Energy Efficiency Regulations for Portable Air Conditioners

Our webinar will begin at the top of the hour

This slide deck will be posted on our webpage after the presentation at www.energy.ca.gov/appliances/forms/index.html#webdocs.

Upcoming Efficiency Regulations For Portable Air Conditioners

Efficiency Division

Appliances Office

Nicholas Timothy
January 7, 2020
California Energy Commission

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

- Help stakeholders understand portable air conditioner (PAC) efficiency regulations
- Highlight effective date of regulations
- Explain testing requirements
- Identify additional resources
- Answer questions

Topic Areas

- Scope
- Definitions
- Test Method
- Performance Requirements
- Marking and Certification Requirements

Scope

In Scope Appliances
Title 20 section 1601(d)

In Scope: single-duct and dual-duct portable air conditioners attached to an adjustable window bracket

Out of Scope Appliances
Title 20 section 1601(d)

Out of Scope: Spot air conditioners with no ducts or ducts not attached to adjustable window bracket

Definitions

Definitions
Title 20 section 1602(d)

"**Adjusted cooling capacity at 83°F conditions**" means the adjusted cooling capacity of a single-duct or dual-duct portable air conditioner tested at the 83°F dry-bulb outdoor conditions, as determined using the test method specified in section 1604(d) of this Article

"**Adjusted cooling capacity at 95 °F conditions**" means the adjusted cooling capacity of a single-duct or dual-duct portable air conditioner tested at the 95°F dry-bulb outdoor conditions, as determined using the test method specified in section 1604(d) of this Article

Definitions
Title 20 section 1602(d)

"**Annual energy consumption in cooling mode**" means the annual energy consumption of a single-duct portable air conditioner in cooling mode, as determined using the test method specified in section 1604(d) of this Article.

Definitions
Title 20 section 1602(d)

"**Annual energy consumption in cooling mode at 83°F conditions**" means the annual energy consumption of a dual-duct portable air conditioner in cooling mode tested at the 83°F dry-bulb outdoor conditions, as determined using the test method specified in section 1604(d) of this Article

"**Annual energy consumption in cooling mode at 95°F conditions**" means the annual energy consumption of a dual-duct portable air conditioner in cooling mode tested at the 95°F dry-bulb outdoor conditions, as determined using the test method specified in section 1604(d) of this Article

Definitions
Title 20 section 1602(d)

"**Annual energy consumption in inactive or off mode**" means the annual energy consumption of a single-duct or dual-duct portable air conditioner in inactive or off mode, as determined using the test method specified in section 1604(d) of this Article

"**Annual energy consumption in off-cycle mode**" means the annual energy consumption of a single-duct or dual-duct portable air conditioner in off-cycle mode, as determined using the test method specified in section 1604(d) of this Article

Test Method

Test Procedure
Title 20 section 1604(d)

PACs test procedure can be found at 10 CFR 430.23(dd) (Appendix CC to subpart B of part 430)

- No modifications to the test procedure

Effective Date

Test Procedure

- Items manufactured on or after February 1, 2020
- All PACs manufactured on, or after this date must be certified to the CEC's Modernized Appliance Efficiency Database System (MAEDbS).

Performance Requirements

Performance Requirements Title 20 section 1605.3(d)(1)

Energy efficiency standards for portable air conditioners can be found at California Code of Regulations, Title 20, section 1605.3(d)(1)

- The combined energy efficiency ratio (CEER) of single-duct and dual-duct portable air conditioners manufactured on or after February 1, 2020, shall not be less than the value calculated in the following equation, where SACC is the seasonally adjusted cooling capacity of a portable air conditioner.

