

REGULATION 6
PARTICULATE MATTER AND VISIBLE EMISSIONS
RULE 1
GENERAL REQUIREMENTS

INDEX

6-1-100 GENERAL

- 6-101 Description
- 6-110 Exemption, Temporary Sandblasting Operations
- 6-111 Exemption, Open Outdoor Fires

6-1-200 DEFINITIONS

- 6-201 Exhaust Gas Volume
- 6-202 Particulate Matter
- 6-203 Process Weight
- 6-204 Process Weight Rate

6-1-300 STANDARDS

- 6-301 Ringelmann No. 1 Limitation
- 6-302 Opacity Limitation
- 6-303 Ringelmann No. 2 Limitation
- 6-304 Tube Cleaning
- 6-305 Visible Particles
- 6-306 Diesel Pile Driving Hammers
- 6-310 Particulate Weight Limitation
- 6-311 General Operations
- 6-320 Sulfuric Acid Manufacturing Plants
- 6-330 Sulfur Recovery Units

6-1-400 ADMINISTRATIVE REQUIREMENTS

- 6-401 Appearance of Emissions

6-1-500 MONITORING AND RECORDS

- 6-501 Sampling Facilities and Instruments Required
- 6-502 Data, Records and Reporting
- 6-503 Records

6-1-600 MANUAL OF PROCEDURES

- 6-601 Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions

REGULATION 6
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6-1-100 GENERAL

6-1-101 Description: The purpose of this Regulation is to limit the quantity of particulate matter in the atmosphere through the establishment of limitations on emission rates, concentration, visible emissions and opacity.

6-1-110 Exemption, Temporary Sandblasting Operations: Temporary Sandblasting operations are exempt from the provisions of this Rule. Such operations are subject to the provisions of Regulation 12, Rule 4. (Adopted July 11, 1990)

6-1-111 Exemption, Open Outdoor Fires: The limitations of this rule shall not apply to emissions arising from open outdoor fires. (Adopted December 19, 1990)

6-1-200 DEFINITIONS

6-1-201 Exhaust Gas Volume: The volume of gases discharged from an operation; or an emission point.

6-1-202 Particulate Matter: Any material which is emitted as liquid or solid particles, or gaseous material which becomes liquid or solid particles at the testing temperatures specified in the Manual of Procedures, excluding uncombined water.

6-1-203 Process Weight: The total weight of all material introduced into an operation, excluding liquids and gases used solely as fuels, air which is not consumed as a reactant, and combustion air.

6-1-204 Process Weight Rate: A rate established as follows:

204.1 For continuous or long-run steady-state operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portions thereof.

204.2 For cyclical or batch operations, the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such period. Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this section, that interpretation which results in the minimum value for allowable emission shall apply.

6-1-300 STANDARDS

6-1-301 Ringelmann No. 1 Limitation: Except as provided in Sections 6-1-303, 6-1-304 and 6-1-306, a person shall not emit from any source for a period or periods aggregating more than three minutes in any hour, a visible emission which is as dark or darker than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree. (Amended July 11, 1990)

6-1-302 Opacity Limitation: Except as provided in Sections 6-1-303, 6-1-304 and 6-1-306, a person shall not emit from any source for a period or periods aggregating more than three minutes in a any hour an emission equal to or greater than 20% opacity as perceived by an opacity sensing device, where such device is required by District regulations.

(Amended July 11, 1990)

6-1-303 Ringelmann No. 2 Limitation: A person shall not emit for a period or periods aggregating more than three minutes in any hour, a visible emission which is as dark or darker than No. 2 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree, nor shall said emission, as perceived by an opacity sensing device in good working order, where such device is required by District regulations, be equal to a greater than 40% opacity, from the following sources:

- 303.1 Internal combustion engines of less than 25 liters (1500 in³) displacement, or any engine used solely as a standby source of motive power;
- 303.2 Laboratory equipment used exclusively for chemical or physical analyses or experimentation;
- 303.3 Portable brazing, soldering or welding equipment;
- 303.4 Deleted July 11, 1990. (Amended January 5, 1983, July 11, 1990)

6-1-304 Tube Cleaning: During tube cleaning, and except for three minutes in any one hour, a person shall not emit from any heat transfer operation using fuel at a rate of not less than 148 GJ (140 million BTU) per hour, a visible emission as dark or darker than No. 2 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree, or equal to or greater than 40% opacity as perceived by an opacity sensing device in good working order. The aggregate duration of such emissions in any 24 hour period shall not exceed 6.0 minutes per 1055 GJ (one billion BTU) gross heating value of fuel burned during such 24 hour period.

6-1-305 Visible Particles: A person shall not emit particles from any operation in sufficient number to cause annoyance to any other person, which particles are large enough to be visible as individual particles at the emission point or of such size and nature as to be visible individually as incandescent particles. This Section 6-1-305 shall only apply if such particles fall on real property other than that of the person responsible for the emission.

