

Shelby County Air Code Section 3-24 Sulfur Oxide Emissions

For the purpose of enforcement of sulfur oxide emissions, Chapter 1200-3-14 of the Tennessee Air Pollution Control Regulations, as effective on June 30, 2003, is hereby adopted by reference as a portion of this Code. Such regulations shall become a part of this Code and shall have the same effect as if set out in full herein.

(Shelby County Ord. No. 9, adopted October 15, 1979. Shelby County Ord. No. 159, effective 5-14-95. Amended by Shelby County Ord. No. 203, effective 9-18-98. Amended by Shelby County Ord No. 241, effective 8-23-01. Amended by Shelby County Ord. No. 265, effective September 30, 2002. Amended by Shelby County Ord. No. 276, effective December 16, 2003. Pursuant to T.C.A. 68-201-115.)

RULES
OF THE
THE TENNESSEE DEPARTMENT ENVIRONMENT AND CONSERVATION
BUREAU OF ENVIRONMENT
DIVISION OF AIR POLLUTION CONTROL

CHAPTER 1200-3-14

CONTROL OF SULFUR DIOXIDE EMISSIONS

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1200-3-14-.01 GENERAL PROVISIONS.

- (1)
 - (a) For the purpose of this chapter, each county in Tennessee will be classified by the Board into one of seven categories, defined as Class I, Class II, Class III, Class IV, Class V, Class VI, and Class VII.
 - (b) Each class has been established with the essential limit necessary to attain and/or maintain ambient air quality standards based on measured and predicted air quality.
- (2) The county classifications are as follows:
 - (a) Class I - Polk
 - (b) Class IIA - Maury
 - (c) Class IIB - Humphreys
 - (d) Class III - Sullivan
 - (e) Class IV - Shelby
 - (f) Class V - Anderson, Davidson, Hamilton, Hawkins, Knox, Rhea
 - (g) Class VI - All counties not specifically classified
 - (h) Class VII - Roane
- (3) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than otherwise specified in this Chapter may be established. This emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided in the Tennessee Air Quality Act.
- (4) Regardless of the specific emission standards contained in this Chapter, all sources identified in paragraph 1200-3-9-.01(4) of these regulations shall comply with the standards set pursuant to rule 1200-3-9.
- (5) Regardless of the specific emission standards contained in this Chapter, new and/or modified sources in or significantly impacting upon a nonattainment area must comply with the provisions of paragraph 1200-3-9-.01(5).
- (6) Every owner or operator of a fuel burning installation having a total rated capacity greater than 1000 million Btu per hour or of a process emission source emitting more than 1000 tons per year of sulfur dioxide during calendar year 1972 or any other calendar year thereafter shall:
 - (a) Demonstrate to the satisfaction of the Technical Secretary, that the sulfur dioxide emitted either alone or in contribution to other sources will not interfere with attainment and maintenance of any primary or secondary air quality standard.
 - (b) Install and maintain air quality sensors to monitor attainment and maintenance of ambient air quality standards in the areas influenced by the emissions from such installation. Such shall be done in the manner prescribed by the Technical Secretary. Results of such monitoring shall be provided to the Technical Secretary in the manner and form as he shall direct. Owners or operators may petition and be granted permission by the Technical Secretary to terminate ambient air quality monitoring provided two calendar years air quality data has been generated in the area under the influence of the source's emissions to verify compliance with the Tennessee Ambient Air Quality Standards. Petitions may be granted only if the conditions of 1, 2, and 3 below are met.
 1. The actual sulfur dioxide emissions from a fuel burning installation do not exceed 20,000 tons per year.
 2. The source must be located in an attainment area and must not significantly impact a sulfur

dioxide nonattainment area.

3. Measurements of air quality in the vicinity of the source demonstrate that ambient sulfur dioxide levels do not exceed 75 percent of the Tennessee Ambient Air Quality Standards.
- (c) All calculations performed pursuant to demonstration required by rule .01(6) shall assume that the process emission source and fuel burning installation is operating at a maximum rated capacity.

Authority: T.C.A. §§68-201-105 and 4-5-202. Administrative History. Original Rule filed June 7, 1974. Repeal and new rule filed February 19, 1976; effective March 20, 1976. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed October 2, 1979; effective November 16, 1979. Amendment filed June 16, 1981; effective July 31, 1981. Amendment filed November 12, 1982; effective December 13, 1982. Amendment filed July 3, 1984; effective August 1, 1984. Amendment filed September 21, 1988; effective November 6, 1988.