$$CEER = 1.04 \times SACC / (3.7117 \times SACC^{0.6384})$$

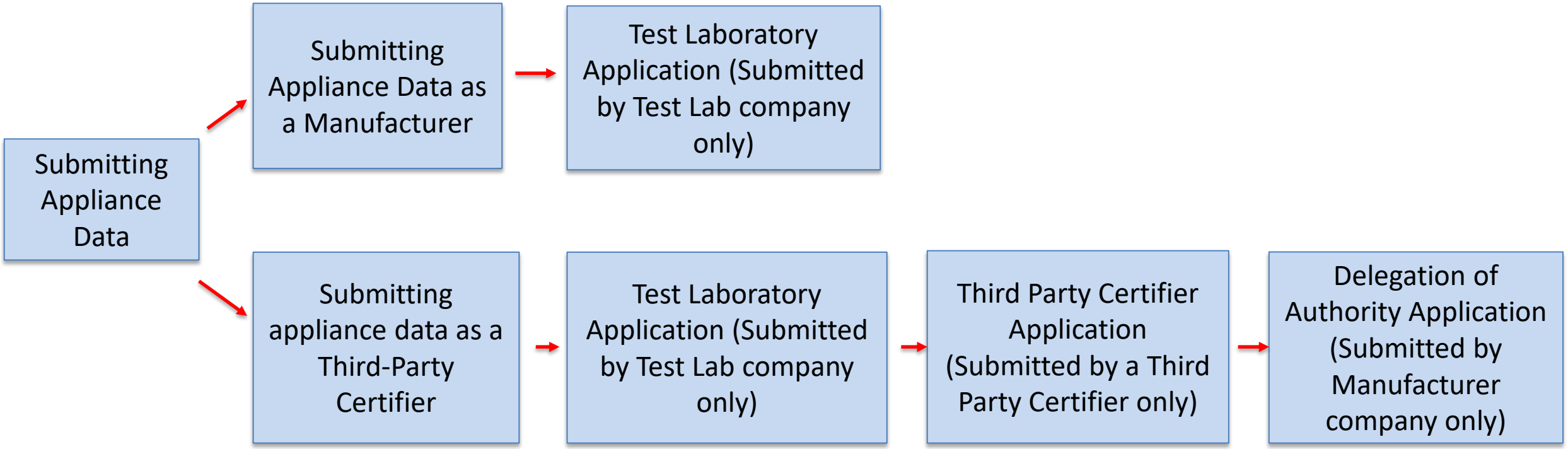
Effective Date

New Standard

Items manufactured on or after February 1, 2020

Marking and Certification Requirements

