Energy Efficiency Regulations for Spray Sprinkler Bodies (SSB)

The webinar will begin at the top of the hour.

This slide deck will be posted on

The California Energy Commission (CEC) webpage after the presentation:

www.energy.ca.gov/appliances/forms/index.html#webdocs
Participation Guidelines

To ensure a successful webinar for all:

• Please use the chat feature or raise hand feature to ask questions or make comments
• Please mute your phone
• Please do not place your phone on HOLD
• Please hold questions until the end of the webinar

Contact us for further information at appliances@energy.ca.gov
Goals of this Webinar

1) Help stakeholders understand spray sprinkler bodies (SSB) efficiency regulations
2) Highlight the effective date of the regulations
3) Explain testing requirements
4) Assist with certification requirements
5) Identify additional resources
6) Answer your questions
Topic Areas

• Scope
• Definitions
• Test Methods
• Performance Requirements
• Marking and Certification Requirements
Scope
Scope
Title 20 section 1601(x)(1)

All spray sprinkler bodies are in scope:

Sprinklers that are out of scope:
Definitions
“Spray sprinkler” means a device used to irrigate landscape that:
1) Consists of a spray sprinkler body and a nozzle or orifice.
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.
“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.
“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.
"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.
“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.

“Regulation pressure” of a spray sprinkler body means its rated outlet pressure, regardless of higher inlet pressure, as stated by the manufacturer.
Test Methods
Spray sprinkler bodies test methods can be found at [WaterSense® Specification for Spray Sprinkler Bodies Version 1.0, September 21, 2017](#).

WaterSense® Specification will be used for certification, compliance, and enforcement purposes.
What needs to be tested?

The manufacturer is responsible for testing basic appliance models.

“Basic model” of an appliance means all units of a given type of appliance (or class thereof) that are manufactured by one manufacturer, that have the same primary energy source, and that do not have any differing electrical, hydraulic, physical, or functional characteristics that affect energy consumption, energy efficiency, water consumption, or water efficiency.

- Manufacturers may represent similar models with asterisks.
Test Lab Application

- For information on how to submit test lab applications: Modernized Appliance Efficiency Database System (MAEDbS) [general instructions](#)
- Manufacturer may act as a test lab
- Manufacturer may delegate third-party lab as test lab
- If delegating to third-party, the manufacturer must file a third-party test lab delegation agreement with the CEC
- Test labs must appear in MAEDbS
Effective Date

Test Procedure

• Items manufactured on or after October 1, 2020
• All spray sprinkler bodies manufactured on, or after this date must be certified to the MAEDbS
Performance Requirements
Spray sprinkler bodies manufactured on or after October 1, 2020, shall meet the following:

1) Percent difference of maximum flow rate
2) Percent difference of average flow rate
3) Minimum outlet pressure
Performance Requirement: Maximum flow rate

- Percent difference of each sample is equal to: \( \frac{Q_{\text{max}} - Q_{\text{initial}}}{Q_{\text{initial}}} \)

- Average percent differences of the samples for the result

- \( Q_{\text{initial}} \) is initial calibration flow rate

- \( Q_{\text{max}} \) is maximum flow rate

![Graph showing percent difference for different brands: B is non-compliant.](image-url)
Performance Requirement: Average flow rate

- Percent difference of each sample is equal to: 
  \[ \frac{(Q_{\text{avg}} - Q_{\text{initial}})}{Q_{\text{initial}}} \]

- Average flow rate \( Q_{\text{avg}} \)
Performance Requirement: Minimum Outlet Pressure

• Minimum outlet pressure at the initial calibration flow rate
Effective Date

Standards

• Items manufactured on or after October 1, 2020
• All spray sprinkler bodies manufactured on, or after this date must be certified to the MAEDbS.
Marking and Certification Requirements
Certification Requirements
Title 20 section 1606

- All models of spray sprinkler bodies must be certified to MAEDbS
- Failure to certify is an enforceable violation
- Fines can be levied for regulated appliances sold or offered for sale in California and not certified to MAEDbS
- A sell through of items manufactured prior to October 1, 2020 is allowed.
Data Submittal Requirements

General instructions for certifying to the MAEDbS can be found at: MAEDbS general instructions
Company Account Setup

Company Information

Company Type

Create new company

Instructions
- Please fill out all the required fields marked by *
- Please select all company types that apply.

