

**REGULATION 6  
PARTICULATE MATTER  
RULE 2  
COMMERCIAL COOKING EQUIPMENT  
INDEX**

**6-2-100 GENERAL**

- 6-2-101 Description
- 6-2-102 Applicability
- 6-2-110 Exemption, Low Utilization of Chain-driven Charbroiler
- 6-2-111 Exemption, Low Utilization of Under-fired Charbroiler

**6-2-200 DEFINITIONS**

- 6-2-201 Beef
- 6-2-202 Catalytic Oxidizer
- 6-2-203 Chain-driven (Conveyorized) Charbroiler
- 6-2-204 Charbroiler
- 6-2-205 Grill Surface Area
- 6-2-206 Organic Compounds
- 6-2-207 Particulate Matter
- 6-2-208 PM<sub>10</sub>
- 6-2-209 Restaurant
- 6-2-210 Under-fired Charbroiler

**6-2-300 STANDARDS**

- 6-2-301 Chain-Driven Charbroilers
- 6-2-302 New Installation of Under-Fired Charbroilers
- 6-2-303 Existing Under-Fired Charbroilers
- 6-2-304 Control Equipment Maintenance

**6-2-400 ADMINISTRATIVE REQUIREMENTS**

- 6-2-401 Registration for Chain-Driven Charbroiler
- 6-2-402 Registration for Under-Fired Charbroiler
- 6-2-403 Emission Control Equipment Compliance
- 6-2-404 Application for Certification

**6-2-500 MONITORING AND RECORDS**

- 6-2-501 Recordkeeping Regarding Chain-Driven Charbroilers
- 6-2-502 Recordkeeping Regarding Under-Fired Charbroilers
- 6-2-503 Retention of Records

**6-2-600 MANUAL OF PROCEDURES**

- 6-2-601 Determination of Emissions from Catalytic Oxidizers
- 6-2-602 Determination of Emissions from Chain-Driven Charbroilers
- 6-2-603 Determination of Emissions from Under-Fired Charbroilers

**REGULATION 6  
PARTICULATE MATTER  
RULE 2  
COMMERCIAL COOKING EQUIPMENT**

**6-2-100 GENERAL**

**6-2-101 Description:** The purpose of this rule is to reduce emissions from commercial cooking equipment.

**6-2-102 Applicability:** This rule shall apply to any person who either:

102.1 Owns, operates, or installs a chain-driven (conveyorized) charbroiler in a restaurant that is located within the District and that purchases 500 pounds of beef or more per week; or

102.2 Owns, operates, or installs an under-fired charbroiler in a restaurant that is located within the District and that purchases 1,000 pounds of beef or more per week.

**6-2-110 Exemption, Low Utilization of Chain-driven Charbroiler:** The requirements of this rule shall not apply to any person who operates a chain-driven charbroiler in a restaurant that grills less than 400 pounds of beef per week on the chain-driven charbroiler, provided the person maintains records that demonstrate the restaurant grills less than 400 pounds of beef per week on the chain-driven charbroiler.

**6-2-111 Exemption, Low Utilization of Under-fired Charbroiler:** The requirements of this rule shall not apply to any person who operates an under-fired charbroiler in a restaurant that grills less than 800 pounds of beef per week on the under-fired charbroiler, provided the person maintains records that demonstrate the restaurant grills less than 800 pounds of beef per week on the under-fired charbroiler.

**6-2-200 DEFINITIONS**

**6-2-201 Beef:** All steaks, hamburger, and other meat products from an adult domestic bovine, including any attached bone, tendons, fat, and organs.

**6-2-202 Catalytic Oxidizer:** An emission control device that employs a catalyst fixed onto a substrate to oxidize air contaminants in an exhaust stream, thereby converting the air contaminants into carbon dioxide and water.

**6-2-203 Chain-driven (Conveyorized) Charbroiler:** A semi-enclosed charbroiler designed to mechanically move food on a grated grill through the broiler.