Data Submittal Requirements

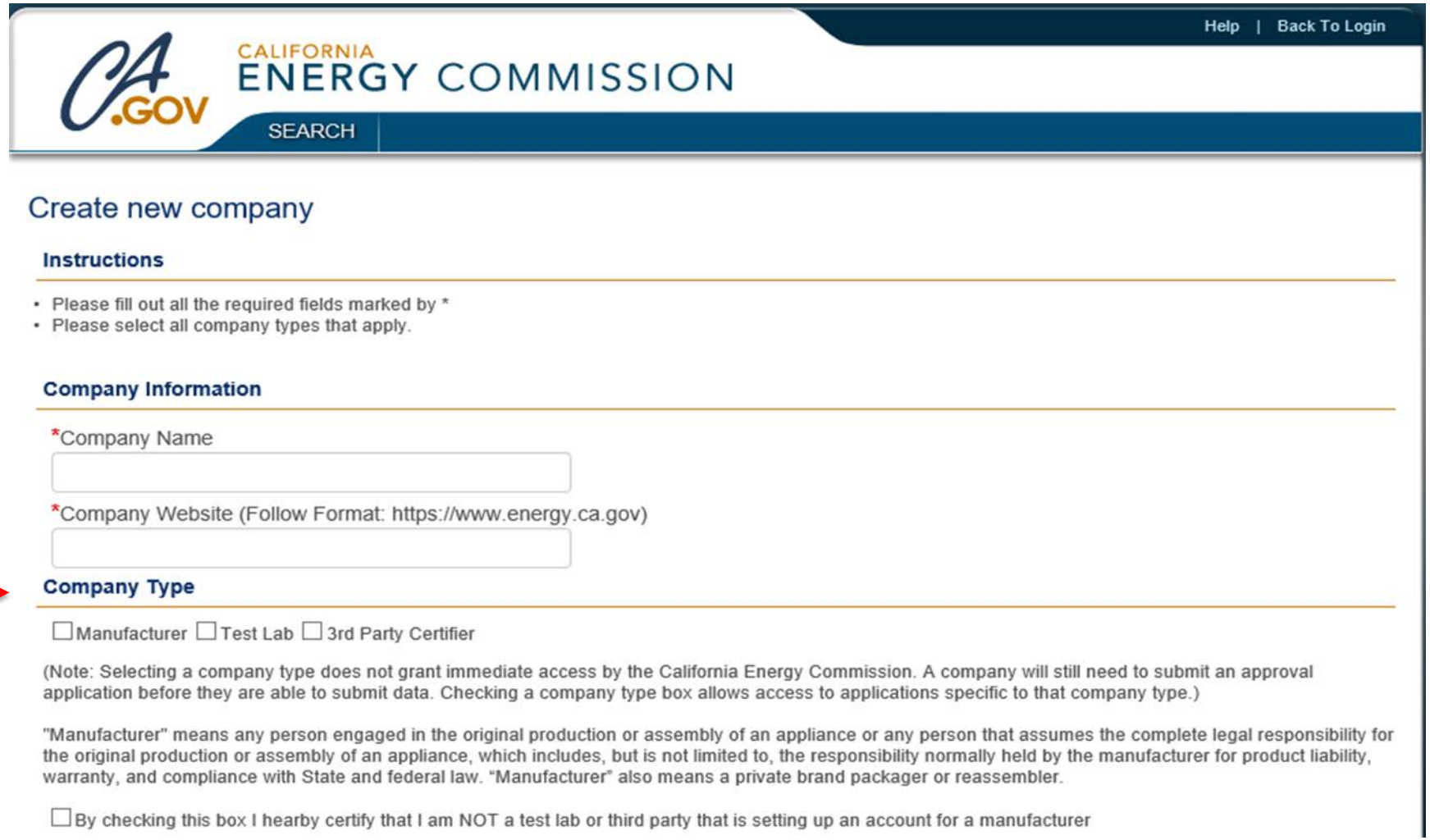


General instructions for certifying to the Moderized Appliance Efficiency Database System (MAEDbS) can be found at: [MAEDbS general instructions]

