

NOTICE OF ADOPTION OF FINAL RULE

Department of Environmental Protection

NOTICE IS HEREBY GIVEN PURSUANT TO THE AUTHORITY VESTED IN THE COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION by Section 1403(c) of the New York City Charter and Sections 24-105 and 24-149.5 of the New York City Administrative Code, that the Department of Environmental Protection has amended its rules to require control devices to reduce emissions from cook stoves at food service establishments, which stoves were in existence prior to May 6, 2016. These amendments were proposed and published in the City Record on June 26, 2023, and a public hearing was held on July 27, 2023. A large number of comments were received. Many were supportive of the rule, and others expressed concerns as to the cost of compliance.

Statement of Basis and Purpose

Local Law Number 38 for the year 2015 amended Title 24 of the Administrative Code of the City of New York, the "Air Code," by adding a new Section 24-149.5, which provides that cook stoves used at food-service establishments must have an emission control device for odors, smoke, and particulates that meets the requirements of rules established by the Department.

DEP is promulgating these rules, as required by Section 24-149.5, to reduce particulate matter released into the environment, which is a known cause of asthma and other respiratory complications. In accordance with Section 24-105 of the Administrative Code, an advisory committee was consulted in the development of these rules. The committee includes representatives from the restaurant and related industries, representatives of the environmental protection and environmental justice communities, and experts in the health effects of pollutants associated with cooking devices. In addition, and also pursuant to Section 24-105, the Department considered the availability and cost of emissions control devices when developing these rules.

Cook stoves that were installed after Section 24-149.5 took effect in May 2016 are subject to the rules set forth at 15 RCNY Chapter 38, which were promulgated in May 2017. This rule governs cook stoves that were installed prior to May 6, 2016. Section 24-149.5 required this rule to be promulgated before January 1, 2020. The advisory committee and DEP were unable to finalize a rule in that timeframe due to the difficulty of crafting a rule to manage technical and cost concerns that are attendant to the installation of emission control devices. For example, costs for controls for existing cook stoves can be difficult to manage as the spaces in which these cook stoves operate are often aging structures that were not designed to accommodate emission control devices. In addition, many of the locations where existing cook stoves are used are not owned by the operators

of the cook stoves, and changes required to install such devices require obtaining the landlord's permission. The advisory committee took additional time to consider these practical concerns in the process of crafting the rule. The rulemaking was further delayed due to the difficulty of convening the advisory committee during the Covid-19 pandemic.

The rule provides that the operators of cook stoves that were installed prior to May 6, 2016 must hire a professional engineer or registered architect to assess the feasibility of installing emission controls on the cook stove to achieve a 75% reduction in particulate emissions (except as provided in the next paragraph). If this assessment concludes that a reduction of 75% or more cannot be achieved, or that no emissions controls can be installed, the assessment must identify any emission controls that could provide a reduction of at least 25% or an explanation for why no emission controls can be installed.

In response to public comments concerning the cost of conducting the assessment, the final rule allows installation of a control device that is already on the list of emission control devices approved by the Fire Department and DEP without requiring that an assessment be performed first.

A comment was also received regarding the field testing requirements in section 62-05. In response to this comment, the final rule makes changes to that section to clarify that 20 liters is a minimum sample size, that ten minutes is a minimum time period for drawing samples, and that fiber filters used in the testing process can be glass or PVC. The final rule also makes changes to section 38-02, which applies to new cook stoves, to conform the testing requirements in that chapter to those in Chapter 62.

Finally, the rule amends the definition of "cook stove" in 15 RCNY section 38-01, which applies to new cook stoves, to conform it to the definition in Chapter 62.

Consistent with the above, DEP promulgates the following amendments to 15 RCNY Chapter 38, as well as a new rule to be found at 15 RCNY Chapter 62.

The Rule is authorized by Section 1043 of the Charter of the City of New York and sections 24-105 and 24-149.5 of the Administrative Code.

The text of the Rule follows.

