



## WaterSense® Draft Specification for Commercial Pre-Rinse Spray Valves Public Meeting Summary

March 20, 2013, 1:00 to 2:30 p.m. Eastern, Webinar

### Meeting Participants

Jeff Baldwin, T&S Brass  
Veronica Blette, U.S. Environmental Protection Agency's (EPA's) WaterSense program  
Cathleen Brennan, Coastside County Water District  
Holly Cannon, Eastern Research Group, Inc. (ERG)  
Jennifer Carlile, City of Atlanta Department of Watershed  
Jamie Cutlip, Sacramento Municipal Utility District  
Shirley Dewi, International Association of Plumbing and Mechanical Officials (IAPMO) Research  
& Testing  
Kim Erickson, Consortium for Energy Efficiency (CEE)  
Donna Fries, Miami-Dade Water and Sewer Department  
Don Frunk, Fisher Manufacturing Company  
Jeff Hall, Town of Cary, North Carolina  
Dain Hansen, IAPMO  
Amy Harrison, NSF International  
Larry Himmelblau, Chicago Faucets  
Brian Hinson, KWC America  
Isaac Kearns, AM Conservation Group, Inc.  
Kevin Kennedy, Niagara Conservation  
Frank Kinder, Colorado Springs Utilities  
John Koeller, Koeller and Company  
Deb Lane, City of Santa Rosa, California  
Christopher Lindsay, IAPMO  
Joe Maykut, Sears Home Services  
Cary McElhinney, EPA Region 5  
Keith Peltason, UL LLC  
Jill Sarick, Ventura Water  
Jonah Schein, EPA's WaterSense program  
Denise Schmidt, Public Service Commission of Wisconsin  
John Shannon, City of Roseville, California  
Stephanie Tanner, EPA's WaterSense program  
Kim Wagoner, ERG  
Don Wells, City of Fresno Water Conservation Program  
Jeff Wells, Moen Incorporated  
Laura Wetzel, ERG  
David Zabrowski, Food Service Technology Center (FSTC)

## Meeting Summary

Stephanie Tanner (EPA's WaterSense program) welcomed everyone to the meeting before reviewing administrative details, meeting processes, and the agenda. Agenda items included: an introduction to WaterSense and the commercial pre-rinse spray valves specification development process; individual aspects of the draft specification; the certification and labeling process; and comments received to date, other issues, and next steps. The PowerPoint slides from this presentation can be reviewed on WaterSense's website at:

<http://www.epa.gov/watersense/partners/prsvs.html>. The presentation discussion and participant questions and comments are summarized below.

### 1. Introduction and Specification Development

Ms. Tanner provided a brief overview of the WaterSense program, background information on commercial pre-rinse spray valves, and a description of the specification development process. WaterSense collaborated with the American Society of Mechanical Engineers/Canadian Standards Association (ASME/CSA) project team on water-efficient pre-rinse spray valves (project team) to develop the specification criteria. As part of the specification development process, EPA conducted a field study to assess high-efficiency pre-rinse spray valves' water and energy use, evaluate user satisfaction with lower flowing pre-rinse spray valves, and determine if existing performance tests were indicative of user satisfaction and performance in the field.

Holly Cannon (ERG) reviewed the objectives, methodology, and conclusions from the field study. She discussed how the project team used conclusions from EPA's field study to evaluate spray force as a performance metric, developed a spray force test method, and provided a recommendation to WaterSense on the minimum spray force criteria.

Deb Lane (City of Santa Rosa, California) asked who ASTM is. Ms. Tanner explained "ASTM" stands for the American Society for Testing and Materials, which is a voluntary, consensus-based standards development organization. ASTM developed *ASTM F2324 Standard Test Method for Prerinse Spray Valves*, including the cleanability performance test, and is revising the test method to include the spray force test method developed through the ASME/CSA project team process. The revised draft ASTM test method is the basis for the spray force performance requirement in the draft specification. Ms. Cannon added that ASTM and ASME/CSA worked closely together throughout this process to ensure that their standards were not duplicative.

