SUBCHAPTER 6. CONTROL AND PROHIBITION OF PARTICLES FROM MANUFACTURING PROCESSES

Authority

Unless otherwise expressly noted, all provisions of this subchapter were adopted pursuant to authority of N.J.S.A. 26:2C-1 et seq. and were filed on January 27, 1972, as R.1972 d.16 to become effective on March 27, 1972. See: 3 N.J.R. 248(a), 4 N.J.R. 23(b). Revisions were filed on March 21, 1977, as R.1977 d.95 to become effective on May 23, 1977. See: 8 N.J.R. 375(a), 9 N.J.R. 170(c).

7:27-6.1 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings unless the context clearly indicates otherwise.

"Air contaminant" means solid particles, liquid particles, vapors or gases which are discharged into the outdoor atmosphere.

"Control apparatus" means any device which prevents or controls the emission of any air contaminant.

"Cullett" means broken, waste or recycled glass.

"Department" means the Department of Environmental Protection.

"Dilution gas" means air or gas from any source whatsoever added to the source gas emitted from a source operation.

"Equipment" means any device capable of causing the emission of an air contaminant into the open air, and any stack, chimney, conduit, flue, duct, vent or similar device connected or attached to, or serving the equipment. This shall include equipment in which the preponderance of the air contaminants emitted is caused by the manufacturing process.

"Fuel" means solid, liquid or gaseous materials used to produce useful

heat by burning.

"Glass" means a hard amorphous inorganic substance made by fusing silicates and sometimes borates and phosphates with certain basic oxides.

"Glass manufacturing furnace" means equipment using energy in the form of intense heat for the production of glass.

"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 a facility for cremating human or animal remains.

"Indirect heat exchanger" means equipment in which heat from the combustion of fuel is transferred by conduction through a heat-conducting material to a substance being heated, so that the latter is not contacted by, and adds nothing to, the products of combustion.

"Isokinetic" means a method for sampling air contaminants from the gas stream in a stack or chimney in such a manner that the gas stream enters a sampling probe in the same direction and at the same velocity as the gas stream in a stack or chimney.

"Lead glass" means a glass produced from the fusion of silica, alkali and lead oxide, and characterized by a high index of refraction, high light dispersion, high electrical resistance and high density.

"Liquid particles" 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.

"Manufacturing process" means any action, operation or treatment embracing chemical, industrial, manufacturing or processing factors, methods or forms, including but not limited to furnaces, kettles, ovens, converters, cupolas, kilns, crucibles, stills, dryers, roasters, crushers, grinders, mixers, reactors, regenerators, separators, filters, reboilers, columns, classifiers, screens, quenchers, cookers, digesters, towers, washers, scrubbers, mills, condensers or absorbers.

"Maximum allowable emission rate" means the maximum amount of an air contaminant which may be emitted into the outdoor air at any instant in time or during any prescribed interval of time.

"Opacity" means the property of a substance which renders it partially or wholly obstructive to the transmission of visible light, expressed as the percentage to which the light is obstructed.

"Particles" means any material, except uncombined water, which exists as liquid particles or solid particles at standard conditions.

"Performance test principle" means a concept of measurement as required for determining compliance with a specific standard for the emission of air contaminants.

"Potential emission rate" means the mass rate of air contaminants emitted or to be emitted through a stack or chimney into the outdoor air, exclusive of any type of control apparatus.

"Process weight" means the total weight of all materials introduced into a source operation, excluding liquid or gaseous fuel, uncombined water and air.

"Refuse" means rubbish, garbage, trade waste and plant life.

"Sampling train" means a combination of entrapment devices, instruments and auxiliary apparatus arranged in a prescribed sequence to selectively separate and collect samples of specified air contaminants.

"Solid particles" means particles of rigid shape and definite volume.

"Source gas" means air or gases passed through or generated by a source operation and discharged from the source operation.

"Source operation" means any manufacturing process or any identifiable part thereof emitting an air contaminant into the outdoor atmosphere through one or more stacks or chimneys.

"Stack or chimney" means a flue, conduit or opening designed and contructed for the purpose of emitting air contaminants into the outdoor air.