Section 1. The definition of "cook stove" in section 38-01 of title 15 of the Rules of the City of New York is amended to read as follows:

Cook stove means any wood fired or anthracite coal fired appliance used [primarily for cooking food for onsite consumption at a food service establishment, as such term is defined in 24 RCNY Health Code § 81.03] for the preparation of food intended for onsite consumption or retail purchase.

§2. Item (C) of subparagraph (iii) of paragraph (1) of subdivision (c) of Section 38-02 of title 15 of the Rules of the City of New York is amended to read as follows:

C. Samples must be taken using the Optical Particle Counter (OPC), and shall be taken for ten minutes at 2 liters per minute pump speed, twice with the unit on and twice with the unit off. If the OPC is equipped with a filter assembly, a new glass or PVC fiber filter shall be used for each test. If the OPC is equipped with RH correction function, it should be enabled when the humidity is expected to exceed 50 percent.

§3. Items (C) and (D) of subparagraph (iv) of paragraph (1) of subdivision (c) of Section 38-02 of title 15 of the Rules of the City of New York is amended to read as follows:

C. A minimum 20 liter sample shall be drawn into a 37mm glass or PVC fiber filter. The sample should be drawn for at least ten minutes at 2 liters per minute pump speed, twice with the unit on and twice with the unit off. Filters should be changed for each test.

D. Except as otherwise expressly provided in this subparagraph (iv), samples shall be taken in accordance with the following Sections of NIOSH Method 0500, Issue 2, August 15, 1994: "Equipment" Section (except that a 37mm glass or PVC fiber filter should be used), "Preparation of Filters" Section, "Sampling" Section (except that the total sample volume shall be 20 liters), and "Sample Preparation" Section.

§4. Title 15 of the Rules of the City of New York is amended by adding a new Chapter 62, to read as follows:

Chapter 62

Emissions Reduction Technologies for Existing Cook Stoves

§62-01 Definitions

Access Point means that which enables a device, appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, door or similar obstruction.

Air Filtration Device means a device composed of fibrous materials which removes solid particulates.

CFM means cubic feet per minute.

Cook Stove means any wood fired or anthracite coal fired appliance used for the preparation of food intended for onsite consumption or retail purchase.

Discharge Point means the point at which particulate matter is released from a stack into the open air.

Electrostatic Precipitator (ESP) means a filtration device that removes fine particles, such as dust and smoke, from a flowing gas using the force of an induced electrostatic charge

minimally impeding the flow of gases through the unit. An ESP is a type of emissions control device.

Emissions Control Device means any equipment used for collecting or confining particulate matter for the purpose of preventing or reducing the emission of such particulate matter into the open air.

Existing means installed before May 6, 2016.

New means installed on or after May 6, 2016.

NFPA means National Fire Prevention Association.

Optical Particle Counter (OPC) means an instrument based on the principle of light scattering from particles. It is a real time instrument that is used to measure particles above 0.05 μm in diameter.

Particulate Matter (PM) means a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. PM 10 describes inhalable particles, with diameters that are generally 10 micrometers and smaller.

Peak Load means twenty percent additional solid fuel is added to the amount of fuel that is normally used for cooking in the cook stove.

RH Correction Function refers to relative humidity correction. When this function is enabled, the particle growth effect due to high humidity is corrected by computing the mass concentration based on the original dry environment particle population.

Smoke means small gas-borne and airborne particulate matter arising from a process of combustion in sufficient number to be visible.

Stack means any duct, control equipment exhaust or similar apparatus, which vents gases and/or PM into the open air.

Test Port Plate (TPP) means a template cover that is designed to prevent any of the air stream from escaping when the existing access plate is removed and which has an opening for the test probe to fit securely through the material (e.g. cardboard or plexi-glass).

Total Suspended Particulates (TSP) means small airborne particles such as dust, fume and smoke with diameters less than 100 μm .

Treated firewood shall have the same meaning as set forth in paragraph 13 of section 192.5 of title 6 of the New York Code Rules and Regulations.

