

Chapter 03 General Emission Standards

Section 2. Emission standards for particulate matter.

(a) Visible emissions of any contaminant discharged into the atmosphere from any single new source of emission whatsoever as determined by a qualified observer shall be limited to 20 percent opacity; Provided, however, that:

(i) An owner or operator of an affected facility of the type described in Chapter 3, Section 2(h)(i) hereof which has a heat input of not less than 2500×10^6 Btu per hour, may request the Administrator of the Division of Air Quality to determine opacity of emissions from such affected facility during initial performance tests required by Chapter 6, Section 2(i) or during other performance tests thereafter.

(ii) Upon receipt from such owner or operator of the written report of the results of the performance tests required by Chapter 6, Section 2(i) or later performance tests, the Administrator will make a finding concerning compliance with opacity and other applicable standards. If the Administrator finds that such affected facility is in compliance with all applicable standards for which performance tests are conducted but fails to meet any applicable opacity standard, he shall notify the owner or operator and advise him that he may petition the Administrator within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for such affected facility.

(iii) The Administrator will grant such a petition upon a satisfactory demonstration by the owner or operator that such affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under the conditions prescribed by the Administrator; and that such affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard at or near the facility's designed capacity.

(iv) The Administrator will establish an opacity standard for such affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard and during which the facility and air pollution control equipment is being operated properly and maintained to minimize the opacity of emissions and mass emission rate.

(b) Visible emissions of any contaminant discharged into the atmosphere from any single existing source of emission whatsoever as determined by a qualified observer shall be limited to 40 percent opacity. This limitation shall not apply to existing incinerators or wood waste burners.

(c) The emission of visible air pollutants from gasoline engines shall be eliminated except for periods not exceeding five consecutive seconds.

(d) The emission of visible air pollutants from stationary or portable diesel engines as determined by a qualified observer shall be limited to 30 percent opacity below 7500 feet elevation except for periods not exceeding ten consecutive seconds.

(e) Any single source may discharge for a period or periods aggregating not more than 6 minutes in any hour contaminants;

(i) Having an equivalent opacity of not more than 40 percent as determined by a qualified observer.

(f) The emission of fugitive dust shall be limited by all persons handling, transporting, or storing any material to prevent unnecessary amounts of particulate matter from becoming airborne to the extent that ambient air standards described in these regulations are exceeded. Control measures described as follows or any equivalent method shall be considered appropriate for such control:

(i) Use, where possible, of water or chemicals for control of dust in the demolition or existing buildings, or structures, construction operations, the grading of roads or the clearing of land;

(ii) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts;

(iii) Installation and use of hood, fans and fabric filters to enclose and vent the handling of dusty materials; adequate containment methods shall be employed during sandblasting or other similar operations;

(iv) Covering, at all times when in motion, open bodied trucks, transporting materials likely to give rise to airborne dust;

- (v) Conduct of agricultural practices such as tilling of land, application of fertilizers, etc. in such a manner as to prevent dust from becoming airborne;
- (vi) The paving of roadways and their maintenance in a clear condition;
- (vii) The prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.
- (g) The emission of particulate matter from any new source shall be limited as indicated in Table I. The emission of particulate matter from any existing source shall be limited as indicated in Table II.
- (i) Process weight per hour means the total weight of all materials introduced into any specific process that may cause any emissions of particulate matter, including solid fuels, but excluding liquids or gases used solely as fuels, and excluding air introduced for purposes of combustion, and excluding the weight of any water, water vapor or steam that may be introduced as part of the total materials. However, water contained as part of the normal input to a beet pulp dryer process shall be included as part of the process weight per hour.
- (ii) For a cyclical or batch operation, the process weight per hour is derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle.
- (iii) For a continuous operation, the process weight per hour is derived by dividing the process weight for a typical period of time.
- (iv) Emission tests related to this regulation shall be measured in accordance with the requirements of Chapter 3, Section 2(h)(iv).

TABLE I	
PROCESS WEIGHT RATE (lbs/hr)	EMISSION RATE (lbs/hr)
50	0.36
100	0.55
500	1.53
1,000	2.25
5,000	6.34
10,000	9.73
20,000	14.99
60,000	29.60
80,000	31.19
120,000	33.28
160,000	34.85
200,000	36.11
400,000	40.35
1,000,000	46.72

Interpolation of the data in Table I for the process weight rates up to 60,000 lbs/hr shall be accomplished by the use of the equation:

$$E = 3.59 P^{0.62} \quad P \leq 30 \text{ tons/hr.}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr shall be accomplished by use of the equation:

$$E = 17.31 P^{0.16} \quad P > 30 \text{ tons/hr.}$$

Where:

E = Emissions in pounds per hour.

