards ensure a high-level of performance and EPA has no basis to propose improvements. Therefore, non-water urinals DO perform as well or better than their less efficient counterparts.

EPA's Specification Supporting Statement mentions that there had been some concerns regarding the build-up of urine solids in the drain line. EPA notes that the information received on this issue was "insufficient to draw any firm conclusions about the build-up...resulting from the use of high-efficiency urinals." EPA's conclusion is valid for all high-efficiency urinals, which should as stated previously include both water and non-water urinals.

While there is no mention of plumbing codes in either the draft specification or the supporting statement, it is important to note their relevance. There are three model plumbing codes in use in the United States. The Uniform Plumbing Code (UPC) is promulgated and published by the International Association of Plumbing and Mechanical Officials (IAPMO). The International Plumbing Code (IPC) is promulgated and published by the International Code Council (ICC). The National Standard Plumbing Code (NSPC) is promulgated and published by the Plumbing, Heating and Cooling Contractors of America (PHCC).

While there are differences among these three model codes, they all share a common goal and serve a common purpose: To protect the public health, safety and welfare by ensuring that all plumbing systems and plumbing fixtures comply with an orderly set of rules and regulations designed to guarantee performance and safety. While each model code has different processes for adoption, all of them have some form of open public process that allows for amendments and changes to their respective codes. These changes are only approved after rigorous review by a series of Technical Committees, comprised of experts in the field of plumbing design, installation and regulation.

All three model plumbing codes used in the United States specifically permit the installation of non-water urinals. With respect to non-water urinals, these plumbing codes guarantee that these fixtures are safe, sanitary and able to be successfully installed in plumbing systems. This is one more important consideration to conclude that non-water urinals perform as well or better than their less efficient counterparts.

Are non-water urinals 20 percent more efficient than average products in that category?

EPA states in their supporting documentation that non-water urinals are inherently water-efficient. They are in fact 100% more efficient than any flushing urinal. **Therefore, they greatly exceed this criterion.**

Can water savings be realized on the national level?

Estimates of water savings for non-water urinals range from 25,000-40,000 gallons of water saved per urinal, per year. Non-water urinals are installed in all fifty states and in every imaginable commercial application. Some of the more noteworthy locations are the Rose Bowl in Pasadena, the Staples Center and Dodger Stadium in Los Angeles, the Las Vegas Motor Speedway and many others. Presently, water savings from the use of non-water urinals are being realized and these savings are sustainable.

The United States Green Building Council (USGBC), the Green Building Initiative (GBI), and the Collaborative for High Performance Schools (CHPS) are all organizations which provide guidelines and certifications for buildings to be classified as “green” and sustainable. Each of these organizations includes non-water urinals as part of their best management and practices. For example, the USGBC LEED rating system for New Construction, Existing Buildings, Core and Shell, and for Schools includes the use of non-water urinals as an appropriate way to achieve the maximum amount of water efficiency for that particular building type.

Like the three model plumbing codes, these three organizations are varied in the guidelines that they provide and the certifications that they offer. **But, again like the plumbing codes, they all list non-water urinals (also referred to as dry fixtures) as an appropriate plumbing fixture to help achieve maximum water efficiency.**

Do non-water urinals provide measurable results?

While the supporting statement from the EPA only offers potential water savings from high-efficiency flushing urinals, water savings from non-water urinals are based on actual, scientific studies. One such study, conducted at UCLA in 2000, concluded that non-water urinals will save on average 40,000 gallons of water per urinal per year. **These results are measurable and of the over 75,000 non-water urinals in use in the United States, to date they have already accounted for over 3 billion gallons of water saved.**

Is water efficiency achieved through several technology options?

EPA’s research indicated there are at least nine manufacturers offering 30 different models of non-water urinals. These numbers are greater than those revealed by EPA for flushing urinals.

Therefore, it is accurate to conclude that water efficiency is achieved through several technology options with regards to non-water urinals.

Will non-water urinals be effectively differentiated by the WaterSense label?

Non-water urinals save 100% of the water as compared to all other types of flushing urinals. The intent of the WaterSense Program is to enhance the market for water-efficient products. It is therefore not only logical but imperative that non-water urinals be included so that they may effectively be differentiated from all other urinals that continue to waste water.

Will non-water urinals be independently certified?