Company Account Setup

Company Information

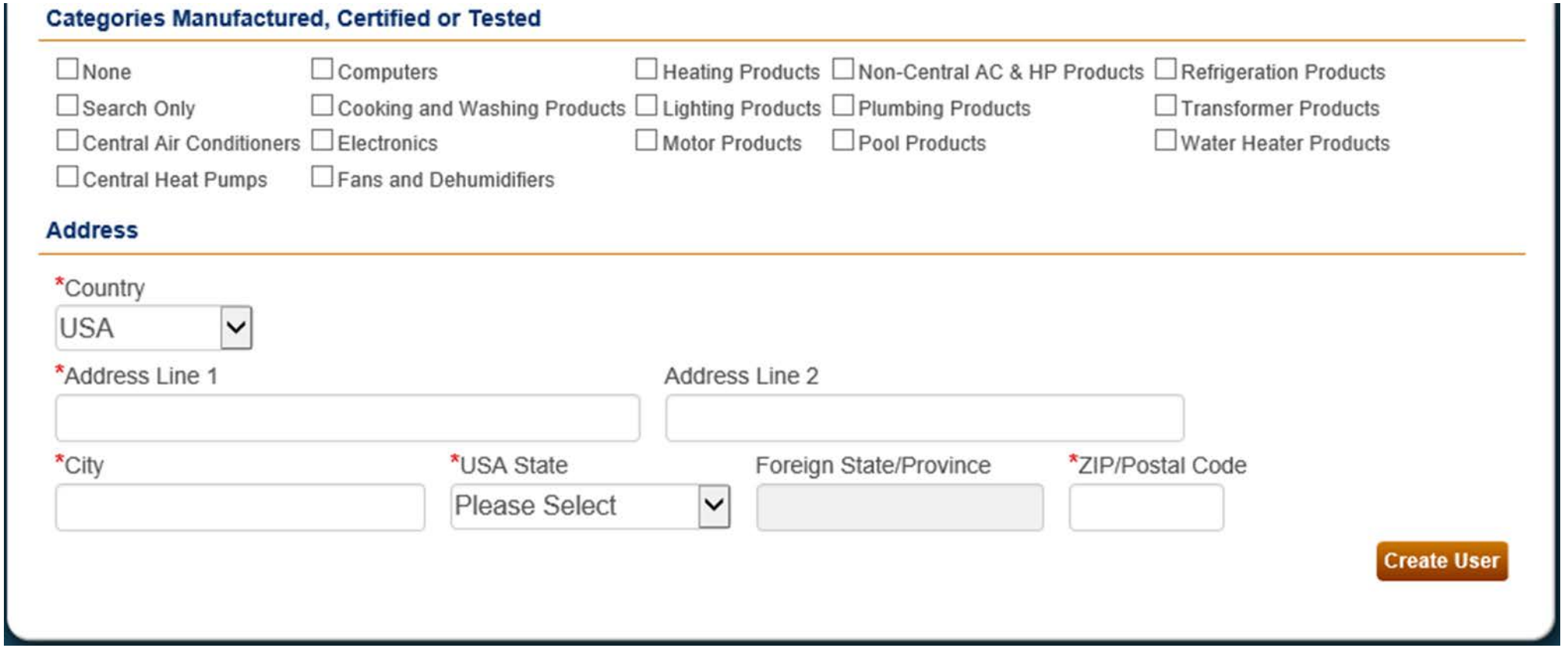
Company Type



Company Account Setup

Categories →

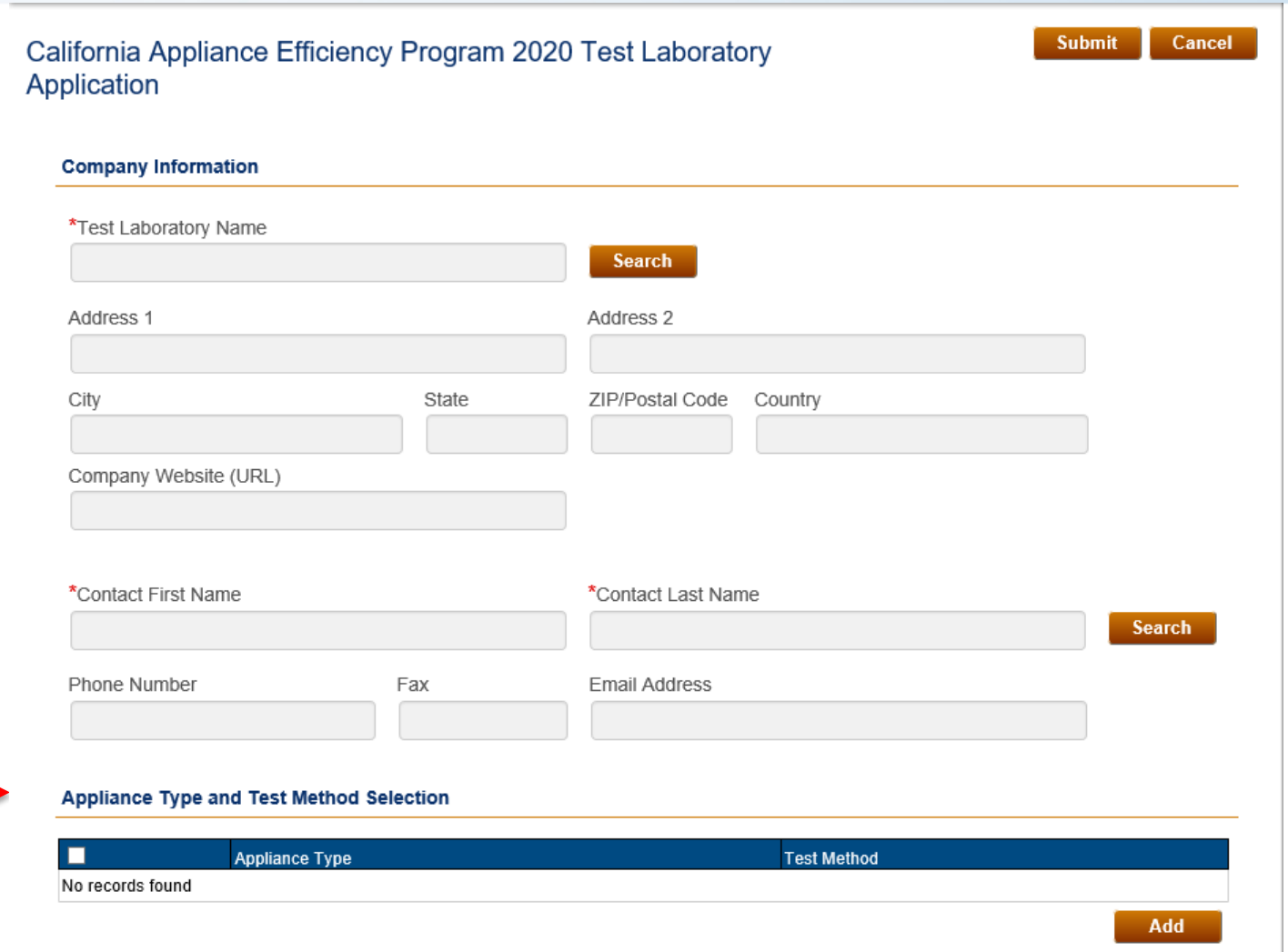
Address →



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 the California Code of Regulations, Title 20, Section 1606 table X, submit the following:

1. Duct Configuration
2. Heating Function Available
3. Dehumidification Mode Available
4. Primary Condensate Removal Feature
5. Combined Energy Efficiency Ratio (CEER) in Btu/Wh
6. Rounded Seasonally Adjusted Cooling Capacity (SACC) in Btu/h
7. Adjusted Cooling Capacity at 83ºF Conditions (ACC83) in (Btu/h)
8. Adjusted Cooling Capacity at 95ºF Conditions (ACC95) in (Btu/h)

Certification Requirements
Title 20 section 1606

Cont.

10) Annual Energy Consumption in Off-cycle Mode (AECOC) in (kWh/year)
11) Annual Energy Consumption in Inactive or Off Mode (AECIM or AECOM) in (kWh/year)
12) Annual Energy Consumption in Cooling Mode (AECSD) in (kWh/year) (Single-duct Only)
13) Annual Energy Consumption in Cooling Mode at 83ºF Conditions (AEC83) in (kWh/year) (Dual-duct Only)
14) Annual Energy Consumption in Cooling Mode at 95ºF Conditions (AEC95) in (kWh/year) (Dual-duct Only)