### 2. Draft Specification for Commercial Pre-Rinse Spray Valves

Kim Wagoner (ERG) discussed the draft specification criteria, including the scope and objective, general requirements, water efficiency criteria, and performance criteria. She opened the floor for questions and comments on the draft specification criteria, but no participants had any at that time.

### 3. Certification and Labeling

Ms. Wagoner reviewed the certification and labeling process, beginning with the product marking requirements outlined in the draft specification. The draft specification would require the product packaging to be marked with the tested spray force, but WaterSense intended for the requirement to call for marking of the rated spray force that the manufacturer would like to market for the product, which would be verified through testing. Following this clarification, she noted that with the release of the draft specification, manufacturers can sign a partnership agreement with EPA in order to have their products labeled. Manufacturer partners will remain a WaterSense partner as long as they have a labeled product within one year of signing an agreement.

Amy Harrison (NSF International) asked if annual product retesting would follow the same retesting requirements as other WaterSense labeled products. Ms. Wagoner said that pre-rinse spray valve retesting would follow the same requirements as the other labeled products. These requirements are outlined in the [WaterSense Product Certification System Version 2.0](#).

Frank Kinder (Colorado Springs Utilities) asked if WaterSense is working with any other organizations—such as the National Restaurant Association, Green Restaurant Association, U.S. Green Building Council (USGBC), or ENERGY STAR®—to require these products under building certification programs. Ms. Tanner said that WaterSense has been working with ENERGY STAR throughout the process. ENERGY STAR, which will conduct marketing and outreach for WaterSense labeled pre-rinse spray valves, will work with the National Restaurant Association and Green Restaurant Association. WaterSense is not working directly with USGBC but may do so during the outreach process after the final specification is released.

One participant asked for clarification on the product flow rates that the specification includes. Ms. Wagoner said that there is no minimum flow rate requirement, so any pre-rinse spray valve with a flow rate less than 1.28 gallons per minute (gpm) is eligible for the label, provided it meets the minimum spray force and other specification requirements. The participant asked if the maximum flow rate is 1.28 gpm, which is 20 percent less than the 1.6 gpm federal standard. Ms. Wagoner confirmed that was correct.

### 4. Other Issues and Draft Specification Public Comments

Ms. Tanner said that WaterSense and ENERGY STAR will not be issuing a dual label for pre-rinse spray valves. Since their certification systems are similar but not identical, they agreed to use only the WaterSense certification system to ensure there is no undue burden placed upon the manufacturers. ENERGY STAR will handle most of the marketing and outreach for WaterSense labeled pre-rinse spray valves, since it has established an extensive marketing network through its commercial kitchens program.

Ms. Cannon then reviewed the comments received on the draft specification to date and invited participants to offer feedback on each item.

One person's comment asked why WaterSense is not accepting comments on the draft revised *ASTM F2324 Standard Test Method for Prerinse Spray Valves* and whether WaterSense will

accept the revised test method as is. Ms. Cannon said that WaterSense is and will continue working closely with ASTM and ASME/CSA through the project team process. However, ASTM is undergoing its own comment period on its revised draft test method. WaterSense encourages participants to provide comments on the test method through ASTM's process.

Several people expressed concern that a minimum spray force of 5 ounces may unintentionally exclude some lower flowing pre-rinse spray valves that are satisfactory in many applications. The commenters suggested WaterSense include a category of pre-rinse spray valves called ultra low-flow pre-rinse spray valves (which flow at 0.8 gpm or less) and require this category of pre-rinse spray valves to meet a minimum spray force requirement of 4 ounces. Ms. Cannon said that WaterSense welcomes any quantitative user satisfaction data to inform changes to the proposed performance level (submitted to [watersense-products@erg.com](mailto:watersense-products@erg.com)).

