

ARTICLE 4. AIR POLLUTION CONTROL*

*State law references: Air Pollution Act, MCL 336.11 et seq.

Sec. 9.31. Intent and Scope.

This Air Pollution Control Article shall serve to protect the public health, safety and welfare by regulating the emission of contaminants into the atmosphere.

(Ord. No. 67-51, 10-17-67; Ord. No. 78-16, 3-14-78)

Sec. 9.32. Definitions.

For the purpose of this Article, the following definitions will be applicable:

- (1) *Air Cleaning Device* shall mean any method, process or equipment which removes, reduces, or renders less noxious air contaminants discharged into the atmosphere.
- (2) *Air Contaminant* shall mean a dust, fume, gas, mist, odor, smoke, vapor, or combination thereof.
- (3) *Air Quality Standard* shall mean the concentration and duration of an air contaminant specified as the maximum acceptable concentration and duration of that contaminant in the ambient air as set forth below:

Ambient Air Quality Standards

TABLE INSET:

	<i>Primary</i>	<i>Secondary</i>
<i>Suspended Particulates</i>		
(micrograms/cu. meter)		
Annual geometric mean	75	--
Max. 24-hr. conc.*	260	150
<i>Sulfur Oxides</i>		
(micrograms/cu. meter)		
Annual arith. average	80 (.03 ppm)	--
Max. 24-hr. conc.*	365 (.14 ppm)	--
Max. 3-hr. conc.*	--	1300 (.5 ppm)
<i>Carbon Monoxide</i>		
(milligrams/cu. meter)		
Max. 8-hr. conc.*	10 (9 ppm)	10
Max. 1-hr. conc.*	40 (35 ppm)	40
<i>Photochemical Oxidants</i>		

(micrograms/cu. meter)		
Max. 1-hr. conc.*	160 (.08 ppm)	160
<i>Nitrogen Oxides</i>		
(micrograms/cu. meter)		
Annual arith. average	100 (0.5 ppm)	100
<i>Hydrocarbons</i>		
(micrograms/cu. meter)		
Max. 3-hr. conc.*	160 (.24 ppm)	160
(6--9 a.m.)		

Note: Values in parts per million (ppm) are only approximate.

*Not to be exceeded more than once a year per site.

(4) *Ambient Air* shall mean that part of the atmosphere, outside of a building, to which the public has access.

(5) *Air Pollution* shall mean the presence, in the ambient air, of air contaminants which are in quantities, of characteristics, and of durations which, by condition and/or circumstances, become injurious and/or detrimental to the health and welfare of all living things.

(6) *Collected Air Contaminants* shall mean those air contaminants which are prevented by any air cleaning device, design, apparatus and/or obstruction, from entering into the ambient air and therefore, through accumulation, require periodic removal and disposal.

(7) *Director* shall mean the Environmental Protection Department Director or his or her authorized representative.

(8) *Fuel Burning Equipment* shall mean a device, contrivance or piece of equipment which burns fuel and all the appurtenances thereto including ducts, breechings, control equipment, fuel feeding equipment, ash removal equipment, combustion controls, stacks, chimneys and miscellaneous equipment used directly or indirectly in the fuel combustion process. Outdoor furnaces, boilers and similar devices, regardless of fuel type, are included in this definition.

(9) *Incinerator* shall mean a device specifically designed for the burning of refuse and/or waste material.

(10) *Metropolitan Area* shall mean the City Limits of Grand Rapids and the City limits of cities with whom the City of Grand Rapids has air pollution control agreements.

(11) *Opacity* shall mean the degree to which an emission reduces the transmission of light or obscures an observer's view.

(12) *Open Burning* shall mean a fire from which the products of combustion are emitted directly into the ambient air without passing through a stack or chimney.

(13) *Particulate Matter* shall mean any substance, except uncombined water, that exists as a liquid or solid in minute amounts under standard conditions.

(14) *Person* shall mean an individual person, trustee, court appointed representative, syndicate, association, partnership, firm, club, company, corporation, business trust, institution, Department, Bureau, Agency, or instrumentality of Federal, State or local government, or other entity recognized by law as subject to rights and duties.

(15) *Process* or *Process Control Equipment* shall mean any device and/or

contrivance including all appurtenances thereto, which may cause the discharge of an air contaminant into the ambient air. "Fuel burning equipment" shall be excluded from this definition.

(16) *Refuse* shall mean all putrescible or nonputrescible solid waste, except body waste and construction waste.