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

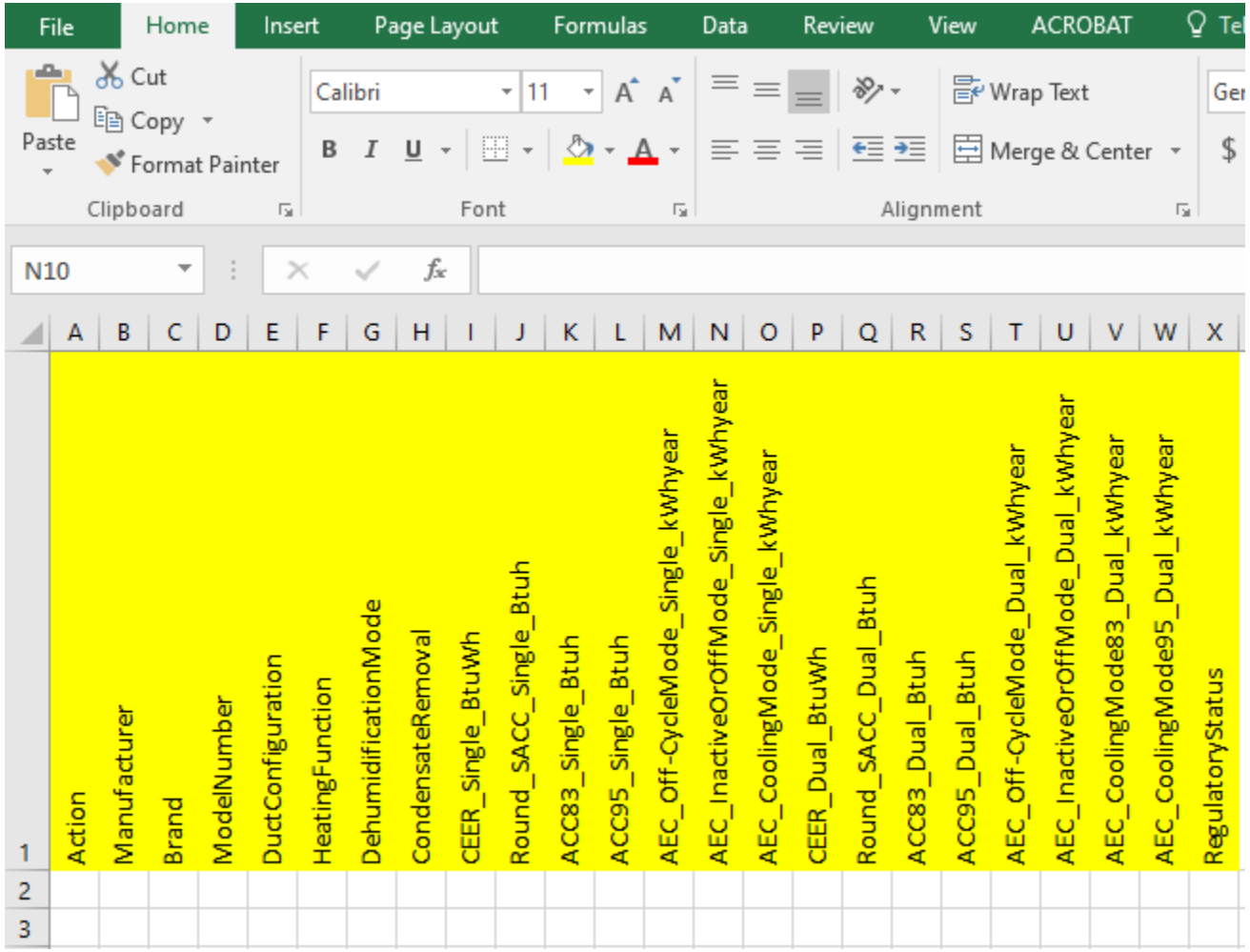
Except as provided in section 1607(c) of this Article, the following information shall be permanently, legibly, and conspicuously displayed on an accessible place on each unit;

(1) manufacturer's name or brand name or trademark

(2) model number; and

(3) date of manufacture

Data Submittal Requirements



Certification

- PAC manufacturers must certify to MAEDbS
- Instructions and templates are available online at: Portable air conditioner instructions and templates
- Contact CEC staff at appliances@energy.ca.gov for any questions with certifying

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 listserv
Efficiency division listserv

Webinar documents
Appliances outreach and education webinars

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

Questions?