Underwriters Laboratories (UL) means an American worldwide safety consulting and certification company.

Wet Scrubber System means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from an indirect heat exchanger to control emissions of particulate matter (PM).

§ 62-02 Assessment to Determine Control Technology for Existing Cook Stoves

(a) No person shall operate an existing cook stove that was installed prior to May 6, 2016, without hiring a professional engineer or registered architect licensed under Sections 7202 or 7302 of the Education Law to conduct and submit a feasibility analysis of installing an Emissions Control Device as set forth in this section to reduce such cook stove's total PM emissions by 75 percent or more. The feasibility analysis must detail the Emission Control Devices, if any, that can be installed be submitted to the Department within one year of the effective date of this rule. A feasibility analysis is not required if an emission control device that is on the Fire Department's and the Department's approved list of emission control devices found at: <https://www.nyc.gov/assets/fdny/downloads/pdf/business/coa-pcus-and-air-cleaners.pdf> and <https://www.nyc.gov/assets/dep/downloads/pdf/air/approved-cook-stove-technology.pdf> is installed.

(b) Except as otherwise provided in this section, if the assessment submitted pursuant to subdivision (a) of this section determines that one or more Emission Control Devices can be installed to reduce an existing cook stove's total PM emissions by 75 percent or more, the Emission Control Device, or Emission Control Devices if more than one is required, must be installed within 180 days of the date on which such assessment is submitted to the Department. Any Emission Control Device that is installed must be certified by the Department in accordance with section 62-07 of this chapter and installed in accordance with the requirements of this chapter.

(c) If the assessment submitted pursuant to subdivision (a) of this section concludes that one or more Emission Control Devices can be installed to reduce an existing cook stove's total PM emissions by at least 25 percent but less than 75 percent, such assessment must describe the Emissions Control Devices that can be installed to achieve such reduction, and such Emissions Control Devices shall be installed prior to operation of the cook stove in accordance with the requirements of this chapter. After installation of such Emission Control Devices, the operator must conduct another assessment in accordance with subdivision (a) of this section within two years of the date on which the Emission Control Devices were installed to determine if additional Emission Control Devices can be installed to reduce such existing cook stove's total PM emissions by at least 75 percent.

(d) If the assessment concludes that no Emission Control Device can be installed on an existing cook stove or that any Emission Control Devices that can be installed cannot

achieve a reduction of the existing cook stove's total PM emissions by at least 25 percent, the assessment must include an explanation for this conclusion, and the applicant must submit a variance petition in accordance with the procedures set forth in Section 24-110 of the Administrative Code of the City of New York.

§ 62-03 Control Devices to Reduce Emissions from Existing Cook Stoves

The following are the approved technologies that may be used to achieve a 75 percent reduction in PM 10:

(a) Wet Scrubbers Systems and Air Filtration Devices must comply with UL 1978 (2010) and be correctly sized for the cooking appliance as specified by the manufacturer of the cook stove.

(b) Electrostatic Precipitators must comply with UL 867 (2011) or UL 710 (2012), must have a certificate of approval from the Fire Department, and must be correctly sized for the cooking appliance as specified by the manufacturer.

§ 62-04 Compliance Requirements:

(a) Existing cook stoves that are solid fuel-fired ovens must be certified in accordance with UL 2162 (2001), "Outline of Investigation for Commercial Wood-Fired Baking Ovens-Refractory Type" and comply with the New York City Construction Codes.

(b) Fans that are used in conjunction with an Emissions Control Device must be listed and labeled in accordance with UL 762 (2010) and UL 705 (2004).

(c) Where a Type I hood, as defined in the New York City Construction Code, or other approved type of exhaust system acceptable by the Department of Buildings, is installed, the exhaust system must be designed and constructed so that the CFM rate of exhaust is equal to or greater than:

(1) The manufacturer's UL listed exhaust rate for the extra heavy duty class of appliance; and

(2) The lowest acceptable ventilation rate for the UL listed appliance exhaust requirement.

