



## COMPONENT INSPECTION OF ENERGY STAR® CERTIFIED STEAM COOKERS

**SUBJECT:** ENERGY STAR Certification and Verification Testing

DIRECTIVE NO. 2017-01

Revised Date: 12/18/2017

### **Overview**

In consultation with stakeholders, EPA developed an option for certifying and verifying ENERGY STAR commercial steam cookers via component inspection. The components of steam cookers that may impact a product's ENERGY STAR certification are documented in the *Energy File Report Requirements* as the basis for conducting component inspections. The procedures are aligned with those used for verifying compliance with safety certifications in commercial steam cooker products.

### **Participation**

Participation in the component inspection process is optional. Products certified by brand owner partners that do not elect to participate in the component inspection option will be eligible for verification testing conducted by an EPA-recognized Certification Body (CB). CBs and brand owner partners for steam cookers who are interested in participating should notify EPA at [commercialsteamcookers@energystar.gov](mailto:commercialsteamcookers@energystar.gov). CBs must have their procedures reviewed by EPA prior to offering the component inspection option. Prior to January 1 each year, brand owner partners will need to have an energy file report created by a participating CB for all models the brand owner would like to include in this approach. In addition, brand owner partners are required to provide the CB with information regarding when models will be manufactured and available for inspection.

### **Procedures for Certifying and Verifying ENERGY STAR Steam Cookers Using the Component Inspection Approach**

### **Certification**

In addition to the standard requirements for certifying ENERGY STAR products, CBs are required to generate an energy file report for every unique commercial steam cooker certification in order for the models to be included in the component inspection program. This report must document the full list of critical components outlined in the *Energy File Report Requirements for ENERGY STAR Steam Cookers* and be kept on file in association with the product certification. Partners are required to report any component changes to the CB immediately. If any critical components change, the CB is required to identify the extent of the change and determine if the product needs to be retested to maintain certification. CBs will need to document any changes in the energy file report, along with information on the nature of the changes and new test information if applicable.

### **Verification**

Products certified using this approach will not be subject to the verification testing requirements outlined in the [Conditions and Criteria for Recognition of Certification Bodies for the ENERGY STAR Program](#). Instead, CBs are required to conduct random inspections of manufacturing facilities throughout the year, similar to the process for verifying product safety.

At a minimum, each relevant manufacturing facility is to be inspected twice annually. Each visit includes an inspection of at least one currently certified model to determine compliance with components listed in the energy file. Should an inspection uncover changes not previously approved, CBs are required to document any actions. If additional product testing is required, CBs are required to notify EPA prior to beginning testing. In the event that a model is retested due to component changes and fails to meet ENERGY STAR requirement, CBs are required to report the failure to EPA consistent with standard reporting procedures.

CBs are required to ensure that at least 10% of the certified steam cookers covered by the component inspection process are reviewed each year. Products certified by partners that do not participate in the component inspection process are subject to verification testing consistent with established procedures for verifying 10% of unique models each year.

### **Reporting**

Consistent with reporting for standard verification testing of ENERGY STAR products, CBs will be required to report to EPA in July and January each year a list of the locations visited, models inspected, and results. In addition, CBs will need to note all models available for inspection at the time of each visit, even if not selected for random inspection.

### **Energy File Report Requirements for Commercial Steam Cookers**

For purposes of ENERGY STAR certification under the component inspection option, CBs are required to document information about products for their later use in energy inspection audits. The following information and critical components are required to be included in the energy file report at the time of ENERGY STAR certification in order to participate in the component inspection approach. The check marks listed in the boxes below indicate whether any one type of steam cooker listed will need to include the corresponding critical component in that product's energy file.

The following definitions should be used to determine how to categorize each steam cooker for purposes of developing the energy file report:

- Boiler-based steamer – A steam cooker with a separate heating boiler that supplies steam to the cooking compartment at a pressure range from 0 to 15 psig, and both the generator and cooking cavity are housed in a single unit.
- Boiler-less steamer with an open steam generator – A commercial steam cooker that generates steam inside the cooking cavity under atmospheric pressure<sup>1</sup>. The water reservoir inside the cavity is manually accessible.
- Boiler-less steamer with a closed steam generator – A commercial steam cooker that generates steam inside the cooking cavity under atmospheric pressure<sup>1</sup>. The water reservoir inside the cavity is not manually accessible.

<b>Electric Steam Cooker Information</b>	<b>Gas Steam Cooker Information</b>
Make/Model	Make/Model
Pan Capacity	Pan Capacity
ENERGY STAR Ratings	ENERGY STAR Ratings
Electrical Ratings	Gas Ratings
Specification Sheet Dimensions	Electric Rating (i.e., fan motor, controls, secondary electric heating element if applicable, etc.)
	Specification Sheet Dimensions

<b>Critical Component List</b>	<b>Comments</b>	<b>Electric, boiler-less</b>		<b>Gas, boiler-less</b>		<b>Electric, boiler-based</b>	<b>Gas, boiler-based</b>
		<b>with an open steam generator</b>	<b>with a closed steam generator</b>	<b>with an open steam generator</b>	<b>with a closed steam generator</b>		
Door Gasket	A change in door gasket material or dimensions would affect the rate of heat loss from the unit.	✓	✓	✓	✓	✓	✓
Cooking Cavity	A change in cooking cavity dimensions is unlikely, given the standardization of pan design. However, a change in cooking cavity design is indicative of other changes in the steamer, which would impact energy performance.	✓	✓	✓	✓	✓	✓
Thermal Insulation	Amount of heat loss from the unit is heavily dependent on thermal insulation thickness and placement.	✓	✓	✓	✓	✓	✓

Steam Vent and Steam Exhaust Tubing	Steam vent and exhaust tubing design will affect the rate of steam withdrawal from the cooking cabinet. Any change in these components is expected to affect energy consumption.	✓	✓	✓	✓	✓	✓
Temperature Control and Hold Thermostat	Whether electromechanical or electronic, changes in the temperature controller or thermostat would inevitably affect overall unit energy consumption.	✓	✓	✓	✓	✓	✓
Heating Elements	The rating and construction of the heating element may directly affect energy consumption.	✓	✓	If applicable	If applicable	✓	
Combustion Fan	Fan air orifices and speed setting affect combustion and efficiency.			✓	✓		✓
Gas Burner	Burner design (i.e., orifice size and manifold pressure) and air shutter adjustments will affect combustion and efficiency. The orifice size may be adjusted due to installation altitude.			✓	✓		✓

Gas Valve	Gas valve design: fast opening, slow opening, staged, and modulating. Changes to these settings is expected to affect efficiency.			✓	✓		✓
Flue	Flue design will affect combustion and draft during non-heating mode.			✓	✓		✓
Air Openings	Location and size of primary air openings will affect combustion and efficiency.			✓	✓		✓
Steam Generator Parameters	Wall thickness, tube diameter, number of tubes, and tube length will affect efficiency.		✓		✓		✓
Pressure Switch	The pressure switch controls the burner/power and changes to the boiler pressure may impact efficiency.					✓	✓