P = Process weight rate in tons per hour.

TABLE II

PROCESS WEIGHT RATE		RATE OF EMISSION	PROCESS WEIGHT RATE		RATE OF EMISSION
lb/hr	tons/hr	lb/hr	lb/hr	tons/hr	lb/hr
100	0.05	0.551	16,000	8	16.5
200	0.10	0.877	18,000	9	17.9
400	0.20	1.40	20,000	10	19.2
600	0.30	1.83	30,000	15	25.2
800	0.40	2.22	40,000	20	30.5
1,000	0.50	2.58	50,000	25	35.4
1,500	0.75	3.38	60,000	30	40.0
2,000	1.00	4.10	70,000	35	41.3
2,500	1.25	4.76	80,000	40	42.5
3,000	1.50	5.38	90,000	45	43.6
3,500	1.75	5.96	100,000	50	44.6
4,000	2.00	6.52	120,000	60	46.3
5,000	2.50	7.58	140,000	70	47.8
6,000	3.00	8.56	160,000	80	49.0
7,000	3.50	9.49	200,000	100	51.2
8,000	4.00	10.4	1,000,000	500	69.0
9,000	4.50	11.2	2,000,000	1,000	77.6
10,000	5.00	12.0	6,000,000	3,000	92.7
12,000	6.00	13.6			

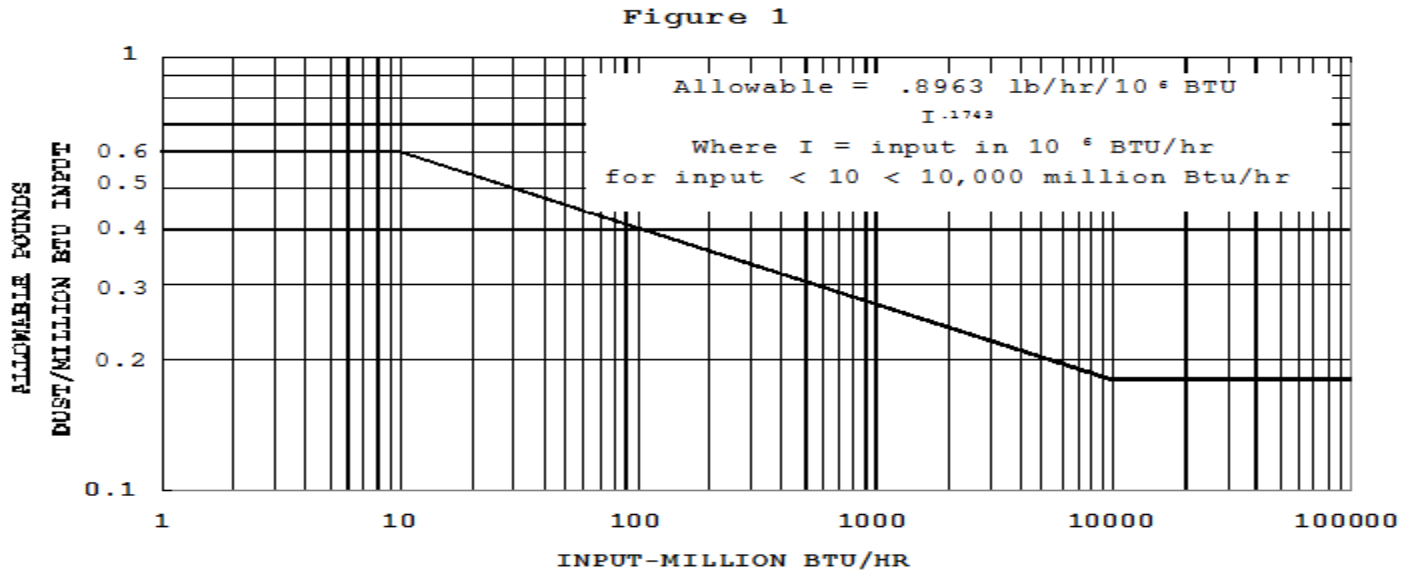
Interpolation of the data in Table II for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation $E = 4.10 P^{0.67}$, and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40, \text{ where } E = \text{rate of emission in lb/hr.}$$

and P = process weight rate in tons/hr.