1200-3-14-.02 NON-PROCESS EMISSION STANDARDS.

- (1) Fuel Burning Installation in Operation Prior to April 3, 1972.
- (a) The owner or operator of a fuel burning installation shall not cause, suffer, allow, or permit the emissions from that source of sulfur dioxide in excess of that contained in Table 1:

TABLE 1

ALLOWABLE SO₂ EMISSIONS FOR FUEL BURNING INSTALLATIONS

IN TERMS OF POUNDS PER MILLION BTU/HR HEAT INPUT
(One Hour Average - Exceptions Mentioned in this Chapter)

	Class I	Class IIA	Class IIB	Class III	Class V	Class VI	Class VII
<u>Rated Capacity</u> greater than 1000 x 10 ⁶ <u>Btu/hr</u>	1.2	1.2	3.4	2.4	4.0	5.0	2.8
less than 1000 x 10 ⁶ <u>Btu/hr</u>	1.6	5.0	5.0	2.4	4.0	5.0	5.0

- (b) The owner or operator of a fuel burning installation in a Class IV County shall not cause, suffer, allow, or permit emissions from that source of sulfur dioxide in excess of those listed in Table 2 or the following equation:

TABLE 2

FUEL	EMISSION LIMIT (one hour average)
Coal	4.0 lbs. SO ₂ /10 ⁶ BTU
No. 5 and No. 6 fuel oil and solid fuels other than coal	2.7 lbs. SO ₂ /10 ⁶ BTU
<u>All other fuels</u>	<u>0.5 lbs. SO₂/10⁶ BTU</u>

$$Q_{SO_2} = (4.0 X + 2.7 Y + 0.5 Z)/(X + Y + Z)$$

$$Q_{SO_2} = \text{Allowable Sulfur Dioxide Emissions in lbs SO}_2/10^6 \text{ BTU}$$

$$X = \text{Heat input from coal}$$

$$Y = \text{Heat input from No. 5 or No. 6 fuel oil and solid fuels other than coal}$$

$$Z = \text{Heat input from all other fuel}$$

- (c) For purpose of this rule, the total heat input (based on maximum rated capacity) from all fuel combustion units at a plant, premises, or installation shall be used for determining the maximum allowable emission of sulfur dioxide that passes through a stack or stacks. The heat value of the fuel that is not released within the fuel burning equipment shall not be considered as part of the heat input to the fuel burning installation.
- (d) Fuel burning installations containing units of fuel burning equipment larger than 600 million Btu per hour heat input and which were commenced before April 3, 1972 shall comply with the applicable sulfur dioxide emission limit specified in Table 1 or Table 2 for fuel burning installations greater than 1 billion Btu per hour heat input. However, for fuel burning installations containing fuel burning equipment

meeting these requirements, a 24-hour averaging basis shall be utilized rather than a one hour basis. For units of fuel burning equipment in a fuel burning installation of less than 600 million Btu per hour heat input, the allowable sulfur dioxide emission limits shall be those determined by Table 1 or Table 2 of Rule 1200-14-.02(1)(a) or (1)(b).

(2) Fuel Burning Equipment Constructed After April 3, 1972.

- (a) Fuel burning equipment with a rated capacity of 250 million Btu per hour or less heat input, shall not cause suffer, allow, or permit the emission of sulfur dioxide in excess of 1.6 pounds per million Btu heat input (one hour average) in a Class I county, 2.4 pounds in a Class III county, 4.0 pounds in a Class V county, nor in excess of 5.0 pounds per million Btu heat input (one hour average) in a Class II, VI, or VII county. Emission limits for Class IV counties shall be those listed in Table 2.
- (b) The owner or operator of fuel burning equipment with a rated capacity greater than 250 million BTU per hour heat input shall not cause, suffer, allow, or permit the emissions from that source of sulfur dioxide in excess of the following:
 - 1. 0.80 lbs per million BTU heat input, maximum 1 hour average, when liquid fossil fuel is burned.
 - 2. 1.2 lbs per million BTU heat input, maximum 1 hour average, when solid fossil fuel is burned.
 - 3. Where different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration. Compliance shall be determined by using the following formula:

$$\frac{Y(0.80) + Z(1.2)}{Y + Z}$$

(c) Where:

- 1. Y is the percent of total heat input derived from liquid fossil fuel and,
- 2. Z is the percent of total heat input derived from solid fossil fuel.