(17) *Ringleman Chart* shall mean that chart published and described in the U.S. Bureau of Mines Information Circular 8333, which illustrates graduated shades of gray to black for use in estimating the density of smoke.

(18) *Salvage Operation* shall mean any operation conducted in whole or in part for the salvaging or reclaiming of any product or material.

(19) *Smoke* shall mean gas and/or airborne particles consisting essentially of carbonaceous material, in sufficient density to be observable.

(20) *Source Separation* shall mean the last operation preceding the emission of an air contaminant, which (a) results in the separation of the air contaminant from the process material or in the conversion of the process materials into air contaminants, as in the case of combustible fuel; and (b) is not an air pollution abatement operation.

(21) *Source Sample* means an emission sample from an air contaminant source, collected for analysis from an effluent stream.

(22) *Stack* or *Chimney* shall mean a flue, conduit, or duct designed to direct an effluent into the ambient air.

(23) *Standard Conditions* shall mean a as temperature of seventy (70) degrees Fahrenheit and a gas pressure of 29.92 inches of mercury absolute.

(Ord. No. 67-51, 10-17-67; Ord. No. 78-16, 3-14-78; Ord. No. 2007-08, § 1, 1-23-07)

Sec. 9.33. Duties of the Director.

The Director shall act as the authorized agent for the City to effect the purposes of this Article. The Director and his or her authorized agents shall perform investigative, technical, scientific and other services. The responsibilities of the Director shall include:

- (1) Issue, modify, or cancel orders which require the control of air pollution.
- (2) When deemed necessary by the Director, the Director may require that plans for air cleaning devices and any part(s) thereof shall be submitted to him or her for consideration and approval.
- (3) Investigate and inspect actual, suspected or potential sources of air pollution. If, in connection with such an investigation or inspection, samples of air contaminants are taken for analysis, a duplicate of the analytical report shall be furnished promptly to the person suspected of causing said air pollution.
- (4) Prepare and develop plans for the control and/or abatement of existing air pollution and for the prevention and limitation of any new pollution.
- (5) Conduct or cause to be conducted studies and research with respect to air pollution control, abatement and prevention.
- (6) Determine through field studies and sampling the degree of air pollution in the metropolitan area.
- (7) Inspect metropolitan businesses, in accordance with the requirements of the current agreement between the City and the State of Michigan Department of Natural

Resources, to determine the degree of compliance with the State of Michigan Air Surveillance Act.

(8) Measure the suspended particles and gases within the metropolitan area in accordance with State and Federal requirements.

(9) The Director may require such reasonable measures as may be necessary to prevent particulate matter from becoming airborne; including, but not limited to, paving or frequent cleaning of roads, driveways and parking lots, application of dust-free surfaces; application of water; and the planting and maintenance of vegetative ground cover.

(Ord. No. 67-51, 10-17-67; Ord. No. 78-16, 3-14-78)

Sec. 9.34. Unlawful Emission of Air Pollution Contaminants.

(1) *Emission of Particulate Matter.* It shall be unlawful to cause or to allow the emission of particular matter in excess of the maximum allowable emission rate listed below:

PARTICULATE MATTER EMISSION SCHEDULE

TABLE INSET:

<u>Source</u>	Capacity Rating in Pounds Steam Per Hr.	Maximum Allowable Emission at Operating Conditions (a) (lbs. particulate per 1000 lbs. gas)
<i>A. Fuel Burning Equipment:</i>		
1. Pulverized coal (includes cyclone furnaces)	0--1,000,000 Over 1,000,000	See Table 2 for maximum emission limit Apply to Commission for specific emission limit
2. Other modes of firing coal (other than pulverized)	0--100,000 100,001-- 300,000 Over 300,000	0.65 0.65--0.45 (b) Apply to Commission for specific emission limit
3. Wood (sawdust, shavings, hogged, other) where heat input of wood fuel 75% of total heat input		0.50
All other combination fuel burning equipment which uses wood as one of the fuels		Apply to Commission for specific emission limit

TABLE INSET:

<u>Source</u>	<i>Rating in lbs. waste per hour</i>	Maximum Allowable Emission at Operating Conditions (a) (lbs. particulate per 1000 lbs. gas)
<i>B. Incinerators:</i>		
1. Residential apartments, commercial and	0--100	0.65

industrial (c), (d)	Over 100	0.30
2. Municipal	All	0.30
3. Pathological (d)		0.20
4. Manure drying or incineration		0.20
C. <u>Steel Manufacturing:</u>		
1. Open hearth furnaces		0.10
2. Basic oxygen furnaces		0.10
3. Electric furnaces		0.10
4. Sintering plants		0.20
5. Blast furnaces		0.15
6. Heating and reheating furnaces		0.30

TABLE INSET:

<u>Source</u>	<u>Total Plant Melt Rate in Tons/Hr.</u>	<u>Maximum Allowable Emission at Operating Conditions (a) (lbs. particulate per 1000 lbs. gas)</u>
D. <u>Ferrous Cupola Operations:</u>		
1. <i>Production cupolas</i>	0--10	0.40
	10--20	0.25
	Over 20	0.15
2. <i>Jobbing cupolas</i>		0.40
3. <i>Electric arc melting</i>		0.10
4. <i>Sand handling</i>		0.10
E. <u>Chemical and Mineral Kilns</u>		
F. <u>Asphalt Paving Plants</u>		0.30
G. <u>Cement Manufacture</u>		
(up to 15,000 barrels per day kiln capacity):		
1. Kiln-wet or dry process		0.25
2. Clinker coolers		0.30
3. Grinding, crushing and other material handling		0.15

Note: A maximum allowable emission listing shall be applied for to the Commission for all kiln installations which will result in a total plant kiln capacity in excess of 15,000 barrels of cement per day.

TABLE INSET:

<u>Source</u>	<u>Gas Flow Rate (SCFM)</u>	<u>Maximum Allowable Emission at Operating Conditions (a) (lbs. particulate per 1000 lbs. gas)</u>
H. <u>Iron Ore Pelletizing:</u>		
1. <i>Grate kilns and traveling grates</i>	Greater than 600,000	Apply to Commission for specific Commission limit
	300,001--	

	600,000	
	100,000--	0.10
	300,000	0.25
	less than	0.20
	100,000	

Notes:

TABLE INSET:

(a) Fuel burning and refuse incineration limitation shall be calculated to fifty (50) percent excess air.
(b) Emission limitations for specific ratings are determined by linear interpolation between the ranges shown.
(c) These emission limitations do not apply to domestic incinerators (defined as having not over five (5) cubic feet of storage capacity).
(d) Afterburner or approved equivalent is mandatory.
(e) Differentiation between jobbing and production foundries. Cupolas used in a jobbing foundry are the same as those used in a production foundry and will vary in size only according to the quantity of iron melted per hour. However, the cupolas in a jobbing foundry will be run intermittently just long enough at one time to pour the molds that are ready on the foundry floor, job. This might be for a two- to four-hour period per day for any number of days per week. Production foundry cupolas will melt continuously to pour a succession of molds that are constantly being prepared to reserve this continuous flow of iron. This would become eight (8) hours, sixteen (16) hours, or twenty-four (24) hours per day for any number of days per week.
2. The maximum allowable emission rate listed by the Michigan Air Pollution Control Commission on its own initiative or by application. A new listed value shall be based upon the control results achievable with the application of the best technically feasible, practical equipment available. This applies only to sources not assigned to a specific emission limit in item 1.
3. The maximum allowable emission rate specified as a condition of a State permit to install or a State permit to operate.
4. The maximum allowable emission rate specified in a voluntary agreement, performance contract, stipulation, and/or an order of the Michigan Air Pollution Control Commission.
5. The maximum allowable emission rate based upon process weight rate shall be as follows:

table below. ms 1835

Table 2

Allowable Rate of Emission Based on Process Weight Rate (a)

table below. How to do heads--fix

TABLE INSET:

Process Weight Rate		Rate of emission lb./hr.	Process Weight Rate		Rate of emission lb./hr.
lb./hr.	tons/hr.		lb./hr.	tons/hr.	
100	0.05	0.55	16,000	8.00	16.5