Notwithstanding any other provision of this Table, any existing air contaminant source utilizing an air pollution control device having a collection efficiency of 99.5 percent or better, shall be deemed to be in compliance with all provisions of this regulation. Such efficiency shall be determined by a professional engineer licensed to practice in Wyoming and all expenses incurred in such determination shall be defrayed by the person responsible for the emission.

FIGURE 1 PARTICULATE EMISSION LIMITS



(h) The emissions of particulate matter from existing sources where fuel burning equipment is used for indirect heating shall be limited as shown in Figure 1 and shall be applicable to equipment burning solid fuel. The emissions of particulate matter from new sources where fuel burning equipment is used for indirect heating shall be limited to 0.10 pound per million BTU input (0.18 grams per million calories) maximum 2-hour average. The visible emissions of particulate matter from new sources where fuel burning equipment is used for indirect heating shall be no greater than 20 percent opacity, except that 40 percent opacity shall be permitted for not more than 2 minutes in any hour. This regulation is not applicable to residential or commercial fuel burning equipment with a heat input of less than 10×10^6 BTU/hr and used exclusively to produce building heat.

(i) This regulation applies to installations in which fuel is burned for the primary purpose of producing steam, hot water, or hot air or other indirect heating of liquids, gases, or solids, and, in the course of doing so, the products of combustion do not come into direct contact with process materials. Fuels include those such as coal, coke, lignite, fuel oil, and wood, but do not include refuse. When any products or byproducts of a manufacturing process are burned for the same purpose or in conjunction with any fuel, the same maximum emission limitations shall apply.

(ii) The heat content of coal shall be determined according to the ASTM method D-271-64 Laboratory Sampling and Analysis of Coal and Coke or ASTM method D-2015-62T Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, which publications are made a part of this regulation by reference.

(iii) For purposes of this regulation, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or stacks, or the heat input value used shall be the equipment manufacturer or designer's guaranteed maximum input, whichever is greater. The total heat input of all

fuel burning units at a plant or on a premise shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

(iv) The amount of particulate matter emitted shall be measured by source test methods specified by the Administrator. The reference methods shall be test methods 1 through 5, Appendix A, 40 CFR part 60.

(i) The emission of particulate matter from any incinerator shall be limited to:

(i) 0.20 pound per 100 pounds (2 grams per kilogram) of refuse charged as determined by a source test method approved by the Division for stationary sources as described in Subsection (g)(iv) of this regulation;

(ii) A shade or density equal to but not greater than 20 percent opacity as determined by a qualified observer.

(j) Where the presence of uncombined water is the only reason for failure of an emission to meet the opacity requirements of Chapter 3, Section 2 of this regulation, such opacity requirements shall not apply.

Section 3. Emission standards for nitrogen oxides.

(a) The emission standards for nitrogen oxides, measured in accordance with Method 7 of 40 CFR part 60, Appendix A:

(i) The emission of nitrogen oxides from new gas fired fuel burning equipment calculated as nitrogen dioxide shall be limited to 0.20 pound per million Btu (0.36 grams per million gram calories) of heat input.

(ii) The emission of nitrogen oxides from existing gas fired fuel burning equipment calculated as nitrogen dioxide shall be limited to 0.23 pound per million Btu (0.41 grams per million gram calories) of heat input.

(iii) The emission of nitrogen oxides from new oil fired fuel burning equipment calculated as nitrogen dioxide shall be limited to 0.30 pounds per million Btu (0.54 grams per million gram calories) of heat input for units having a heat input of 1.0 million Btu per hour (250 million gram calories/hour) or greater and 0.60 pounds per million Btu (1.08 grams per million gram calories) of heat input for units having a heat input less than 1.0 million Btu per hour (250 million gram calories/hour).

(iv) The emission of nitrogen oxides from existing oil fired fuel burning equipment calculated as nitrogen dioxide shall be limited to 0.46 pound per million Btu (0.83 grams per million gram calories) of heat input for units having a heat input of 250 million Btu per hour (62.5 billion gram calories/hour) or greater and 0.60 pound per million Btu (1.08 grams per million gram calories) of heat input for units having a heat input less than 250 million Btu per hour (62.5 billion gram calories/hour).

