Department of Environmental Protection
Promulgation of Amendments to
Chapter 2 of Title 15 of the Rules of the City of New York
Rules Governing the Emissions from the Use of #4 and #6 Fuel Oil in Heat and Hot Water Boilers and Burners

NOTICE IS HEREBY GIVEN PURSUANT TO THE AUTHORITY VESTED IN THE Commissioner of Environmental Protection by Sections 1043 and 1403 (c) of the Charter of the City of New York, and Sections 24-104, 24-125, and 24-128 of the Administrative Code of the City of New York, and in accordance with the requirements of Section 1043 of the Charter of the City of New York, that the Department of Environmental Protection promulgates a rule governing the emissions from the use of #4 and #6 fuel oil in heat and hot water boilers and burners. These amendments were proposed and published on January 27th, 2011 in the City Record. The required hearing was held on February 28th, 2011.

Proposed Rule Amendment

Pursuant to the authority vested in the Commissioner of Environmental Protection by Section 1043 and 1403(c) of the Charter of the City of New York and Sections 24-105, 24-125, and 24-128 of the Administrative Code, the Department of Environmental Protection promulgates rules regarding emissions from the use of #4 and #6 fuel oil in heat and hot water boilers and burners. The proposed rules were not listed in the Department's fiscal year 2010 Regulatory Agenda. Please note that the proposed rules are new and therefore the text is underlined.

Statement of Basis and Purpose

Statutory Authority

Section 24-102 of the Administrative Code of the City of New York declares that it is the public policy of the City to preserve, protect, and improve the air resources of the City because every person is entitled to air that is not detrimental to life, health, and enjoyment of property. Specifically, the section declares that the emission into the open air of harmful or objectionable substances, including substances resulting from the use of fuel burning equipment, is a menace to the health, welfare, and comfort of the people of the City and a cause of extensive damage to property and that it is the public policy to actively regulate and reduce such emissions.

Section 1403(c) of the Charter of the City of New York and Section 24-105 of the Administrative Code authorize the Commissioner to regulate and control the emission of harmful air pollutants into the open air. Additionally, the Administrative Code provides that the issuance of Work Permits and Certificates of Operation are contingent upon the use of equipment, and by extension fuel,

that will satisfy the Commissioner as to their emission of contaminants. Section 24-125(b) of the Administrative Code states that in order to reduce the emission of air contaminants and to insure optimum combustion in fuel burning equipment, the Commissioner will not issue a Work Permit unless the equipment is shown to the satisfaction of the Commissioner to burn appropriate fuel. Similarly, section 24-128 of the Administrative Code provides that the Commissioner will not grant a Certificate of Operation unless the Commissioner is satisfied that the equipment satisfies the standards of section 24-125 and, if the equipment uses residual fuel oil, that it uses emissions controlling devices as determined by the Commissioner.

Summary of Provisions

In order to improve the air quality of the City, the Department of Environmental Protection is amending Chapter 2 of Title 15 of the Rules of the City of New York to prohibit the use of fuel oil grade numbers 4 and 6 in heat and hot water boilers and burners, unless it can be demonstrated that the emissions of Particulate Matter (PM) and Oxides of Nitrogen (NOx) are equivalent to or cleaner than set fuel types.

The rule:

- For owners with an existing Work Permit, requires boilers to use fuel oil grade #2, #4 and/or natural gas in order for applicants to receive a renewed Certificate of Operation. Boilers that use fuel oil grade #6 will not receive a renewed Certificate of Operation unless the applicant demonstrates that the fuel oil grade #6 that will be used will emit the same or less PM and NOx than fuel oil grade #4 on an annual basis.
- As of January 1, 2030, requires boilers to use fuel oil grade #2 and/or natural gas in order for applicants to receive a new or renewed Certificate of Operation, unless the applicant demonstrates that the fuel oil grade #4 and/or #6 to be used will emit no more PM and NOx than fuel oil grade #2 on an annual basis. This schedule will provide owners with time to convert to fuel oil grade #2, or its equivalent, or natural gas, while ensuring more rapid transition from the most polluting fuel oil.
- Alternatively, an owner of a great number of buildings with boilers that must be converted or replaced to use cleaner fuels may apply to the Commissioner of Environmental Protection to enter into an agreement with a timeline for compliance with the rule. This provision recognizes that there are additional costs associated with the conversion or replacement of a large number of boilers, that there are a limited number of licensed installers and scheduling constraints may arise when an owner has to convert or replace a great number of boilers, and that it may be possible for such owners to progress directly to the use of cleaner fuels, #2 fuel oil or natural gas, at an earlier date than would otherwise be required.
- Similarly, an owner of fewer buildings with boilers that must be converted or replaced may apply to the Commissioner of Environmental Protection to enter into an agreement with a timeline for compliance with the requirement to convert or replace boilers that use #6 fuel oil or to demonstrate equivalence to #4 fuel oil. This provision recognizes that in certain cases owners may incur higher than expected costs, and that it

may be possible for such owners to progress directly to the use of cleaner fuels, #2 fuel oil or natural gas, at an earlier date than would otherwise be required.

