



Overview: Combustion Appliance Safety Testing Requirements



GoGreen Home Energy Financing Program

Administered by the State of California

Supported by California's Investor-Owned Utilities (IOUs)

Combustion Appliance Safety Testing

Depending on several conditions, combustion appliance safety tests may be required for your project.

Combustion safety tests verify that atmospherically vented combustible appliances are working properly and not venting dangerous gases, such as carbon monoxide, in the living space.

There are two common standard combustion appliance safety tests:

- Combustion Appliance Zone (CAZ)/Combustion Appliance Safety (CAS) Tests
- Natural Gas Appliance Test (NGAT)

Note: Home Energy Rating System (HERS) testing does NOT count as a safety test!



Safety Testing Triggers and Tester Requirements

The following two project conditions trigger combustion safety tests:

- The project includes whole building air sealing, duct sealing, AND/OR duct sizing/optimization EEMs
- AND
- An atmospherically-vented combustion appliance is present within the sealed building envelope

A safety test must be performed by someone who meets one of the following qualifications:

1. Approved to participate in an IOU, REN, or CCA whole house retrofit program
2. Certified by the Building Performance Institute (BPI)
 - Find a [list of BPI certified contractors in your area](#) or [become BPI certified](#) yourself.
3. Certified and proficient in accepted standards for combustion safety and ventilation testing, such as Natural Gas Appliance Testing (NGAT)

Test results are required as a part of project Quality Assurance reviews. You may use your own form or GoGreen Home's [Combustion Appliance Safety Test Form](#).

The image shows a screenshot of the 'COMBUSTION APPLIANCE SAFETY TEST FORM' from the GoGreen Home Energy Financing Program. The form is titled 'COMBUSTION APPLIANCE SAFETY TEST FORM' and includes the following sections:

- Section 1: Project Information**
 - (a) Customer Name: _____
 - (b) Customer Address: _____
 - (c) City: _____ (d) Zip: _____
 - (e) GoGreen Home Contractor Name: _____ (f) Contractor Phone: _____
- Section 2: Combustion Appliance Safety Test Results**
 - 1. Are there any gas combustion heating appliances? ☐ Yes ☐ No
 - 2. Are carbon monoxide alarms installed in the home? ☐ Yes ☐ No
 - 3. Does all combustion appliance venting conform with code? ☐ Yes ☐ No
 - 4. Are appliance flames: ☐ Good (blue and defined) or ☐ Bad (yellow and "fuzzy")?
 - 4a. If Bad, identify the appliance: _____
 - 5. Outdoor Temperature: _____ °F
 - 6. Outdoor Ambient CO Reading: _____
- Table: AMBIENT READING IN PPM ON EACH FLOOR OF HOME**

Appliance	Zone	PERSONAL CO MONITOR MEASUREMENT			GAS LEAK CHECK	CAZ TEST			SPILLAGE		FLUE GAS CO	
		CD MEASURED IN CAZ	LOWER EXPOSURE LIMIT	(P/N/A)		BASIS (Pass/Fail)	WCD (Pass/Fail)	F/N/A	WCD (P/N/A)	NAT (P/N/A)	PPM (P/N/A)	
Water Heater												
furnace/Builer												
Range/Oven												
Other 1:												
Other 2:												

Legend: P = Pass, F = Fail, NA = Not Applicable, CAZ = Combustion Appliance Zone, WCD = Worst Case Depressurization, NAT = Natural, PPM = Parts Per Million.

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State of California | Combustion Appliance Safety Test Form | CAEATFA-CHEEF-1220-R2 | Rev. 2022.11.16

Atmospherically-Vented Combustion Appliances

An atmospherically-vented, or natural draft, combustion appliance draws air for combustion from the inside of the home and relies upon the draft of warm air rising up a flue to carry dangerous combustion gases out of the home.*

- Commonly labelled as Category I on the manufacturer's nameplate.
- Can have a draft hood, draft diverter, or a fan-assisted combustion system, but their presence within the sealed building envelope will still trigger safety testing.

Note: a gas range is not generally considered an atmospherically-vented combustion appliance. However, CAEATFA recommends that contractors test gas ranges for excess carbon monoxide if a project includes either air sealing and/or duct sealing EEMs.