200	0.10	0.88	18,000	9.00	17.9
400	0.20	1.40	20,000	10.00	19.2
600	0.30	1.83	30,000	15.00	25.2
800	0.40	2.22	40,000	20.00	30.5
1,000	0.50	2.58	50,000	25.00	35.4
1,500	0.75	3.38	60,000	30.00	40.0
2,000	1.00	4.10	70,000	35.00	41.3
2,500	1.25	4.76	80,000	40.00	42.5
3,000	1.50	5.38	90,000	45.00	43.6
3,500	1.75	5.95	100,000	50.00	44.6
4,000	2.00	6.52	120,000	60.00	46.3
5,000	2.50	7.58	140,000	70.00	47.8
6,000	3.00	8.56	160,000	80.00	49.0
7,000	3.50	9.49	200,000	100.00	51.2
8,000	4.00	10.4	1,000,000	500.00	69.0
9,000	4.50	11.2	2,000,000	1,000.00	77.6
10,000	5.00	12.0	6,000,000	3,000.00	92.7
12,000	6.00	13.6			

(a) Interpolation of the data in this table for process weight rates up to 60,000 lb./hr. shall be accomplished by use of the equation $E = 4.10P^{0.67}$ 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 $E = 55.0P^{0.11} - 40$, where E = rate of emission in lb./hr. and P = process weight in tons/hr.

Process weight--The total amount of all material introduced into an industrial operation, including solid fuels, but excluding liquid fuels and gaseous fuels when these are used as fuels and air introduced for purposes of combustion.

Process weight rate--For continuous or long-term operation: The total process weight for the entire period of operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof. For 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.

(2) *Standards for Density of Emission.* Emission of a visible air contaminant having a density darker than No. 1.0 of the Ringleman Chart or having more than a twenty (20) percent opacity shall be prohibited except where the presence of uncombined water vapor is the only reason for failure of air emissions to meet the requirements of this Article.

A visible air contaminant of a density not darker than No. 2 of the Ringleman Chart or not more than forty (40) percent opacity may be emitted for not more than three (3) minutes in any sixty-minute period, but this emission shall not be permitted on more than three (3) occasions during any twenty-four-hour period.

(3) *Measuring Density.* The density of an air contaminant shall be measured at the point of emission or the nearest observable point on the plume.

(4) *Grading Visible Emissions.*

(a) Darkness of a visible emission of an air contaminant shall be graded by using the Ringleman Chart or by means of a device or technique which results in a measurement of equal or better accuracy.

(b) Opacity of a visible emission of an air contaminant shall be graded by observers

trained and certified by the State of Michigan Air Quality Control Division, Department of Natural Resources, using a device or technique approved by and on file with the Michigan Air Pollution Control Commission.

(5) *Diluting and Concealing of Emissions.* The concealing and/or diluting of air contaminants which, prior to diluting or concealing, do not comply with the standards herein expressed, shall be prohibited. This shall not apply to the control of odors.

(6) *Air Contaminant or Water Vapor, When Prohibited.* No person shall cause or permit the emission of an air contaminant or water vapor including an air contaminant whose emission is not otherwise prohibited by this Article, or an air contaminant or water vapor which reacts or may react with any other air contaminant or natural air, and which causes or will cause detriment to the safety, health, welfare or comfort of any person, or which causes or will cause damage to property or business.

(7) *Open Burning.* Open burning shall be prohibited.

(a) The following exemptions shall be allowed provided they do not violate any other Sections of this Chapter.

(i) The burning of wood, charcoal, coke or other accepted fuels for the preparing of food in an approved container or utensil while being used in a safe and sanitary manner.

(ii) The use of approved gaseous or liquid fired salamanders commonly employed in conjunction with building and construction operations when being used in accordance with accepted safety standards.

(iii) Roofers, tanners, plumbers, or others pursuing a business requiring the use of fire or for the purpose of boiling tar, pitch or oil used in the regular course of an appropriate business or trade, and while being used in a safe and sanitary manner.

(iv) Open burning for Fire Department and/or Civil Defense purposes shall be permitted only under the following conditions:

a. The area is adequately protected by Fire Department personnel.

b. The fire will be of short duration.

c. The ambient air, at time of burning is relatively free of pollutants.

d. The Fire Department Chief submits to the Director written authorization for such burning.

(b) Smoking, smoldering incinerators or any burning of garbage or refuse that smolders or gives off nauseous odors is prohibited.

(8) *Fugitive Dust.* It shall be prohibited to handle and/or transport any material and/or substance in such a manner which causes said material and/or substance to be discharged into the ambient air.

(9) *Outdoor Fuel Burning Equipment* shall be prohibited.

(Ord. No. 67-51, 10-17-67; Ord. No. 78-16, 3-14-78; Ord. No. 78-86, 12-5-78; Ord. No. 2007-08, § 2, 1-23-07)

Secs. 9.35--9.60. Reserved.