- For new installations, applications for a Work Permit must specify that the equipment uses fuel oil grade #2 and/or natural gas, unless the applicant demonstrates that the fuel oil grade #4 and/or #6 to be used will emit no more PM and NOx than fuel oil grade #2 on an annual basis.
- Prevents an owner of a currently-installed boiler and/or burner, who holds a Certificate of Operation, from filing a new application for functional equipment that remains at the premises. This provision codifies an existing policy. This restriction prevents an owner from inappropriately pursuing tax benefits through obtaining a new Certificate of Operation or Work Permit for existing equipment.

”Shall" and "must" denote mandatory requirements and may be used interchangeably in the rules of this department, unless otherwise specified or unless the context clearly indicates otherwise.

Statement of Purpose

The emission of Particulate Matter is associated with negative health impacts, including decreased lung function, aggravated asthma, respiratory symptoms and premature death. *See* United States Environmental Protection Agency, Health and Environmental Effects on Particulate Matter, Fact Sheet, July 17, 1997. Oxides of Nitrogen create ozone and smog, which reduces lung function and induces respiratory inflammation. *See* New York City Department of Health and Mental Hygiene, “Asthma Facts,” 2d ed., May 2003.

The following table shows the level of PM and NOx produced from natural gas and fuel oil grade #2, #4, and #6. The figures in the table have been derived from the Office of Air Quality Planning and Standards, United States Environmental Protection Agency, AP-42, Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (5th ed. 1995), using the latest emission factors published by the Environmental Protection Agency in supplements to that volume – the May 2010 supplement for fuel oil and July 1998 supplement for natural gas.

	NOx (lb./MMBTU)	PM (lb./MMBTU*)
Natural Gas	0.10	0.008
#2 Oil	0.14	0.024
#4 Oil	0.29	0.041
#6 Oil	0.37	0.050

*A standard unit of measurement that provides a basis for comparing the energy content of various grades of natural gas and other fuels. It represents one million British Thermal Units.

The table shows that the emissions levels from the use of cleaner burning fuels, such as #2 fuel oil and/or natural gas, are significantly lower than the emission levels from the use of #4 and #6 fuel oil, unless there are emission controls or changes made to the fuel. The New York City Community Air Survey found higher levels of air pollutants such as PM, NOx, and nickel in

neighborhoods with many boilers that use #4 and #6 fuel oil. In neighborhoods with high densities of boilers that use #4 and #6 fuel oil, the survey found and 4 times the concentrations of nickel in fine particles as compared to neighborhoods with a low density of such boilers. *See* New York City Department of Health and Mental Hygiene "New York City Community Air Survey: Results from Winter Monitoring 2008-2009", December 2009. Degradation of air quality due to emissions from boilers using #4 and #6 fuel oil is especially great in densely populated neighborhoods where such boilers are the most prevalent. These rules therefore will decrease the levels of harmful pollutants emitted into the air and inhaled by many people.

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Section 1. Section 2-02 of Chapter 2 of Title 15 of the Rules of the City of New York is amended by adding the following definitions in alpha-numeric order:

#2 Oil. "#2 Oil" means fuel oil grade No. 2 as classified by ASTM Standard D396-05 and available for sale and purchase in the City of New York.

#4 Oil. "#4 Oil" means fuel oil grade No. 4 as classified by ASTM Standard D396-05 and available for sale and purchase in the City of New York.

#6 Oil. "#6 Oil" s means fuel oil grade No. 6 as classified by ASTM Standard D396-05 and available for sale and purchase in the City of New York.

AP-42. "AP-42" means the United States Environmental Protection Agency publication AP-42, Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (fifth edition, 1995).

Boiler. "Boiler" has the same meaning as it does in §24-104(9) of the Administrative Code, provided that the boiler is used to heat a building or to provide hot water to the occupants of a building.

Burner. "Burner" means an apparatus for burning fuel that is used to heat a building or to provide hot water to the occupants of a building.

Certificate of Operation. "Certificate of Operation" means an operating certificate as defined in §24-104(12) of the Administrative Code.

In-Kind Replacement. "In-Kind Replacement" means the replacement of a boiler and/or burner with equipment of the same make and model number.

Natural Gas. "Natural Gas" means a mixture of methane and other gases with an odorant as supplied by the local utility serving the premises.