We are aware of at least eight manufacturers of non-water urinals who currently have their products certified and listed by International Association of Plumbing and Mechanical Officials (IAPMO). These include the most prominent, well-known and respected names in the plumbing industry: American Standard, Kohler, Sloan Valve Company, Zurn Industries, Caroma, Technical Concepts and of course Falcon Waterfree Technologies. IAPMO is a certified testing and listing authority that both manufacturers and consumers trust to ensure that products offered in the marketplace are safe, reliable, perform to national standards and comply with the plumbing codes. IAPMO is also a certified testing and listing authority for WaterSense products.

Therefore, it is appropriate to state that non-water urinals will be independently certified once the specification is finalized to include non-water urinals.

CONCLUSION

Non-water urinals comply with all of the criteria that EPA has published for products to be able to carry the WaterSense label. They are proven to perform as well or better than water-fed urinals, they save 100 percent of the water when compared to average products in their category, they help realize water savings on a national level and provide proven, measurable results. In addition, there are at least nine manufacturers offering over 30 models of non-water urinals. The EPA should include these fixtures in the high efficiency urinal specification because they meet all of the necessary criteria. To continue to intentionally omit them seriously impedes the ultimate goal of the WaterSense program, which is to provide the public with the best available options for water conservation products.

Thank you for considering these comments.

Sincerely,



Daniel Gleiberman
Vice President, Government Affairs

Commenter: Fernando Fernandez

Affiliation: TOTO USA, Inc.

Comment Date: March 9, 2009

Here are my comments:

1) Interchangeability

The perceived benefit of not having interchangeability is negated based upon added cost and lost water savings opportunities.

If WaterSense HEU's are designed to have non-interchangeable component parts, this would simply not allow for retrofitting from a higher consumption to a lower consumption model which is a more cost effective approach at achieving water savings.

2) Adjustability

Adjustability is often misconstrued as a way to allow tampering so that an increase in flush volume is permitted. Nothing could be further from the true intent. Adjustability is not unique to only one type of flushometer valve. It has been featured in diaphragm and piston designs alike. Due to the wide range of operating pressures a flushometer valve product and accompanying fixture is expected to perform within (15 to 125 psi in the field, although model codes mandate 20 to 80 psi), and noting that urinal designs may differ, a small amount of adjustability should be retained for purposes of fine tuning the valve to the fixture to attain the intended volume of 0.5 gpf in the event of short flushing. This may become more paramount in a non-system (non-matched) approach where a given HEU flushometer valve may be fitted to a random chosen HEU urinal fixture.

That said, I propose including a 15% adjustability allowance of the maximum rated flush volume of a particular HEU. This adjustability should not be referenced in the instructions; rather, it is intended to address any field issues that may arise from either low pressure situations, or mismatching of product. There are unintended consequences of extreme reductions in water use that must be avoided.

3) Component vs. System Labeling/Recognition

The current draft allows an either/or approach. This approach appears to encompass the pros of each side. However, in the event of individual component certification, there is no preventative measure from mismatching valve and fixture in the field. As a result, insufficient dilution of the water in the urinal pond may occur. Therefore, one additional requirement for compliant product under this option should be that the individual valve and urinal fixture be labeled as having "component certification". Additionally, urinal fixture manufacturers should also indicate the minimum amount of water volume required to meet the specification.

Similarly, for those combination valves and fixtures certified as a system, a "system certification" should be available.

4) Additional Factors to Consider

Reference to the ASME standard should be updated to reflect the harmonized edition.
Section 5.2 of the draft should not apply to electronically operated flushometer valves containing a maintenance override feature.

Regards,
Fernando Fernandez
Sr. Engineering Manager,
Codes and Standards
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Commenter: Leah Jardine
Affiliation: Bear Contractors, Inc.
Comment Date: March 10, 2009

Dear Sirs,

I am praying that you will find it in the goodness of your hearts to please accept this late admission of comments in regards to the proposed WaterSense labeling system. I was faced with an unfortunate networking problem yesterday that rendered me unable to send our documents electronically by your March 9, 2009 deadline, and could not have a technician out until this morning to fix our system.

Our comments are important and we would appreciate the opportunity to have them included in your report to the EPA.

Thanking you in advance for any assistance in this matter of importance.

Sincerely,

Leah Jardine
Bear Contractors, Inc.
231 S. Westlake Avenue
Los Angeles, CA 90057
(866) 994-BEAR
(213) 483-7511 Fax (213) 483-7504
bearcontractors@yahoo.com

Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.



Bear Contractors Inc.