Ms. Lane asked what the correlation was between ounces and force, expressing concern that a product could be low in ounces and have a high spray force. Ms. Tanner clarified that ounces is a measure of force, not a measure of flow rate or water use. Ms. Cannon added that WaterSense is setting a minimum spray force because the field study indicated that users were generally less satisfied with pre-rinse spray valves that had poor spray force, and the minimum will ensure enough force to achieve user satisfaction.

Don Wells (City of Fresno Water Conservation Program) asked whether the tomato paste used in ASTM's cleanability test was baked onto the specimens used; whether the specimens were plates, utensils, and/or pans; and if the expectation was 100 percent removal. Further, Mr. Wells asked if 71 percent of users were satisfied with that method. Ms. Cannon said that tomato paste was baked onto 60 specimen plates, and a tester used a pre-rinse spray valve to remove the tomato paste from the plates until they perceived complete removal of the substance. Jeff Baldwin (T&S Brass) clarified that the tomato paste does not have to be baked; it could also be left to dry.

Regarding user satisfaction with the test method, Ms. Cannon presented three pie charts ([see slide 13](#)) demonstrating user satisfaction as compared to flow rate. The charts showed how many users were completely satisfied, somewhat satisfied, and unsatisfied with pre-rinse spray valves when the spray valves were grouped by flow rate (i.e., less than 1.0 gpm, between 1.0 and 1.25 gpm, and between 1.25 to 1.6 gpm). Two additional pie charts ([see slide 14](#)) showed user satisfaction as compared to cleanability time resulting from the tomato paste test. The charts showed how many users were completely satisfied, somewhat satisfied, and unsatisfied with pre-rinse spray valves when the spray valves were grouped by cleanability time (i.e., 17 to 21 seconds per plate and 22 to 25 seconds per plate).

John Koeller (Koeller and Company) asked whether the spray force test replaces the tomato paste test, which Ms. Tanner confirmed. Ms. Cannon added that WaterSense's draft specification does not include a cleanability requirement, and ASTM is revising its test method so that the cleanability test is no longer in the main body of the test method.

Keith Peltason (UL LLC) asked why WaterSense set the minimum spray force requirement at 5 ounces. Ms. Cannon said that the project team tested the spray force for all of the pre-rinse spray valves tested during EPA's field study and compared spray force data to the field study

user satisfaction survey results. The project team reviewed the data and suggested setting the minimum at 5 ounces, since it was a rough cutoff between where users are somewhat satisfied versus unsatisfied.

Mr. Peltason then asked how much less satisfied users were with 4 ounces of spray force. Ms. Wagoner said that of the tested pre-rinse spray valves, the lowest spray force was 3.9 ounces, and that valve was considered unsatisfactory by users. There was also some dissatisfaction between 4 and 5 ounces, and almost all users were satisfied with more than 5 ounces. Ms. Tanner added that EPA had a limited data set and would be interested in others' data, since there has been a proposal to set a minimum spray force at 4 ounces. Ms. Tanner noted that the performance level is open for discussion and welcomed input if participants felt 5 ounces was too high or low.

Mr. Koeller commented that WaterSense collected data on several pre-rinse spray valves but may not collect additional data at this point. He suggested that additional aggregated data be collected and submitted by manufacturers, utilities, or other organizations. Ms. Tanner agreed with this statement.

Mr. Koeller then commented that there might be confusion about how WaterSense is testing pre-rinse spray valves. He added that other participants might think that WaterSense will test all pre-rinse spray valves on the market to determine if they receive the label, but it should be clear that it is manufacturers' responsibility to submit their products for testing and certification. Ms. Cannon stated that the data collected to date was collected to inform the specification development process. Once the specification is final, it is the manufacturers' responsibility to submit their products for testing, certification, and labeling. WaterSense does not independently test and label products.

