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**REGULATION 6
PARTICULATE MATTER AND VISIBLE EMISSIONS
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 applies to any person who owns, operates or plans to install an under-fired charbroiler or chain-driven (conveyorized) charbroiler in a restaurant located within the District.

6-2-200 DEFINITIONS

6-2-201 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.

6-2-202 Chain-driven (Conveyorized) Charbroiler: A semi-enclosed charbroiler designed to mechanically move food on a grated grill through the broiler.

6-2-203 Charbroiler: A cooking device composed of a grated grill and a heat source. Food resting on the grated grill cooks as the food receives heat either directly from the heat source, or indirectly by way of a radiant surface.

6-2-204 Demand Ventilation Control: Hood controls installed in ventilation hood able to vary fan speed based on sensor readings on all or some of the following conditions: cooking load, time of day, kitchen comfort, and indoor air quality.

6-2-205 Listed Hood: A ventilation hood that has been tested against Underwriters Laboratory (UL) Standard 710.

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 PM10: Particulate matter with an aerodynamic diameter that is less than or equal to a nominal 10 microns, but greater than 0.3 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.

6-2-211 Ventilation Hood: An air-intake device connected to a mechanical exhaust system for collecting and removing grease, vapors, fumes, smoke, steam, heat, or odors from cooking equipment.

6-2-300 STANDARDS**6-2-301 Chain-Driven Charbroilers:**

301.1 Effective [**one year after adoption**], no person shall operate a chain-driven charbroiler unless it is equipped and operated with a catalytic oxidizer approved by the APCO for use in combination with the specific model of chain-driven charbroiler.

301.2 Notwithstanding Section 6-2-301.1, a person may operate a chain-driven charbroiler with a control device approved by the APCO pursuant to Sections 6-2-403 and 6-2-601 as limiting the PM10 and organic compound emissions

of the chain-driven charbroiler to no more than 0.74 pounds of PM10 and 0.23 pounds of organic compounds per 1,000 pounds of meat 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 **[two years after adoption]** such that the under-fired charbroilers in the restaurant have a combined total grill surface area of at least ten (10) square feet,

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 approved by the APCO pursuant to Sections 6-2-403 and 6-2-602 as limiting the PM10 emissions of the under-fired charbroiler to no more than 1.9 pounds of PM10 per 1000 pounds of meat cooked.

302.2 Ventilation Hood: No person shall operate any under-fired charbroiler without exhausting the emissions from the under-fired charbroiler through a listed ventilation hood equipped with side panels and demand ventilation controls.

6-2-303 Existing Under-Fired Charbroilers: Effective **[five years after adoption]**, no person shall operate an under-fired charbroiler in any restaurant that contains one or more under-fired charbroilers with a total aggregate grill surface area of at least ten (10) square feet, unless emissions from each under-fired charbroiler are exhausted through a control device approved by the APCO pursuant to Sections 6-2-403 and 6-2-602 as limiting the PM10 emissions of the under-fired charbroiler to no more than 1.9 pounds of PM10 per 1000 pounds of meat 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: By **[one year after adoption]**, any person operating any chain-driven charbroiler 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: The owner or operator of any restaurant that contains one or more under-fired charbroilers installed on or after **[two years after adoption]** such that the under-fired charbroilers in the restaurant have a combined total grill surface area of at least ten (10) square 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 **[five years after adoption]**, the owner or operator of any restaurant that contains one or more under-fired charbroilers that have a combined total grill surface area of at least ten (10) square feet 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: No person shall install any emission control device to satisfy the emission limitations in Sections 6-2-301.2, 6-2-302, or 6-2-303 of this rule, unless the APCO has approved the emission control device pursuant to this section as satisfying the applicable emission limitations. To receive the approval of the APCO for an emission control device, the manufacturer of the device must demonstrate the device satisfies the emissions limitations in Sections 6-2-301.2, 6-2-302, or 6-2-303 by conducting the appropriate source test or source tests described in Sections 6-2-601 and 6-2-602 and submitting to the APCO for review a report detailing the source test method employed and the source test results. The report must include all the information required under Sections 6-2-601.5 and 6-2-602.5 and must be accompanied by a written verification that the

information conveyed in the report is true and correct. The verification must be signed under penalty of perjury by the manufacturer or an officer of the manufacturer if the manufacturer is a corporation. After completing review of the verified source test report, the APCO will approve, or will deny approval of, the emission control device.

6-2-500 MONITORING AND RECORDS

6-2-501 Recordkeeping Regarding Chain-Driven Charbroilers: The owner or operator of a chain-driven charbroiler shall maintain on the premises of the restaurant record 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 Under-Fired Charbroilers: The owner or operator of a restaurant subject to Section 6-2-302 and/or Section 6-2-303 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 after **[date of rule adoption]**.

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.

502.4 The contract under which the owner or operator purchased the control device, or any sales receipt from the purchase, if purchased after **[date of rule adoption]**.

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 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:

601.1 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.

601.2 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.

- 601.3 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.
- 601.4 Testing shall be performed in triplicate following EPA Method 5 in conjunction with US EPA Method 202. During each test, samples shall be collected from the outlet of the control.
- 601.5 The manufacturer shall notify the APCO seven (7) days prior to testing. Test data submitted to the APCO for compliance with Section 6-2-403 include all raw data sheets, data logs, calibration sheets, and complete test documentation.

6-2-602 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:

- 602.1 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 by a plate thermocouple placed at the center of each location where the meat shall be cooked.
- 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 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.
- 602.4 Testing shall be performed in triplicate following EPA Method 5 front half only. During each test, samples shall be collected from the outlet of the control.
- 602.5 The manufacturer shall notify the APCO seven (7) days prior to testing. Test data submitted to the APCO for compliance with Section 6-2-404 include all raw data sheets, data logs, calibration sheets, and complete test documentation.