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Proposed Regulatory Language

California Code of Regulations
Title 20. Public Utilities and Energy
Division 2. State Energy Resources Conservation and Development Commission
Chapter 4. Energy Conservation
Article 4. Appliance Efficiency Regulations
Sections 1601 – 1609
As related to spray sprinkler bodies

The proposed changes to the Title 20 standards are provided below. Changes to the 2018 standards are marked with underlining (new language) and ~~strikethroughs~~ (deletions). Three dots or "…" represents the substance of the existing regulations that will remain unchanged between the sections containing proposed language changes.

Section 1601. Scope.

…[skipping first paragraph through (w)]

(x) Reserved.

(y) Landscape irrigation equipment.

(1) Spray sprinkler bodies.

…[skipping the rest of section 1601]

Note: Authority cited: Sections 25213, 25218(e), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Reference: Sections 25216.5(d), 25401.9(b), 25402(a)-25402(c), 25402.5.4, and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1602. Definitions.

…[skipping (a) through (w)]

(x) Reserved.

(y) Landscape Irrigation Equipment.

(1) Spray Sprinkler Bodies.

"Integral pressure regulator" means a device located within a spray sprinkler body that maintains constant operating pressure immediately downstream from the device, given a higher upstream pressure.

"Landscape" means any areas that are planted or installed and designed to receive irrigation, including turf grass, ground covers, shrubs, trees, flowers, and similar plant materials. Landscape does not include agricultural crops grown and harvested for monetary return.

"Maximum operating pressure" of a spray sprinkler body means the highest manufacturer-recommended inlet pressure to ensure proper operation.

"Nozzle" of a spray sprinkler means the discharge opening or orifice of a spray sprinkler used to control the volume of discharge, distribution pattern, and droplet size.

"Orifice" of a spray sprinkler means the emission point from a nozzle into the atmosphere.

"Regulation pressure" of a spray sprinkler body means its rated outlet pressure, regardless of higher inlet pressure, as stated by the manufacturer.

"Spray sprinkler" means a device used to irrigate landscape that:

(1) consists of a spray sprinkler body and a nozzle or orifice, and

(2) discharges water through the air at a minimum flow rate of 0.5 gallons per minute when operated at an inlet pressure of 30 pounds per square inch or more, with the largest area of coverage available for the nozzle series using a full circle pattern.

"Spray sprinkler body" means a sprinkler body that does not contain components to drive the rotation of the nozzle or orifice during operation and lacks an integral control valve. This term includes a spray sprinkler body that is a component of a spray sprinkler.

"Sprinkler body" means the exterior case or shell of a sprinkler incorporating a means of connection to the piping system, designed to convey water to a nozzle or orifice.

…[skipping the rest of section 1602]

Note: Authority cited: Sections 25213, 25218(e), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Reference: Sections 25216.5(d), 25401.9(b), 25402(a)-25402(c), 25402.5.4, and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1602.1 Rule of Construction.

(No Change)

…[skipping the rest of section 1602.1]

Section 1603. Testing: All Appliances.

(No Change)

…[skipping the rest of section 1603]

Section 1604. Test Methods for Specific Appliances.

…[skipping (a) through (w)]

(x) Reserved.

(y) Landscape Irrigation Equipment.

(1) Spray Sprinkler Bodies.

(A) The test method for a spray sprinkler body is Appendix B of the WaterSense® Specification for Spray Sprinkler Bodies Version 1.0, September 21, 2017. For certification, compliance, and enforcement purposes, the sampling provisions in Appendix B of the WaterSense® Specification for Spray Sprinkler Bodies Version 1.0, September 21, 2017 shall be used.

The following documents are incorporated by reference in section 1604.

…[skipping CALIFORNIA ENERGY COMMISSION TEST METHODS through ENERGY STAR Recommended]

	Appendix B of the WaterSense® Specification for Spray Sprinkler Bodies
	Version 1.0 (Dated 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

…[skipping AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE (AHRI) through the end of the section]

Note: Authority cited: Sections 25213, 25218(e), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Reference: Sections 25216.5(d), 25401.9(b), 25402(a)-25402(c) and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1605. Energy Performance, Energy Design, Water Performance, and Water Design Standards: In General.

(No Change)

Section 1605.1. Federal and State Standards for Federally-Regulated Appliances.

…[skipping (a) through (w)]

(x) Reserved.

(y) Landscape Irrigation Equipment.

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

…[skipping the rest of section 1605.1]

Note: Authority cited: Sections 25213, 25218(e), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Reference: Sections 25216.5(d), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1605.2. State Standards for Federally-Regulated Appliances.

…[skipping (a) through (w)]

(x) Reserved.

(y) Landscape Irrigation Equipment.