March 9, 2009

U.S. Environmental Protection Agency
@ watersense-urinals@erg.com

Re: Inclusion Of Non-Water Urinals In EPA Watersense Specifications

To EPA WaterSense,

We are writing to urge you to adopt the specification for high efficiency urinals. As a licensed plumbing contractor working in Southern California, we routinely are asked to repair flush urinals and to route out drain lines for these types of fixtures. We understand that the EPA is encouraging more water efficient products and we agree with that approach. However, to exclude non water urinals misses the mark.

For customers as diverse as shopping malls, to schools, to office buildings, we have installed hundreds of non water urinals. They perform exactly as advertised; safe, sanitary, hygenic and easier to clean and maintain then water urinals.

We have experienced a decrease in requests for drain cleaning from our customers that have non-water urinals. Even though it's not great for our business, we have also completely eliminated the need for flush valve maintenance and emergency calls for leaks and floods. Non-water urinals are the most efficient fixtures available and we urge the EPA to include them in their specification.

Sincerely,

Leah Jardine
Office Manager
Bear Contractors, Inc.

cc: file

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Commenter: Jeremy Sigmon
Affiliation: U.S. Green Building Council
Comment Date: March 10, 2009

Dear Office of Wastewater Management:

The U.S. Green Building Council is supportive of the 0.5gpf flush rate that is currently written into WaterSense's "High-Efficiency Flushing Urinal Specification" as it is in line with USGBC's mission-driven recognition of efficient flush rates for flushing urinals. The current draft, however, is written to incorporate only urinals that use water through such language as requiring "flushing" urinals, "water to convey the waste," and user satisfaction with "flushing performance."

We encourage OWM and WaterSense to take advantage of a technology leap that is highly available, in demand, tested and proven: waterless urinals, at 0.0gpf – an even more appropriate type of fixture to earn the WaterSense label. ASME A112.19.19 may be helpful to incorporate by reference, as a standard for "Vitreous China Nonwater Urinals."

On behalf of U.S. Green Building Council's over 18,500 member organizations and local chapters everywhere, thank you.

Jeremy Sigmon, LEED AP
U.S. Green Building Council
1800 Massachusetts Avenue, NW, Suite 300
Washington, DC 20036
202.828.7422 (main)
202.742.3811 (direct)
jsigmon@usgbc.org

Commenter: Jeffrey Kightlinger
Affiliation: Metropolitan Water District of Southern California
Comment Date: March 12, 2009

To Whom It May Concern:

Please see the attached cover letter and comments on EPA's draft High-Efficiency Flushing Urinal Specification.

Thank you,
Kristen Haskett
Metropolitan Water District of Southern California
Washington, DC Office
(202) 393-4251

<<WaterSense Final Letter JK Signature.pdf>>
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Note: See Appendix A to these comments for a copy of the proposed revisions to the specification.



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

March 9, 2009

Ms. Sheila Frace
Director, Municipal Support Division
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue N.W.
Washington, DC 20004

Dear Ms. Frace:

The Metropolitan Water District of Southern California (Metropolitan) respectfully urges the EPA WaterSense Program to adopt the attached specification for High-Efficiency Urinals.

The attached draft allows for both water-fed and non-water urinals to be tested and certified to meet water savings and performance criteria and to then carry the voluntary EPA WaterSense label. To exclude either of these technologies, as the present EPA draft proposes, is inconsistent with the goals of the WaterSense Program. Excluding these technologies would negatively impact Metropolitan's successful conservation efforts.

Metropolitan's imported water serves its 26 member public agencies that provide water to 19 million people in its more than 5,200-square-mile service area, spanning six Southern California counties, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura. Metropolitan imports water from the Colorado River and Northern California to supplement local supplies and helps its members develop increased water conservation, recycling, storage, and other resource-management programs.

With California facing serious water challenges, Metropolitan has nearly doubled its funding for conservation which includes financial incentives for the commercial, institutional, and industrial (CII) sector. Non-water urinals are an essential element of these conservation efforts.

Metropolitan shares the WaterSense Program's goals to protect the future of our nation's water supply by promoting water efficiency and enhancing the market for water efficient products, programs, and policies. For the past 10 years, Metropolitan has helped manage our region's water supply with a proactive and successful CII rebate program which promotes water efficient products.

Metropolitan urges that the EPA WaterSense specification include High Efficiency Urinals, not just High Efficiency Flushing Urinals as currently proposed. The attached draft provides suggested language to help facilitate this change.

Very truly yours,

Jeffrey Kightlinger

A handwritten signature in blue ink that reads "Jeff Kightlinger".

