

SUBCHAPTER 10. SULFUR IN SOLID FUELS

Authority

N.J.S.A. 13:1D-1 et seq.

Source and Effective Date

Rules concerning sulfur in coal were originally codified in this subchapter and were filed and became effective prior to September 1, 1969. Amendments to this subchapter were accepted on July 6, 1978 as R. 1978 d. 220, to become effective on September 15, 1978. See: 10 N.J.R. 98(a), 10 N.J.R. 328(b). Further amendments were adopted as R. 1981 d. 185, effective June 4, 1981. See: 12 N.J.R. 571(a) 13 N.J.R. 341(a).

Executive Order 66 (1978) Expiration Date

This subchapter is exempt from Executive Order 66(1978) because it is adopted in compliance with 42 USC 7401 et seq.

7:27-10.1 Definitions

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

"Anthracite coal" means coal that is classified as anthracite according to the American Society for Testing and Materials Standard Specification for Classification of Coals by Rank, ASTM D 388-77.

"Approved stack-gas cleaning process" means a process which removes sulfur dioxide from the products of combustion of solid fuel and which has been approved by the Department.

"Bituminous coal" means coal that is classified as bituminous according to the American Society for Testing and Materials Standard Specification for Classification of Coals by Rank, ASTM D 388-77.

"Coal" means anthracite coal, bituminous coal, coke, lignite, nonbanded coal, and subbituminous coal.

"Coke" means a fused, cellular, porous structure that remains after free moisture and the major portion of the volatile materials have been distilled from bituminous coal and other carbonaceous material by the application of heat in the absence of air or in the presence of a limited supply of air.

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

"Lignite" means coal that is classified as lignite A or B according to the American Society for Testing and Materials Standard Specification for Classification of Coals by Rank, ASTM D 388-77.

"Nonbanded coal" means coal that is classified as nonbanded according to the American Society for Testing and Materials Standard Definition of Terms Relating to Megascopic Description of Coal and Coal Beds and Microscopical Description and Analysis of Coal, ASTM D 2796-77.

"Potential combustion emission rate" means the theoretical emission rate that

would result from the combustion of a fuel in an uncleaned state without control apparatus.

"Reconstruction" means the replacement of components of an existing facility to such an extent that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct an entirely new comparable facility.

"Resource recovery facility" means a facility that combusts more than 75 percent non-fossil fuel based on the moving average of heat input during 3-month periods.

"Solid fuel" means solid material or any substance derived from solid material used or to be used for the purpose of creating useful heat and includes, but is not limited to, coal, gasified coal, liquified coal, solid solvent-refined coal, municipal solid waste, refuse-derived fuel, and wood.

"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.

"Steam generating unit" means any furnace, boiler, or other device used for combustion fuel for the purpose of producing steam.

"Subbituminous coal" means coal that is classified as subbituminous according to the American Society for Testing and Materials Standard Specification for Classification of Coals by Rank, ASTM D 388-77.

"Sulfur dioxide (SO₂)" means a colorless gas at standard conditions, having a molecular composition of one sulfur atom and two oxygen atoms.

"Zone One" means Atlantic, Cape May, Cumberland, and Ocean Counties.

"Zone Two" means Hunterdon, Sussex, and Warren Counties.

"Zone Three" means Burlington, Camden, Gloucester, Mercer, and Salem Counties.

"Zone Four" means Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset, and Union Counties.

As amended, R. 1981 d. 185, eff. June 4, 1981.

See: 12 N.J.R. 571(a), 13 N.J.R. 341(a).

Substantially amended.

7:27-10.2 Sulphur contents standards

(a) No person shall store, offer for sale, sell, deliver or exchange in trade, for use in New Jersey, solid fuel which contains sulfur in excess of the percentages by weight set forth in Table 1, except as provided otherwise in this Subchapter.

(b) No person shall use in New Jersey, solid fuel which contains sulfur in excess of the percentages by weight set forth in Table 1.

**TABLE 1
EXISTING SOLID FUEL BURNING UNITS**

Type Fuel	Maximum Allowable Percent Sulfur by Weight (Dry Basis)			
	Zone One	Zone Two	Zone Three	Zone Four
	Anthracite Coal or Coke	0.8	0.8	0.8
All other solid fuels	1.0	1.0	0.2	0.2

(c) The provisions of (a) and (b) above shall not apply to solid fuel whose combustion causes sulfur dioxide (SO₂) emissions from any stack or chimney into the outdoor atmosphere which are demonstrated to the Department as not exceeding, at any time, those quantities of sulfur dioxide expressed in pounds per 1,000,000 British Thermal Units (BTU) gross heat input, set forth in Table 2.

**TABLE 2
EXISTING SOLID FUEL BURNING UNITS**

Type Fuel	Maximum Allowable SO ₂ Emissions (pounds/million BTU)			
	Zone One	Zone Two	Zone Three	Zone Four
	Anthracite Coal and Coke	1.2	1.2	1.2
All other solid fuels	1.5	1.5	0.3	0.3

(d) Any solid fuel-fired steam generating unit which is located in Zone Three or Zone Four, having a rated hourly capacity of greater than 200,000,000 British Thermal Units (BTU) gross heat input and any group of units at one facility which is located in Zone Three or Zone Four, having a combined rated hourly capacity of greater than 450,000,000 British Thermal Units (BTU) gross heat input, and which were in operation prior to May 6, 1968, shall be subject to the standards specified in Table 1 for Zone One.