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

Note: Authority cited: Sections 25213, 25218(e), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Reference: Sections 25216.5(d), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

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

…[skipping (a) through (w)]

(x) Reserved.

(y) Landscape Irrigation Equipment.

(1) Spray Sprinkler Bodies.

(A) A spray sprinkler body manufactured on or after October 1, 2020, shall meet all of the following requirements:

1. Maximum flow rate at any tested pressure level. The percent difference between the initial calibration flow rate, as determined by the test method in section 1604(y)(1)(A), 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.

The average of the selected samples shall be calculated per the following equation:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$$

where $\bar{x}$ is the average of the selected samples; n is the number of samples; and x_i is the percent difference between the initial calibration flow rate, and the maximum flow rate at any tested pressure level of the i^{th} sample.

Percent difference of a sample = $100 \times (Q_{max} - Q_{initial})/Q_{initial}$

Where Q_{max} is the measured maximum flow rate at any tested pressure level and $Q_{initial}$ is the measured calibration flow rate.

2. Average flow rate across all tested pressures. The percent difference between the initial calibration flow rate, as determined by the test method in section 1604(y)(1)(A), and the flow rate at each tested pressure level, averaged across all pressure levels and all selected samples, shall not exceed ± 10.0 percent.

The average of the selected samples shall be calculated per the following equation:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$$

where $\bar{x}$ is the average of the selected samples; n is the number of samples; and x_i is the percent difference between the initial calibration flow rate and the flow rate at each tested pressure level, averaged across all pressure levels of the i^{th} sample.

Percent difference of a sample = 100 x ($Q_{average}$–$Q_{initial}$)/$Q_{initial}$

Where $Q_{average}$ is the measured flow rate at each tested pressure level, averaged across all pressure levels and $Q_{initial}$ is the measured flow rate at the initial calibration point of a sample.

3. Minimum outlet pressure. The average outlet pressure at the initial calibration point, as determined by the test method in section 1604(y)(1)(A), of the selected samples shall not be less than two-thirds of the regulation pressure.

The average of the selected samples shall be calculated per the following equation:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$$

where $\bar{x}$ is the average of the samples; n is the number of samples; and x_i is the measured minimum outlet pressure at the initial calibration point for the i^{th} sample.

…[skipping the rest of section 1605.3]

Note: Authority cited: Sections 25213, 25218(e), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Reference: Sections 25216.5(d), 25401.9(b), 25402(a)-25402(c) and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1606. Filing by Manufacturers; Listing of Appliances in MAEDbS.

…[skipping (a)through (d)]

Table X

Data Submittal Requirements

	Appliance	Required Information	Permissible Answers
	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]

	Appliance	Required Information	Permissible Answers
X	Reserved		
Y	Spray Sprinkler Body	Regulation pressure (psi)	
		Maximum operating pressure (psi)	
		Percent difference between the initial calibration flow rate 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 (percent)	
		Percent difference between the initial calibration flow rate and the flow rate at each tested pressure level, averaged across all pressure levels and all selected samples (percent)	
		Average outlet pressure at the initial calibration point of the selected samples (psi)	

…[skipping the rest of section 1606]

Note: Authority cited: Sections 25213, 25218(e), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Reference: Sections 25216.5(d), 25401.9(b), 25402(a)-25402(c), 25402.5.4, and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1607 Marking of Appliances.

…[skipping (a) through (b)]

(c) Exceptions to Section 1607(b).

…[skipping (first sentence through (1)]

(2) For lamps and spray sprinkler bodies, the information required by section 1607(b) of this Article shall be permanently, legibly, and conspicuously displayed on an accessible place on each unit, on the unit's packaging, or, where the unit is contained in a group of several units in a single package, on the packaging of the group.

…[skipping (c)(3)]

(d) Energy Performance Information.

…[skipping (d)(1)-(14)]

(15) Landscape Irrigation Equipment.

(A) Spray Sprinkler Bodies. Each spray sprinkler body manufactured on or after October 1, 2020, shall be marked, permanently and legibly, to indicate the presence of an internal pressure regulator. The marking shall be on an accessible and conspicuous place on the spray sprinkler body and designed to be visible after installation.

…[skipping the rest of section 1607]

Note: Authority cited: Sections 25213, 25218(e), 25401.9(b), 25402(a)-25402(c) and 25960, Public Resources Code.

Reference: Sections 25216.5(d), 25401.9(b), 25402(a)-25402(c), and 25960, Public Resources Code.

Section 1608. Compliance, Enforcement, and General Administrative Matters.

(No Change)

…[skipping the rest of section 1608]

Section 1609. Administrative Civil Penalties.

(No Change)

…[skipping the rest of section 1609]