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

California Energy Commission

Title: Spray Sprinkler Bodies

Presenters: Nicholas Timothy and Sean Steffensen

Date: September 3, 2020

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

Definitions
Title 20 section 1602(x)(1)

“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.

Definitions
Title 20 section 1602(x)(1)

“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.

Definitions
Title 20 section 1602(x)(1)

“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.

Definitions
Title 20 section 1602(x)(1)

“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.

Definitions
Title 20 section 1602(x)(1)

“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.

Definitions
Title 20 section 1602(x)(1)

“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

Test Methods
Title 20 section 1604(x)(1)(A)

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
- Information on how to use asterisk: California Code of Regulations, Title 20, section 1606(a)(1)(C)

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

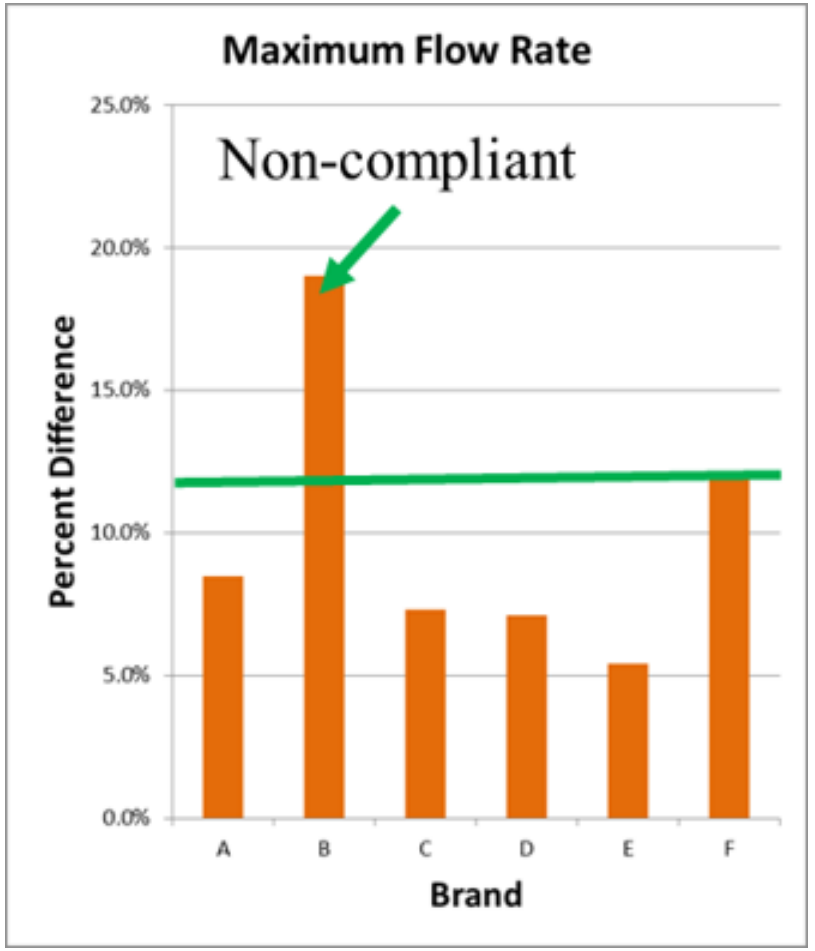
Performance Requirements Title 20 section 1605.3(x)(1)(A)