(3) Limiting the Effect of the Definition of Modification. If an owner or operator of fuel burning equipment is ordered by the U.S. Department of Energy under the Energy Supply and Environmental Coordination Act of 1974, or any amendments thereto, or any subsequent enactment which supersedes such provisions, to switch fuels, required alterations to existing fuel burning equipment to accommodate these additional fuels shall not be deemed a modification for purposes of determining the allowable emissions as established by this rule.

(4) Fuel Burning Equipment relocating after November 6, 1988.

Irrespective of the maximum allowable emission as determined in the preceding paragraphs in this Rule, the maximum allowable sulfur dioxide emissions for non-portable fuel burning equipment which is relocated more than 1.0 km from the previous position after November 6, 1988, shall not exceed the greater of the actual emissions at its previous location or the allowable emissions for new fuel burning equipment.

Authority: T.C.A. §§68-201-105 and 4-5-202. Administrative History. Original Rule certified June 7, 1974. Repeal and new rule filed February 19, 1976; effective March 20, 1976. Amendment filed March 13, 1978; effective April 12, 1978. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed October 2, 1979; effective November 16, 1979. Amendment filed November 12, 1982; effective December 13, 1982. Amendment filed July 3, 1984; effective August 1, 1984. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990.

1200-3-14-.03 PROCESS EMISSION STANDARDS.

- (1) On and after July 1, 1975, the owner or operator of an air contaminant source located in a Class I county shall not cause, suffer, allow or permit the emission from that source of sulfur oxides (calculated as sulfur dioxide) in excess of 500 parts per million, 0.05 percent by volume, dry basis (one hour average). Different standards and averaging times may be met as an alternative, or as required, where they are specified in Chapter 1200-3-19.
- (2) On and after July 1, 1975, the owner or operator of an air contaminant source located in a Class II, III, or VII county shall not cause, suffer, allow or permit the emission from that source of sulfur dioxide in excess of 1000 parts per million, 0.10 percent by volume, dry basis(one hour average).
- (3) On and after July 1, 1975, the owner or operator of an air contaminant source located in Class IV, V or VI county shall not cause, suffer, allow or permit the emission from that source of sulfur dioxide in excess of 2,000 parts per million, 0.20 percent by volume, dry basis (one hour average).
- (4) A process source in a Class IV county as an alternative to the standard in paragraph (3) above may request from the Technical Secretary of the Tennessee Air Pollution Control Board to be regulated by not being allowed to exceed their sulfur dioxide emission capacity in 1974, on a twenty-four hour and an annual basis. These emissions will be specified in a Board Order, as a permit condition, or other legally enforceable manner. This document will be incorporated into the State Implementation Plan. The cost of the legal notice involved must be paid by the requesting source. The Technical Secretary may approve such a request after being given adequate proof that this alternate standard will not cause any air quality standards to be violated, and the company has an adequate continuous air monitoring network for determining the impact of its emissions.
- (5) No person shall cause, suffer, allow, or permit the emissions from any new air contaminant source in excess of those limits specified in Chapter 1200-3-14-.03, paragraph (1), (2) or (3), whichever is applicable. Regardless of the specific emission standard, new sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.
- (6) For purposes of this Chapter, thermal oxidizers, and incinerators shall be construed as process emission sources.
- (7) Limiting the Effect of the Definition of Modification. For the purpose of determining the applicable sulfur dioxide emission standards in this rule, a change in fuel from natural gas, propane, butane and/or fuel oil to any of these herein named fuels and any required alterations to existing fuel burning equipment to accommodate these fuels shall not be considered a modification.
- (8) Irrespective of the maximum allowable emission as determined in the preceding paragraphs in this Rule, the maximum allowable sulfur dioxide emissions for a process emission source which is relocated more than 1.0 km from the previous position after November 6, 1988, shall not exceed the greater of the actual emissions at its previous location or the allowable emissions for a new process emission source.

Authority: T.C.A. §§68-201-105 and 4-5-202. Administrative History. Original Rule certified June 7, 1974. Repeal and new rule filed February 19, 1976, effective March 20, 1976. Amendment filed March 13, 1978; effective April 12, 1978. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed July 3, 1984; effective August 1, 1984. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed February 4, 1993; effective March 21, 1993.