6-1-306 Diesel Piledriving Hammers: Piledriving hammers powered by diesel fuel shall comply with one of the following standards:

- 306.1 A person shall not emit from any diesel piledriving hammer for a period or periods aggregating more than four minutes during the driving of a single pile, a visible emission which is as dark or darker than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree.
- 306.2 A person shall not emit from any diesel piledriving hammer for a period or periods aggregating more than four minutes during the driving of a single pile, a visible emission which is as dark or darker than No. 2 on the Ringelmann Chart or of such opacity as to obscure an observer's view to an equivalent or greater degree provided that the operator utilizes kerosene, smoke suppressing fuel additives and synthetic lubricating oil, and the requirements of Section 6-1-503 are satisfied. (Adopted July 11, 1990)

6-1-310 Particulate Weight Limitation: A person shall not emit from any source particulate matter in excess of 343 mg per dscm (0.15 gr. per dscf) of exhaust gas volume.

- 310.1 Incineration or Salvage Operations. For the purposes of 6-1-310, the actual measured concentration of particulate matter in the exhaust gas from any incineration operation or salvage operation shall be corrected to the concentration which the same quantity of particulate matter would constitute in the exhaust gas minus water vapor corrected to standard conditions, containing 12% CO₂ by volume, and as if no auxiliary fuel had been used.
- 310.2 Gas-fired Pathological Waste Incinerators. The particulate emissions from gas-fired pathological waste incinerators, where emissions are not mingled with emissions from incineration of general wastes, shall be corrected as specified in Section 6-1-310.1 except that correction for auxiliary fuel shall not be required.
- 310.3 Heat Transfer Operation. For the purposes of 6-1-310, the actual measured concentration of particulate matter in the exhaust from any heat transfer operation shall be corrected to the concentration which the same quantity of particulate matter would constitute in the exhaust gas minus water vapor, corrected to standard conditions, containing 6% oxygen by volume.

6-1-311 General Operations: In addition to the limitation of Section 6-1-310, a person shall not discharge into the atmosphere from any general operation particulate matter from any emission point, at a rate in excess of that specified in Table 1 for the process weight rate indicated. This section shall not apply to fuel-fired indirect heat exchangers.

TABLE 1
ALLOWABLE RATE OF EMISSIONS BASED ON PROCESS WEIGHT RATE

Process wt rate = P		Emission = E	
kg/hour	lbs/hour	kg/hour	lbs/hour
250	550	0.8	1.8
300	660	0.9	2.0
400	880	1.1	2.4
500	1100	1.3	2.9
1000	2205	2.1	4.6
2000	4410	3.3	7.3
3000	6615	4.3	9.5
4000	8820	5.2	11.0
5000	11020	6.0	13.0
10000	22045	9.6	21.0
20000	44090	15.2	33.0
over 26000	57320	18.1	40.0

(interpolation formula deleted May 21, 1980. See page 6-1-5 for formulae.)

Interpolation in kg/hr

$$E \text{ in kg/hr} = 0.02 P^{0.67} \text{ in kg/hr}$$

The interpolation of the data in this Table shall be accomplished by the use of the equation $E = 0.022P^{0.67}$, where E = rate of emission in kg/hour, not to exceed 18.1 kg/hour and P = process weight rate in kg/hour.

Interpolation in lbs/hr

$$E \text{ in lbs/hr} = 4.10 P^{0.67} \text{ in lbs/hr}$$

6-1-320 Sulfuric Acid Manufacturing Plants: A person shall not emit from any operation manufacturing sulfuric acid using as a principal raw material any sulfur-containing material, any emission having a concentration of SO₃ or H₂SO₄, or both, expressed as 100% H₂SO₄, exceeding 92 mg per dscm (0.04 gr. per dscf) of exhaust gas volume.

6-1-330 Sulfur Recovery Units: A person shall not emit from any operation manufacturing sulfur, using as a principal raw material any sulfur-containing material, any emission having a concentration of SO₃ or H₂SO₄, or both, expressed as 100% H₂SO₄, exceeding 183 mg dscm (0.08 gr. dscf) of exhaust gas volume.

6-1-400 ADMINISTRATIVE REQUIREMENTS

6-1-401 Appearance of Emissions: Every person responsible for an emission (except from gas fired heat transfer operations regulated by Sections 6-1-301, 6-1-303 and 6-1-304) shall have and maintain means whereby the operator of the plant shall be able to know the appearance of the emission at all times.

6-1-500 MONITORING AND RECORDS

6-1-501 Sampling Facilities and Instruments Required: Persons subject to this regulation shall provide sampling facilities and install instruments as required pursuant to the provisions of Sections 1-501, 1-520 and 1-521 of Regulation 1.

6-1-502 Data, Records and Reporting: Persons monitoring emissions in accordance with the requirements of Sections 1-520 and 1-521 of Regulation 1 shall keep records, report emission excesses and provide summaries of data collected as required by Regulation 1.

6-1-503 Records: A person responsible for the operation of a diesel pile-driving hammer who chooses to comply with subsection 6-1-306.2 shall maintain and have available for inspection records which establish the use of kerosene, smoke suppressing fuel additives and synthetic lubricating oil. (Adopted July 11, 1990)

6-1-600 MANUAL OF PROCEDURES

6-1-601 Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions: The MOP contains the testing temperature for the determination of the presence of particulate matter, procedures relating to the siting of sampling facilities, source test procedures, opacity instrument specifications, calibration and maintenance requirements, and the procedure for appraising visible emissions.