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

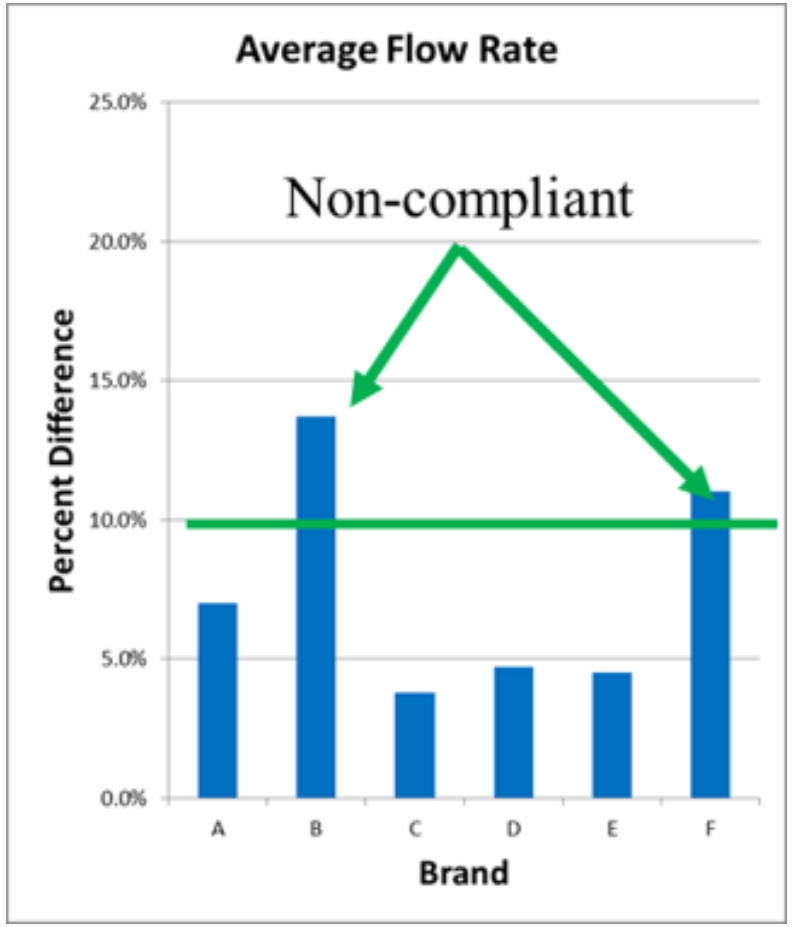
- Percent difference of each sample is equal to: $(Q_{(max)}-Q_{(initial)})/Q_{(initial)}$
- Average percent differences of the samples for the result
- Qinitial is initial calibration flow rate
- Qmax is maximum flow rate



Performance Requirement: Average flow rate

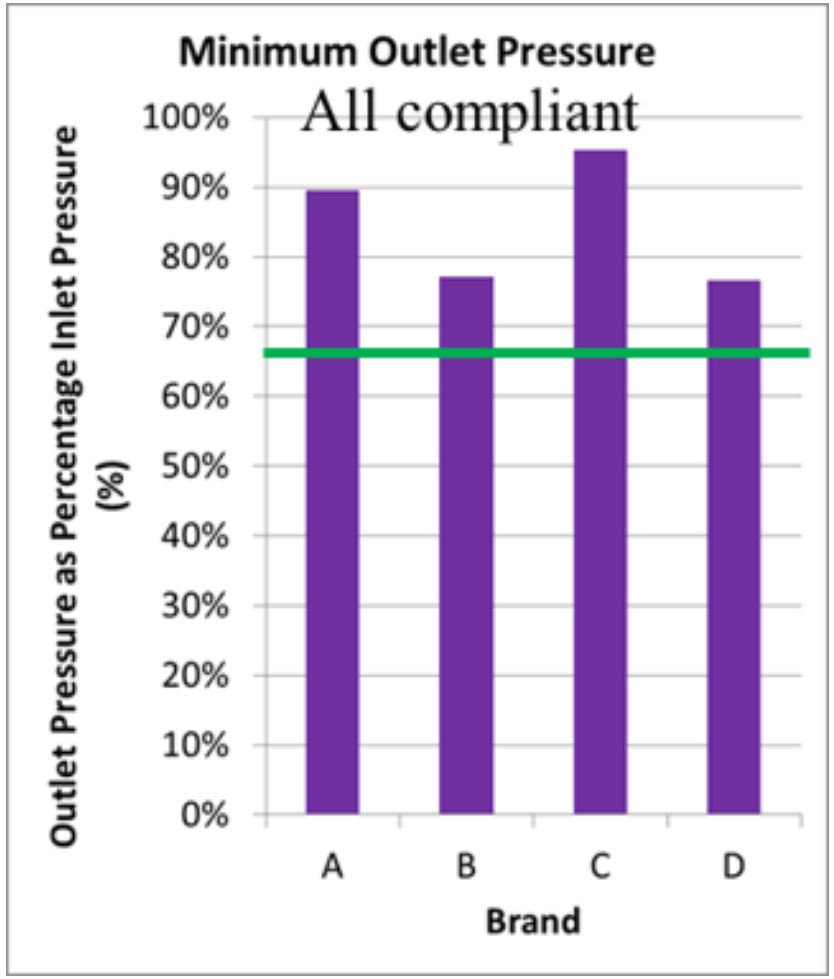
- Percent difference of each sample is equal to: $(Q_{(avg)}-Q_{(initial)})/Q_{(initial)}$