Mr. Peltason asked if testing was done at the same temperature, as that would have an effect on the cleanability result. Ms. Cannon clarified that WaterSense did not do any cleanability tests in the field or in the laboratory. Manufacturers must submit their products for a cleanability test if they want their products tested, adding that most submit their products to FSTC. The cleanability test does require a specific temperature. For spray force, the project team originally tested valves in the laboratory at the same temperature as is required by the cleanability test, but it found that using a colder water temperature still yielded reproducible spray force results. The details of the temperature required for the spray force test are outlined in the revised draft *ASTM F2324* test method, which WaterSense encourages participants to review and comment on through ASTM's process. Ms. Wagoner added that during the field study, EPA let users set their preferred water temperature and gauge their satisfaction based on the preferred temperature used. Ms. Tanner clarified that WaterSense did not perform cleanability tests in its field study. EPA looked at the cleanability test scores posted on FSTC's website and determined if those scores correlated to user satisfaction from EPA's field study.

Ms. Cannon reviewed the last major comment received to date. The commenter indicated that the 500,000 cycle requirement in the draft specification is arbitrary and suggested changing it back to 150,000 cycles, as is required in the ASME/CSA plumbing fittings standard. Ms. Cannon said that the [draft specification supporting statement](#) includes information on why the project team recommended changing it to 500,000 cycles.

Mr. Kinder asked what the cycle time is for 150,000 and 500,000 cycles. For EPA's calculation of 500,000 cycles, Ms. Cannon said that WaterSense estimated cycle time at 10 seconds per cycle and the use time at one hour per day. The one hour per day metric was found from EPA's field study and from other published field studies. The 10 seconds per cycle metric is an assumption that is consistent with EPA's field study data logger output.

Mr. Peltason asked how many years of use are calculated from those assumptions. Ms. Cannon said about four years, and Ms. Wagoner commented that the estimated lifetime of a pre-rinse spray valve is three to five years. Ms. Tanner added that 500,000 cycles is the proposed requirement in the draft specification for those pre-rinse spray valves that are being evaluated for the WaterSense label, but the ASME/CSA standard will still require 150,000 cycles for valves that are not being evaluated for the WaterSense label. Mr. Koeller commented that WaterSense labeled products should be more durable than those that merely comply with the minimum standard and expressed his support for the 500,000 cycles requirement.

Ms. Tanner reminded participants how to submit written comments on the draft specification and reviewed the process for submitting confidential business information (CBI). The deadline to submit written comments or data is April 8, 2013. Comments not marked as CBI will be part of the public record.

WaterSense will review all comments and work with ASME/CSA and ASTM before releasing a final specification. WaterSense is hoping to reference the final revised *ASTM F2324* test method in its specification, as long as the timelines align. It will also work with certification bodies to prepare for product certification one month prior to the specification release. A final specification is usually released around six months after the end of the public comment period and can be anticipated for pre-rinse spray valves sometime in fall 2013.

Ms. Lane asked if products are tested after the final specification is issued and how long after the specification is released are labeled products on the market because she wants to align rebate programs with labeled products. Ms. Tanner clarified that products can be tested by a licensed certifying body after a final specification is issued. Products typically start to emerge from testing and certification about one month after a specification is released, but it is usually a couple of months before the products appear on shelves and in the marketplace. Mr. Baldwin added that it takes about three months for product testing and certification before products are on the market.

Ms. Lane also asked for more details on ENERGY STAR's promotional plans for WaterSense labeled pre-rinse spray valves. Ms. Tanner didn't have specific details, but said WaterSense is starting to coordinate with ENERGY STAR, which already has a well-defined commercial kitchens program that WaterSense labeled pre-rinse spray valves will be integrated into. The details will be determined closer to the final specification release, and WaterSense will also work with CEE and the Federal Energy Management Program (FEMP) to identify additional outreach opportunities.

Ms. Tanner adjourned the meeting by providing a summary of the next steps. Following the close of the comment period on April 8, 2013, the public meeting summary, meeting



presentation, and a compilation of the comments received will be posted on the WaterSense website.