(e) Any person responsible for the use of bituminous coal who believes that bituminous coal containing a maximum allowable percent sulfur by weight as set forth in Table 1 cannot be used in a specific steam generating unit may submit data to the Department setting forth justification for a

less restrictive percent of sulfur content by weight in bituminous coal. The Department may authorize the use of a less restrictive percent of sulfur by weight in bituminous coal. Any less restrictive percent of sulfur content by weight in bituminous coal authorized by the Department shall not exceed 1.5 percent, except as provided in (f) below.

(f) The Department may authorize the use of bituminous coal not exceeding a maximum sulfur content of 3.5 percent by weight (dry basis) at existing facilities in Zone One if:

1. The person responsible for the use of bituminous coal demonstrates that bituminous coal, containing one percent sulfur or less by weight and suitable for use in the specific steam generating unit, is not reasonably available in sufficient quantities; and

2. Sulfur dioxide levels in the ambient atmosphere will at no time exceed or jeopardize the ambient air quality standards set forth in N.J.A.C. 7:27-13; and

3. The sulfur content of the bituminous coal burned at the facility represents the minimum sulfur content coal which can be used by the facility and is reasonably available in sufficient quantity; and

4. The person responsible for the use of bituminous coal agrees to such monitoring and reporting requirements as the Department may deem appropriate to ensure compliance with the conditions set forth in this subsection; and

5. The person responsible for the use of bituminous coal submits to the Department for such authorization an application which considers and addresses as a minimum, in addition to the above, the following criteria:

- i. Physical surroundings of the coal-fired steam generating unit;
- ii. Population density of the surrounding area;
- iii. Dispersion characteristics of the source;
- iv. Topography of the immediate vicinity; and
- v. Aesthetic and nuisance effects.

(g) Authorizations granted pursuant to (f) above 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, including a demonstration of continued conformance with the provisions of (f) above.

As amended, R.1981 d.185, effective June 4, 1981.

See: 12 N.J.R. 571(a), 13 N.J.R. 341(a).

Substantially amended.

Administrative correction to (c), Table 2.

See: 21 N.J.R. 2991(a).

7:27-10.3 Expansion, reconstruction or construction of solid fuel burning units

(a) No person shall expand or reconstruct an existing solid fuel-fired steam generating unit or construct a new solid fuel-fired steam generating unit having a rated hourly capacity that exceeds, or would exceed, as a result of expansion, construction, and/or reconstruction, 250,000,000 British Thermal Units (BTU) gross heat input unless it is demonstrated to the Department that:

1. The sulfur dioxide emissions caused by the combustion of solid fuel from any stack or chimney into the outdoor atmosphere, except as provided under (a)2 or (a)3 below, do not exceed 0.60 pounds of sulfur dioxide per 1,000,000 British Thermal Units (BTU) gross heat input and 30 percent of the potential combustion emission rate of sulfur dioxide determined as a 30-day rolling average; or

2. The sulfur dioxide emissions from a unit which combusts anthracite coal exclusively do not exceed 1.20 pounds of sulfur dioxide per 1,000,000 British Thermal Units (BTU) gross heat input determined as a 30-day rolling average; or

3. The sulfur dioxide emissions, if the unit is a resource recovery facility, do not exceed 1.20 pounds of sulfur dioxide per 1,000,000 British Thermal Units (BTU) gross heat input determined as a 30-day rolling average.

(b) Compliance with the standards of (a) above shall be determined in accordance with the provisions of 40 CFR Part 60 Subpart Da.

(c) No person shall expand or reconstruct an existing solid fuel-fired steam generating unit or construct a new solid fuel-fired steam generating unit, not subject to the provisions of (a) above, having a rated hourly capacity that equals or exceeds, or would equal or exceed as a result of expansion, construction, and/or reconstruction, 1,000,000 British Thermal Units (BTU) gross heat input unless it is demonstrated to the Department that:

1. The sulfur dioxide emissions, caused by the combustion of solid fuel, excluding coke and anthracite coal, from any stack or chimney into the outdoor atmosphere can be controlled to levels that do not exceed at any time 0.30 pounds of sulfur dioxide per 1,000,000 British Thermal Units (BTU) gross heat input; or

2. The solid fuel, excluding coke and anthracite coal, used to fire such a facility will at no time contain more than 0.20 percent sulfur by weight; or

3. Anthracite coal or coke used to fire such a facility will at no time contain more than 0.8 percent sulfur by weight; or

4. The sulfur dioxide emissions, if the unit is a resource recovery facility, do not exceed 1.20 pounds of sulfur dioxide per 1,000,000 British Thermal Units (BTU) gross heat input determined as a 30-day rolling average.

As amended, R.1981 d.185, effective June 4, 1981.

Sec: 12 N.J.R. 571(a), 13 N.J.R. 341(a).

Substantially amended.

7:27-10.4 Exemptions

(a) The provisions of this subchapter shall not apply to coal used by ocean-going vessels.

(b) In any case in which it is demonstrated to the department that a bona fide pilot installation of an approved stack-gas cleaning process is to be made, the use of nonconforming solid fuel to the extent necessary, in the judgment of the Department, to evaluate the effectiveness of the process will not be prohibited by this subchapter.

(c) Nonbanded coal containing not more than 1.0 percent sulfur by weight may be burned solely for heating purposes in one or two family residences only in combustion equipment in use for such purposes prior to October 1, 1971.

As amended, R.1981 d.185, effective June 4, 1981.

Sec: 12 N.J.R. 571(a), 13 N.J.R. 341(a).

(b): "solid fuel" was "coal".

(c): Anthracite exemption deleted.