- Average flow rate (Q_{avg})



Performance Requirement: Minimum Outlet Pressure

- Minimum outlet pressure at the initial calibration flow rate



Effective Date

Standards

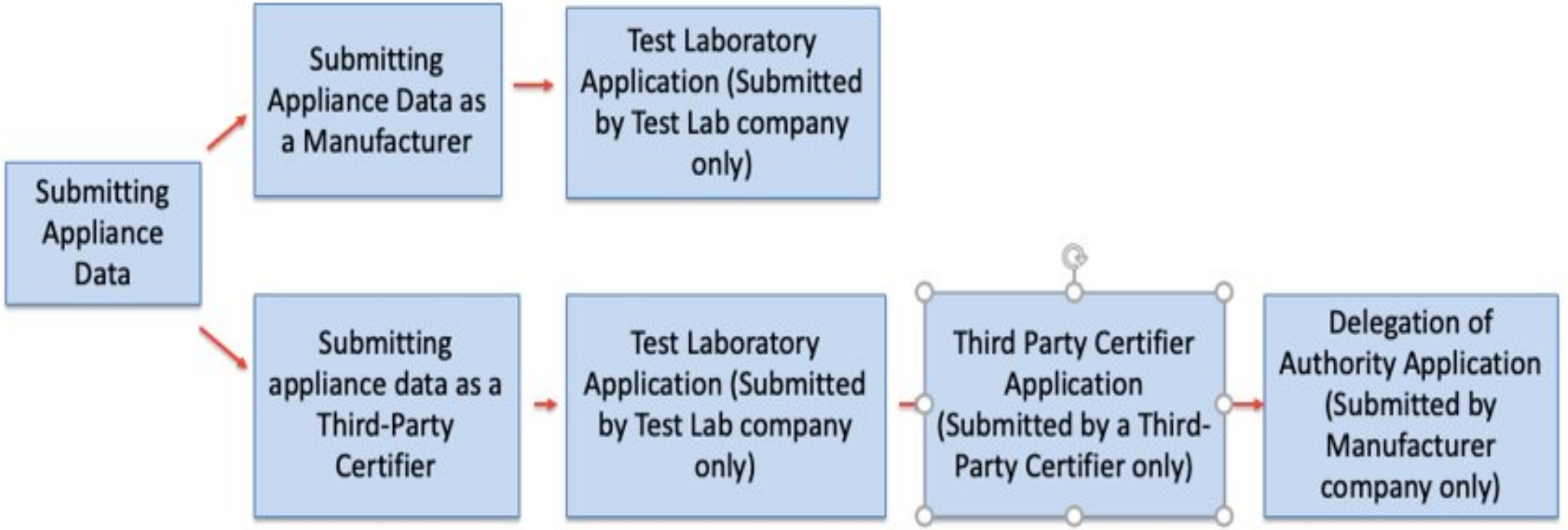
- Items manufactured on or after October 1, 2020
- All spray sprinkler bodies manufactured on, or after this date must be certified to the MAEDbS.