NOx. "NOx" means the pollutant Oxides of Nitrogen which is the term used to describe the sum of nitric oxide (NO), nitrogen dioxide (NO2) and other oxides of nitrogen.

PM. "PM" means the pollutant Particulate Matter which is the term for a mixture of solid particles and liquid droplets found in the air.

Work Permit. "Work Permit" means an installation or alteration permit issued by the Commissioner according to §24-120 of the Administrative Code, which may be converted into a Certificate of Operation after the applicant has satisfied the appropriate provisions of the Administrative Code.

§2. Section 2-03 of Chapter 2 of Title 15 of the Rules of the City of New York is amended by adding a new subdivision e to read as follows:

(e) *Prohibition of applications for currently installed equipment.* The Commissioner will not approve an application for a Work Permit or a Certificate of Operation where a Certificate of Operation has been issued at a premises and remains in effect and both the installed boiler and burner remain intact at the premises. However, the existing Certificate of Operation issued for the installed boiler and burner may be renewed.

§3. Chapter 2 of Title 15 of the Rules of the City of New York is amended by adding a new section 2-15 to read as follows:

§2-15 Performance Standards for the Continued Use of #4 Oil and #6 Oil in Heat and Hot Water Boilers.

(a) *General Provisions.*

(1) The Commissioner will not issue a Work Permit or a Certificate of Operation for a boiler and/or burner that uses #4 oil or #6 oil unless (i) the applicant demonstrates to the satisfaction of the Commissioner that the PM and NOx emissions of the #4 oil and/or #6 oil meets the equivalency standards described in this section, or (ii) the applicant enters into a compliance agreement with the Commissioner as provided in this section.

(2) An owner who holds a Certificate of Operation for a boiler and/or burner that uses #4 oil may file an Amendment to convert the boiler and/or burner to use #2 oil and/or natural gas. An owner who holds a Certificate of Operation for a boiler and/or burner that uses #6 oil may file such an Amendment to convert the boiler and/or burner to use #2 oil, #4 oil and/or natural gas. An Amendment pursuant to this paragraph shall not require the replacement of a boiler and/or burner.

(3) The Commissioner will not approve any Amendment for a previously issued Work Permit or Certificate of Operation to convert a boiler and/or burner from using #2 oil, #4 oil and/or natural gas to using #6 oil or from using #2 oil and/or natural gas to using #4 oil.

(4) The equivalency levels of PM and NOx as set forth in this section must be demonstrated through (i) the submission by either a Professional Engineer or Registered Architect licensed under Education Law §§7202 or 7302 of detailed calculations and supporting documentation to verify the equivalency levels or (ii) the submission by the applicant of an equivalency form published by the Department that provides for calculations based on fuel use, energy values and emission factors from AP-42.

(5) Notwithstanding any other provision in this section, the Commissioner will not issue a Work Permit or a Certificate of Operation for a boiler and/or burner that uses #2 oil, #4 oil, #6 oil and/or natural gas unless the PM and NOx emissions of such boiler and/or burner meets any binding emissions standard established by state and/or federal law or regulation.

(6) Nothing in this section may be interpreted as requiring the Department of Housing Preservation, when conducting an emergency repair in accordance with sections 27-2125 through 27-2129 of the Administrative Code, to convert a boiler and/or burner to use different fuel or to replace a boiler and/or burner with a boiler and/or burner that uses a different fuel.

(b) *Existing Boilers (Renewal).*

(1) The Commissioner may issue a renewal of a Certificate of Operation for a boiler and/or burner that uses #2 oil, #4 oil and/or natural gas in accordance with §24-122(d) of the Administrative Code.

(2) The Commissioner will not issue a renewal of a Certificate of Operation for a boiler and/or burner that uses #6 oil, unless (i) the applicant demonstrates to the satisfaction of the Commissioner that the PM and NOx emissions of the #6 oil to be used in such boiler and/or burner will be equivalent to or less than emissions from #4 oil as provided in paragraph 4 of subdivision a of this section, or (ii) the applicant enters into a compliance agreement with the Commissioner in accordance with subdivision e of this section.

(3) An owner who holds a Certificate of Operation for a boiler and/or burner that uses #2 oil, #4 oil, #6 oil and/or natural gas, and who seeks to make an in-kind replacement for use with #2 oil, #4 oil and/or natural gas is not required to file a new application for a Work Permit and a subsequent Certificate of Operation. The owner must provide on a form to be designated by the Commissioner the make, model and serial number of the replacement equipment. The previously issued Certificate of Operation may be renewed with the previously issued application number assigned by the Department upon approval of the Amendment by the Department.

