Sec. 22a-174-18. Control of particulate "emissions"

(a) Visible "emissions."

(a)(1) Visible "emission" restrictions for "stationary sources."

(i) No "person" shall cause or permit the "emission" of visible "air pollutants" of a shade or density equal to or darker than that designated as No. 1 on the "Ringelmann chart" or 20 percent "opacity."

(ii) A "person" may discharge "air pollutants" into the atmosphere from any "source" of "emission" for a period or periods aggregating not more than 5 minutes in any 60 minutes, provided that said "air pollutants" are of a shade or density not darker than No. 2 on the "Ringelmann chart" or 40 percent "opacity."

(iii) Open burning conducted under provisions of section 22a-174-17 shall not be subject to this subsection.

(a)(2) Visible "emission" restrictions for "mobile sources."

(i) No "person" shall cause or permit the "emission" of visible "air pollutants" from gasoline-powered "mobile sources" for longer than five (5) consecutive seconds.

(ii) No "person" shall cause or permit the "emission" of clearly visible "air pollutants" (comparable to a shade or density equal to or darker than No. 1 on the "Ringelmann chart" or 20 percent "opacity") from diesel powered motor vehicles for more than ten (10) consecutive seconds, during which time the maximum shade or density of "emissions" shall be no darker than No.2 on the "Ringelmann chart" or 40 percent "opacity."

(a)(3) Exceptions for uncombined water. Where the presence of uncombined water, such as water vapor, is the only reason for the failure of an "emission" to meet the requirements of this regulation then the provisions of this regulation shall not apply.

(a)(4) The following shall be exempt from the requirements of subsection (a)(2):

(i) Antique automobiles over 30 years old;

(ii) Vehicles used exclusively for racing; and

(iii) "Mobile sources" in the process of being repaired.

(a)(5) "Emissions" from stationary or idling "mobile sources." No "mobile source" engine shall be allowed to operate for more than three (3) consecutive minutes when the "mobile source" is not in motion except as follows:

(i) When a "mobile source" is forced to remain motionless because of traffic conditions or mechanical difficulties over which the "operator" has no control;

(ii) When it is necessary to operate heating, cooling or auxiliary equipment installed on the "mobile source" when such equipment is necessary to accomplish the intended use of the "mobile source";

(iii) To bring the "mobile source" to the manufacturer's recommended operating temperature;

(iv) When the outdoor temperature is below twenty (20) degrees Fahrenheit;

(v) When the "mobile source" is being repaired.

(a)(6) Subsections (a)(2) and (a)(5) shall not apply to aircraft, locomotives operating on rails, vessels for transportation on water, lawnmowers, snowblowers, and other small home appliances.

(b) "Fugitive dust."

(b)(1) No "person" shall cause or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent "particulate matter" from becoming airborne. Such reasonable precautions shall be in accordance with good industrial practice as determined by the "Commissioner" and shall include, but not be limited to, the following:

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

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

(iii) Installation and use of hoods, 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 and trains transporting materials likely to give rise to airborne dusts;

(v). The prompt removal of earth or other material from paved streets onto which earth or other material has been deposited by trucking or earth-moving equipment, erosion by water, or other means.

(b)(2) Agricultural activities are exempt from the provisions of subsection (b)(1). However, agricultural practices such as tilling of land and application of fertilizers shall be conducted in such manner as to minimize dust from becoming airborne.

(b)(3) No "person" shall cause or permit the discharge of visible "emissions" beyond the lot line of the property on which the "emissions" originate when:

(i) The "emissions" remain visible and exist near ground level outside the property boundaries; or

(ii) The "emissions" remain visible and impinge on a building or structure so the health, safety, or enjoyment of life of the public may be diminished.

(b)(4) No "particulate matter" shall be emitted into the open air in such a manner as to cause a nuisance.

(c) Incineration.

(c)(1) Definitions. The following terms as used in subsections (c)(1) to (c)(6) inclusive shall have the following meanings:

(i) "Incinerator" means any device, apparatus, equipment or structure used for destroying, reducing or salvaging by fire any material or substance, including but not limited to, refuse, rubbish, garbage, trade waste, debris or scrap, or facilities for cremating human or animal remains. "Small incinerator" means an "incinerator" designed and used to burn waste materials of types 0, 1, 2, and 3 only, in all capacities not exceeding two thousand pounds per hour of waste material input.

"Special incinerator" means an "incinerator" designed and used to burn pathological waste type 4 or trade waste types 5 and 6 of any burning capacity. Crematories are included in this category. "Large incinerator" means an"incinerator" owned or operated by any government or any "person," firm or corporation, designed and used to burn waste materials generated by the public of any and all types, 0 to 6 inclusive, with a burning capacity in excess of two thousand pounds per hour of waste material input.

(ii) "New incinerator" means an incinerator which is a "new source," as defined in section 22a-174-1(r).

