

Air Management Regulation III

Control of Sulfur Compound Emissions

City of Philadelphia Department
of Public Health Air Pollution
Control Board

Adopted:

Air Pollution Control Board October 14, 2015

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REGULATION III

THE CONTROL OF EMISSIONS OF OXIDES OF SULFUR COMPOUNDS

SECTION I.

- A. This regulation is adopted pursuant to Title 3 of the Philadelphia Code, also known as the Air Management Code, which reads in part as follows:

“SECTION 3-207. SALE OF FUEL OIL.

(1) Commercial Fuel Oil

- (a) On and after the effective dates listed therein no fuel merchant shall store, offer for sale, sell, deliver for use or exchange in trade, for use in Philadelphia, and no person shall use commercial fuel oils which contain sulfur in excess of the percentages by weight set forth in the following table:

Grades of Commercial Fuel Oil	SSU Viscosity at 100°F	Percent Sulfur by Weight	
		Effective 04-01-78	Effective 07-01-15
No. 2 and lighter	Less than or equal to 45	0.2%	0.0015% (15 ppm)
No. 4	Greater than 45 but less than 145	0.3%	0.2500% (2500 ppm)
No. 5, No. 6, and heavier	Equal to or greater than 145	0.5%	0.5000% (5000 ppm)

- (b) The provisions of (a) above shall not apply in any case in which it is demonstrated to the Department that sulfur dioxide emissions, caused by the combustion of commercial fuel oils, from any stack or chimney into the outdoor atmosphere, can be controlled to levels that, on and after the effective dates listed herein, do not exceed at any time those quantities of sulfur dioxide, expressed in pounds per one (1) million BTU gross heat input, set forth in the following table:

Grades of Commercial Fuel Oil	SSU Viscosity at 100°F	Permissible SO ₂ Emissions (Pounds of SO ₂ per Million BTU Fuel Gross Heat Input)	
		Effective 04-01-78	Effective 07-01-15
No. 4	Greater than 45 but less than 145	0.30 lb	0.26 lb
No. 5, No. 6, and heavier	Equal to or greater than 145	0.52 lb	0.52lb

- (c) Notwithstanding the requirements of subsections (a) and (b) above, No. 2 grade commercial fuel oil that was stored by the ultimate consumer at its Facility prior to July 1, 2015, and that met the applicable maximum allowable sulfur content for commercial fuel oil through June 30, 2015 at the time it was stored, may be used by the ultimate consumer at its Facility on and after July 1, 2015, provided that all of the following shall apply:

- (.1) Any such ultimate consumer demonstrates to the Department, by means of written records (including but not limited to documentation from fuel suppliers), that any fuel oil delivered to the Facility after April 1, 2015 met the sulfur content standard effective July 1, 2015 under this Section 3-207, which records shall be maintained until July 1, 2016, or until such time as the consumer no longer relies on the exemption in subsection 3-207(c) or (d), whichever is later;

- (.2) Any such fuel oil may only be used at the Facility where such fuel oil was delivered and stored on or before June 30, 2015; and
- (.3) Any fuel oil that is not compliant with the standards for sulfur content imposed by this Section effective July 1, 2015 shall be consumed, brought into compliance, or otherwise eliminated from use no later than July 1, 2020.
- (d) (1) Notwithstanding subsection (c)(3) the Department shall have the authority to extend the exemption in subsection 3-207(c) on a case by case basis through December 31, 2025, or such later time as the Department deems appropriate. The Department shall grant or deny an extension request within sixty (60) days and shall base any decision on such a request on the following factors:
 - (a) The quantity and sulfur content of such fuel oil at the time of the request for the extension;
 - (b) The quantity and sulfur content of such stored fuel as of July 1, 2015, unless the user demonstrates to the satisfaction of the department that the user could not reasonably obtain such information ;
 - (c) Confirmation that the user of such fuel oil has acquired for storage at its Facility only fuels meeting the standards set forth in Section 3-207 since July 1, 2015;
 - (d) The expected impact to the public health and the environment of granting or denying the extension;
 - (e) The economic impact to the user of granting or denying the extension (excluding the incremental cost of new fuel meeting the standard set forth in Section 3-207); and
 - (f) Such other information as may be relevant.
- (.2) The Department's decision to deny an extension shall be reviewed in the same manner as any order, requirement, decision or determination rendered pursuant to the air pollution control program established pursuant to Section 3-401, including the denial or revocation of any license or permit.
- (.3) In addition to its authority under subsection 3-207(1)(d)(.1), the Department may establish by regulation standards for continued use of fuel oil subject to the exemption in subsection 3-207(c) after June 30, 2015.
- (e) The exemption in subsection 3-207(c) shall not apply to fuel oil merchants or distributors.
- (f) The reselling of fuel oil subject to the exemption in subsection 3-207(c) in the City shall be prohibited.