(d) A Type I hood must comply with Section 507 of the New York City Mechanical Code (2022). Listed and labeled UL solid fuel-fired ovens that are constructed of solid masonry or reinforced Portland or refractory cement concrete, that are vented by natural draft or a power chimney system in accordance with NFPA 211 (2013) and that are installed in accordance with the manufacturer's instructions and NFPA 96 (2013) are exempt from using a Type I hood.

(e) Only treated firewood, as defined in this rule, shall be used if the fuel source is for the cook stove is wood.

§ 62-05 Testing Requirements for Emission Control Devices

Field testing must be performed on any Emissions Control Device that is not found on the preapproved list as set forth in §62-02 before it can be used to reduce emissions from an existing cook stove. This one-time testing may be performed in the field using the following procedures described in this paragraph or in the laboratory as specified in paragraph two of this section. Those devices that meet the EPA specifications will then be listed on the Department's and the Fire Department's approved list and will not require field testing.

(a) Field Testing:

(1) Emissions Reduction Standard. Field test data must show that the Emissions Control Device has reduced the existing cook stove's total PM emissions by 75 percent or more except as set forth in subdivision (a) of section 62-02 of this chapter.

(2) General Requirements. Field testing must be performed during peak load, using an OPC or NIOSH 500 for TSP. Peak load assumes that unburnt wood or anthracite coal is introduced at the start of the testing and that the same composition of unburnt wood or coal and embers is maintained during the testing. Sampling must be performed with the Emissions Control Device on and off.

(3) Air Filtration Devices and Electrostatic Precipitators:

(A) For AFDs or ESPs, when taking samples while the unit is on, readings must be taken from within the clean out Access Point downstream of the device, or at the Discharge Point. When taking samples while the unit is off, samples must be taken upstream of the Emissions Control Device.

(B) A field tester must remove the access plate and replace with a Test Port Plate and place the sampling probe inside a precut hole, or place the probe directly within the Discharge Point.

(C) Samples must be taken using the OPC, and must be taken for ten minutes at two liters per minute pump speed, twice with the unit on and twice with the unit off. If the OPC is equipped with a filter assembly, a new glass or PVC fiber filter must be used for each test. If the OPC is equipped with RH correction function, it should be enabled when the humidity is expected to exceed 50 percent.

(4) Wet Scrubbers Systems:

(A) For Wet Scrubbers Systems, samples must be taken from within the clean out Access Point or Discharge Point.

(B) A field tester must remove the access plate and replace with a Test Port Plate and place the sampling probe inside through a cutout hole, or place the sampling probe directly within the Discharge Point.

(C) A minimum 20 liter sample must be drawn into a 37mm glass or PVC fiber filter. The sample should be drawn for ten minutes at two liters per minute pump speed, twice with the unit on and twice with the unit off. Filters should be changed for each test.

(D) Samples must be taken in accordance with the following sections of NIOSH Method 0500, Issue 2, August 15, 2004: "Equipment" section (except that a 37mm glass or PVC fiber filter should be used), "Preparation of Filters" section, "Sampling" section (except that the total sample volume must be a minimum 20 liters), and "Sample Preparation" section.

(E) The filters must then be collected and the weight of the filters must be determined by an Industrial Hygienist in an EPA accredited laboratory.

(b) Laboratory Testing. Laboratory testing must be performed in a National Environmental Laboratory Accreditation (NELAC) or New York State Department of Health Environmental Laboratory Approval Program (ELAP) certified Laboratory and must follow, EPA Method 5, Appendix A-3 to 40 CFR Part 60 or Method 202, Appendix M to 40 CFR Part 51, for particulate matter. During each test, samples must be collected from the outlet of the control device. Laboratory test data must show that the Emissions Control Device has reduced the cook stove's total PM emissions by 75 percent or more, except as set forth in subdivision (b) of section 62-02 of this chapter.