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

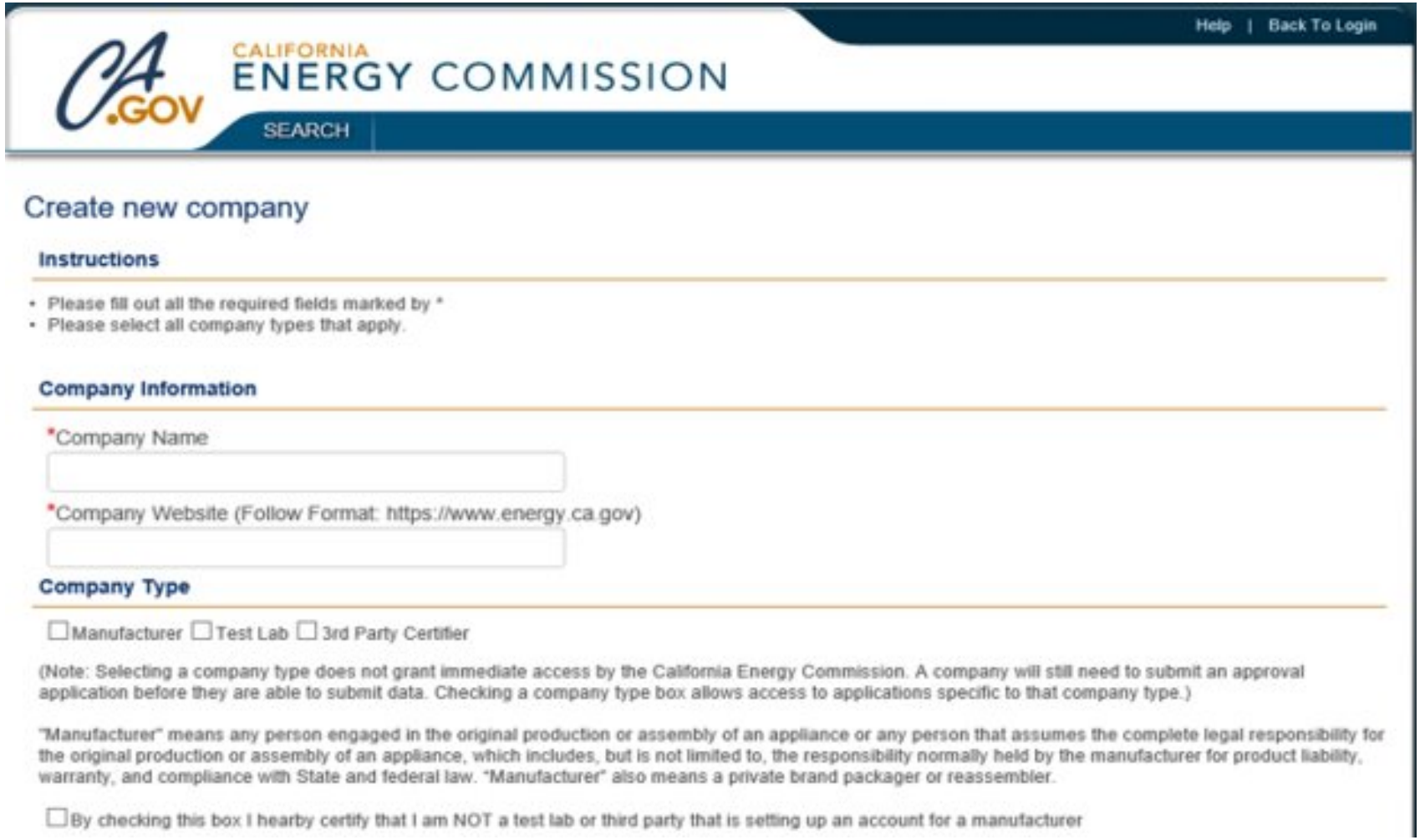


General instructions for certifying to the MAEDbS can be found at:
[MAEDbS general instructions]

