

## DOCKETED

<b>Docket Number:</b>	17-AAER-08
<b>Project Title:</b>	Sprinkler Spray Bodies
<b>TN #:</b>	223110
<b>Document Title:</b>	Brent Mecham Comments Chapter 10 Test Methods - Table X
<b>Description:</b>	By Brent Mecham on behalf of the Irrigation Association
<b>Filer:</b>	Jessica Lopez
<b>Organization:</b>	Irrigation Association/Brent Mecham
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	4/2/2018 3:51:42 PM
<b>Docketed Date:</b>	4/2/2018

Proposed changes to the proposal from CEC staff with items highlighted in red. Strike-through would be language to be removed and underlined language would new language modified or added.

## **Section 1604. Test Methods for Specific Appliances.**

...  
(y) Landscape Irrigation Equipment.

(1) The test method for a spray sprinkler body and a spray sprinkler body within a spray sprinkler, manufactured on or after January 1, 2020, is the Appendix B of the WaterSense Specification for Spray Sprinkler Bodies Version 1.0, September 21, 2017. A manufacturer shall cause tests A ~~and B~~ per the test method and as specified by the requirements of 1604 (y) (1) (A) and 1604 (y) (1) (B).

(A) Test A shall have an initial calibration flow rate equal to 1.5 +/- 0.1 gallons per minute.

(B) Test B shall have an initial calibration flow rate equal to 0.75 +/- 0.1 gallons per minute.  
The following documents are incorporated by reference in Section 1604.

### FEDERAL TEST METHODS

...  
WaterSense Specification for Spray Sprinkler Bodies  
Version 1.0 (Rev. September 21, 2017)  
Copies available from: WaterSense  
U.S. Environmental Protection Agency  
Office of Wastewater Management  
(4204M)  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460  
<https://www.epa.gov/watersense>

## **Section 1605.1. Federal and State Standards for Federally Regulated Appliances.**

...  
(y) Landscape Irrigation Equipment.

See Section 1605.3 (y) for water efficiency standards for landscape irrigation equipment.

## **Section 1605.2. State Standards for Federally Regulated Appliances.**

...  
(y) Landscape Irrigation Equipment.

See Section 1605.3 (y) for water efficiency standards for landscape irrigation equipment.

## **Section 1605.3. State Standards for Non-Federally Regulated Appliances.**

...  
(y) Landscape Irrigation Equipment.

(1) A spray sprinkler body and a spray sprinkler body within a spray sprinkler manufactured on or after January 1, 2020, shall meet the following requirements when tested per the test method in Section 1604 (y) (1) (A).

(A) Maximum flow rate at any tested pressure level—The percent difference between the initial calibration flow rate (as described in WaterSense Specification for Spray Sprinkler Bodies Versions 1.0, Appendix B) and the maximum flow rate at any tested pressure level, averaged for the selected samples at the test pressure levels where the maximum flow rate occurred, shall not exceed +/- 12.0 percent.

(B) Average flow rate across all tested pressures—The percent difference between the initial calibration flow rate (as described in WaterSense Specification for Spray Sprinkler Bodies Versions 1.0, Appendix B) and the flow rate at each tested pressure level, averaged across all pressure levels and all selected samples, shall not exceed +/- 10.0 percent.

(C) Minimum outlet pressure—The average outlet pressure at the initial calibration point (as described in WaterSense Specification for Spray Sprinkler Bodies Versions 1.0, Appendix B) of the selected samples shall not be less than 67 percent of the regulation pressure. (D) The sprinkler body shall be tested to ASABE/ICC 802-2014 Landscape and Emitter Standard sections 303.1 Temperature Rating and 303.6 Burst Pressure

## **Section 1606. Filing by Manufacturers; Listing of Appliances in Database.**

(a) Filing of Statements.

Each manufacturer shall file with the Executive Director a statement for each appliance that is sold or offered for sale in California. The statement shall contain all of the information described in paragraphs (2) through (4) of this subsection and shall meet all of the requirements of paragraph (1) of this subsection and all other applicable requirements in this Article.

The effective dates of this section shall be the same as the effective dates shown in Section 1605.1, 1605.2 or 1605.3 for appliances for which there is an energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in Section 1605.1, 1605.2, or 1605.3. For appliances with no energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in Section 1605.1, 1605.2, or 1605.3, the effective date of this section shall be one year after they are added to Section 1601 of this Article, unless a different effective date is specified.

**The table shown has been modified from what is proposed by CEC in the staff report. It will still provide consumers with useful information consistent with the EPA WaterSense test, but without reporting very specific performance data as recorded by the testing laboratory.**

TABLE X

	<b>Appliance</b>	<b>Required Information</b>	<b>Permissible Answers</b>
	All Appliances	Manufacturer's Name	
		Brand Name	
		Model Number	
		Date model to be displayed	
		Regulatory Status	Federally-regulated consumer product, federally-regulated commercial and industrial