(c) Reporting Requirements:

(1) The results of the testing required by this section must be submitted on forms prescribed by the Department available on the Department's website and must include the following information:

(A) Name and address of the manufacturer of the existing cook stove, brand name, trade name, model number of the cook stove, any additional equipment installed to enhance or support the operation of the Emissions Control Device, the maximum air flow rate, and other relevant operating conditions during the test, as specified by the department.

(B) A description of the Emissions Control Device used on the existing cook stove model being certified.

(C) A statement that testing has been conducted in accordance with the requirements of this section.

(2) Additional reporting requirements for field testing conducted in accordance with paragraph one of subdivision (c) of this section. For AFDs and ESPs, the installer of the Emissions Control Device must submit a printout to the Department with the readings of TSP, and also submit pictures of the filter with the unit on and off. For Wet Scrubber Systems, complete laboratory results must be submitted to the Department to document the reduction in PM.

§ 62-06 Emissions Control Device and Cooking Exhaust System Maintenance

(a) Any Emissions Control Device installed or operated under this chapter must be operated, cleaned, and maintained in accordance with the manufacturer's specifications.

(b) Every Emissions Control Device installed or operated pursuant to this chapter must be inspected, cleaned and serviced in accordance with Section 609.5.3 of the New York City Fire Code (2022) by a person holding a FDNY Certificate of Fitness as a Commercial Kitchen Exhaust & Precipitator Cleaning Technician.

(c) The cooking exhaust system must be inspected, cleaned and serviced in accordance with Section 609.5.3 of the New York City Fire Code (2022) by a person holding a FDNY Certificate of Fitness as a Commercial Kitchen Exhaust System Cleaning Technician.

§ 62-07 Emissions Control Device Certification

(a) The manufacturer of an Emissions Control Device may seek Department certification by submitting documentation that field testing has been conducted in accordance with the procedures in subdivision (a) of section 62-05 of this chapter and that such device meets the requirements of section 62-02 of this chapter. Such documentation must be submitted in accordance with the requirements of subdivision (c) of section 62-05 of this chapter.

(b) Additionally, the manufacturer or owner of an Emissions Control Device may seek Department certification by submitting documentation from an independent testing laboratory that tests in accordance with an EPA accredited laboratory testing method that the Emissions Control Device has been tested in accordance with the procedures set forth in subdivision (b) of section 62-05 of this chapter and that such device meets the requirements of section 62-02 of this chapter. Such documentation must be submitted in accordance with the requirements of subdivision (c) of section 62-05 of this chapter.

(c) The Department will maintain a list of approved certified Emissions Control Devices for use with particular models of cook stoves on the department's website and will update the list periodically as necessary.

§ 62-08 Records

(a) Recordkeeping:

(1) On or after the effective date of this rule, any person who owns or operates an existing cook stove must maintain records showing all maintenance work performed on the Emissions Control Device, including the date, time, and a brief description of maintenance work performed.

(2) On or after the effective date of this rule, any person who owns or operates an existing cook stove must maintain records regarding the date of installation and

replacement of any Emissions Control Device installed to abate emissions from the cook stove.

(3) For purposes of this subdivision, maintenance includes, but is not limited to, preventative maintenance, breakdown repair, and cleaning performed on the Emissions Control Device.

(b) Retention of Records. All records required by this section must be retained for at least one year and must be made available to the Department upon request.

§5. This rule shall take effect six months after it is promulgated in accordance with the requirements of the city administrative procedure act.



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Hon. Rohit T. Aggarwala
Commissioner of Environmental Protection

Re: Reduction of Emissions from Restaurant Cook Stoves Existing Before May
16, 2016

No. 2022 RG 096

Dear Commissioner Aggarwala:

Pursuant to New York City Charter § 1043 subd. c, the above-referenced rule has
been reviewed and determined to be within the authority delegated by law to your agency.

Sincerely,

/s/ Steven L. Goulden

STEVEN GOULDEN
Senior Counsel
Division of Legal Counsel

cc: Russ Pecunies