General Manager

Commenter: Shawn Martin
Affiliation: Plumbing Manufacturers Institute (PMI)
Comment Date: March 13, 2009

Stephanie,

Please accept the following comments from PMI on the Draft WaterSense High-Efficiency Urinal Specification. Feel free to contact me with any questions.

Regards,

Shawn Martin

Technical Director
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<<3-9-09 PMI WaterSense HEU Comments v2.doc>>
(See attached file: 3-9-09 PMI WaterSense HEU Comments v2.doc)

Template for Public Comment Submission on WaterSense Documents

Commenter Name: Shawn Martin

Commenter Affiliation: Plumbing Manufacturers Institute (PMI)

Date of Comment Submission: March 9, 2009

Topic: Section 5.4: Interchangeability of Parts

Comment: The provision provided in Section 5.4 regarding interchangeability of parts should be removed.

Rationale:

1. Allowing interchangeable parts permits existing higher flow urinals to be converted to WaterSense-compliant flowrates without replacing the entire pressurized flushing

- device. This may be accomplished with or without the replacement of the urinal fixture, depending on the particular conditions.
2. Low-flow pressurized flushing devices retrofitted with components from higher-flow will not function correctly, especially when installed on low-flow fixtures.
 3. Any such interchange of parts could only be done by a trained installer. Therefore, the likelihood of the misuse of interchangeable parts would be quite low, and, very likely unsuccessful.

Suggested Change (or Language):

~~5.4 The pressurized flushing device must not contain interchangeable parts, such as pistons or diaphragms, which if replaced with commonly available alternative components would allow the device to flush at a higher volume.~~

Topic: Section 3.0: Water-Efficiency Criteria Standards

Comment: The provision provided in Section 3 should be modified to utilize the latest version of the standard.

Rationale: This updates the standard reference to the latest, harmonized version of the ASME/CSA standard. It also provides the full and latest version of the IAPMO standard.

Suggested Change (or Language):**3.0 Water-Efficiency Criteria**

The average water consumption must not exceed 0.5 gpf (1.9 Lpf) when tested in accordance with ASME A112.19.2/CSA B45.1 - 2008 or ANSI/IAPMO Z124.9 - 2004,¹ as applicable.

Topic: Section 3.0 Independent Labeling of Urinal Fixtures and Pressurized Flushing Devices

Comment: PMI and its membership support this language in its current form, since it allows the manufacturer to label the part or the system. Pressurized flushing devices and urinal fixtures are often sold separately and may be supplied by different manufacturers. Therefore we feel that it should be expressly stated that PFDs and fixtures that meet the criteria individually will be eligible to carry the WaterSense label and that specific pairings of WaterSense PFDs and fixtures do not have to be listed as combinations for certification.

Rationale:

1. Allowing component or system listing guarantees that all certified products used together meet the high-efficiency requirements, while affording flexibility to manufacturers and distributors.
2. Mixing of WaterSense certified product and higher-flow product is likely to result in improper function, which will be readily evident, and will limit the practice.
3. Requiring separate testing of all possible PFD and fixture combinations would be extremely costly for manufacturers and would create an unnecessary reporting burden. This would, by virtue of the cost and effort involved, limit the number of combinations available to the end-user. These issues will be compounded as new products are introduced, and the number of such combinations increases.

Suggested Change (or Language): (None - Retain Existing Language)

3.0 Independent Labeling of Urinal Fixtures and Pressurized Flushing Devices

Certified urinal fixtures and pressurized flushing devices may be labeled as a complete system or separately as a urinal fixture or pressurized flushing device. If labeled separately, the manufacturer of each part must clearly indicate on product documentation that the part must be used with a WaterSense labeled counterpart that has the same rated flush volume in order to ensure that the entire system meets the requirements of this specification for water efficiency and performance.

Appendix A

Proposed Revisions to the Specification for High-Efficiency Flushing Urinals

Numerous commenters urged WaterSense to include non-water urinals in the Specification for High-Efficiency Flushing Urinals and provided the attached suggested revisions to the draft

Draft High-Efficiency Flushing Urinal Specification

1.0 Scope and Objective

This specification establishes the criteria for a high-efficiency flushing urinal under the U.S. Environmental Protection Agency's (EPA's) WaterSense[®] program. It is applicable to:

- Urinal fixtures that receive liquid waste and use water to convey the waste through a liquid trap seal into a gravity drainage system; and
- Pressurized flushing devices that deliver water to urinal fixtures.

The specification is designed to ensure both sustainable, efficient water use and a high level of user satisfaction with flushing performance, as applicable.