(2) Non-Commercial Fuel

- (a) No person shall cause, suffer, allow or permit sulfur dioxide, caused by the combustion of non-commercial fuel or the combustion of non-commercial and commercial fuel mixtures, to be discharged from any stack or chimney into the outdoor atmosphere in excess of the following limits, expressed as ppm by volume adjusted to twelve (12) percent carbon dioxide by volume, or equivalent method approved by the Department:

Annual Average 250 ppm

Maximum Monthly Average 310 ppm

- (b) Where a single manufacturing facility contains multiple stacks or chimneys for discharge of flue gases from burning non-commercial fuels or non-commercial and commercial fuel mixtures, the emissions from any single stack may exceed the SO₂ concentration limits given in (2)(a) provided that it can be satisfactorily demonstrated to the Department that:

(.1) The emission rate of sulfur dioxide from non-commercial fuel combustion on a total weight basis for the facility will not exceed that allowed by (2)(a); and

(.2) The ground level concentrations of sulfur dioxide at any point in the neighborhood, area, or region caused by the combustion of all non-commercial fuel at the facility shall not exceed those concentrations that would result from compliance with (2)(a); and

(.3) The concentration of SO₂ emitted from any such stack does not exceed any limit imposed by regulations of the State of Pennsylvania or the U.S. Environmental Protection Agency, and

(.4) Compliance with (2)(b) shall not prevent the achievement or maintenance of any national air quality standard for SO₂ established by the Environmental Protection Agency.

- (c) Any person responsible for the discharge of SO₂ caused by the combustion of non-commercial fuel or the combustion of non-commercial and commercial fuel mixtures from any stack or chimney as provided for in (2)(a) and (2)(b) shall submit a detailed report to the Department at least once every month, providing fuel usage and emissions information sufficiently adequate to determine compliance with this Section.”

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"SECTION 3-302, POWER AND DUTIES OF THE AIR POLLUTION CONTROL BOARD

The Air Pollution Control Board shall have the following powers and duties:

- (1) To promulgate regulations implementing this Title, preventing degradation of air quality, preventing air pollution, eliminating air pollution nuisances and, limiting, controlling, or prohibiting the emission of air contaminants to the atmosphere from any source. Such regulations may include, but are not limited to, the following:
- (a) The concentration, volume, weight, and other characteristics of emissions of air contaminants to the atmosphere, the circumstances under which such emissions are permitted and the degree of control of emissions of air contaminants required;
 - (b) The emission of air contaminants to the atmosphere and related actions which are prohibited;
 - (c) The types and kinds of control measures and actions, equipment, storage and handling facilities, process and systems, including specifications and/or performance requirements, which may be required to control emissions of air contaminants to the atmosphere;
 - (d) The characteristics of fuels and wastes which may be combusted in the city, insofar as such characteristics may affect the emissions of air contaminants to the atmosphere."

This Regulation controls, and/or prohibits, the discharge or escape of oxides of sulfur compounds to the atmosphere and controls and/or prohibits, the sulfur content of fuels burned in the City of Philadelphia. All available measures

shall be taken to prevent the emission of oxides of sulfur to the atmosphere, but in no event shall the measures employed be less effective than those in the following sections.

SECTION II. CONTROL OF SULFUR COMPOUND EMISSIONS

- A. No person shall cause or permit a specific source or process to emit sulfur oxides, calculated as sulfur dioxide (SO₂), in excess of an average 0.4 ppm (volume) for any 5 minute period when measured at ground level.
- B. Except as provided in Section III, no person shall cause or permit a specific source or process to emit sulfur oxides in excess of 0.05 percent by volume. This requirement may not be met by diluting or diffusing exhaust gases.
- C. Compliance with this Regulation shall be determined by standard methods established by the Department which may include, but are not limited to, sampling, analysis, and stoichiometric calculations.

In addition, the Department will establish continuous emission monitoring and minimum data availability requirements for sulfur oxide sources. After the Department provides notice of these requirements, the person responsible for a specific sulfur oxide emission shall install, operate, and maintain an approved continuous emission monitoring system and shall submit monitoring result reports as required by the Department.