**6-2-204 Charbroiler:** A cooking device composed of a grated grill and a heat source, where food resting on the grated grill cooks as the food receives direct heat from the heat source or a radiant surface.

**6-2-205 Grill Surface Area:** The area of the cooking surface on the grill of a charbroiler.

**6-2-206 Organic Compounds:** Any organic compounds of carbon, excluding methane, carbon monoxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate.

**6-2-207 Particulate Matter:** Any finely divided solid or liquid airborne material.

**6-2-208 PM<sub>10</sub>:** Particulate matter with an aerodynamic diameter that is less than or equal to a nominal 10 microns.

**6-2-209 Restaurant:** Any stationary facility that cooks food for human consumption and that engages in the retail sale, or offer for sale, of the cooked food. This includes, but is not limited to, dinner houses, cafeterias, catering operations, and hotel or motel food service operations.

**6-2-210 Under-fired Charbroiler:** A charbroiler, other than a chain-driven charbroiler, where the heat source and radiant surface, if any, are positioned at or below the level of the grated grill.

**6-2-300 STANDARDS**

**6-2-301 Chain-Driven Charbroilers:**

**301.1** Effective January 1, 2009, no person shall operate a chain-driven charbroiler unless it is equipped and operated with a catalytic oxidizer certified pursuant to Sections 6-2-403 and 6-2-404 for use in combination with the specific model of chain-driven charbroiler by limiting the PM<sub>10</sub> and organic compound emissions to no more than 1.3 pounds of PM<sub>10</sub> and 0.32 pounds of organic compounds per 1,000 pounds of beef cooked.

**301.2** Notwithstanding Section 6-2-301.1, a person may operate a chain-driven charbroiler with a control device certified pursuant to Sections 6-2-403 and 6-2-404 as limiting the PM<sub>10</sub> emissions of the chain-driven charbroiler to no more than 0.74 pounds of PM<sub>10</sub> per 1,000 pounds of beef cooked.

**6-2-302 New Installation of Under-Fired Charbroilers:** In any restaurant that contains one or more under-fired charbroilers installed on or after January 1, 2010 such that the under-fired charbroilers in the restaurant have an aggregate grill surface area of ten (10) square feet or more:

**302.1 Under-Fired Charbroilers:** No person shall operate any under-fired charbroiler unless emissions from the under-fired charbroiler are exhausted through a control device certified pursuant to Sections 6-2-403 and 6-2-404 as limiting the PM<sub>10</sub> emissions of the under-fired charbroiler to no more than 1.0 pounds of PM<sub>10</sub> per 1000 pounds of beef cooked.

**6-2-303 Existing Under-Fired Charbroilers:** Effective January 1, 2013, no person shall operate an under-fired charbroiler in any restaurant that contains one or more under-fired charbroilers with an aggregate grill surface area of ten (10) square feet or more, unless emissions from each under-fired charbroiler are exhausted through a control device certified pursuant to Sections 6-2-403 and 6-2-404 as limiting the PM<sub>10</sub> emissions of the under-fired charbroiler to no more than 1.0 pounds of PM<sub>10</sub> per 1000 pounds of beef cooked.

**6-2-304 Control Equipment Maintenance:** Any emission control device installed and/or operated under this rule shall be operated, cleaned, and maintained in accordance with the manufacturer's specifications.

**6-2-400 ADMINISTRATIVE REQUIREMENTS**

**6-2-401 Registration for Chain-Driven Charbroiler:** Effective January 1, 2009, any person operating any chain-driven charbroiler subject to the control requirements of Section 6-2-301 shall register the charbroiler and any emission control device that operates with the charbroiler in accordance with Regulation 1, Section 410. Any person registering a charbroiler shall pay the fees required, as set forth in Regulation 3.