Company Account Setup

Company Information

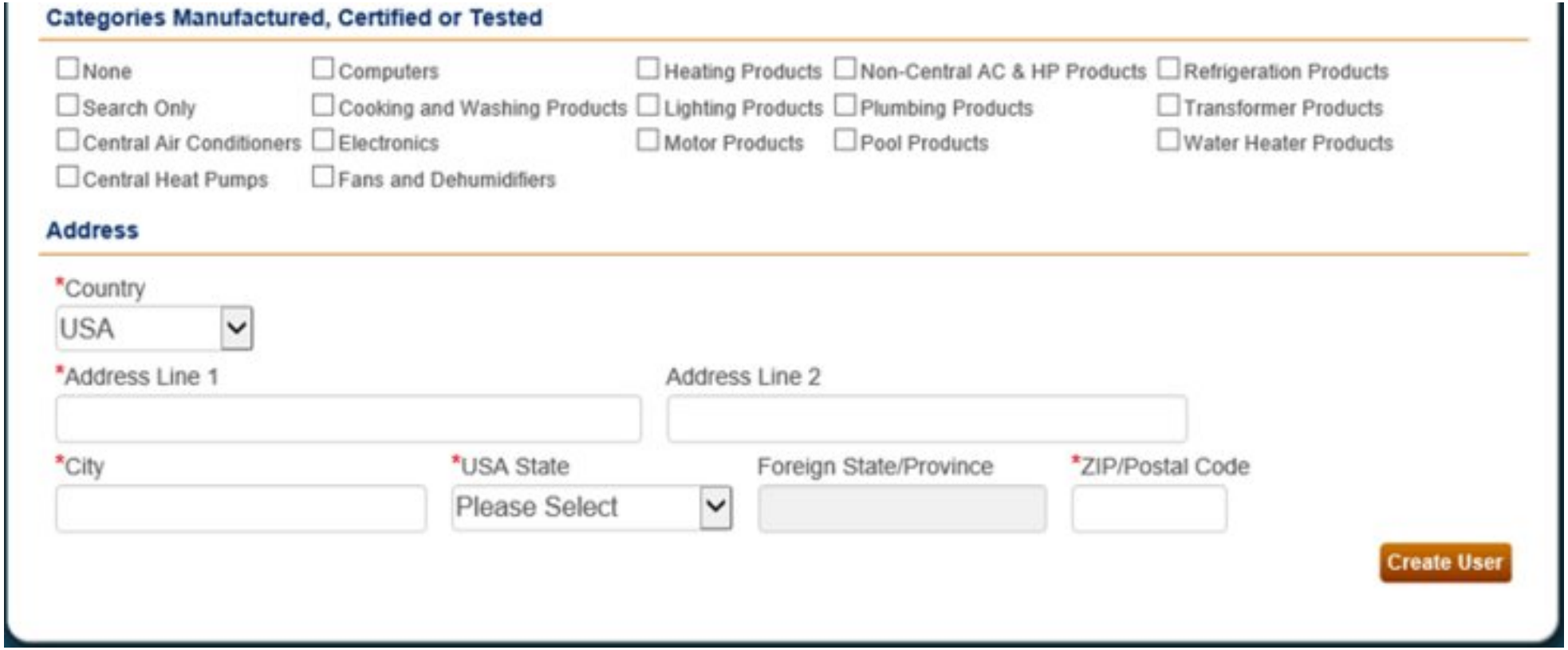
Company Type



Company Account Setup

Categories →

