

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION
NEW JERSEY ADMINISTRATIVE CODE
TITLE 7
CHAPTER 27
SUBCHAPTER 4

Control and Prohibition of Particles from Combustion of Fuel

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Please note: The Department has made every effort to ensure that this text is identical to the official, legally effective version of this rule, set forth in the New Jersey Register. However, should there be any discrepancies between this text and the official version of the rule, the official version will prevail.

REGULATORY HISTORY

Effective:	March 27, 1972 (4 N.J.R. 23(b))
Operative:	
Amendment Effective:	October 12, 1997 (9 N.J.R. 420(a))
Amendment Operative:	
Amendment Effective:	May 4, 1998 (30 N.J.R. 1563(b))
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Amendment Proposed:	August 4, 2008 (40 N.J.R. 4390(a))
Amendment Adopted:	March 20, 2009
Amendment Effective:	April 20, 2009 (41 N.J.R. 1752(a))
Amendment Operative:	May 19, 2009

7:27-4.1 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.

“Construct” or “construction” means to fabricate or erect equipment or control apparatus at a facility where it is intended to be used, but shall not include the dismantling of existing equipment or control apparatus, site preparation, or the ordering, receiving, temporary storage, or installation of equipment or control apparatus. Unless otherwise prohibited by Federal law, this term shall also not include the pouring of footings or placement of a foundation where equipment or control apparatus is intended to be used.

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

“Department” means the Department of Environmental Protection.

“Direct heat exchanger” means equipment in which heat from the combustion of fuel is transferred to a substance being heated so that the latter is contacted by the products of combustion and may contribute to the total effluent.

“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.

“Heat input rate” means the rate at which the aggregate heat content based on the higher heating value of the fuel is introduced into the fuel burning equipment.

“Install” or “installation” means to carry out final setup activities necessary to provide equipment or control apparatus with the capacity for use or service. This term includes, but is not limited to, connection of equipment or control apparatus, associated utilities, piping, ductwork or conveyor systems. This term does not include construction, as defined above, or the reconfiguration of equipment or control apparatus to an alternate configuration specified in a permit application and approved by the Department. This term includes relocation of existing equipment or control apparatus.

“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.

“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.

“Marine installation” means equipment for propulsion, power or heating on all types of marine craft and floating equipment.

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

“Modify” or “modification” means any physical change, or change in the method of operation of existing equipment or control apparatus that increases the amount of actual emissions of any air contaminant emitted by that equipment or control apparatus or that results in the emission of any air contaminant not previously emitted. This term shall not include normal repair and maintenance.

“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.

“Reconstruct” or “reconstruction” means the replacement of part(s) of equipment included in a process unit, or the replacement of part(s) of control apparatus, if the fixed capital cost of replacing the part(s) exceeds both of the following amounts:

1. Fifty percent of the fixed capital cost that would be required to construct a comparable new process unit; or, if it is part(s) of control apparatus that is being replaced, 50 percent of the fixed capital cost that would be required to construct comparable new control apparatus; and
2. \$80,000, in 1995 dollars, adjusted by the Consumer Price Index (CPI).

“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.

“Stack or chimney” means a flue, conduit or opening designed, constructed, and/or utilized 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).

7:27-4.2 Standards for the emission of particles

- (a) On and after May 19, 2009, this subsection shall not apply to any coal-fired boiler that is regulated by (b) below. On and after December 15, 2012, this subsection shall not apply to any coal-fired boiler that is regulated by (c) below. No person shall cause, suffer, allow or permit particles arising from the combustion of fuel to be emitted from any stack or chimney into the outdoor air in excess of the maximum allowable emission rate set forth in the following table. For a heat input rate between any two consecutive rates shown, the maximum allowable emission rate shall be determined by interpolation:

Heat Input Rate (Millions of British Thermal Units per Hour)	Maximum Allowable Emission Rate (Pounds per Hour)
1	00.6
10	06
20	08
30	09
40	10
50	11
60	12
70	13
80	14
90	14.5
100	15
120	16.5
140	17.5

Heat Input Rate (Millions of British Thermal Units per Hour)	Maximum Allowable Emission Rate (Pounds per Hour)
160	18.5
180	19.3
200	20
400	40
600	60
800	80
1,000	100
2,000	200
3,000	300
4,000	400
5,000	500
6,000	600
7,000	700
8,000	800
10,000	1,000

Note: Heat input rate shall be the sum of the heat input rates of all fuel burning equipment discharging through a single stack or chimney.

- (b) The owner or operator of any coal-fired boiler, with a particle control apparatus that is constructed, installed or reconstructed and commences operation on or after May 19, 2009, unless otherwise specified in an enforceable agreement with the Department, shall cause it to emit particles at a rate no greater than 0.0150 pounds per MMBTU and shall demonstrate compliance in accordance with the source's approved permit. The owner or operator shall demonstrate compliance based on the average of three stack tests that have been approved by the Department. Such a coal-fired boiler or particle control apparatus is also subject to state-of-the-art requirements at N.J.A.C. 7:27-8.12 and 22.35, lowest

achievable emission rate requirements at N.J.A.C. 7:27-18, and best available control technology requirements at 40 CFR 52.21, incorporated herein by reference, as applicable.

- (c) The owner or operator of a coal-fired boiler, other than those listed in (b) above, that is in operation prior to May 19, 2009:
 - 1. Shall not emit particles on or after December 15, 2012, unless otherwise specified in an enforceable agreement with the Department, at a rate greater than 0.0300 pounds per MMBTU or the permitted emission rate in effect as of May 19, 2009, whichever is lower; and
 - 2. Shall demonstrate compliance by June 15, 2013, in accordance with the owner or operator's approved permit for the coal-fired boiler. The owner or operator shall demonstrate compliance based on the average of three stack tests that have been approved by the Department.

7:27-4.3 Performance test principle

- (a) For purposes of measuring emissions in accordance with the provisions 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-1.1 et seq.

7:27-4.4 Emission tests

- (a) Any person responsible for the emission of particles, arising from the combustion of fuel shall, when requested by the Department, provide such sampling facilities exclusive of instrumentation and sensing devices as may be necessary for the Department to determine the rate at which the particles are or may be discharged from the fuel burning operation.
- (b) During such testing by the Department, the fuel burning operation shall be operated under normal, routine operating conditions or under such other conditions within the capacity of the equipment as may be requested by the Department.
- (c) 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.

7:27-4.5 (Reserved)

7:27-4.6 Exceptions

- (a) The provisions of this subchapter shall not apply:
1. When the heat input rate to the fuel burning equipment is less than 1,000,000 British Thermal Units per hour;
 2. To marine installations, vehicles or other movable or portable equipment;
 3. To direct heat exchangers.