(iii) "Existing incinerator" means any "incinerator" which is not a "new source," as defined in section 22a-174-1(r).

(iv) "Flue-fed incinerator" means an "incinerator" provided with a single flue which serves as both the charging chute and the flue to transport products of combustion to the atmosphere.

(v) "Liquid particulates" means particles which have volume but are not of rigid shape and which upon collection tend to coalesce and create uniform homogeneous films upon the surface of the collecting media.

(vi) "Solid particulates" means particles of rigid shape and definite volume.

(vii) "Smoke" means and includes small gas-borne particles, excluding water vapor, arising from a process of combustion in sufficient number to be observable.

(viii) "Air pollution control equipment" means any device which prevents or controls the "emission" of any air contaminant.

(ix) "Type 0 waste" means trash, a mixture of highly combustible waste such as paper, cardboard, cartons, wood boxes and combustible floor sweepings, from commercial and industrial activities. The mixture may contain up to ten percent by weight of plastic bags, coated paper, laminated paper, treated corrugated cardboard, oily rags and plastic or rubber scraps. This type of waste contains approximately ten percent moisture and five percent incombustible solids and has a heating value of approximately eighty-five hundred"BTU" per pound as fired.

(x) "Type 1 waste" means rubbish, a mixture of combustible waste such as paper, cardboard cartons, wood scrap, foliage and combustible floor sweepings from domestic, commercial and industrial activities. The mixture may contain up to twenty percent by weight of restaurant or cafeteria waste, but contains little or no treated paper, plastic or rubber wastes. This type of waste contains approximately twenty-five percent moisture and ten percent incombustible solids and has a heating value of approximately sixty-five hundred "BTU" per pound as fired.

(xi) "Type 2 waste" means refuse, consisting of an approximately even mixture of rubbish and garbage by weight. This type of waste is common to apartment and residential occupancy, consisting of up to fifty percent moisture and approximately seven percent incombustible solids, and has a heating value of approximately forty-three hundred "BTU" per pound as fired.

(xii) "Type 3 waste" means garbage consisting of animal and vegetable wastes from restaurants, cafeterias, hotels, hospitals, markets and like installations. This type of waste contains up to seventy percent moisture and up to five percent incombustible solids and has a heating value of approximately twenty-five hundred "BTU" per pound as fired.

(xiii) "Type 4 waste" means human and animal remains, consisting of carcasses, organs and solid organic wastes from hospitals, laboratories, abattoirs, animal pounds and similar "sources," consisting of up to eighty-five percent moisture and approximately five percent incombustible solids and having a heating value of approximately one thousand "BTU" per pound as fired.

(xiv) "Type 5 waste" means by-product waste, gaseous, liquid or semi-liquid, such as tar, paints, solvents, sludge, and fumes from industrial operations.

(xv) "Type 6 waste" means solid by-product waste, such as rubber, plastics, wood waste from industrial operations and all salvage operations.

(c)(2) Flue-fed "incinerators." No "person" shall construct, install, use or cause to be used any new "incinerator" of the flue-fed type.

(c)(3) "Emission standards."

(i) Particulates. No "person" shall construct, install, use or cause to be used any new "incinerator" which will result in "particulate matter" in the effluent in excess of 0.08 gr/S.C.F. (0.18 gm/cubic meters) corrected to 12 percent CO_2 maximum 2-hour average. No "person" shall use or cause to be used any existing "incinerator" which will emit more than four-tenths pound of particulates per one thousand pounds of flue gases adjusted to fifty percent excess air.

(ii) All "incinerators" must comply with subsection(a)(1).

(iii) Unburned waste and ash. No "person" shall cause, suffer, allow or permit the "emission" of particulates of unburned waste or ash from any "incinerator" which are individually large enough to be discernible by the human eye.

(iv) Odors. No "person" shall construct, install, use or cause to be used any "incinerator" which will result in violations of section 22a-174-23.

(c)(4) Operations.

(i) Approved operating procedures and rated burning capacity of the "incinerator" shall be posted at a convenient place as near as practical to the point of operation.

(ii) No "person" shall use or cause to be used any "incinerator" unless all components connected, or attached to, or serving the "incinerator" which affect "air pollution" are functioning properly and are in use, in accordance with the "permit to construct" and the certificate or "permit to operate."

(c)(5)

(i) "Emission" tests shall be conducted at the maximum-rate burning capacity of the "incinerator"

(ii) The burning capacity of an "incinerator" shall be the manufacturer's or designer's guaranteed maximum rate or such other rate as may be determined by the "Commissioner" in accordance with good engineering practices. In cases of conflict, the determination made by the "Commissioner" shall govern.

(iii) For the purposes of this regulation, the total of the capacities of all furnaces within one system shall be considered as the "incinerator" capacity.

(c)(6) Exceptions. The provisions of subsections (c)(1) to (c)(5) inclusive shall not apply to "incinerators" installed or used in dwellings containing six or fewer family units.