"Standard conditions" means or shall be 70 degrees Fahrenheit and one atmosphere pressure (14.7 psia or 760 mm Hg).

7:27-6.2 Standards for the emission of particles

(a) No person shall cause, suffer, allow or permit particles as measured by the performance test principles set forth in section 3 of this subchapter to be emitted from any source operation, except as provided in subsection (b) of this section, through any stack or chimney into the outdoor air in excess of the maximum allowable emission rate as determined below:

MAXIMUM ALLOWABLE EMISSION RATE FOR PARTICLES

1	2	3	4
POTENTIAL EMISSION RATE FROM SOURCE OPERATION (lbs. per hr.)	ALLOWABLE EMISSION RATE (lbs. per hr.) Based on 99% efficiency of Collection.	SOURCE GAS EMITTED FROM SOURCE OPERATION (Standard cu. ft. per min.)	ALLOWABLE EMISSION RATE (lbs. per hr.) Based on 0.02 grains per SCF.
50 or less	0.5	3,000 or less	0.5
100	1.0	6,000	1.0
1000	10.0	35,000	6.0
2000	20.0	70,000	12.0
3000 or greater	30.0	140,000	24.0
		175,000 or greater	30.0

Instructions:

1. From columns 1 and 2 above, determine the allowable emission rate based upon the potential emission rate of particles from the source operation as measured by the

performance test principles set forth in subsections 3(a) and 3(b) of this subchapter;

2. From columns 3 and 4 above, determine the allowable emission rate based upon the source gas emitted from the source operation. Whenever dilution gas is, for any purpose, added to the source gas from a source operation, the source gas emitted shall be considered to be the gas discharge rate prior to such dilution;

3. The greater of the two emission rates as determined from 1 and 2 above shall be the maximum allowable emission rate. For rates between any two consecutive values stated in columns 1 and 3, the corresponding allowable emission rates shall be as determined by interpolation.

(b) The provisions of subsection (a) of this section shall not apply to any glass manufacturing furnace. Such furnace(s) shall be subject to the following:

1. No person shall cause, suffer, allow or permit particles as measured by the performance test principles set forth in section 3(a) and (b) of this subchapter to be emitted from any glass manufacturing furnace through any stack or chimney into the outdoor air in excess of the maximum allowable emission rate, as determined from the equation below:

i. $A = 5 + (.48 \times W)$;

ii. A = maximum allowable emission rate (lbs. per hr.);

iii. W = process weight per hour (tons per hr.).

(c) The provisions of subsection (b) of this section and section 5(b) of this subchapter shall not apply to any glass manufacturing furnace used for the production of lead glass.

(d) No person shall cause, suffer, allow or permit particles to be emitted from any stack or chimney into the outdoor air the shade or appearance of which is greater than 20 per cent opacity, exclusive of visible condensed water vapor.

(e) The provisions of subsection (d) of this section shall not apply to particles the shade or appearance of which is greater than 20 per cent opacity, exclusive of visible condensed water vapor, for a period of not longer than three minutes in any consecutive 30-minute period.

7:27-6.3 Performance test principles

(a) For purposes of measuring emissions in accordance with the provisions of section 2(a) and (b) of this subchapter, particles shall be drawn by isokinetic procedures from the stack or chimney and the weight of the particles determined gravimetrically after removal of uncombined water.

(b) The measured emission weight shall be the combined weight of all particles collected and analyzed in accordance with the sampling and analytical procedures set forth in N.J.A.C. 7:27B-1.

(c) Opacity measurements shall be carried out in accordance with the procedures set forth in N.J.A.C. 7:27B-2.

7:27-6.4 Emission tests

(a) Any person responsible for the emission of particles from a source

operation shall, when requested by the department, provide the facilities and necessary equipment for determining the opacity of emissions being discharged through a stack or chimney and shall conduct such opacity tests using methods approved by the department. Opacity test data shall be recorded in a permanent log at such time intervals as specified by the department and shall be maintained for a period of not less than one year and shall be available for review by the department.