Company Information

*Company Name

*Company Website (Follow Format: https://www.energy.ca.gov

Company Type

- Manufacturer
- Test Lab
- 3rd Party Certifier

(Note: Selecting a company type does not grant immediate access by the California Energy Commission. A company will still need to submit an approval application before they are able to submit data. Checking a company type box allows access to applications specific to that company type.)

"Manufacturer" means any person engaged in the original production or assembly of an appliance or any person that assumes the complete legal responsibility for the original production or assembly of an appliance, which includes, but is not limited to, the responsibility normally held by the manufacturer for product liability, warranty, and compliance with State and federal law. "Manufacturer" also means a private brand packager or reassembler.

By checking this box I hereby certify that I am NOT a test lab or third party that is setting up an account for a manufacturer
Company Account Setup

Categories

Address
Test Lab Application

Company Information

Appliance type and test method selection
CERTIFICATION REQUIRES SIGNING A BINDING DECLARATION ON BEHALF OF YOUR COMPANY

Declaration

☐ I declare under penalty of perjury of the laws of the State of California, that: All the information in this statement is true, complete, accurate, and in compliance with all applicable provisions of Sections 1601-1609 of Title 20 of the California Code of Regulations; and I am authorized to make this declaration, and to file this application, on behalf of (Test Lab Not Selected)

☐ It agrees to and does interpret and apply the applicable test method set forth in Section 1604 precisely as written;

☐ It has, and keeps properly calibrated and maintained, all equipment, material, and facilities necessary to apply the applicable test method precisely as written;

☐ It agrees to and does maintain copies of all test reports, and provided any such report to the Executive Director on request, for all basic models that are still in commercial production; and

☐ It agrees to and does allow the Executive Director to witness any test of such an appliance on request, up to once per calendar year for each basic model.

☐ It has conducted tests using the applicable test method(s) specified on the first page of this application within the previous 12 months;

☐ It agrees to, and will follow, all applicable provisions of the California Energy Commission’s Appliance Regulations (Section 1601-1609 of Title 20 of the California Code of Regulations), in carrying out all testing pursuant to this application.

NOTICE: Test labs approvals are valid until December 31st of each year and then expire. Test labs must apply annually for approval to the California Energy Commission. Test lab applications for the next certification year become available on November 1st each year.

*Name

*Title

*Date
Certification Requirements
Title 20 section 1606

To comply with information found in California Code of Regulations, Title 20, Section 1606 table X, submit the following:

1) Regulation pressure (psi)
2) Maximum operating pressure (psi)
3) 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)
4) 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)
5) Average outlet pressure at the initial calibration point of the selected samples (psi)
# Data Submittal Requirements

<table>
<thead>
<tr>
<th>Action</th>
<th>Manufacturer</th>
<th>Model Number</th>
<th>Regulation Pressure (PSI)</th>
<th>Maximum Operating Pressure (PSI)</th>
<th>Maximum Flow Rate (gpm)</th>
<th>Maximum Flow Rate (Percent)</th>
<th>Data Flow Rate (gpm)</th>
<th>Data Flow Rate (Percent)</th>
<th>Calibration Date (YYYY-MM-DD)</th>
<th>Regulatory Status</th>
</tr>
</thead>
</table>
The following information 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:

1) manufacturer's name or brand name or trademark
2) model number
3) date of manufacture
Marking Requirements
Title 20 section 1607(d)(15)(A)

Landscape Irrigation Equipment
For each spray sprinkler body manufactured on or after October 1, 2020, the unit shall be:

1) Marked, permanently and legibly, to indicate the presence of an internal pressure regulator.

2) On an accessible and conspicuous place on the spray sprinkler body and designed to be visible after installation.
General Resources

Title 20 Compliance Assistance Hotline
Toll free inside California (888) 838-1467
From outside of California (916) 651-7100
appliances@energy.ca.gov

Title 20 Compliance Assistance List Serve
Efficiency Division List Server

Webinar documents
Appliances outreach and education webinars

General Instructions for Submitting Appliance Data
MAEDbS general instructions for submitting appliance data
Questions?