			equipment, non-federally regulated
(...skipping sections A-W of Table X).....			
	<b>Appliance</b>	<b>Required Information</b>	<b>Permissible Answers</b>
Y	Landscape Irrigation Equipment	Landscape Irrigation Equipment Type	Spray sprinkler body, spray sprinkler
		Regulation pressure psi	
		Maximum operating pressure	
		<u>Tested to ASABE/ICC 802-2014 Standard Section 303.1 Rated Temperature</u>	<u>yes or no</u>
		<u>Tested to ASABE/ICC 802-2014 Standard Section 303.6 Burst pressure</u>	<u>yes or no</u>
		<del>Initial calibration flow rate (per 1604 (y) (1) (A))</del> <u>Initial calibration inlet pressure matches regulation pressure +/- 1.0 psi (per 1604 (y) (1) (A))</u>	<u>yes or no</u>
		<del>Maximum flow rate at any tested pressure level (per 1604 (y) (1) (A))</del> <u>Average outlet pressure is +/- 1.0 psi of initial calibration pressure (per 1604 (y) (1) (A))</u>	<u>yes or no</u>
		<del>Percent difference at maximum flow rate (per 1604 (y) (1) (A))</del> <u>Initial calibration flow rate (per 1604 (y) (1) (A)) is 1.5 +/- 0.1 gpm</u>	<u>yes or no</u>
		<del>Average flow rate across all tested pressures (per 1604 (y) (1) (A))</del> <u>Average maximum flow rate at test pressure 10 psi above regulation pressure is +/- 12% gpm (per 1604 (y) (1) (A))</u>	<u>yes or no</u>
		<del>Percent difference at average flow rate (per 1604 (y) (1) (A))</del> <u>Average maximum flow rate at test pressure 60 psi is +/- 12% gpm (per 1604 (y) (1) (A))</u>	<u>yes or no</u>
		<del>Average outlet pressure at initial calibration point (per 1604 (y) (1) (A))</del>	

		<u>Average maximum flow rate at maximum operating pressure is +/- 12% gpm (per 1604 (y) (1) (A))</u>	<u>yes or no</u>
		<u>Average outlet pressure at initial calibration point as a percentage of regulation pressure (per 1604 (y) (1) (A))</u> <u>Average maximum flow rate of all tests is +/- 10% gpm (per 1604 (y) (1) (A))</u>	<u>yes or no</u>
		<u>Product is labeled by US EPA WaterSense Program</u>	<u>yes or no</u>

**Item 1604. (Y) (1) (B) Recommendation**

**(B) Test B shall have an initial calibration flow rate equal to 0.75 +/- 0.1 gallons per minute**

The IA is supportive of testing at an additional flow rate, however, we do not have at this time any test results to give guidance on what would be appropriate thresholds of performance. When basing it on a percentage of flow, a lower flow rate would demand a better performing product than for a higher flow rate. For example, the flow range of tolerance by percentage of +/- 10% for a 1.5 gpm nozzle would be 1.35-1.65 gpm. However, for a 0.75 gpm nozzle, the same flow range of +/- 10% would result in an actual flow rate for the nozzle being 50 percent less than for the larger nozzle. Without flow data available for testing at a lower flow rate, we are suggesting an acceptable range for the low flow rate of 0.75 gpm be 50 percent greater (+/- 18% on the individual test points with +/-15% overall for all test pressures.)

		<u>Initial calibration flow rate (per 1604 (y) (1) (B))</u> <u>Initial calibration inlet pressure matches regulation pressure +/- 1.0 psi (per 1604 (y) (1) (B))</u>	<u>yes or no</u>
		<u>Maximum flow rate at any tested pressure level (per 1604 (y) (1) (B))</u> <u>Average outlet pressure is +/- 1.0 psi of initial calibration pressure (per 1604 (y) (1) (B))</u>	<u>yes or no</u>
		<u>Percent difference at maximum flow rate (per 1604 (y) (1) (B))</u> <u>Initial calibration flow rate (per 1604 (y) (1) (B)) is 0.75 +/- 0.1 gpm (per 1604 (y) (1) (B))</u>	<u>yes or no</u>
		<u>Average flow rate across all tested pressures (per 1604 (y) (1) (B))</u> <u>Average maximum flow rate at test pressure 10 psi above regulation pressure is +/- 18% gpm (per 1604 (y) (1) (B))</u>	<u>yes or no</u>

		<p><del>Percent difference at average flow rate (per 1604 (y) (1) (B))</del>  <u>Average maximum flow rate at test pressure 60 psi is +/- 18% gpm (per 1604 (y) (1) (B))</u></p>	<p><u>yes or no</u></p>
		<p><del>Average outlet pressure at initial calibration point (per 1604 (y) (1) (B))</del>  <u>Average maximum flow rate at maximum operating pressure is +/- 18% gpm (per 1604 (y) (1) (B))</u></p>	<p><u>yes or no</u></p>
		<p><del>Average outlet pressure at initial calibration point as a percentage of regulation pressure (per 1604 (y) (1) (B))</del>  <u>Average maximum flow rate of all tests is +/- 15% gpm (per 1604 (y) (1) (B))</u></p>	<p><u>yes or no</u></p>

**As an alternative**, eliminate the test flow rate of 0.75 gpm and test all products with a report generated with blind results. Individual manufacturer data would not be known, but overall performance could be evaluated.

(y) Landscape Irrigation Equipment.

(1) The test method for a spray sprinkler body and a spray sprinkler body within a spray sprinkler, manufactured on or after January 1, 2020, is the Appendix B of the WaterSense Specification for Spray Sprinkler Bodies Version 1.0, September 21, 2017. A manufacturer shall cause tests A ~~and B~~ per the test method and as specified by the requirements of 1604 (y) (1) (A) ~~and 1604 (y) (1) (B)~~.

(A) Test A shall have an initial calibration flow rate equal to 1.5 +/- 0.1 gallons per minute.  
~~(B) Test B shall have an initial calibration flow rate equal to 0.75 +/- 0.1 gallons per minute.~~  
The following documents are incorporated by reference in Section 1604.

The Irrigation Association is supportive of knowing how products work at another flow rate beside the one being used for the regulation but instead of placing the burden on the manufacturer and various testing laboratories to do the additional test, it is proposed that this test be performed by an independent third party lab and results reported in a white paper and shared with the California Energy Commission in much the same way as EPA WaterSense evaluated sprinkler spray head products to determine the requirements for obtaining a WaterSense label. Manufacturers would prefer not to provide information in a public format that could be distorted or used out of context in the market place.