(b) Any person responsible for the emission of particles from a source operation shall, upon request of the department, provide such sampling facilities and testing facilities exclusive of instrumentation and sensing devices as may be necessary for the department to determine the nature and quantity of particles being emitted from the source operation. During such testing by the department, the source operation shall be operated under normal, routine operating conditions or under such other conditions within the capacity of the source operation as may be requested by the department. The facilities may be either permanent or temporary, at the discretion of the person responsible for their provision, and shall conform to all applicable laws and regulations concerning safe construction and safe practice.

7:27-6.5 Variances

(a) Whenever a person responsible for the emission of particles from a source operation believes that advances in the art of control for the kind and amount of particles emitted has not developed to a degree which would enable the requirements of section 2 of this subchapter to be attained, he may apply to the department for a variance, setting forth his reasons and justifications. The department may issue a variance from section 2(a), (b) and/or (d) of this subchapter and such variance shall be valid for a period not to exceed five years from the date of issuance and may be renewed upon application to the department, setting forth reasons and justifications for its continuation. Variances issued under the provisions of this section shall be conditional on the compliance with any requirements which the department deems to be necessary.

(b) The department may grant a variance from section 2(b) of this subchapter, if the person responsible for the operation of a glass furnace demonstrates, to the satisfaction of the department, that the process weight for the furnace continually consists of greater than 25 per cent by weight cullet. Such variance:

1. Shall not be granted unless the applicant demonstrates compliance with all other requirements of this chapter, including but not limited to compliance with subchapter 13 (Ambient air quality standards) of this chapter, as well as any other requirements the department deems necessary;

2. Shall specify conditions, including but not limited to a maximum allowable emission rate not to exceed the maximum allowable emission rate, as

determined from the following table:

CULLET USAGE (Per cent by weight)	MAXIMUM ALLOWABLE EMISSION RATE (lbs. per hr.)
25 - 35%	6 + (.48 x W)
35 - 45%	7 + (.48 x W)
45% or more	8 + (.48 x W)

W = process weight per hour (tons per hr.)

3. Shall be valid for a period not to exceed two years from the date of issuance and may be renewed upon application to the department, setting forth reasons and justifications for such renewal.

(c) The department may grant a variance from section 2(d) of this subchapter if the person responsible for the operation of a glass furnace demonstrates, to the satisfaction of the department, that the glass furnace is capable of conforming with the provisions of sections 2(b) or 5(b) of this subchapter, but not capable of simultaneously conforming with the provisions of section 2(d) of this subchapter. Such variance:

1. Shall not be granted unless the applicant demonstrates compliance with all other requirements of this chapter, as well as any other requirements the department deems necessary;

2. Shall specify conditions, including but not limited to a requirement that the shade or appearance of the emissions from the glass furnace not exceed a per cent opacity specified by the department;

3. Shall be valid for a period not to exceed five years from the date of issuance and may be renewed upon application to the department, setting forth reasons and justifications for such renewal.

(d) Any person seeking a variance under the provisions of subsection (b) and (c) of this section shall file with the department an application on a form provided by the department and shall furnish any other information subsequently requested by the department.

(e) Any person aggrieved by the denial or the prescribed conditions by the department of a variance authorized by this section may, upon application made within 15 days after notice thereof, be entitled to a hearing before the department upon at least 15 days written notice. Within 30 days after such hearing, the department shall issue a notice amending, affirming or rescinding its previous action.

7:27-6.6 Permit to construct and certificate to operate

(a) No person shall construct or install any new equipment or any new

control apparatus, or alter any existing equipment or control apparatus from which particles are emitted through any stack or chimney into the outdoor air without first having obtained a "Permit to construct, install or alter control apparatus or equipment" from the department, in accordance with the provisions of subchapter 8 of this chapter.

(b) No person shall use or cause to be used any new or altered equipment, or any new or altered control apparatus from which particles are emitted through any stack or chimney into the outdoor air without first having obtained a "Certificate to operate control apparatus or equipment" from the department, in accordance with the provisions of subchapter 8 of this chapter.

(c) No person shall use or cause to be used any equipment from which particles are emitted through any stack or chimney into the outdoor air, unless all components connected or attached to, or serving the equipment and/or control apparatus are functioning properly and are in use in accordance with the permit to construct, install or alter, and the certificate to operate.

7:27-6.7 Exceptions

(a) The provisions of this subchapter shall not apply:

1. To indirect heat exchangers;
2. To incinerators.