(4) An owner who holds a Certificate of Operation for a boiler and/or burner and who seeks to replace the boiler and/or burner with equipment that is not of the same make and model number must file a new application for a Work Permit and a subsequent Certificate of Operation as provided in §2-03 of this Chapter. The previously issued Certificate of Operation for the previously installed equipment will be cancelled upon receiving the application. The Department will not accept an Amendment to the previously issued Certificate of Operation for such replacement of the equipment.

(c) *New Installations (Replacement).*

(1) All applications for a Work Permit for a boiler and/or burner must specify that the equipment uses #2 oil and/or natural gas, unless the applicant demonstrates to the satisfaction of the Commissioner that the PM and NOx emissions of the #4 oil and/or #6 oil to be used in such boiler and/or burner will be equivalent to or less than the emissions from #2 oil as provided in paragraph 4 of subdivision a of this section.

(2) In cases where a Work Permit has been issued prior to the effective date of this rule for a boiler and/or burner that uses #4 oil or #6 oil, but where a Certificate of Operation has not yet been issued, the owner of the equipment must file an Amendment specifying the use of #2 oil and/or natural gas, unless the owner demonstrates to the satisfaction of the Commissioner that the PM and NOx emissions of the #4 oil and/or #6 oil to be used in such boiler and/or burner will be equivalent to or less than the emissions from #2 oil as provided in paragraph 4 of subdivision a of this section.

(d) *Sunset Provision.*

Notwithstanding any other provision in this section, after January 1, 2030, all applications for a Certificate of Operation for a boiler and/or burner must specify that the equipment uses #2 oil and/or natural gas, unless (i) the applicant demonstrates to the satisfaction of the Commissioner that the PM and NOx emissions of the #4 oil or #6 oil to be used in such boiler and/or burner will be equivalent to or less than emissions from #2 oil as provided in paragraph 4 of

subdivision a of this section, or, (ii) the applicant is an owner of fifty or more buildings with boilers and/or burners that use #4 oil or #6 oil, and enters into a compliance agreement with the Commissioner in accordance with subdivision e of this section.

(e) *Compliance Agreements.*

(1) A compliance agreement pursuant to subdivisions b and d of this section must include a schedule agreed to by the Commissioner for the conversion and/or replacement of boilers and/or burners, and/or demonstration of the required equivalency, until the owner is in full compliance with the provisions of this section.

(2) An owner who applies to enter into a compliance agreement must show that conversion and/or replacement of the boilers and/or burners, and/or demonstration of the required equivalency, within the time frames set forth in subdivisions b or d of this section for an owner of fifty or more buildings with boilers and/or burners that use #4 or #6 oil, or subdivision b of this section for an owner of fewer than fifty such buildings, would not be feasible or would constitute an undue hardship.

(3) For purposes of paragraph 2 of this subdivision, the Commissioner will consider several factors in considering whether to enter into the compliance agreement, including financial hardship, whether the owner is an equity owner of the buildings, the presence of underground tanks that must be remediated because of the conversion in subdivision b of this section, prior good faith efforts to comply, the scale and timing of commitments to convert to the cleanest fuels, the levels of PM and NOx emitted by the boilers, whether the boilers are located in neighborhoods with high densities of boilers that use #4 oil or #6 oil, and the public health consequences of delayed compliance with this section.

(4) An application to enter into an agreement to comply with subdivision b of this section must be filed by January 1, 2013 or the expiration date of the Certification of Operation in effect at the time of the effective date of this section, whichever is sooner.

(5) An application to enter into an agreement to comply with subdivision d of this section must be filed by January 1, 2020.

(6) An application filed according to this subdivision shall be sent to:

Director of the Division of Air and Noise Programs, Enforcement and Policy
Bureau of Environmental Compliance
New York City Department of Environmental Protection
59-17 Junction Blvd.
Flushing, NY11373

(7) The Commissioner will publish in the City Record a written opinion no later than seven days after entering into a compliance agreement, stating the facts and reasons leading to his or her decision, as well as a copy of the compliance agreement.

(8) By December 31, 2013, and every year thereafter, the Commissioner will publish a report summarizing the number of compliance agreements applied for and granted. The report will also summarize the environmental impacts of such compliance agreements and the overall program on tons of PM and NOx in the air.

(9) Notwithstanding this specific compliance provision, Section 24-110 of the Administrative Code may apply.

§4. This rule shall take effect immediately, except that subdivisions b and d of section 2-15 of Chapter 2 of Title 15 of the Rules of the City of New York as added by section 3 of this rule shall take effect on July 1, 2012.

§5. If any provision of this rule or its application to any particular person or circumstance is held invalid, the remainder of this rule and its application to other persons and circumstances shall not be affected thereby.