**6-2-402 Registration for Under-Fired Charbroilers:** Effective January 1, 2010, the owner or operator of any restaurant that contains one or more under-fired charbroilers installed on or after January 1, 2009 subject to the control requirements of Section 6-2-302 shall register the under-fired charbroiler(s) and any emission control device(s) that operates with the charbroiler(s) in accordance with Regulation 1, Section 410. Effective January 1, 2013, the owner or operator of any restaurant that contains one or more under-fired charbroilers subject to the control requirements of Section 6-2-303 shall register the under-fired charbroiler(s) and any emission control device(s) that operates with the charbroiler(s) in accordance with Regulation 1, Section 410. Any person registering a charbroiler shall pay the fees required, as set forth in Regulation 3.

**6-2-403 Emission Control Equipment Compliance:** The manufacturer shall obtain confirmation from an independent testing laboratory that the emission control equipment the manufacturer seeks to sell for use to comply with this rule has been tested in accordance with the applicable procedure in either Section 6-2-601, 6-2-602, or 6-2-603. Catalytic oxidizers certified, at the time the rule is adopted, for use

by the South Coast Air Quality Management District shall be deemed certified for the purposes of this rule.

**6-2-404**

**Application for Certification:**

**404.1** Each manufacturer shall submit an application to the APCO for certification of their compliant control equipment. The application must:

404.1.1 Provide the following general information: name and address of manufacturer, brand name, trade name, model number, any accoutrements installed to enhance or support the operation of the control equipment, and state operation conditions including the maximum air flow rate.

404.1.2 Provide a description of the model being certified

404.1.3 Include one or more of the following: a complete certification source test report demonstrating that the control equipment was tested in accordance with procedures in Section 6-2-601 and a written statement that the model complies with Sections 6-2-301.1; or a complete certification source test report demonstrating that the control equipment was tested in accordance with procedures in Section 6-2-602 and a written statement that the model complies with Section 6-2-301.2; or a complete certification source test report demonstrating that the control equipment was tested in accordance with procedures in Section 6-2-603 and a written statement that the model complies with Section 6-2-302 or 6-2-303.

404.1.5 Be submitted to the District no more than 90 days after the date of the emissions compliance test conducted in accordance with Section 6-2-403.

**404.2** After completing review of the application for certification and source test report, the APCO will approve, or will deny approval of the application.

**6-2-500**

**MONITORING AND RECORDS**

**6-2-501**

**Recordkeeping Regarding Emission Control Equipment for Chain-Driven Charbroilers:** The owner or operator of a chain-driven charbroiler subject to the control requirements of Section 6-2-301 shall maintain on the premises of the restaurant records of each of the following:

**501.1** The date of installation of any emission control device installed to abate emissions from the chain-driven charbroiler.

**501.2** All maintenance, including, but not limited to, preventative maintenance, breakdown repair, and cleaning, performed on the emission control device. The records shall include the date, time, and a brief description of the work.

**6-2-502**

**Recordkeeping Regarding Emission Control Equipment for Under-Fired Charbroilers:** The owner or operator of a restaurant that contains one or more under-fired charbroilers subject to the control requirements of Section 6-2-302 or 303 shall maintain on the premises of the restaurant record of each of the following:

**502.1** The date any control device was initially installed in the restaurant.

**502.2** The date any under-fired charbroiler was installed in the restaurant, if installed on or after January 1, 2008.

**502.3** All maintenance, including, but not limited to, preventative maintenance, breakdown repair, and cleaning, performed on the emission control device. The records shall include the date, time, and a brief description of the work.

**6-2-503**

**Retention of Records:** The owner or operator shall maintain all records required under Sections 6-2-501 or 6-2-502 for a period of not less than five (5) years and shall make the records available to the APCO upon request.

**6-2-600 MANUAL OF PROCEDURES**

**6-2-601 Determination of Emissions from Catalytic Oxidizers:** Approval of abatement equipment pursuant to Section 6-2-403 as complying with the standards specified in Section 6-2-301.1 shall be determined in accordance with South Coast Air Quality Management District Protocol "Determination of Particulate and Volatile Organic Compound Emissions from Restaurant Operations", dated November 14, 1997.