2.0 Summary of Criteria

Urinal fixtures and pressurized flushing devices must meet criteria in the following areas, as applicable:

- The average water consumption must not exceed 0.5 gallons per flush (gpf) (1.9 liters per flush (Lpf)), as specified in Section 3.0
- The urinal fixture must conform to the requirements specified in Section 4.0.
- The urinal pressurized flushing device must conform to the requirements specified in Section 5.0.

3.0 Water-Efficiency Criteria

The average water consumption must not exceed 0.5 gpf (1.9 Lpf) when tested in accordance with ASME A112.19.2 or IAPMO Z124.9,¹ as applicable.

4.0 Urinal Fixture Requirements

- 4.1 Vitreous china urinal fixtures must conform to ASME A112.19.2 requirements, which incorporates by reference ASME A112.19.19. When tested testing with a pressurized flushing device with the same rated flush volume that meets the requirements of Sections 3.0 and 5.0 of this specification must be used.
- 4.2 Plastic urinal fixtures must conform to IAPMO Z124.9 requirements. When tested testing with a pressurized flushing device with the same rated flush volume that meets the requirements of Sections 3.0 and 5.0 of this specification must be used.

5.0 Pressurized Flushing Device Requirements

- 5.1 The pressurized flushing device must conform to ASSE #1037.

¹ References to this and other ASME, IAPMO, and ASSE standards apply to the most current version of that standard.

- 5.2 The pressurized flushing device must not exceed the rated flush volume of water even if the actuator is maintained in the flush position (i.e., device must have a non-hold-open actuator).
- 5.3 The pressurized flushing device must not contain a flush volume adjustment.² The pressurized flushing device must not be packaged, marked, or provided with instructions directing the user to an alternative flush volume setting that would override the rated flush volume (not to exceed 0.5 gpf, as established by this specification).
- 5.4 The pressurized flushing device must not contain interchangeable parts, such as pistons or diaphragms, which if replaced with commonly available alternative components would allow the device to flush at a higher volume.

6.0 Marking

The product and/or the product packaging must be marked in accordance with 16 *CFR* 305.11(f) with the maximum flush volume in gpf and Lpf as determined through testing and compliance with this specification. Marking must be in gpf and Lpf in two digit resolutions (e.g., 0.5 gpf [1.9 Lpf]).

7.0 Effective Date

This specification is effective on [TBD].

8.0 Future Specification Revisions

EPA reserves the right to revise this specification should technological and/or market changes affect its usefulness to consumers, industry, or the environment. Revisions to the specification would be made following discussions with industry partners and other interested stakeholders.

9.0 Definitions

Definitions within ASME A112.19.2, IAPMO Z124.9, and ASSE #1037 are included by reference.

ASME – American Society of Mechanical Engineers

ASSE – American Society of Sanitary Engineering

IAPMO – The International Association of Plumbing and Mechanical Officials

Rated flush volume – The stated flush volume of the urinal fixture or pressurized flushing device, as certified.

² A control stop that supplies water to a flushometer valve is not considered a flush volume adjustment.

Appendix A: Informative Annex for WaterSense Labeling

The following requirements must be met for products to earn the WaterSense label.

1.0 WaterSense Partnership

The manufacturer³ of the product must have a signed partnership agreement in place with EPA. In accordance with this specification, the product can be considered as either the pressurized flushing device, urinal fixture, or the complete system.

2.0 Conformity Assessment

Conformance to this specification must be certified by a body either accredited in accordance with the WaterSense product certification system, or otherwise approved for that purpose by EPA in accordance with the WaterSense program guidelines.

3.0 Independent Labeling of Urinal Fixtures and Pressurized Flushing Devices

Certified urinal fixtures and pressurized flushing devices may be labeled as a complete system or separately as a urinal fixture or pressurized flushing device. If labeled separately, the manufacturer of each part must clearly indicate on product documentation that the part must be used with a WaterSense labeled counterpart that has the same rated flush volume in order to ensure that the entire system meets the requirements of this specification for water efficiency and performance.

³ Manufacturer, as defined in the WaterSense program guidelines, means "Any organization that produces a product for market that might be eligible to meet WaterSense criteria for efficiency and performance. Manufacturers may also produce 'private label' products that are sold under the brand name of a separate organization, which is treated as a separate partner/application from the original product manufacturer." In the case of private labeling, the private labeling organization that ultimately brands the product for sale must have a signed partnership agreement in place with EPA.