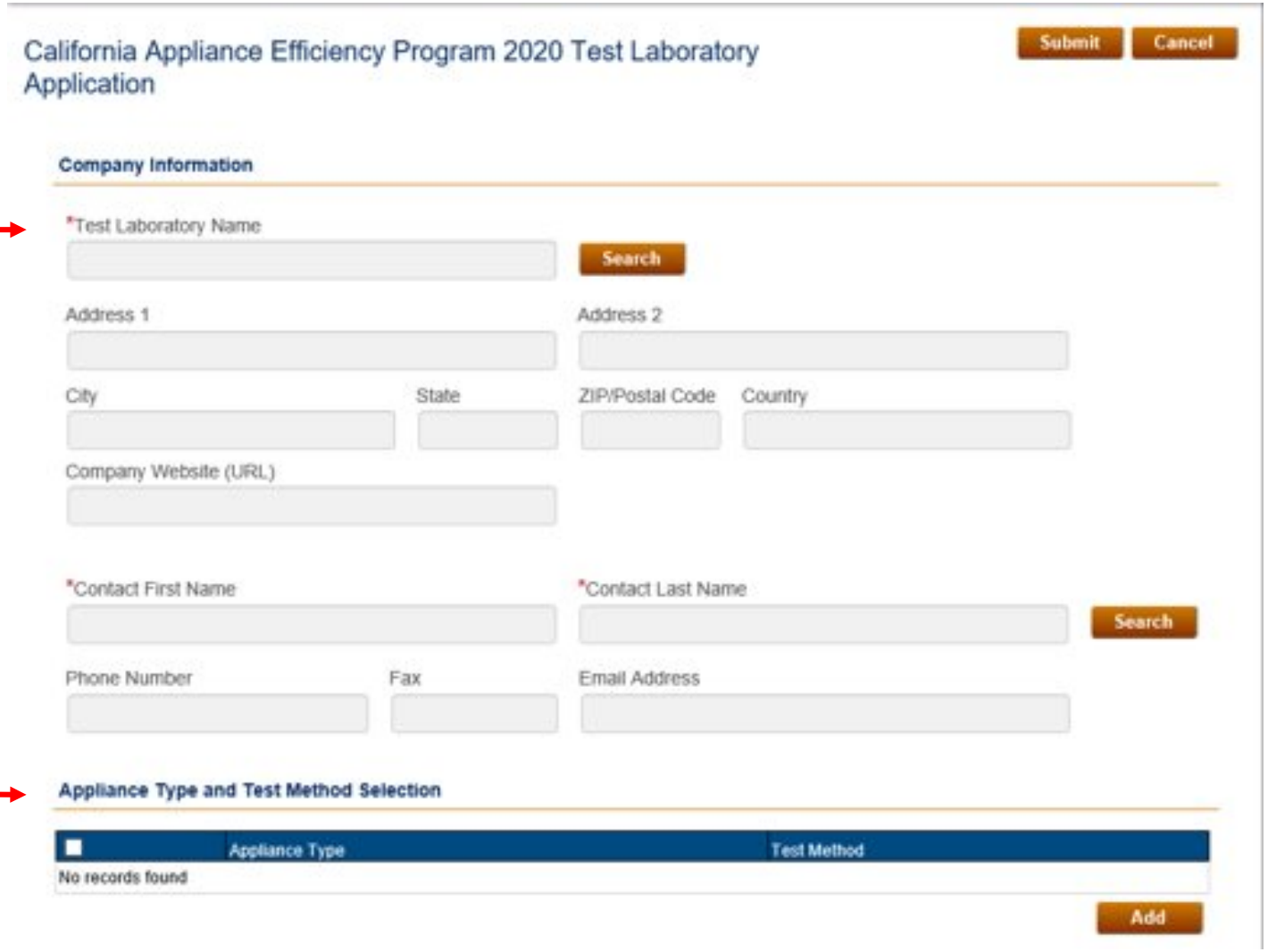
Address →



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; andI 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.**