**6-2-602 Determination of Emissions from Chain-Driven Charbroilers:** Approval of abatement equipment pursuant to Section 6-2-403 as complying with the standards specified in Section 6-2-301.2 shall be determined using the following procedures:

**602.1** Laboratory testing shall be performed on a control device that is installed per manufacturer's specification above a conveyORIZED charbroiler fueled by natural gas. The testing shall be conducted in accordance with the most recent version of ASTM Standard Test Method F 2239. If the control device is installed after a hood, clean grease baffles shall be installed in the hood prior to testing. The broiler shall be positioned such that a minimum of six (6) inches is maintained between the edge of the hood and the vertical plane of the front and sides of the appliance. Both sides of the broiler shall be a minimum of three (3) feet from any side wall, side partition, or other operating appliance. The velocity of the duct shall correspond to a flow rate of 300 cubic feet per minute (cfm) for each linear foot of hood length. The broiler's temperature controls shall be set at manufacturer's recommended setting for a minimum of 60 minutes prior to testing.

**602.2** Pure beef, finished grind hamburgers of 0.33 lbs each shall be cooked on the under-fired charbroiler during testing. The patties shall consist of 18-22% fat by weight and 58-62% moisture. The patties shall be shaped into 0.625 inch thick round patties of five (5) inch diameter. The fat and moisture content of the patties shall be verified in accordance with the laboratory procedures set forth in the Association of Official Analytical Chemists Official Actions 960.39 and 950.46.

**602.3** Hamburger patties shall be loaded, cooked, and removed in accordance with Section 10 of ASTM test method F2239-03, or in the analogous provision of the most recent version of ASTM Standard Test Method F 2239, for heavy load conditions.

**602.4** Testing shall be performed following EPA Method 5 front half only. During each test, samples shall be collected from the outlet of the control.

**6-2-603 Determination of Emissions from Under-Fired Charbroilers:** Approval of abatement equipment pursuant to Section 6-2-403 as complying with the standards specified in Sections 6-2-302.1 and 6-2-303 shall be determined using the following procedures:

**603.1** Laboratory testing shall be performed on a control device that is installed following manufacturer's specification above an under-fired charbroiler fueled by natural gas that has a grill size of ten square feet or more. The charbroiler shall be operated in accordance with the most recent version of ASTM Standard Test Method F 1695. If the control device is installed after the hood, clean grease baffles shall be installed in the hood prior to testing. The velocity of the duct shall correspond to a flow rate of 400 cubic feet per minute (cfm) for each linear foot of hood length. The hood shall extend over the surface of the under-fired charbroiler by at least six (6) inches in the front and sides. The broiler shall be warmed up for a minimum of 30 minutes prior to testing and operate at a maximum temperature of 600 degrees Fahrenheit, as measured at the center of each location where the meat shall be cooked.

**603.2** Pure beef, finished grind hamburgers of 0.33 lbs each shall be cooked on the under-fired charbroiler during testing. The patties shall consist of 18-22% fat by weight and 58-62% moisture. The patties shall be shaped into 0.625 inch thick round patties of five (5) inch diameter. The fat and moisture content of

the patties shall be verified in accordance with the laboratory procedures set forth in the Association of Official Analytical Chemists Official Actions 960.39 and 950.46.

- 603.3** Hamburger patties shall be loaded, cooked, and removed in accordance with Section 10 of ASTM test method F1695-03, or in the analogous provision of the most recent version of ASTM Standard Test Method F 1695, for heavy load conditions. Testing shall begin once the first patty is placed on the broiler and continue for a minimum of 60 minutes, with the end of sampling corresponding to the end of the cooking cycle.
- 603.4** Testing shall be performed following EPA Method 5 front half only. During each test, samples shall be collected from the outlet of the control.