SECTION III. CONTROL OF SULFUR IN FUELS

- A. No person may store, offer for sale, sell, deliver for use, or trade exchange for use in Philadelphia, and no person may burn any fuels in Philadelphia where the sulfur content exceeds the following:
 - 1. Fuel Oil shall not exceed the content limits of Section 3-207 of the Air Management Code except as provided in Air Management Code Section 3-207(1)(c)-(d) and Subsection III.D. of this Regulation.
 - 2. Coal shall not exceed 0.3 percent by weight.
 - 3. Subject to compliance with Subsection III. B. hereof, any person responsible for any existing oil-fired or gas-fired industrial boiler installation containing combustion units with individual rated capacities of less than 250 million BTU per hour gross heat input, originally designed for and capable of burning coal, may petition the Department for approval to convert to coal as an alternate or supplemental fuel. The application must meet the following limitations, in place of the Subsection III.A. 2. limitations:

The sulfur oxides emission, calculated as sulfur dioxide (SO₂), shall not exceed a maximum daily average of 0.5 pounds per million BTU gross heat input from any combustion unit at any time.

In this Subsection, the term "industrial boiler installation" means any stationary steam-generating installation, consisting of one or more fuel combustion units, located within a manufacturing or chemical processing facility and operated to supply heat, process steam and/or power to the facility.

- B. At installations where, pursuant to the Subsection III. A.1. and A.3. provisions hereof, equipment or methods, including the use of supplemental low-sulfur fuels, are used to reduce emissions from burning fuels with a higher sulfur content than that specified in Subsection A hereof, the equipment or method must be approved by the Department and the person responsible for the installation shall install, operate, and maintain an approved continuous emission monitoring system, provide adequate fuel-use record-keeping, and submit reports as the Department requires. In addition, the person responsible for the installation shall maintain an alternate fuel supply that complies with the sulfur content limits in Subsection III. A. hereof, as determined by the Department to be adequate for standby in case of equipment breakdown or other emergency condition.

- C. When low sulfur fuel delivery is, or is about to be, interrupted because of unavailability, accident, or other emergency conditions, the Department may authorize an alternative fuel supply use, involving the least adverse air quality impact, for no more than 30 days. The Department may authorize longer use periods, of up to 120 days, only after review and recommendation by the Air Pollution Control Board for each extended time period. Factors to be considered shall include: alternate complying fuels' availability, sulfur dioxide stack gas removal equipment availability, and the anticipated effect on air quality in the neighborhood, area, and region. The Air Pollution Control Board, after a hearing, shall have the right to adjust, revoke, rescind, and make any changes or modifications to any authorizations if a change in low sulfur fuel availability or other factors discussed in this Subsection occurs.
- D. Extension of usage exemption for No.2 grade commercial fuel oil beyond July 1, 2020 :
1. Pursuant to Air Management Code Section 3-207(1)(d)(.1) – (1)(d)(.3), users of No. 2 grade commercial fuel may apply, in writing, to the Department for permission to continue to burn existing stocks of non-compliant No. 2 grade fuel oil at a particular Facility beyond July 1, 2020. Such application shall be made on a form prescribed by the Department and shall include:
 - a. The identity of the tanks at the Facility storing the non-compliant No. 2 grade commercial fuel oil, the capacity of each tank, the quantity of the non-compliant No. 2 grade commercial fuel oil stored in each tank, and its sulfur content as of July 1, 2015;
 - b. For each tank with a total capacity greater than two thousand (2000) US gallons identified in Subsection III.D.1.a, the quantity, and sulfur content, of the stored non-compliant No. 2 grade commercial fuel oil in each tank for every 12 month period between July 1, 2015, and March 3, 2020;
 - c. Certification that No. 2 fuel oil that was purchased and subsequently stored at the Facility after July 1, 2015 complied, when purchased, with sulfur standards set forth in Air Management Code Section 3-207(1)(a);
 - d. Discussion of the impact of burning non-compliant No. 2 grade commercial fuel oil at the Facility beyond July 1, 2020 on public health and the environment, and the anticipated economic impact on the applicant in the event the extension is not granted; and
 - e. Any such other information deemed relevant by the Department.
 2. Applications for the usage exemption provided in Subsection III.D. of this Regulation will be accepted by the Department on November 1, 2019. No such applications will be accepted after May 1, 2020.
 3. The sixty (60) day period provided by Air Management Code Section 3-207(1)(d)(.1) to review an application submitted pursuant to Subsection III.D. of this Regulation will begin to run only after such application is deemed complete by the Department.
 4. The time period of the usage exemption extension granted pursuant to Air Management Code Section 3-207 (1)(d)(.1) – (1)(d)(.3) and Subsection III.D. of this Regulation will be set by the Department but may not extend beyond December 31, 2025.
 5. Any usage exemption extension granted by the Department will terminate on: 1) a date set by the Department pursuant to Subsection III.D.4. of this Regulation, or 2) the date the No. 2 grade commercial fuel oil at a Facility is found in compliance with the Air Management Code Section 3-207(1)(a) standard, whichever occurs earlier.