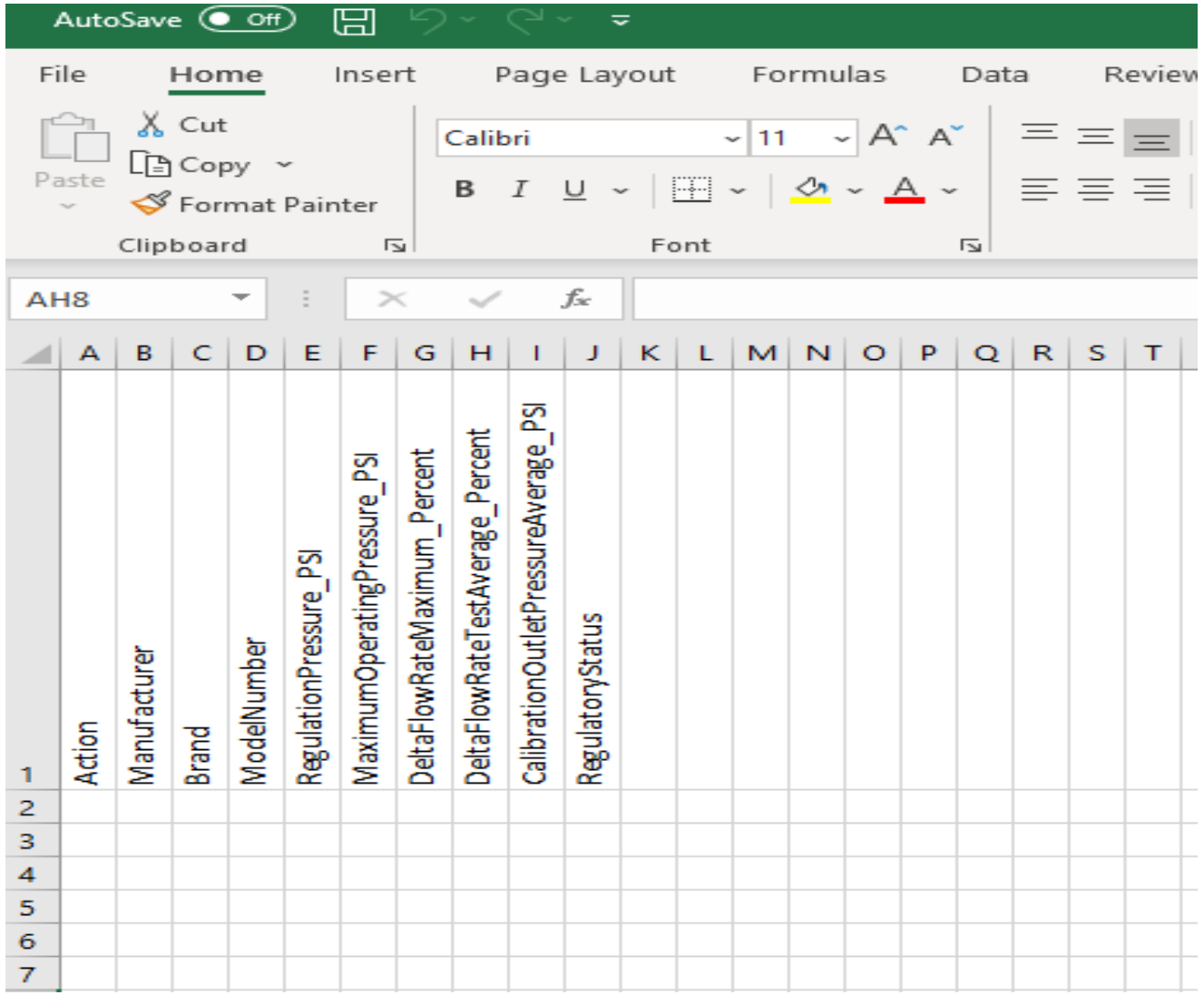
*Name | *Title | *Date

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



Marking Requirements Title 20 section 1607(c)(2)

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?