(v) The emission of nitrogen oxides from new nitric acid manufacturing plants, calculated as nitrogen dioxide shall be limited to 3 pounds per ton (1.5 kilograms per metric ton) of acid produced, maximum 2-hour average.

(vi) The emission of nitrogen oxides from new solid fossil fuel (except lignite) fired fuel burning equipment calculated as nitrogen dioxide shall be limited to 0.70 pounds per million Btu (1.26 grams per million gram calories) heat input.

(vii) The emission of nitrogen oxides from existing solid fossil fuel (except lignite) fired fuel burning equipment calculated as nitrogen dioxide shall be limited to 0.75 pounds per million Btu (1.35 grams per million gram calories) heat input.

Section 4. Emission standards for sulfur oxides.

(a) Any new facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylated acid, hydrogen sulfide, organic sulfides, mercaptans, or acid sludge shall limit the atmospheric discharge of sulfur dioxide in the effluent to not more than four pounds per ton of acid produced (2 kgm per metric ton)-maximum 2-hour average.

(f) For the purposes of Chapter 3, Section 4(b), 4(c), and 4(f), of these regulations where a two-hour average, or a 3-hour average will be used, the SO₂ emission rate shall be determined in accordance with

Reference Method 6, Appendix A, 40 CFR part 60 or in accordance with the compliance provisions of Chapter 3, Section 4(b), if the notification provisions of 4(c) and 4(d) are followed.

Section 5. Emission standards for carbon monoxide.

(a) The emission of carbon monoxide in stack gases from any stationary source shall be limited as may be necessary to prevent ambient standards described in Chapter 2, Section 5 from being exceeded. Measures considered appropriate for such control are:

(i) Treatment of the waste gas stream by installation and use of a direct flame afterburner or other means which will achieve the required reduction as approved by the Division.

Section 6. Emission standards for volatile organic compounds.

(a) The term "**volatile organic compounds**" (VOCs) is defined in 40 CFR § 51.100(s). The definition as revised and published as of July 1, 1997, not including any later amendments, is adopted by reference. A copy of the definition can be obtained from the Department of Environmental Quality, Division of Air Quality, 122 W. 25th Street, Cheyenne, Wyoming 82002.

(b) VOC emissions shall be limited through the application of Best Available Control Technology (BACT) in accordance with Chapter 6, Section 2 of these regulations. Notwithstanding the above, whenever acceptable control of VOC emissions from vapor blowdown, emergency relief systems, or VOC emissions generated from oil and gas production, storage, exploration, development, or processing operations is specified pursuant to these regulations as a flare, the flare shall not exceed a 20 percent opacity emission standard. If acceptable control of VOC emissions is specified as a smokeless flare, the definition given in subsection (i) of this section applies.

(i) For the purposes of this section, "**smokeless flare**" means a flare designed for and operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(ii) Each flare subject to Chapter 3, Section 6(b) must be equipped and operated with an automatic ignitor or a continuous burning pilot which must be maintained in good working order.

Section 9. Incorporation by reference.

(a) Code of Federal Regulations (CFR). All Code of Federal Regulations (CFR), including their Appendices, cited in this Chapter, revised and published as of July 1, 2017, not including any later amendments, are incorporated by reference. Copies of the Code of Federal Regulations are available for public inspection and can be obtained at cost from the Department of Environmental Quality, Division of Air Quality, Cheyenne Office. Contact information for the Cheyenne Office can be obtained at: <http://deq.wyoming.gov/>. Copies of the CFRs can also be obtained at cost from Government Institutes, 15200 NBN Way, Building B, Blue Ridge Summit, PA 17214, or online at <http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>.

(b) American Society for Testing and Materials (ASTM). All ASTM standards cited in this Chapter, revised and published as of July 1, 2017, not including any later amendments, are incorporated by reference. Copies of the ASTM standards are available for public inspection and can be obtained at cost from the Department of Environmental Quality, Division of Air Quality, Cheyenne Office. Contact information for the Cheyenne Office can be obtained at: <http://deq.wyoming.gov/>. Copies can also be obtained at cost from the American Society for Testing and Materials, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959, or online at http://www.astm.org/DIGITAL_LIBRARY/index.html.