(c)(7) None of these regulations shall be construed to permit the "emission" of hazardous materials defined and limited by the Commissioner.

(d) "Fuel-burning equipment."

(d)(1) No "person" shall cause or permit the "emission" from "fuel-burning equipment" of "particulate matter" in excess of the limitations listed in table 18-D-1 below.

Table 18-D-1

Pounds of Particulate Matter per Million "BTU" of Heat Input	Type of Fuel	Type of "Source"
0.10	All	Permit required under section 22a-174-3 (except subsection (3)(g)(6))
0.14	"Residual Oil	Required to register under section 22a-174-2 or to receive a permit under 22a-174-3(g)(6)
0.20	All except R OIL	All others "residual oil"

(d)(2) For purposes of this section, the heat input value used shall be the actual firing rate of the "fuel-burning equipment."

(d)(3) Fuel-burning "sources" which, as of the effective date of these regulations, have particulate control equipment in place must maintain such control equipment in proper operation.

(e) <Process industries -- general.>

(e)(1) No "person" shall cause or permit the "emission" of "particulate matter" in any one hour from any "source" in excess of the amount shown in Table 3-1 below for the process weight rate allocated to such "source," with the exception of "sources" specified in subsection (f).

Table 3-1

Process Weight Rate lbs./hr.	"Emission" Rate lbs./hr.	Process Weight Rate lbs./hr.	"Emission Rate lbs./hr.
50	0.36	60,000	29.60
100	0.55	80,000	31.19
500	1.53	120,000	33.28
1,000	2.25	160,000	34.85
5,000	6.34	200,000	36.11
10,000	9.73	400,000	40.35
20,000	14.99	1,000,000	46.72

(e)(2) Interpolation of the data in Table 3-1 for the process weight rates up to 60,000 lbs./hr. shall be accomplished by the use of the equation:

$$\log_e E = \log_e 3.59 + .62 \log_e P$$

P equal to or less than 30 tons/hr. and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr. shall be accomplished by the use of the equation:

$$\log E = \log 17.31 + .16 \log P$$

P greater than 30 tons/hr.
Where: E = "emission" in pounds per hour.
P = Process weight rate in tons per hour.

(e)(3) For the purpose of this regulation, process weight per hour is the total weight of all materials introduced into any specific process that may cause any "emission" of "particulate matter." Solid fuels charged will be considered as part of the process weight, but liquid and gaseous fuels and combustion air will not. For a cyclical or batch operation, the process weight per hour will be 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. For a continuous operation, the process weight per hour will be derived by dividing the process weight for a typical period of time by the length of that period of time.

(e)(4) 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 regulation, the interpretation that results in the minimum value for "allowable emission" shall apply.

(e)(5) For purposes of the regulation, the total process weight from all similar process units at a plant or "premises" shall be used for determining the maximum "allowable emission" or "particulate matter" that passes through a "stack" or "stacks."

(e)(6) For the purposes of this regulation, when any material undergoes a series of operations which are capable of emitting "particulate matter" and which employ any combination of machines, equipment, or other devices used for processing the material either continuously or in batches, the total processs weight for the series of operations shall be the weight of materials introduced to the series as a whole. Any material which is the product of any operation in the series shall not be counted as part of the process weight for any other operation in the series.

(f) Process industries - specific.

(f)(1) "Emission standards" (from cupolas). No "person shall cause or allow the operation of any iron foundry cupola unless such cupola is equipped with gas-cleaning devices and so operated as to remove ninety percent (90%) by weight of all "particulate matter" in the cupola discharge gases, or to release not more than one and seven-tenths (1.7) of a pound of "particulate matter" per ton of iron produced, whichever is more stringent. Gases, vapors and gas-entrained effluents from such cupolas shall be incinerated at a minimum temperature of 1300 degrees Fahrenheit for a period of not less than three-tenths of a second.

(f)(2) "Emission standards" (hot mix asphalt plants). No "person" shall cause or allow the "emission" of "particulate matter" from hot mix asphalt plants in excess of one tenth of a pound per ton of asphalt produced. In addition, the process must conform to subsection (b) of this regulation.

(f)(3) "Emission standards" (foundry sand). No "person" shall cause or allow the operation of a foundry sand process unless such process conforms to subsection (b) of this regulation and is equipped with dust control facilities and so operated as to remove ninety percent (90%) of the "particulate matter" from the foundry sand process, or to emit not more than seventy-five hundreths (0.75) of a pound of "particulate matter" per ton of material cast.

(f)(4) "Emission standards" (concrete batching). No "person" shall cause or allow the operation of a concrete batching process unless such process conforms to subsection (b) of this regulation and is equipped with "fugitive dust" control facilities with a collection efficiency of 90 percent or 0.02 pounds per cubic yard of concrete, whichever results in less "emission."